AMERICAN RAILROAD JOURNAL

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AMERICAN

RAILROAD JOURNAL,

AND

ADVOCATE OF INTERNAL IMPROVEMENTS.

JANUARY TO JULY, 1833.

VOL. II.—PART I.

NEW-YORK:

PUBLISHED BY D. K. MINOR, EDITOR AND PROPRIETOR,

No. 35 WALL STREET.

MDCCCXXXIII.

TO THE SUBSCRIBERS AND FRIENDS OF THE RAILROAD JOURNAL.

SIR—Herewith I send you an INDEX, or List of Contents, for eighteen months, divided into three parts, with a Title Page to each, for the "AMERICAN RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS.—I have divided the year in *two* parts, as I, and many others also, find that it is more convenient to bind the volume in two parts than in one. Those, however, who prefer it in one, can bind it so, notwithstanding the division.

By a reference to this Index, those not heretofore acquainted with the Journal may judge of the character and utility of the work. They will perceive that its title is appropriate. It is, in truth, what it purports to be, the *Advocate of Internal Improvements*—devoted to no *one* particular branch, or system, but rather to that which, under the circumstances of the case, is *most suitable to the location.*—You will find it to contain accounts of all, or nearly all, new inventions in Railroad Construction and Railroad Machinery, with reports of Engineers, both previous to and after construction of the Railroad, with detailed accounts of their cost, by which more accurate estimates may be formed of new works. In it will also be found descriptions of the various modes of construction, both in this country and in Europe, to a greater extent than in *any other* publication—which will the better enable those, who are about to engage in such enterprises, to decide upon the materials and plan of construction most suitable to their location.

Heretofore I have only been able to devote a small portion of my time to its superintendance, yet it has apparently met the expectations of its friends, and continued gradually to extend its circulation, not sufficiently however to meet *its necessary* expenses, without having thus far afforded me a single dollar for my own labor and exertions to sustain it, and but for my *other* business I could not have continued it thus far.

Those who have been familiar with it from its commencement speak in very favorable terms of its improved appearance and increased usefulness, and, as I believe, not without good cause, as I have uniformly expended more than the amount of its receipts, to render it what it should be; and I now find it necessary to make another effort to extend its circulation, so as to increase its income sufficiently to enable me to devote to it more of my time, and therefore to derive, at least, a part of my support from it. If the work is of any service to the cause it advocates, the friends of that cause will certainly be willing to aid its circulation; and it is to the friends of that cause—the cause of *Railroads, Canals, M'Adam Roads, &c. &c.*—to whom I now address myself, and from whom I hope to receive such aid towards its circulation, as its merits may warrant them in giving.

Should my present efforts secure me such an accession of Subscribers to the present volume, and purchasers of the *previous* one, as to meet its expenses and afford me a small compensation for my labor, I shall *continue it in its present form and size*, but if not, I shall be obliged either to relinquish it *altogether, or* to alter its form and size, so as to reduce its expenses within its income. I shall also be compelled, *reluctantly* compelled, to curtail, and indeed, *almost* entirely to discontinue, my present very numerous exchange list: and I should the more regret this *necessity*, as the uniform courtesy and kindness with which the Journal has been received and spoken of has laid me under peculiar obligations to the conductors of the press in almost every part of the Union. Yet if my subscription list does not considerably exceed its present number, I shall be obliged to discontinue *more than one hundred and forty* exchange papers, (which I now send rather in return for favors rendered, than because I need the exchange papers, having the use of 150 sent to the New-York American,) or discontinue the Journal altogether, and turn my attention to my other publications, which find more favor with those for whom they are designed, in proportion to their cost.

I cannot, however, believe that its friends, who have expressed so much interest in its success, will permit it to be discontinued for want of patronage to pay its necessary expenses, when so little exertion on their part, for each to obtain *one, two,* or *three* subscribers, and forward the amount of subscription, will secure its permanence and increased utility. The simple question therefore to be decided is, shall the Journal be continued in its present form and style, or shall it be reduced in size to *two* columns on a page and to sixty-four pages per month, similar to the *Mechanics' Magazine,*—or shall it *be discontinued altogether? I* put the question, and the *friends* of the Journal and the cause it advocates must decide it—as it cannot be expected that an individual, without means to spare, will devote his services *gratuitously* to a cause, however important it may be to the community, for a *longer* period than two years, unless there is some prospect of its eventually yielding him some return for his labor. To this statement of facts I am constrained to add, that, unless the subscription to the Journal should be materially increased between this and the first of January next, the close of the present volume, I shall either change its form, so as to give its present number of pages in monthly numbers in a different shape, which will contain a little over half its present quantity of reading, or discontinue it entirely.

I have now on hand about five hundred full setts of the first volume, and one thousand copies of the current volume as far as it is published, which may be had either bound or in numbers, forwarded to any part of the country; and if I could dispose of only *one-half* of them by the first of next January, I should be enabled to continue it in its present shape, improved in its appearance, and greatly increased in usefulness to its patrons.

I commenced the Journal against the advice of friends, upon *my own* belief of the want of a publication to which the friends of internal improvements, and especially of railroads, might look for a record of the numerous plans and projects, and *inventions*, constantly coming before the reading community, designed to promote the great cause, to the

success of which *all* look for the continued prosperity of the country; and such was the general approbation with which it was received, that I was induced to print a large number, 1,500 copies through the year, and at an expense of *several hundred* dollars beyond the entire receipts from subscribers. It will probably be recollected that I proposed, towards the close of the first volume, that when the number of subscribers amounted to 1,500, *to improve its appearance, and to add* a *Mechanics' Department*, or to re-publish a large portion of the contents of the London Mechanics' Magazine. I have still that intention, and if it should be said that I have not complied with my promise, I would reply that I have come *much* nearer to it than my subscription list has to *fifteen hundred.*

I now repeat the promise then made, (see Vol. I. No. 50,) to *re-publish* in the Journal such parts of the London Mechanics' Magazine; and I will *now* add, of the *Repertory of Inventions* also, together with *all useful* inventions and improvements in machinery and the arts in our own country which I can obtain, as soon as I have *fifteen hundred subscribers.* To effect this I shall, of course, be obliged to omit much now given of the news and common affairs of the day, which is, however, less to be regretted, as it can be obtained in those papers more particularly devoted to such matters.

May I not therefore, Sir, without being considered intrusive, or uncivil, request you to aid me in extending its circulation and if possible to obtain and forward to me the name and amount of one, or *more* subscribers for the *current* and *past* volume? The terms are,

In Numbers $3 per Volume, or for two years $6;

For Binding in one Volume, 50 cts.;

Or, as is now preferred, in *two* parts, $1; which may be readily remitted by your merchants, and the volumes forwarded to you without much cost through the same medium.

Having thus made a frank statement of the situation and prospects of the Railroad Journal, I have now only to ask your attention for a moment to its consideration, and also to the notice of my other publications, and to subscribe myself your obedient servant,

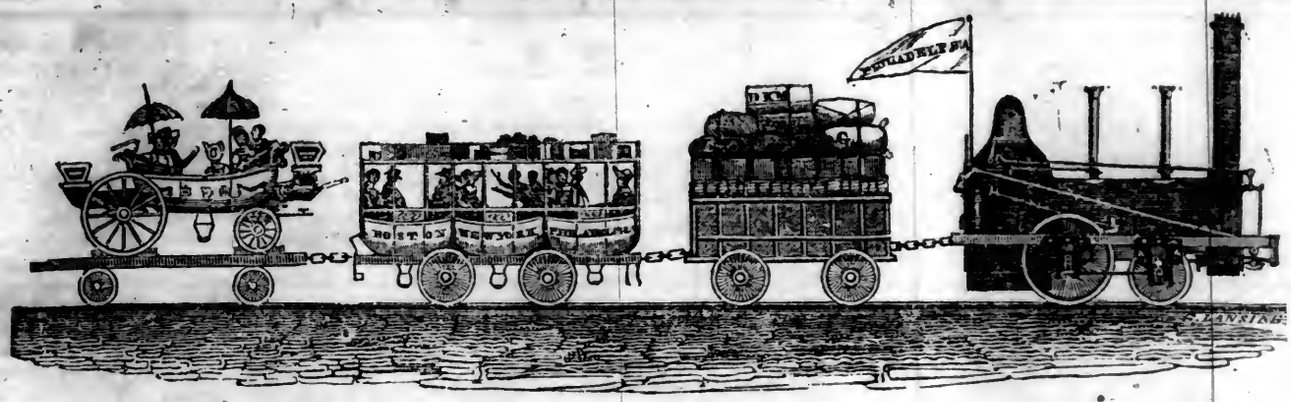
D. K. MINOR.

☞ I am getting up, at considerable expense, a "*Railroad Map, or Map of Railroads,*" in the United States, upon which will be delineated every Railroad of which I can obtain any account within the limits of the north part of Alabama at the south, Lake Champlain and Ontario at the north, Portsmouth, N. H., at the east, and St. Louis, Missouri, at the west. It will be printed on fine bank note paper, 25 by 40 inches, on a scale of 30 miles to the inch; showing the different states, the principal cities, towns, and rivers, with all the Railroads and Canals *constructed*, *constructing*, *chartered*, and *in contemplation*, as far as they are known to me, or can be obtained.

To each of our subscribers, who will forward to us, *previous* to the first of *January next*, the amount of his own subscription for the *next* or *third* volume, and two subscribers for the JOURNAL, either to the *next* volume, or to the MECHANICS' MAGAZINE AND REGISTER OF INVENTIONS AND IMPROVEMENTS, *with the money for the same*, a copy of this map will be sent, attached to the Index at the end of the second or current volume, in such a manner as to fold into it when bound.

The Index to the current half year will be forwarded to subscribers at the close of the year.

INDEX TO VOL. II, PART I.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JANUARY 5, 1833. [VOLUME II.—No. 1.

CONTENTS:

TO OUR PATRONS AND THE PUBLIC.

The American Railroad Journal, and Advocate of Internal Improvements.—With this number commences the second volume of our Journal. Contrary to the expectations of many, it has completed a volume, and it affords us much pleasure to be *able* to say that it enters upon the second with very fair prospects; fair, at least, when compared with its commencement; so fair, indeed, are its prospects of an extensive circulation that arrangements have been completed for making it altogether more interesting and valuable than it has heretofore been.

It will hereafter contain, in addition to its usual variety of reading, both upon the subject of internal improvements and in its selections upon miscellaneous and literary topics, much valuable matter, with illustrations, from the London Mechanics' Magazine. This department alone would be worth far more to mechanics and men of science, than the cost of the Journal, and it will at the same time be more interesting to those who read merely for amusement. We have made great exertions during the past year to render the work worthy of a liberal patronage. Our arrangements are now completed; our promises are before the public, and this number is offered as a specimen of the work as it *is to be* published when our subscription list amounts to fifteen hundred. May we not look for the continued aid of those of its friends, who have already done so much, that we may soon be able to carry into effect this part of our plan? We look to them with confidence, as they have already commenced operations, one subscriber *alone* having remitted, within a few days, $45 which he had collected for the ensuing volume. A few *such* friends would very soon secure the performance of our last proposition.

Having thus set forth some of the circumstances which encourage us to persevere in the arduous and expensive publication of this Journal, and glanced at the subjects of several of the papers which will we think be considered as rendering the present number particularly acceptable, may we not in conclusion ask, that those who take interest in all, or some one of the varied branches of knowledge which fall within the scope of our plan, should make some little personal effort to add to our means of carrying it into complete effect. The opinion of an intelligent and disinterested man expressed to a neighbor as to the merits of a paper he is in the habit of reading, goes farther and has more weight than the most zealous professions of the conductor of the paper, seeing that these are always more or less biassed by personal interest. It is such an expression of individual opinion, from those who really think it is deserved, and to those whom it may influence, that we would venture now to solicit. In the progressive improvements of which the volume already completed furnishes the evidence, will we may hope, be found an abundant guarantee that our efforts will in the future, as they did in the past, keep equal pace at least, with the encouragement received. And what class in the many differing walks of social life is there, whom some one at least of the topics treated or illustrated in this Journal does not interest? Take this number for example: for the farmer, there is agriculture and road making; for the mechanic, there is useful knowledge in his branch; for the engineer, there are scientific formulæ; for the humane and philanthropic, there is Murray's invention for saving from shipwreck; for the observer of the "skyey influences," an elaborate meteorological table; and for the general reader, without ever losing sight of the main object of the Journal, the diffusion of accurate information as to internal improvements of all sorts—whether by roads, canals, or bridges, steam boats or steam cars; a careful and impartial synopsis of the politics and literature of the day. For a paper with contents so varied, so copious, at so moderate a price, and in so convenient a form, and which clashes with no prejudices or interests, is it unreasonable to anticipate a large and general circulation? Another year will enlighten us as to the reply that must be given to this question.

The cut at the head of the Journal represents the *American Locomotive Engine*, Philadelphia, built at the Westpoint Foundry Works in this city, for the Philadelphia, Norristown and Germantown Railroad, with a freight car, passenger coach, and private carriage attached, by way of showing the advantages and facilities which may be enjoyed by the inhabitants living in the vicinity of Railroads.

The second and third cuts represent Russell's Hydraulic Press. This press is very highly spoken of in England. If we are not mistaken there is one very similar to it now in use in this city, for raising vessels out of the water for repairs. Those unacquainted with their operation and power, would be surprised to see the ease with which two men, one at each pump, there being one pump at each side of the frame or dock, will raise a large ship from the water. Of this highly ingenious application of the hydraulic pump, we may here after take occasion to speak more definitely; our present reference being merely to mention one of the uses to which they are applicable.

The fourth is a representation of the invention of Mr. Murray, for preserving life when vessels are wrecked near shore. There have been several inventions for this purpose, but this we believe is considered the most useful, as it is the most easily managed.

The fifth cut represents the centre arch of the Southwark bridge, of *wrought iron*, over the river Thames, from London to Southwark. The engraving shows the manner in which the foundation of the stone piers was constructed. A, represents the bed of the river; B, low, and C, high water mark. The accompanying description, gives a list of important iron bridges, and the dates of their construction. This subject will be continued.

LEXINGTON AND OHIO RAILROAD,
27th Nov. 1832.

To the Editor of the Railroad Journal:

Sir—Should you consider the following formulas, relating to the effect of grade and curvature upon the motion of Railroad cars, to be of any value to the readers of your Journal, they are offered to you for insertion.

In estimating the effect of curvature, it is necessary to have a general formula for the value of the centrifugal force. Take V = the velocity of a car in miles per hour; R = the radius of curvature of the track in feet; w = the weight of the car in lbs; and f = the centrifugal force in lbs. From known principles, the following expression for the value of f, is obtained,

$$f = w \times \frac{V^2}{15R}$$

Now the effect of the force f is, to produce a continued pressure upon the bearing of the axles of the wheels, and also upon the flange and edge of the exterior rail. Take therefore T to denote the friction caused by that pressure, and which amounts to the increase of traction arising from centrifugal force. Although the pressure may be nearly the same at both of the points just mentioned, yet it may perhaps be sufficient to take the amount of friction equal to $\frac{1}{4}$ of the whole centrifugal force,* in which case the following formula is at once derived from the preceding:

$$T = w \times \frac{V^2}{60R}$$

In making a selection, from different routes, for the location of a line of Railroad, it may sometimes be necessary to compare grades with curvatures. Thus, the traction arising from grade alone is expressed by the quantity $w \times \frac{n}{\sqrt{1+n^2}}$, or simply by $w \times n$, very nearly; in which n represents the rise or fall in the distance unity: and therefore, when the traction arising from an ascending grade is equal to that arising from curvature, the following formula obtains: $n = \frac{V^2}{60R}$.

From which either of the three quantities, n, V, or R, may be found when the other two are given; and thus it is easy to compute what grades and curvatures are equivalent to each other, as regards traction, with any given velocity.

In order to express a general formula for the traction, when the road-way has both inclination and curvature, let $w \times m$ be the traction upon a straight horizontal way. The expression for the whole traction T will then evidently be as follows:

$$T = w \times \left\{ m \pm n + \frac{V^2}{60R} \right\}$$

This formula will be of use in all cases where it may be desirable to compare the traction, under circumstances of various loads, grades, curvatures, and velocities.

* It may perhaps seem at first view, that the increase of traction is less than the friction here given, in the ratio of the radius of the wheel to the height of the flange. That, however, would be an error; but whether a different ratio than that of 1 to 4, as here adopted, will best comport with truth, can only be determined from experience.

It may, perhaps, be of some use to investigate a formula for determining the greatest velocity which will comport with safety, upon curves of given radii, and with wheels of given diameters. Let k denote the distance between the axles, and put P = an arc to rad. 1, and length $\frac{k}{2R}$. The two following theorems will give the principles upon which the investigation is made.

1st. The force necessary to cause the flange of a wheel to ascend upon the rail, is in a ratio compounded of the sub-duplicate ratio of the height of the flange, and the reciprocal sub-duplicate ratio of the radius of the wheel.

2d. When the force necessary to cause the flange to ascend upon the rail is to the friction of the flange upon the edge of the rail, as radius to Cos. P: then is the car equally liable either to run off the track, or to continue upon it.

The demonstration of these two theorems, which, for the sake of brevity, is omitted, may be easily supplied from received principles of mechanics.

Now, the friction of the flange is as $\frac{V^2}{R}$; and putting r = the radius of the wheel, and h = the height of the flange, the force necessary to raise the flange upon the rail, is as $\left\{\frac{h}{r}\right\}^{\frac{1}{2}}$. But it will, in most cases, be sufficient to take, radius to Cos. P. a radius of equality; in which case $\frac{V^2}{R}$ is as $\left\{\frac{h}{r}\right\}^{\frac{1}{2}}$; that is, V^2 is as $R \times \left\{\frac{h}{r}\right\}^{\frac{1}{2}}$; or, $V^2 = A \times R \times \left\{\frac{h}{r}\right\}^{\frac{1}{2}}$; in which A is some constant quantity, to be ascertained from experience. With wheels 5 feet in diameter, and flanges $1\frac{1}{4}$ inches in height, and upon a track of 1000 feet radius, the utmost safe velocity is, perhaps, about 20 miles per hour. Substituting these values in the above equation, the result will give A = 2, very nearly. The general formula will, therefore, be the following:

$$V = \sqrt{2R \times \left\{\frac{h}{r}\right\}^{\frac{1}{2}}}$$

From which it will be easy to compute the greatest safe velocity upon any curve, and with wheels of any diameter. V. D. G.

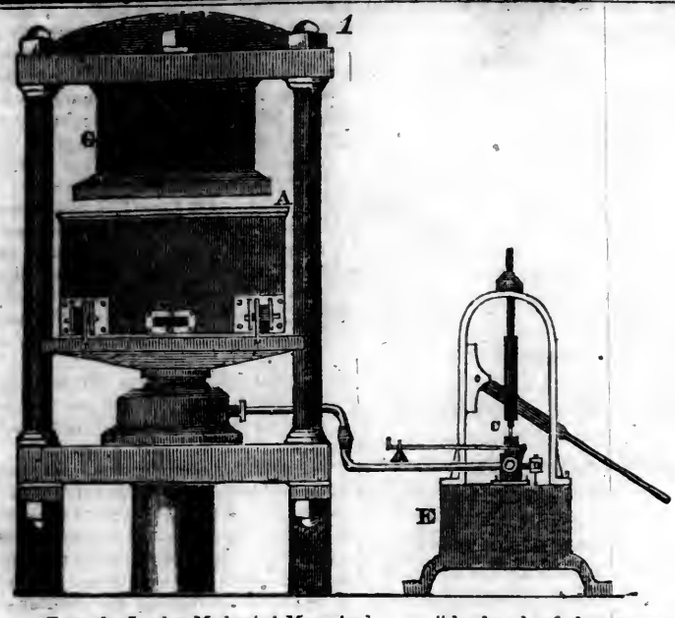
[*From the United Service Journal for April.*]

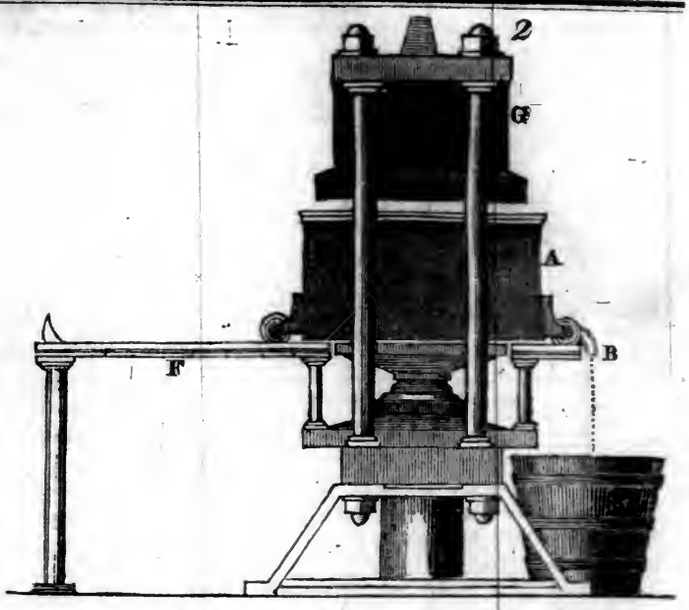
STEAM VESSELS OF WAR.

Sir,—To render steamboats fit for war, requires a better combination of construction and arming than our official people seem to be aware of. The Salamander at Sheerness, and the Dee, at Woolwich, will both be useless as men of war; the former has sufficient depth of hold, but is built so sharp that she will not stow more than ten day's fuel when her stores and guns are on board; the latter is sufficiently flat, but so shallow that she also will stow little more than the former; and I understand those at Plymouth and Chatham are in the same predicament. A steam vessel of war ought neither to be so fine as a sailing vessel, nor, on the other hand, have the capacity of an Indiaman; in the first case, she would not stow a sufficient quantity of fuel, and would draw too much water for most purposes—in the latter case she would not go with sufficient rapidity. Her floor should not be quite flat, but nearly so; its length should occupy half the vessel, the form of the bow and run should occupy the other half; the dimensions of the vessels built are thirty feet wide, and a hundred and sixty-five feet long; had they been twenty feet deep, and built in the above form, they would have been efficient vessels. I beg it to be fully understood, that I do not propose this as a vessel offering the least resistance in the water, but as one combining the requisites necessary for a steam man-of-war; such a vessel, when light, would draw little more than four feet water, without including the keel, whose depth should be according to circumstances, and quite independent of her construction. Her engines and boilers would immerse her between six and seven feet, and with about eight hundred tons of coals she would draw about fourteen, having her gun deck six feet above water at her greatest loading. With a two hundred horse engine, she would consume twenty tons of coals a day, and if they were good, with great care, something less. The shaft should be as close to the deck as possible, and the diameter of the wheels about twenty feet; when loaded, to fourteen, the paddle boards should shift up, so as to reduce the diameter of the wheels about fifteen feet; as the coal was expended, the boards should be shifted down till they came to their full extent; the coal boxes should be fitted in compartments, to receive water, in order that the wheels may remain sufficiently immersed as the coals were expended. The engine and boilers should be secured against shot, which has not been thought of in any of our vessels; no man will be found to attend them in their present state; men have long made up their minds on going into action, to be killed or wounded, but I never heard of any who are ready to be boiled. It has been proved that a combination of oak timber, iron plates, bales of linen, leather, or reams of paper, five feet thick, would protect the boiler and engine against an eighteen pound shot, and without that protection a steamboat is entirely useless in war. The wheels must of course be exposed; but if the naves, which are at present of cast, were made of wrought iron, and the arms of the wheels connected with plates, it would require many shot to disable them. The main shaft would be the only vulnerable part, and if the guards which support it are considerably rounded, or, indeed, made like a cuirass, and covered with plate iron, they would glance off any shot. With these precautions, wheels would be less subject to accidents than either masts or yards. Experience has proved beyond a doubt, that the fittest vessels for sea are those constructed with the wheels buried in the side, as the Irish steamers are. I believe the Salamander is built in this manner; the spencing of the Dee only covers one half the wheels—they are a great deal too wide. She will certainly go the faster in the river Thames (which is the only thing the engineers and builders think of); but in rough weather, such wheels will never be under command of the engines. I am not aware how it is intended to arm our steamboats; I should propose as many heavy guns on pivots as possible; on the upper deck and between decks, two bow-chasers: no arrangement of that nature seems to be intended in those now building. They should be rigged as three masted schooners, with the lower masts in two, having topsails, topgallant sails, and royals, and all the necessary sails for common purposes, which, with the exception of the lower part of the lower masts, could be got down when it was necessary to steam against the wind. I am, &c.

A GREAT ADMIRER OF STEAMBOATS.

STEAM CAR.—Mr. Benjamin Phillips, Architect, of Philadelphia, proposes to construct a Steam Car to travel on rivers at a speed of 20 to 25 miles per hour, to carry one hundred passengers, to draw 15 inches water, to be only one-third the weight of any other ordinary steamboat of the same dimensions now afloat; of far superior strength and safety, constructed on entirely new principles; the whole materials, except the engine and boiler, not to cost above $1,500, completely furnished and ready for operation by the first day of May next.





[*From the London Mechanics' Magazine.*]

RUSSELL'S HYDRAULIC PRESS.—We see no reason to doubt that this press of Mr. Russell's is as applicable to the expression of the juice of apples and pears, as to any of the other purposes to which it has been so successfully applied. Neither can we refuse to acknowledge, that it is, in point of simplicity and probable efficiency, superior to any thing of the kind which has yet appeared in our pages. Our Devonshire and Hertfordshire friends must feel obliged to Mr. Russell for making this description of it public. We have seen a sugar apparatus fixed on this plan, in which there are two boxes running alternately on the railway, so that the sugar in one box is submitted to the action of the press, while the contents of the other are removed, and a fresh charge put in, ready to wheel into the press as soon as it is at liberty; by this means nearly double the usual quantity of work is done in the same time.—[Editor Mechanic's Magazine.]

Sir,—Seeing in No. 438 of the Mechanics' Magazine, an engraving and description of an Hydraulic Cider Press, with what appears to me a complex apparatus to work it; and having had longer practical experience in the manufacture of hydraulic presses than I believe any individual in existence, I am induced to send you a drawing of an apparatus of this sort, which I have lately fixed at the Refuge for the Destitute, for the purpose of pressing the rinse water from the linen, woollen, and other articles, washed at that establishment, instead of wringing; and which is, of course, equally applicable in all cases where similar pressure is required.

Fig. 1 is a front elevation of the press, without its railways.

Fig. 2 is a side elevation, with the addition of the railway.

The squeezing box A has a perforated lining and bottom, through which the water passes, and runs off at a spout B at the back of the box. The diameter of the working piston of this press is four inches, that of the injecting pump C is one inch diameter, and the power of this press on the article submitted is upwards of 30 tons. If the piston of the injecting pump were one half an inch in diameter instead of one inch, the power would be increased four-fold, that is, 120 tons pressure on the articles submitted, with the same labour at the pump. When the linen, &c. is sufficiently pressed, that is, almost dry, the pressing box is lowered down, by opening the discharging valve D, on which the water returns back to the cistern E, on which the pump is fixed.—The squeezing box is then drawn out on the railways F, emptied, refilled, and wheeled back for a second charge, and so on. I should have observed, that the mallet G, which is fixed to the head of the press, enters the box, and is made to fit nearly.

Having made and erected many presses of this description, for expressing the oil from various seeds, the molasses from sugar, &c. their power varying from 500 to 1000 tons pressure, I take leave to ask your opinion whether a press so constructed and shown in the drawing accompanying this communication, is or is not as applicable to pressing apples for cider, pears for perry, or any other fruit, in a superior manner to the methods which have already appeared in the Mechanics' Magazine?

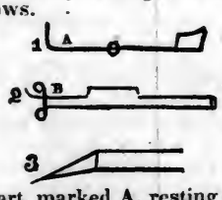
Should you be of opinion that it is superior, you will probably be inclined to give it a place in your truly useful work.

Yours, &c. W. RUSSELL.

[*From the Journal of the Franklin Institute.*]

Specification of a patent for a mode of detaching horses from a carriage, either when running away, or whenever it may be desirable to effect that object rapidly. Granted to ROBERT BEALE, *City of Washington, District of Columbia, May* 12, 1832.

Be it known, that I, Robert Beale, of the City of Washington, in the District of Columbia, have made an improvement in carriages, by which the horses may be suddenly disengaged when running away, or whenever required to be detached from the carriage quickly; called the safety carriage; which is described as follows.



The swingletree is attached to the cross bar by an iron fixture called a jointed clasp, formed as in the annexed figure, (see figure 1); the knee part, marked A, resting against the back of the cross bar. This jointed clasp is held up against the underside of the cross bar by an iron shutter, or hinged clasp, formed thus, (see figure 2,) turning on a joint, or hinge, secured to the underside of the cross bar. To the end of the hinged clasp is attached an iron rod, or bolt, B, with an eye at its end. This rod, or bolt, passes through an opening in the cross bar, and has an iron spring key inserted through the eye, resting on the upper side of the bar, which secures the jointed clasp from dropping; or the rod may be fixed permanently to the cross bar, projecting far enough below it to pass through a slot or mortice in the end of the hinged clasp, with a spring key inserted through the end of the rod, or bolt, to prevent the hinged clasp falling. To the end of the spring key is attached a cord which leads inside of the carriage, where it hangs loosely. Should the horses take fright, and become unmanageable, the cord is then to be pulled suddenly, which will draw the spring key from the eye of the rod, or bolt, let the hinged clasp fall, and with it the jointed clasp attached to the swingletree, and will disengage the horse from the carriage.

The tugs are open in front, thus, (see fig. 3,) to allow the breeching to slip off freely. This breeching is made from a single strap of leather, with rings sewed to the ends, to hook over the tugs.

The shutter, or hinged clasp, may have its end turned up at right angles, and formed like a catch, or hook, and secured by a spring, fastened to the side of the cross bar, the cords being attached to the end of the spring. The shutter may, indeed, be held up in a great variety of modes, but the before described are sufficient to show the principles of my invention.

When it is desired to retain the swingletree, and let the horse go off with traces only, a hinged clasp must be put on each end of the swingletree, with the jointed clasps secured to the end of the traces, and the cords attached to the spring keys run through pulleys and are joined to the cord which leads inside of the carriage.

In the two-horse carriage, the shutters, on hinged clasps, are hung on the under side of the whippletree, and the cords attached to the spring keys run along on the top of the whippletree in a straight line, then pass around pulleys, and are joined to the single cord which leads inside, or outside, of the carriage. The pulleys are to cause the cords to run freely, and to draw the spring keys, or pins, from the eyes of the rods, or bolts, in a straight line.

An iron tube, with a flaunch on one end, is fastened to the end of the pole. Over this is put a thimble, having a ring on each side, to which the breast straps are attached. This thimble slips off the end of the pole, when the horses are disengaged.

The mode of detaching the horses from the two-horse carriage is similar to that described for a single horse carriage.

In a four-horse carriage the leaders are disengaged from the pole in the same manner, by a jointed clasp, hinged clasp, spring key, and cord, as described for a two-horse carriage. The jointed clasp may be held up against the cross bar by a pin inserted through the jointed clasp into the hind part of the cross bar, to which pin the cord is attached.

The jointed clasp may also be secured by a spring fastened on the hind part of the cross bar, the cord being attached to the end of the spring. Springs, or friction levers, are secured to the carriage, brought in contact with the hub in order to decrease the motion of the carriage when the horses are liberated, or before they are liberated.

This invention may be applied to field artillery, and it will enable the men to limber or unlimber the gun in less than half a minute. It

may also be applied to wagons of every description, to ploughs, and harrows, and all kinds of agricultural implements drawn by horses, when required to be taken in haste from the carriage to feed, &c.

A forked piece of iron is suspended over the hound and front axletree to prevent its turning on the body bolt.

What I claim as my invention, and which I wish to secure by *letters patent*, is the before described apparatus for suddenly disengaging horses from carriages.

For a further illustration of my invention I would refer to the models and drawings of the same deposited in the patent office.

ROBERT BEALE.

For the American Railroad Journal and Advocate of Internal Improvements.

Boston, Dec. 17, 1832.

COMMON ROADS.—The remarks regarding drainage in my last, (see No. 50, Railroad Journal,) apply more particularly to a flat country, though the same principle necessarily obtains every where. When the road winds along the side of a hill, and is formed by what is technically termed side-cutting, the water from the upper side will obviously acquire a velocity sufficient to carry it over any ordinary rut, to the centre and opposite side of the road. To obviate this objection, the cross section of such a road has sometimes inclined slightly towards the hill side, with the intention of at the same time retarding and returning the water into the drain always formed, of course, on that side of the road next the hill. I have observed, however, that any inclination which can thus be given, consistent with the safety of carriages, is of little effect. The better way is either to cut small ruts on the face of the hill, and altogether beyond the slope of the road, or to raise a small parapet of earth 8 or 12 inches in height, on the proper side of the ditch; the first when applicable is the better and more general method. Wherever the inclination of the road or any other cause gives an undue velocity to surface water, care must be taken that it find no vent to the body of the metal; it will otherwise, as I have several times observed, in the course of a few hours soften the most perfect road, and besides the inconvenience it occasions, will so effectually cleanse the gravel as to retard very much the after consolidation of that portion of the way. In flat countries there must, of course, as much attention be paid to creating an inclination for the water, as in this case to retarding it.

I perceive that you have lately been embodying the substance of Mr. M'Adam's evidence into your Journal. I was not aware of this when I last wrote, otherwise I should not have troubled you on the subject. As Mr. M'Adam's remarks, however, are very different, and in many cases not immediately applicable here, I do not regret having thus at the risk of some repetition recalled it to your attention,

Having by that rigorous system of drainage which I have endeavored to inculcate, paved the way for further improvements, the surveyor may direct his attention to the formation of the surface of the road. It will always be of great importance that the foundation upon which the material of the road rests, *be not below the top or edge of the drains.* I advert to the method sometimes pursued of cutting a trough for the material, obviating in some measure the good effects of drainage, and retaining as far as mismanagement can retain, the damp or water which we are seeking to disperse. Where this method is already in existence, frequent ruts from the sides, at right angles with the roadway to the ditches, will in some measure remove the defect, and the attention of the surveyor will be directed, in the after distribution of his materials to a gentle raising of the centre. Generally the roadway at present is clothed with massy stones, and sometimes, as the case may be, pieces of natural rock. The former ought to be removed; the latter leveled, or the surface of the road raised as may be most convenient. The holes from which these boulders have been taken will be filled with gravel, and a little attention paid to smoothing it until it has become properly consolidated. All stones, large and small, which do not come properly under the denomination of gravel, ought to be removed. This will cause some trouble in the first instance, but a world of relief afterwards. Their very being at present creates ruts where otherwise none would have been found. The height to which they raise the passing wheels gives them an impetus in descending, probably ten times greater than would be the ordinary effect of a carriage running on a smooth road. The materials are thus loosened and disturbed, the body of the road penetrated, and an escape afforded to the clay or earth which may be lying in reserve. I will endeavor, by'-and-bye, to form some estimate of such improvements, and I anticipate being able to prove that the expense of the good road will ultimately be less than that of the bad one. Much will depend upon the qualities of the gravel (I am talking of gravel roads at present) which may be used. River gravel, generally speaking, ought to be altogether discarded, and gravel from inland beds to be completely sifted of the earth which accompanies it. It can never be cleared entirely of earth, and when sifted to the greatest advantage there will always remain sufficient to assist in the proper and active binding of the road. The first species of gravel is too clean, the latter too full of earth. The nature of gravel being water-worn and rounded of all asperities, renders a second substance indispensable to its acquiring compactness within a requisite time. The first would consolidate, but not until, in consequence of coarse weather or other means, it had acquired from the bottom or sides of the road the necessary proportion of earthy particles, and having seen it used, I am aware that it may remain for months a very fatiguing and heavy road. Mixing it with a slight quantity of earth might in some measure remedy the defect, but I apprehend the two substances would hardly assimilate so closely as when found so disposed in their natural beds. In sifting gravel, different sized sieves, standing at an inclination of 30 or 40 degrees before the workman, will be found convenient. One for separating all stones, properly so called, from the mass, and another for separating from the gravel so procured, the loose earth: these two objects ought to be strictly enforced. Any slovenness in this respect will be productive, as will be found, of four-fold trouble afterwards. The time spent in this portion of the work must never be grudged, since it will certainly be productive of much more than proportional beneficial effects. The placing of large stones or obstacles of any kind on the body of the road, while the material remains soft, is a clumsy and dangerous expedient when it can be avoided. Raking up the wheel tracks daily would be found much more efficient, and one man or a neighboring farmer, if he understood his own interest, could manage several miles with ease till it was consolidated, which would obviously occur much sooner by this method than by the other. In the former case the carriages are directed into particular channels; in the present, they have no inducement to press either side.

S. D.

RAILROAD OPERATIONS.—The new Locomotive Engine belonging to the Hudson and Mohawk Railroad Company, and mounted on six wheels, is now running to the entire satisfaction of the company. It came a few days since from the half-way house to the top of the inclined plane in 13 minutes, a distance of nearly seven miles.

Yesterday afternoon about 65 barrels and tierces came across from Saratoga, and reached here in time to be forwarded to New-York the same day.

We also learn that some enterprising persons in Saratoga are sending large quantities of hard wood to the city at a good profit to themselves, as well as to the Saratoga and Mohawk Railroad Companies. Two thousand cords are now being delivered upon one contract, and a large quantity is expected during the winter.—[Albany Daily Advertiser.]

[*From the London Mechanics' Magazine.*]

MR. MURRAY'S INVENTION FOR SAVING FROM SHIPWRECK.—Several ingenious methods have been proposed for effecting a safe communication between stranded ships and the shore. Mr. Trenghouse suggested a rocket, Capt. Dansey a kite, and Capt. Manby a shell, for the purpose of carrying out a line to the ship in distress. The plan of Captain Manby was thought so well of at first, that it was honored with a Parliamentary reward, and very great exertions have been made to introduce it into general use. But it has been found attended with so much difficulty, even under the most favorable circumstances, and has in not a few instances failed so decidedly, that it has been only very partially adopted, and has not effected any material diminution in the general loss of life by shipwreck. From the weight of Captain Manby's apparatus, it is not quickly transportable from the few stations which are provided with it, to the immediate scene of danger; and when the rope is projected it too frequently snaps in two. A transport was wrecked only three miles from Mundesley, where there was one of Captain Manby's safety-mortars, but before it could be conveyed to the spot the ship had gone to pieces, and all on board perished. In another case, of a ship wrecked off Whitby in 1820, within 60 yards of the shore, the shot, in the first attempt, fell short; the rope, in the second, broke; and the ship and crew were buried in the breakers. On many parts of the coast there is not even this imperfect apparatus of Captain Manby. So late as December, 1830, one of the most frequented, and, at the same time, most dangerous parts of the British coast —that between Plymouth and the Land's End —was so entirely destitute of every sort of means for saving shipwrecked mariners, that of the passengers and crews of 28 vessels which went on shore in the dreadful storm of that month, only two men and a boy were saved!

Frequent reflection on these distressing facts has led Mr. John Murray (the popular lecturer on chemistry, and the author of many excellent scientific works,) to the invention of the apparatus represented in the prefixed engravings, and described in the pamphlet which we have now before us.* Mr. Murray first tried to project from a common musket an arrow with a line attached to the feather end, but the arrow became *reversed* in its transit through the air, and the following improved and very ingenious arrangement was therefore adopted:—

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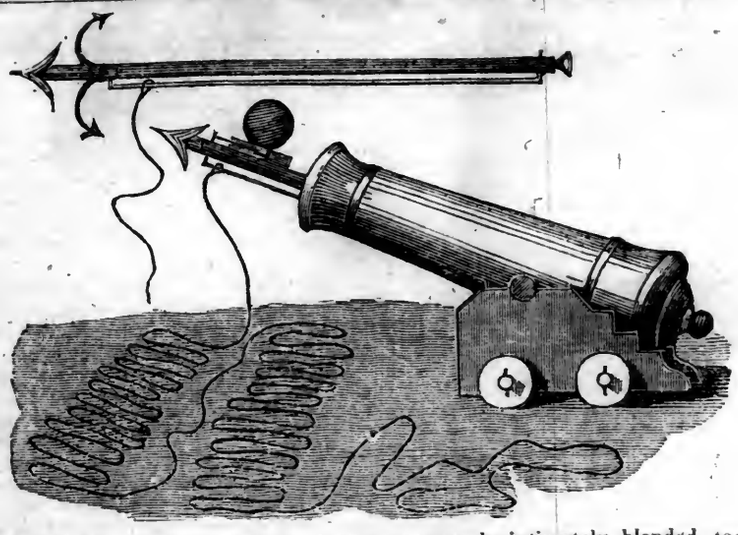
* Invention of an Effective and Unfailing Method for forming an Instantaneous Communication with the Shore in Shipwreck; and Illuminating the Scene in the Dark and Tempestuous Night. By John Murray, F. S. A. &c. 30 pp. 8vo. Whittaker & Co.



"The highest figure represents the form of the arrow, as best constructed for the common blunderbuss, and may be propelled immediately from the shore, or carried with the life boat. The butt-end carries a thin metallic shield, or plate, which may be made of copper. The point is sharp and barbed, to fasten where it may strike, or act as a holdfast on the tackling or rigging of the wreck. It is shod with iron, as well to subserve this purpose as to secure its direction, and compete with the resistance it must encounter in a storm. The wood used is hickory, or ash, or, still better, lancewood, the more cohesive the fibre the better: this is withed in its extreme length with whip thread or line; bands or ribbons of thin metal strengthen the arrow, where the bent extremities of the parallel iron rod pass through, and which last are further secured by a shoulder on one side and a nut on the other. Along this parallel rod glances the iron ring to which the line is attached, the instant it leaves the gun, and a bit of cork, or caoutchouc, toward the end of the arrow, interposed between the rod and the body of the arrow, acting as a recoil spring, will so far subdue the effect of friction.

"The entire weight of the arrow, thus plumed and shod, is from two to three ounces, 18 inches long, and three quarters of an inch in diameter. These dimensions and weight have been found most efficient and successful when applied to a blunderbuss sixteen inches long in the barrel, and one and one-tenth inch diameter in the calibre. The entire weight of the arrow and its appendages, together with the strong whip-cord attached to it, was two pounds and one ounce, and ware carried to an extent of nearly one hundred yards by two drachms of gunpowder. The cord was of sufficient strength to pull a rope from the shore large enough to form a communicating medium of escape from the wreck.

"The lowest figure exhibits the arrow applied to a three pounder swivel, the calibre of which, however, though not represented in the plate, it ought nearly to fill. In this case, the arrow and its various adjustments weigh together nearly two pounds; and with three ounces of gunpowder a line of considerable strength and power will be propelled upwards of a hundred and fifty yards. In this instance a macharel, or deep sea-line, may be used. The cord is represented as coiled in the form of what is called French faking, and was the plan adopted in all our experiments, while it seems best adapted to preserve the coils from being entangled—a circumstance of the highest importance in experiments of this description. The barb is removed here to render the appearance less complicated.

"The arrangement is supplied with an appendage for illuminating the flight of the arrow and scene of shipwreck. It consists simply of a cylindrical sheath, or socket, containing the materials of illumination, consisting of a mixture of finely powdered chlorate of potassa and sugar-candy intimately blended together. A spindle supplied externally, with a flat head, enters by its extreme head into a miniature phial supplied with sulphuric acid, sealed with a drop of bees' wax. As soon as the arrow leaves the gun, the reaction of the air on the head of the spindle drives inward the plug of wax and liberates the acid, which instantly kindles the mixture, the brilliant flame immediately fills the globular cage of wire gauze which surmounts it, and the intensity of the light is rendered still more dazzling and splendid by adding a bit of phosphorus to the inflammable powder. This part of the apparatus is made altogether independent of the arrow, and may be easily attached when circumstances require it, as when the darkness of the night renders it imperative.—The combustion which forms the source of the illumination, cannot be quenched either by the sea spray or a deluge of rain, the medium of support being supplied from itself, altogether independent of the external atmosphere, however charged with watery vapour or rain, and the combustion is too fierce to be at all affected by the wind, even at its maximum degree of strength."

The "experiments" alluded to in the preceding extract are detailed more at length in a subsequent part of the pamphlet, and leave no doubt on our minds, that Mr. Murray's apparatus is by far the most efficient that has yet been devised; while, at the same time, it is so cheap and portable, that inclination alone is all that can be wanting to bring it into general use.

RAILROAD INTELLIGENCE.—The steam car South Carolina arrived at half past 7 P. M. on the 15th, from Branchville, (62½ miles,) in 7 h. 15 m., all stoppages included. 18 passengers; cargo, 70 bales of cotton—to sundry factors. Stopped at Summerville 30 minutes, to discharge freight cars.—[Charleston paper.]

EXPERIMENTAL RAIL-ROAD.—The Rail-road Company of this city expect to have their Road between the Capitol Square and the Stone Quarry, completed by New Year's day, (if not prevented by inclement weather,) and a handsome car upon it for the accommodation of such ladies and gentlemen as may desire to take the exercise of a Rail-Road airing.—RALEIGH, Dec. 28.

From the American Almanac, for 1833.

MASSACHUSETTS.

BOSTON AND LOWELL RAIL-ROAD, leading from Boston to Lowell, and commencing on the west side of Warren Bridge, is to cross Charles river by a wooden viaduct, and to terminate at the basin of the canal in Lowell, from which there are to be branches along the several canals to the factories. The inclination of the road will in no case exceed 10 feet per mile, and in general will not exceed 5 feet per mile. For the present there will be but a single track, with the necessary number of turn-outs; but provision is made for the construction of another track, if required. It is to be constructed in the most substantial manner of stone and iron. Company incorporated in 1830. Length about 25 miles. Work now in active progress.

BOSTON AND PROVIDENCE RAIL-ROAD, extending from Boston to Providence, Rhode Island. Distance, 43 miles. Company incorporated in June, 1831, with a capital of $1,000,000. Route surveyed, and the location for a part of the distance determined.

BOSTON AND WORCESTER RAIL-ROAD is to extend from Boston to Worcester. Length 43 miles. Part of the road is now under contract, and the work was commenced in August, 1832. Estimated expense, $883,994. But as the contracts for making the road have been more favorable than was anticipated, it is expected that the cost will fall considerably short of the original estimate. Company incorporated in 1831. It is proposed to continue this road to Connecticut river, and to construct a branch to Milbury.

QUINCY RAIL-ROAD.—This was the first work of the kind undertaken in the United States, and was constructed for transporting granite from the quarry in Quincy to Neponset river. Length, 9 miles; single track. Completed in 1827.

BOSTON AND TAUNTON RAIL-ROAD, from Boston to Taunton, Mass. Distance, 32 miles. Company incorporated in June, 1831, with a capital of $1,000,000. It has been proposed that this company should unite with the Boston and Providence Rail-Road Company, upon condition that a branch road be constructed from Taunton to the Boston and Providence Rail-Road.

The following rail-roads have also been projected, and some of them surveyed. From Boston or Lowell to Brattleborough, Vermont; from Boston to Salem, to be continued to the northern line of the State; from West Stockbridge to the boundary line of the state of New-York, to meet a rail-road from Albany; and from Boston to Ogdenburgh, N. Y.

CANALS.—MIDDLESEX CANAL, connecting Boston harbor with Merrimack river at Chelmsford, opens a communication to the central part of New-Hampshire. Length, 27 miles. Breadth at the surface, 30 feet, at bottom, 20; depth of water, 3 feet. Locks, 20; lockage, 136 feet. Company incorporated in 1789; Canal completed in 1803; cost, $528,000.

BLACKSTONE CANAL, extends from Worcester, Mass. to Providence, R. I. It follows through the greater part of its course, the valley of Blackstone river. Length, 45 miles. Fall from the summit at Worcester to tide water at Providence, 451,61 feet. It has 48 locks, 80 feet long by 10 wide. Breadth at the surface, 34 feet; at the bottom, 18; depth of water, 4 feet. It was completed in 1828. Cost about 600,000 dollars.

PAWTUCKET CANAL, in the town of Lowell, is used not only passing a fall of the same name, but also for supplying very extensive hydraulic works. It is 2 1-2 miles in length, 80 feet wide and 4 deep, overcoming a difference of level of 32 feet.

SOUTH HADLEY CANAL, constructed for passing a fall of 40 feet on Connecticut river in the town of South Hadley, is two miles in length. There is a cut in this canal, in solid rock, 40 feet in depth and 300 in length.

HAMPSHIRE AND HAMPDEN CANAL, is a projected work in continuation of Farmington Canal, from Southwick ponds to Northampton. Distance, 20 miles. Difference of level, 298 feet.

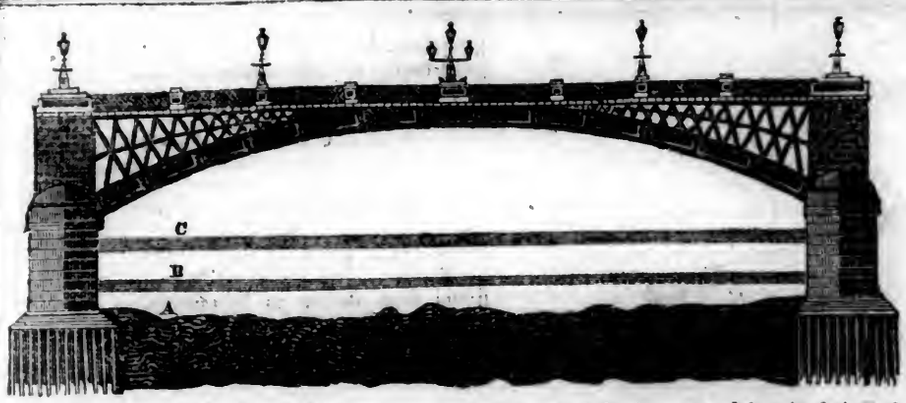
MONTAGUE CANAL, constructed for passing Montague falls, on Connecticut river, in the town of the same name, is 3 miles long, 25 feet wide, and 3 deep. Lockage, 75 feet.

OHIO CANAL.—We learn from the Governor's Message, that the tolls collected on the Ohio Canal amount to $75,463 03

On the Miami Canal, 34,955 85

Making in the aggregate, 111,420 79

The increase from the receipts from the Ohio Canal over last year is $12,500, and the decrease on the Miami Canal is upwards of $1000. —[Mechan. & Farmer.]



[*From the London Mechanics' Magazine.*]

SOUTHWARK IRON BRIDGE. Architect, Rennie. 1814–20.

For several centuries the only direct means of communication from the Borough of Southwark to the city of London, was by passing over London Bridge, the then only bridge across the river Thames. Since the time of Stowe, however, (who mentions that bridge with particular satisfaction,) the rapid extension of the Borough had frequently suggested the great necessity of some more direct means of communication to the heart of the city. But it was to our own times, that the ultimate execution of his design was reserved. The successful projector of the scheme was Mr. John Wyatt, proprietor of the Repertory of Arts. In 1807, that gentleman first turned his attention to the subject, and labored incessantly, and in spite of every obstacle, till the year 1811, when an Act of Parliament was obtained, authorizing the necessary sums to be raised, amounting in the gross to 400,000*l.* in transferable shares of 100*l.* each; and containing permission to raise (by way of mortgage or annuities) the sum of 100,000*l.* should such further sum be required to complete the works with its necessary approaches, and for securing the subscribers against extra calls over and above the amount originally stipulated for.

The Committee of the proposed Bridge consisted of the following gentlemen:—Sir J. Jackson, Bart. chairman; John Allnut, Esq. Chas. Barclay, Esq. M. P. Samuel Davis, Esq. East India Director; Robert Pott, Esq. Henry Perkins, Esq. Charles Price, Esq. George Ranking, Esq. John Ramsbottom, Esq. M. P. Wm. Salte, Esq. William Slade, Esq. John Taylor, Esq. M. P. William Williams, Esq. Banker; and Sir Joseph Yorke, Bart. M. P. Whether any other committee was formed prior to this, I am unable to determine, but the before-mentioned names agree with those given in the "Repertory," as also in the copy of a Prospectus now before me.

Mr. Wyatt, it appears, was at the time personally acquainted with the late John Rennie, Esq. who, at his (Mr. Wyatt's) recommendation, had professional conferences with the Committee of Management on the propriety of erecting the bridge, and the nature of its construction. Mr. Rennie was, of course, satisfied that a bridge was required, and the Committee being satisfied that the care of its execution could not well be placed in abler hands, gave the necessary directions for designs and drawings to be prepared for their inspection. Accordingly Mr. Rennie furnished two designs for the intended bridge; one of stone, to consist of five arches, and one of iron, to consist of three arches, with granite piers. The latter design was preferred and carried into execution. (See above engraving of centre arch.)

The works, however, were not commenced until the year 1814—operations being stayed by parliament till such time as all the shares were disposed of. It must be admitted that this undertaking of Mr. Rennie's was bold and arduous in the extreme. Little is known at present as to the best mode of constructing bridges of iron. The great number of the parts, and the paucity of scantling compared with stone bridges, and the immense labor in fixing those parts, render it, in many respects, a distinct arrangement in bridge-building. Also, if we consider the enormous spans of the arches of Southwark Bridge, and the number of them (only three), we cannot withhold our commendation from the scientific individual who conceived and carried into execution so bold a project.

The invention of iron bridges is due to British mechanics. It is said that the first bridge of this description was invented by Mr. Thomas Paine, and intended for America as the subjoined list will show. The repeated failures of iron bridges show clearly that experience is still wanting to render them of sufficient permanency.

The following are the most remarkable Bridges of Iron not of the suspension kind:

	Dates.	Architects or Builders.
Southwark, London	1814.20	J. Rennie
Colebrook Dale, over the Severn	1779	Darby
Mr. Paine's bridge, intended for America, but not having money sufficient the arch was taken down by the builders, Messrs. Walker, of Rotheram; part of the materials were employed in building Sunderland and Wearmouth in 1790.	1790	
Over the River Wear	1793.6	Walker, Wilson, Burdon
Buildwas, (Colebrook Dale Company)	1795.6	Telford
Tame, Herefordshire—when centering was removed (failed)	1795.6	
Parret, at Bridgewater, Dale Company	1796	
Staines (failed twice)	1800	
Tees at Yarm (failed)		
Boston, in Lincolnshire, and two over the New River at Bristol,		

The following account which we copy from the Mechanics' Magazine, of the first attempt to use steam for propelling vessels in England, brings forward a new claimant to the honors of that important discovery. It is an honor *well worth* contending for—"Honor to whom honor is due," is our motto.

HISTORY OF STEAMBOATS—*New Claimant to their Introduction.*—Mr. Wm. Bromilow, a correspondent of the Liverpool Chronicle of Saturday last, has brought forward a new claimant to the introduction of steam navigation in the person of a John Smith, late of St. Helen's.—Indeed the facts, if authentic, leave no doubt that he has a prior claim to both Bell and Fulton. Mr. Bromilow's statement is as follows:

"The engine in the boat alluded to, and which is generally supposed to be the first invented, was constructed for propelling boats by steam, as before stated, by Smith at St. Helen's, in the year 1793, and her first excursion was down the Sankey Canal to Newton Races, in June in the same year, laden with passengers. On the Saturday following she sailed to Runcorn, from thence down the Duke of Bridgewater's Canal to Manchester. On her arrival there, such was the astonishment and curiosity at this wonderful, and as some would have it, this mad idea, that thousands of the people came from all directions to see what their eyes would not believe, nor their senses understand; and, indeed, such were the numbers, and such the curiosity this vessel excited, that Smith was obliged for the safety of his property, to give notice that no one would be allowed to come on board of her, excepting those who paid a certain sum. This exasperated the populace to such an extent, that a party of mechanics immediately got possession of, and almost destroyed her. Amongst the visitors was Mr. Sherratt, of the firm of Bateman and Sherratt, of Manchester; also several other respectable engineers of the same place, whom it is unnecessary to name. So far as memory serves me, (after a lapse of 39 years,) the following is a short description of this wonderful discovery; but having made no memorandums of the circumstance at the time, and, I may say, being then young, and to a certain extent, like the rest of my friends, incredulous, I never anticipated what is almost to every one in the present day so common. The vessel had on her an engine on the old atmospheric principle, was worked with a beam, connecting-rod, double crank, in an horizontal line, and with seven paddles on each side, which propelled her at the rate of about two miles an hour. John Smith was a rude, uncultivated, self-taught mechanic, and was supported with money by a Mr. Baldwin, at that time of St. Helen's, and was the first æronaut who ever ascended in a balloon, either in this or the adjoining counties. Perhaps, I may observe, that the vessel or boat was purchased at Liverpool, and on Smith's informing the parties from whom he bought it what his intentions were, he was treated as some insane person; he was laughed at by one, insulted by another, and pitied generally; but, having money with him, he was allowed to purchase her. On being questioned and laughed at by a merchant at the time the purchase was made, he replied, '*those may laugh who will, but my opinion is, before twenty years are over, you will see this river (Mersey) covered with smoke.*'

"I feel pleasure in giving you these particulars, and the substance of the remarks I can vouch for as being correct, having been an eye-witness to most of them, and one of the party who took his first excursion."

[*From the Petersburg, Va. Intelligencer.*]

PETERSBURG RAILROAD.

It is with high gratification we present our readers with the following Report, made by the Principal Engineer to the Second Auditor of the State, and published by order of the Board of Directors of the Petersburg Railroad Company: In doing which we have the further satisfaction to mention, that on Saturday last, payment in full was made for every share of stock held by individuals—so that the last moiety of the Commonwealth's subscription is now demandable, and will no doubt be promptly paid.

PETERSBURG, Dec. 6th, 1832.

JAS. BROWN, Jr. Esq., 2d Auditor.

Sir: I am requested by the President and Directors of the Petersburg Railroad Company to communicate to you, for the information of the Board of Public Works, an account of the condition and cost, and my impressions of the prospects of the work committed to my charge.

Its objects, as the Board are no doubt apprized, were to connect the Roanoke River, at a point where there must be necessarily a transhipment of produce from one description of boats to another, with the town of Petersburg, to accommodate much better and of course to command the trade of the upper-Roanoke, and to afford to a part of the lower-Roanoke country, and a large part of the interior of North

Carolina, a readier and a cheaper way to market than they now have.

A careful examination of the subject satisfied the Board of Directors that an improvement of a superior character was well justified by the ends in view, and on the other hand, that the trade of the Roanoke and of the districts of N. Carolina, which the contemplated railway was to reach, would be diverted but partially from its accustomed channels by a work of an inferior order. It seemed to the Board also advisable in the execution of their work, to attempt not only the objects which first led to its being projected, but others, which it was seen might be subsidiary to the end of making it a profitable investment to stockholders. By adapting the plan and profile of the railroad to the use of Locomotive Power, it was evident that not only a much more perfect accommodation would be afforded to trade and to passengers, but that an important facility would be given to the Post Office Department in the transmission of its mails, for which it was presumed the government would be willing to award a liberal and adequate remuneration.

With these objects in view, a Railroad was located between the town of Petersburg and a a point on the Roanoke, one and a half miles below its Falls, unsurpassed, and it is believed unequalled in directness, in freedom from curvature and beauty of graduation by any similar work of the same extent. Its whole length from the Depot in Petersburg to that on the Roanoke is but fifty-nine miles, or three and one-eighth miles more than a straight line between these would be; most of its curves are arcs of circles of from two to nine miles in diameter, and its graduation in no place (after leaving the town of Petersburg) exceeds a rise or fall of thirty feet per mile.

It would have been a subject of gratification to the Board of Directors and their officers, if the construction of their work could have corresponded in all respects with the excellent location which was obtained for it. It was evident, however, that the resources of the company would not be adequate to a work of the most permanent character *throughout*; and it became, therefore, a subject of high consideration in what respects retrenchment could be made without impairing its usefulness and value.

The conclusion arrived at, was to execute the railroad on the plan contemplated by the undersigned, on the 8th of April, 1830, to the Common Council of Petersburg. The graduation of the road and the masonry of the bridges, culverts, and other constructions, being on the most permanent plan, whilst a superstructure of a more economical character, it was thought might be admitted in place of the stone and iron superstructure, generally adopted in England and on some few of the railroads of this country.

It is doubtful whether, if the funds of the company had been more ample, good judgment would have dictated a different course from that which was determined on. Temporary constructions are undoubtedly in most cases to be avoided on public works.—If however they are in any case admissible, they would seem to be so in the superstructure of a rail-road. In the present instance, a track of wood and iron, of a highly substantial character, (heart yellow pine rails 5×9, plated with iron half inch thick by 2 inches wide, secured in White Oak sills 12 inches in diameter,) will have been laid at a cost less by two thirds, than would have been necessary to lay down iron rails on stone blocks. Its average duration will be about ten years, and before it decays, it may be made use of to put in place the materials, and thereby defray a large portion of the cost, of a more permanent construction.

CONDITION AND COST OF THE WORK.

At this time four fifths of the labour of grading and bridging on the Petersburg Railroad may be considered as effected, and the remainder, if the winter should be favourable, may be expected to be finished by the first of June next.

Of superstructure, the first thirty miles from the Corporation Line are completed, and the rail-road for that distance has been in use for the last six or eight weeks. The remaining distance to the Meherrin and the portion of the railroad within the Corporation Line, (if the weather should be favorable) may be completed in the course of a few weeks; so that by the first of February at farthest, the company may expect to open their rail-road between Petersburg and Hicksford, (forty-one miles,) for transportation. The remaining distance between the Meherrin, and Roanoke, is so far advanced as to leave little doubt of its completion within less than twelve months of this time; and that the whole line of rail-road, if no untoward circumstance should occur, may be opened to the Roanoke in the month of November next. By that time the necessary depots and warehouses for the accommodation of the trade will have been constructed, the engines and cars requisite procured, and all other arrangements for transportation made.

The cost of the rail-road, so far as it has been completed, has been entirely within the original estimate, and on those parts which are yet to be completed there will, with one exception, be no material variation. On the portion within the Corporation of Petersburg, the amount assessed against the Company for damages has been greater than was anticipated, and an extra expenditure of about 12 thousand dollars will be incurred in order to avoid an inclined plane at the termination of the rail-road. which had been at first contemplated. On the other items of expense yet to be incurred, there will as often be a reduction as an increase on the prices allowed in the estimate, and the whole work will at any rate be executed for the sum contemplated ($400,000) at the period of its commencement.

An increase of capital or a loan of money, will however be requisite in order to procure the necessary locommotive engines, cars and carriages, for the purposes of transportation, and to give to the trade of the road a sufficiently extensive accommodation in the way of warehouses and depots. The extent to which this will be requisite will depend on the views of the Board of Directors and of the Stockholders, and on circumstances yet to be ascertained. It will be important that the Company should be in these respects adequately and amply provided; and particularly so in the event of the transportation of the mail being effected by it.

PROSPECTS OF THE COMPANY.

It has seldom occurred in Virginia, that the results of a work have equalled the expectations of its projectors. It is confidently believed that the Petersburg Rail Road will form an exception to the rule.

The easy curvatures and gentle graduation of the road have been before alluded to. These and a careful execution will give to the power employed on it a large, useful effect, and enable locomotive engines to attain the highest desirable velocity with entire safety. It has been mentioned above, that one half of the rail-road was opened for transportation in the month of October. Since then a light engine weighing but little upwards of four tons, has been engaged in nearly daily trips on this distance; transporting from 18 to 20 tons net, or from 30 to 33 tons gross, in an average period of 2½ hours. So far the whole cost of her repairs has not been five dollars, and the fuel consumed by her, has been but about half a cord of wood per day.

It is agreed, that the above is an unusual case, and that the performace of their engines, generally, will scarcely be equal to that of the beautiful locomotive with which the Board of Directors have commenced their transportation. Still, with large deductions and allowances, the saving in the cost of transportation as well as in time by their improvement, and its efficiency when it meets the Roanoke, can scarcely be questioned.

I must leave to others, more conversant than myself with the trade of the Roanoke, and with that of Petersburg beyond this stream, to estimate its amount and probable increase on the completion of the Rail Road. On that subject, the information in my possession is scarcely definite enough to admit of my hazarding an opinion. If it is such as it has been confidently stated to be, there can scarcely be a doubt of the productiveness of the Railroad, within a very brief period.

I am, sir, very respectfully, your obed't servant, M. Robinson, Engineer.

AGRICULTURE, &c.

[*From the New-England Farmer.*]

AGRICULTURAL ESSAYS, No. VII.

Keeping a Day Book.—Both merchants and mechanics are greatly indebted to their books of accounts, for information and success in the several branches of their business, by regular and correct entries. The transaction of every day should be correctly noted. The time when you plough, sow, plant, mow, pull flax, cut fuel, gather corn, potatoes, &c. and the quantity and quality of manure laid on each field, should be carefully noticed. You will then know the season when labor must be done the next year, in those fields, and the kinds and proportions of manure required to dress them. Farmers should weigh all their pork, beef, butter and cheese; and measure all their grain, corn, potatoes, &c. and indeed, every article they lay up for winter; and also the time when they kill their creatures and the food on which they were fatted. This will show the quantity they consume, what, and how much of each article, and how much they may have to dispose of. Days on which they hire laborers; the labor performed on those days, and the price paid for that labor should be entered. This will show what time and labor must be performed the next year, the price of it, and the money which may be wanted to carry on the business of the farm.—Every farmer should mark the day on which his cows, mares, &c. associate with the males of their several kinds; he will then be able to provide proper room, &c. for the reception of their young, and to attend to their keeping in due season, and which ought to be a little better than common, at those periods. For want of this attention, multitudes of calves, lambs, pigs, &c. are annually lost. The ages of lambs, calves, colts, &c. should be carefully noted, and the weight of them when killed, as this will point out those ewes, cows, &c. which are best for breeders; which is a very material branch of knowledge, in regard to the growth and value of a stock of cattle. In short, the Farmer should note the business of every day, how and where he past it, and what the weather was; and he should not forget, that so much of the goodness of his crops depends upon early and seasonable cultivation that he had better give any price for labor than be belated; more depends on this than farmers in general seem to be sensible of. Flax, sowed early will have a better coat, and more seed, than when sowed late. Barley sowed early will not be liable to blast and mildew; and Indian corn planted and hoed in good season, will not be so liable to suffer from drought, and from frosts, and will be fuller and heavier, than when planted late, poorly ploughed, and indifferently hoed. Grass land on which manure is spread early, will yield a much better crop, than if spread late, and *one* load of grass cut when ripe, and before it withers and turns white in the field, will be of more value than *two* loads of the same kind cut after it is ripe, dried away and weather-beaten: it has lost its juices in this state, which is all that is valuable. Our summers are so short, that every possible advantage should be taken for early cultivation: for negligence and inattention in the spring will certainly be followed by cold and hunger in the following winter.

But to return. A Farmer should keep a careful entry of all his fodder; the quantity and quality of each kind—for he may wish to purchase and winter a cow or two extraordinary;

and an account of the manure made by his swine, by scraping of the roads, his yards, by mud, barn dung, &c., for this will show him at once how much land to break up, and the strength he will have for next year's cultivation: if he neglects this branch of good husbandry, he cannot expect to form a just estimate either of the labor or profits of the next year. To avail himself of the advantages which stand connected with his situation and farm, he must attend to these things, many of which may appear of little or of no consequence in the eyes of the mass of farmers; but they certainly deserve their very serious attention. Laborers, unless upon some urgent occasions, should never be hired by the month, nor even for a single day, in the winter season, when the days are short, cold and stormy, and when an industrious man can hardly earn his living. The quantity of pork, beef, cider, and other provisions expended, in other words almost thrown away, by this imprudent practice, will certainly be missed, and severely felt in the following spring and summer, unless an additional stock of each be laid up to support it in the fall proceeding. The farmer may hire labor, in the spring, to get a good crop in due season: in the summer, to secure his grass; and in the fall of the year, to gather in his harvest; but not in the winter, when nothing can be raised, either for the use of man or beast.

And here I observe, that every Farmer should endeavor to cultivate and take care of his own lands; and not let the profits of them depend on hirelings more than he cannot possibly avoid. And he should never work within doors, while any thing can be done to advantage without; nor set himself or his laborers to that work in fair, which can be done in foul weather.

On the Management of Pear and Apple Trees, and Keeping Fruit in Winter. By Wm. Gray. From Transactions of the Horticultural Society in Durham, &c.

In winter pruning I cut all the long weak spurs, leaving the strong faithful buds in a regular manner. When my trees are in flower in the spring, and a frosty night happens, I wash the blow next morning, before sun-rise, with cold water, throwing the water gently on the flower with the squirt, which washes the frost rind off, and keeps the flower from being hurt.

When the fruit gets the size of a pigeon's egg, I thin them to two on each spur; by doing so I seldom have any that drop off, and those left on get larger. The superabundant wood that the trees make in summer, I shorten back to three eyes in the end of June, by which means the sap flows to the fruit and spurs for the next season; when these three eyes have grown a few joints, I stop them again, and when done growing I cut them close out, that the spurs for next season may get the free sun and air. I see some who let this superabundant wood grow on their trees until August, and the sap of the tree flowing to these useless shoots causes the fruit to be small, and weakens the buds for next season.

When I observe the fruit on the trees to change from the dark green to a clear blush, I take them carefully from the tree, and lay a bass mat on the ground, and spread the fruit thereon. I let them remain in the sun about three days, which takes that moisture out of them that causes them to sweat, and they will keep longer when treated in this manner than when taken from the tree and immediately stored. When stored I find straw the best thing to lay them in.

On the Selection of Seeds.—There are but few farmers who do not readily admit the importance of selecting the very best varieties of seeds, which he intends to plant or sow; still, there are but very few who give it the necessary attention. There are many sorts of seeds which do not require so much nicety in their selection as others; but, still there are none but should receive their due portion of attention—and no variety but will amply reward for the labor bestowed, both in the quality and quantity of the returns. The superiority of which, from this cause, in many instances is truly astonishing. In the Quarterly Journal of Agriculture, published in Edinburgh, a Mr. Sherreff mentions that the variety of Swedish turnip cultivated in East Lothian had, by judicious selection of the roots from which seed was to be saved, been improved in nutritious value upwards of 300 per cent. and he adds—"The difference of produce arising from sowing the seeds of a good and a bad variety of a plant is so great, that it does not seem inconsistent with probability to state that the gross agricultural produce of the country might be augmented in the course of a few years, through the agency of improved seeds, to the amount of 7 per cent.; and as the farmer's home consumption of produce, by such means would be increased nearly 10 per cent. what an enormous fund this forms for maintaining the un-agricultural part of the population, and augmenting the income of landholders."—[Gen. Farmer.]

Wheat.—The Richmond Whig says, one hundred thousand bushels of wheat have been already ground this season, at Chevallie's (Gallego's) Mills. This is more than any other mill here or elsewhere has ever done by the 8th o December.

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 5, 1833.

New-York Patent Guard Rail.—We have seen within a day or two, a newly invented iron edge rail, for Railroads, by a gentleman of this city, which, we have little doubt, will be found of great utility. Its peculiar advantages, as set forth by the Patentee, are, first, its great strength in proportion to the material used—2d, its economy, not only in its own cost, but also in the cost of sleepers, or supports, upon which the rail rests—one third, or one half of them being dispensed with,—and 3d, its safety if a rail is broken, which sometimes occurs by a blow or other accident—as even when broken it may still be used until another can be inserted. Two rails, made upon this plan, were placed on sleepers or bearings eight feet from centre to centre, and sustained ten tons weight without injury.

It has been examined by several eminent Engineers and scientific gentlemen, who, we are informed, consider it a very valuable improvement, and if we may be allowed, with our limited acquaintance with such matters, to express an opinion, it would accord entirely with those already expressed by gentlemen every way competent to decide. We are promised a more particular description, with a drawing of it, which we shall lay before our readers at the earliest period possible.

We understand that two distinguished engineers and *practical* Railroad builders, who have been for several years constantly engaged on one of the most extensive railroads in this country, are now disengaged. Their services would be exceedingly valuable to Railroad Companies about to commence operations. We shall with pleasure give such information as we are in possession of, if applied to upon the subject.

The London Mechanics' Magazine for October has just come to hand. It contains several highly interesting articles, amongst them is an engraving and account of Braithwait's Steam *fire engine*, the Comet, made expressly for the King of Prussia. We shall endeavour to give it with the engraving in our next, with others of interest.

We owe an apology to V. D. G. for the delay of his first communication. It was delayed first by other matter previously in hand, and then by the omission to publish the Journal on the *last* Saturday in December, in consequence of there having been two numbers issued in one week at the commencement of the year. His second of the 18th of December, is at hand, for which he will please accept our thanks. His communications will find a ready admission into the Journal.

The communications of Publicola are received, and they will have an early insertion.

☞ This being the *first* number of a *new* volume, and very much improved in its appearance, it will be sent to all who have heretofore been subscribers to it, that they may see it in its new dress. And it is the *particular* desire of the editor that those who wish to continue it, and have not already done so, will acknowledge its receipt by forwarding us *three dollars* free of postage, that we may, as soon as possible, know whether to keep up its present appearance, or to make it as heretofore, a Railroad Journal and Advocate of Internal Improvements only.

*** Those who do not wish to continue it will please to *return* this number to us, under a good envelope, as we wish to preserve every number.

☞ This number will be sent to the members of Congress and of the Legislatures of the different states now in session, who are respectfully solicited to become subscribers themselves, and then to forward this number to such of their friends as they think may also be induced to patronize the work. Each subscriber will receive from the first number of *this* volume, and also the *first* volume, either in sheets or bound, if he desires.

☞ To our friends of the Press we would tender our thanks for their liberality towards the Journal. It was altogether unexpected, and therefore the more gratifying.

Of those with whom we *exchange*, we would ask the insertion of our list of contents, as our only object in exchanging at all is to circulate as widely as possible such information as may tend to the general improvement of our country, and in some small degree to reciprocate the favors received from the corps editorial, and not for papers in return, as we have the use of over one hundred and fifty different papers weekly, from all parts of the country—besides those received in exchange for the Journal.

To the Editor of the Rail Road Journal:

Dear Sir—I send you a meteorological journal kept in this city, for the week ending on the 31st of December, which, if you should think worthy of insertion, will probably be continued from time to time, with as much regularity as my avocations will allow.

It may be proper to remark that a leading object of this record is to assist in furnishing the means for tracing geographically, and in the order of time, the principal phenomena and changes of our climate. Investigations in the department of physical meteorology, it is believed, would be greatly aided by records of this kind, obtained from different parts of the United States and the neighboring countries.

To promote this object an entry is made every four hours from 6 A. M. to 10 P. M., and the intermediate changes of the wind or weather are also noticed. The

strength or velocity of the wind is denoted by the use of the following terms, expressing the different degrees of intensity in their order, viz:—*faint, light, moderate, fresh, strong, gale, strong gale, heavy gale, hurricane.* But as the direction of the atmospheric currents in the region of the clouds affords far more satisfactory evidence of the general course and character of the principal movements of the atmosphere than is obtained from the direction of the wind at the earth's surface, the course of the clouds, when observed, is noted in a separate column. If the movements of two strata are observed at the same time, a line is drawn, and the point of compass from which the upper stratum proceeds, is marked above it—that of the lower stratum being placed below. The direction of the lowest stratum of clouds is also placed below a line, when from the existing or previous appearances, there is good reason to infer that the higher clouds are wafted by a different current. Changes which occur during the four hours, are marked by an intervening dash — ; and observations made at the regular period, but showing no change in the results, are denoted by double commas or periods. The scale of the barometer has been carefully adjusted by a common standard, but may possibly exceed the true height. Its position is about twelve feet above the ordinary tide level.—The thermometer is placed in the open air, but in a sheltered position, and probably does not fully indicate the greatest extremes of temperature. C.

N. B.—In 136 periods of observation in the month of December, the winds have prevailed from north to east, including north, during 38 1-2;—from the east and thence to south during 18;—from the south and round to west 37 1-2;—from the west and thence to north, 42. Of 92 periods in which the course of the clouds has been noted in the month, the upper movement observed has been from the north, and including the quarter of the compass to east, 5;—from the east and thence to south 5;—from the south to west 45;—from the west to north 37.

Thirteen observations of the clouds made while the thermometer was below the freezing point, resulted as follows: from east to south 1;—from south to west 6;—from west to north 6. Barometer highest on the 30th, 30.67—lowest on the 18th, 29.17. Range 1 1-2 inches.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, DECEMBER 31, 1832.

Date.	*Hours.*	*Barometer.*	*Thermometer.*	*Winds.*	*Strength of wind.*	*Clouds from what direction.*	*Weather and Remarks.*
December 25	6 a. m.	30.14	34	WSW	moderate		cloudy
	10	.14	35	"	" —light	WNW / WSW	" —fair, with light clouds
	2 p. m.	.14	41	NNE—N	faint—light	WNW / WSW	fair
	6	.16	39	NNE	light		"
	10	.21	35	calm			clear
" 26	6 a. m.	.28	32	NE	"	WSW	fair—cloudy
	10	.34	34	NE—NNE	"	"	cloudy—sleet at 11:20—snow at 12—[rainy at 1
	2 p. m.	.28	36	ENE	moderate	/ E by N	rainy—lowest scuds from E by N
	6	.22	35	"	"		rain
	10	.17	34				"
" 27	6 a. m.	29.84	39	ENE	light		cloudy and foggy
	10	.87	40	variable	faint	WSW	" at 11, wind NW—at 12 NE, and [barom. 29.75
	2 p. m.	.75	41	WSW & WNW	light—mod.	SW by W / W by N	" —fair
	6	.80	41	WSW	fresh		fair
	10	.86	38	"	"		"
" 28	6 a. m.	.97	35	"	"	NW	" —scuds from NW
	10	30.04	38	WNW—NW	"	"	" — "
	2 p. m.	.06	40	NW—N by W	"	"	"
	6	.15	38	North-west'ly	moderate		clear
	10	.18	34	"	light		"
" 29	6 a. m.	.13	32	NNE	"		cloudy—light snow at 8
	10	.20	32	NNE—N	moderate	WNW / NE	cloudy—fair—clouds at 12 WNW / N
	2 p. m.	.23	33	N—NNE	fresh	WNW / N by W	fair—scuds from N by W
	6	.40	29	NNE	"		"
	10	.48	27	"	moderate		"
" 30	6 a. m.	.65	24	"	light	/ ESE brisk	" —at 9 thin smoky scud from ESE
	10	.67	26	ENE—E—SSE	"	NW	"
	2 p. m.	.62	33	SSE & SE	moderate	"	"
	6	.60	33	"	"	WSW	" —clouds at 9 from WSW
	10	.60	34	"	"	"	hazy—fair
" 31	6 a. m.	.54	34	SSW to W	" —light	SW	cloudy
	10	.53	36	WSW	light	"	"
	2 p. m.	.41	42	WSW—NE	faint	"	" —fair
	6	.38	41	calm—SW		"	fair—cloudy
	10	.31	42	SW	moderate	SSW	cloudy

[COMMUNICATED FOR THE NEW-YORK AMERICAN.]

METEOROLOGICAL RECORD.

DATE.	Thermometer. Highest.	Thermometer. Lowest.	Barometer. Highest.	Barometer. Lowest.	WINDS.	WEATHER.
DECEMBER .. 1	49	29	30.11	29.45	NW	Rain early—cloudy, high wind—clear at night.
2	34	27	30.24	30.05	N—ENE	Clear morning—overcast at noon—snow at night
3	45	37	29.80	29.32	NE—NW	Rain.
4	43	38	30.01	29.64	N—NW	Cloudy day—clear night.
5	41	33	30.47	30.31	NE—NW—ENE	Clear morning—cloudy afternoon and night
6	42	32	30.46	30.36	SW—W	Fair.
7	46	38	30.47	30.23	NE—SW	Cloudy—rain at night.
8	50	43	30.05	29.70	SW	Heavy rain.
9	52	44	29.84	29.35	SE—NW	Misty morning—rain at noon—clear at 4, p. m.
10	46	41	30.16	30.06	SSW	Clear.
11	46	39	30.15	29.80	Calm—E'ly	Fair morning—overcast at 2, p m.—rain at 8, p.m.
12	48	39	29.86	29.50	SSW—NNE	Rain during the day—clear at night.
13	41	37	30.12	30.10	E—ESE	Cloudy—rain at 2, p. m.
14	45	47	30.08	29.94	SSW	Cloudy.
15	45	38	29.79	29.65	NE—NNE	Heavy rain.

METEOROLOGICAL TABLE.

		CHARLESTON, S. C. Thermometer. 7 A. M.	2 P. M.	9 P. M.	Wind.	Weath	MONTREAL, L. C. Therm. 7 A. M.	3 P. M.	Barom. 7 A. M.	3 P. M.	Weath. 7 A. M.	3 P. M.
Oct...	1	61	68	64	NW	Cy	51	61	29.90	29.88	R	R
	2	52	63	60	NW	Cl	48	56	29.73	29.76	R	R
	3	56	69	64	SW	Cl	46	58	29.7	29.65	Fr	R
	4	60	69	69	SW	Cl	50	59	29.72	29.79	Fr	R
	5	65	70	68	E	Cy	51	60	29.87	30.00	Fr	Fr
	6	67	71	71	N	Cy	52	61	30.03	30.06	Fr	Fr
	7	68	74	73	E	Cl	52	62	30.01	30.03	Fr	Fr
	8	68	74	72	SE	Cl	45	68	30.23	30.25	Fr	Fr
	9	73	75	74	SE	Cy	44	63	30.42	30.37	Fr	Fr
	10	73	79	76	SE	Cy	57	59	30.02	29.80	R	R
	11	74	81	77	SE	Cl	56	60	29.63	29.76	Fr	Fr
	12	74	80	77	SE	Cy	47	55	29.96	30.07	Fr	Fr
	13	74	79	76	SE	R	42	62	30.12	30.16	Fr	Fr
	14	74	79	65	NE	R	43	53	30.23	30.23	Fr	Fr
	15	64	67	68	NE	Cl	34	42	30.42	30.44	Fr	Fr
	16	62	64	66	NE	Cl	38	60	30.43	30.23	Fr	Fr
	17	65	72	69	NE	Cl	47	60	29.98	29.95	Fr	Fr
	18	68	73	70	N	Dz	60	60	29.97	30.19	Fr	Fr
	19	68	75	72	NE	Cl	38	56	30.29	30.12	Fr	R
	20	71	74	72	NE	R	56	65	30.23	30.16	Fr	R
	21	72	75	74	E	Cy	43	57	30.15	30.23	Fr	Fr
	22	74	77	75	E	R	35	52	30.32	30.2[illegible]	Fr	Fr
	23	70	71	68	N	R	45	49	29.93	30.0	R	R
	24	62	61	56	N	Fr	35	50	29.98	30.03	R	Fr
	25	54	63	61	N	Fr	35	40	30.16	30.31	Fr	Fr
	26	53	61	58	NE	Fr	23	40	30.45	30.49	Fr	Fr
	27	53	64	58	E	Fr	29	56	30.35	30.20	R	Fr
	28	52	63	58	N	Fr	33	30	30.39	30.45	Fr	Fr
	29	49	58	52	NE	Cy	27	46	30.50	30.45	Fr	Fr
	30	48	61	58	NE	Cy	31	54	30.42	30.31	Fr	Fr
	31	60	65	63	NE	Cy	37	46	30.28	30.17	Fr	Fr
Nov..	1	65	65	65	SW	Dz	52	55	30.04	29.[illegible]	Fr	R
	2	67	69	67	E	Cy	40	44	29.93	30.18	Fr	Fr
	3	71	71	68	E	Fr	36	46	30.2[illegible]	30.23	Fr	Fr
	4	67	74	71	SE	Fr	40	47	30.21	30.19	R	Fr
	5	68	76	72	S	Cy	41	46	30.17	30.29	Fr	Fr
	6	70	75	70	SW	Cy	30	37	30.40	29.97	Fr	Sn
	7	70	77	70	NW	Cy	25	31	29.79	29.98	Fr	Fr
	8	61	55	54	NW	Cy	21	31	30.11	30.15	Fr	Fr
	9	51	55	47	N	Fr	30	36	30.03	29.76	Fr	Fr
	10	43	57	52	N	Fr	35	32	29.68	29.66	Fr	Fr
	11	51	62	59	S	Fr	32	45	29.76	29.89	Fr	Fr
	12	55	63	59	S	Fr	31	45	30.03	29.93	Fr	Fr
	13	54	62	57	SW	Fr	35	48	29.74	29.69	Fr	Fr
	14	55	61	57	NW	Cy	22	22	29.65	29.63	Fr	Fr
	15	57	58	52	N	Cy	12	18	30.1[illegible]	30 1[illegible]	Fr	Fr
	16	50	55	54	NE	R	2[illegible]	36	30.33	30.2[illegible]	Fr	Fr
	17	59	60	57	S	Cy	32	45	30.31	30.2[illegible]	Fr	Fr
	18	56	57	54	W	Cy	33	40	30.09	30.00	R	R
	19	62	65	55	SW	Cy	34	36	29.87	29.63	R	R
	20	42	52	49	N	Fr	3[illegible]	26	29.48	29.89	Fr	Fr
	21	45	55	52	N	Fr	13	2[illegible]	30.47	30.38	Fr	Fr
	22	46	52	49	NW	Cy	22	30	29.96	29.85	Fr	Sn
	23	45	68	47	W	Fr	29	34	29.76	29.71	Fr	Sn
	24	36	56	48	N	Fr	20	2[illegible]	29.85	29.8	Fr	Sn
	25	40	57	50	SE	Fr	22	32	30.05	30.12	Fr	Fr
	26	47	59	58	NE	Fr	32	36	30.07	29.95	Sn	R
	27	54	65	60	SE	Fr	34	32	29.88	29.93	R	Fr
	28	57	63	60	E	Fr	29	3[illegible]	30.08	29.99	R	Fr
	29	52	62	52	S	Fr	19	21	29.96	30.18	Fr	Fr
	30	58	64	61	W	Fr	15	18	30.25	29.90	Fr	Sn

SUMMARY.

Murder.—Considerable excitement prevailed on Thursday in the lower part of the city, in consequence of its becoming known that a man had been found murdered on board the schooner Andrew Jackson, commanded by Capt. Avery, lying at the pier No 13, in the East River.

Between nine and ten o'clock in the morning, an individual having occasion to go on board the above vessel, perceived lying at the foot of the Cabin stairs the body of a man dead, bearing the marks of having been inhumanly murdered. It appeared that it was the corpse of the chief mate, Arthur Miller, a young man, a native of London, of the age of about 22 years and of extremely steady and temperate habits. He was in the habit of sleeping on board the vessel for the purpose of preventing depredations being committed on it, and had been seen about nine o'clock the preceding evening in Water street, when it is supposed he was going to the vessel.

His body presented a most horrid spectacle He had been stabbed in the ear with a dirk or knife; the lower jaw was severed from the face with an axe, deep gashes covered the face and head, in short, the whole presented a scene of blood almost indescribable.

A chest in the cabin had been broken open and a new blue cloth coat and pantaloons taken out.—The axe with which some of the blows, no doubt had been inflicted, was placed standing up in a corner.

A Coroner's jury sat on the body during the day, and the police were actively engaged in endeavoring to discover the perpetrators of this barbarous murder, but at a late hour last night, no clue had been found by which the assassin could be traced.

It is supposed that the unfortunate man, on going on board his vessel, found some one in the cabin robbing it, as he was not undressed, and had but one sleeve of his jacket off: that he grappled with him, and that he was a powerful man, a desperate struggle ensued, in which his pantaloons, vest and shirt were torn in tatters.—[Courier and Enquirer.]

COMMERCE OF N.Y.—We are indebted to Captain Schofield, of the U.S. Revenue Barge Office, for the following list of arrivals at this port, from foreign ports, for the year ending last evening. There have arrived at this port, from the 1st of January 1832 to the 1st of January 1833, 1810 vessels from foreign ports, of which 1290 were Americans, viz. 375 ships, 609 brigs, 281 schooners, 21 barques and 4 sloops —369 British, viz. 38 ships, 44 barques, 183 brigs, 102 schooners and 2 sloops—French, 8 ships, 3 barques, 31 brigs— Spanish, 1 ship, 14 brigs, 4 schooners—Dutch, Hamburg and Bremen, 12 ships, 15 brigs, 3 barques, 2 galliots—Swedish, 5 ships, 4 barques, 12 brigs, 4 schooners—Danish, 4 ships, 7 brigs —Portuguese, 1 schooner—Brazilian, 1 schooner —Austrian, 6 brigs—Colombian, 2 schooners—Italian, 3 brigs—Russian, 1 ship, 1 brig—Mexican, 1 brig—Haytien, 3 brigs, 1 schooner. Bringing 48,589 passengers: 1425 arrived in January, 770 in February, 1438 in March, 3087 in April, 5856 in May, 8108 in June, 6969 in July, 6985 in August, 3950 in September, 3685 in October, 5201 in November, 1115 in December.

Colonization Affairs.—A meeting of the people of color was held in the Methodist Episcopal Church, on Monday last, to hear the Report of Gloster Simpson and Archy Moore, who, our readers may recollect were deputed by the people of color, to ascertain the state of things at the colony, on the coast of Africa. The report was listened to with attention, and we have no doubt, will have great influence in promoting the objects of the colony.—[Natchez (Miss.) Journal, Nov. 30th.]

During the past five years the number of emigrants arrived in Quebec has amounted to 156,000—equal to three-fourths of the population of the city of New York.

As an evidence of the extent and importance of our trade to Peru, it is stated that during one year, next proceeding August last, seventy-two American whale ships of nearly 25,000 tons burthen visited the little port of Payta alone.

The following is the amount of duties paid by the different Auctioneers of Philadelphia, during the last quarter:—Thomas, Gill &Co. $8034 72; R. F. Allen & Co. 7935 21; Graham & Mandeville, 4334 02; Lippincott, Richards & Co. 2044 97; Moses Thomas, 1060 02; Baker & Mackay, 359 75; T. W. L. Freeman, 294 82; C. J. Wolbert, 210; Geo. Riter, 65 61; S. Poulterer, $39 87.—Total, $24,385 99.

We record, to-day, with great regret, the accidental death of Mr. Matthias Raser, an estimable man, and one whose unexpected decease must be lamented by all who knew him. About six, yesterday evening, the Germantown Railroad cars, seven in number, drawn by a locomotive engine, arrived in this city from Germantwon; Mr. Raser being a passenger in that next to the engine. Soon after the train had stopped, he stepped upon a wheel to get out. The car moved forward, we know not from what cause—he fell, and the wheels passed over his body. It was called out, that a passenger had fallen; and the car being backed, the wheels went across the unfortunate gentleman again. His speedy death was the consequence.—[Phil. Chron. Dec. 31.]

Accident.—An accident of an afflicting nature, occurred in Haverhill on Tuesday last, in the death of a young man named Edward H. Foster, a clerk in the store of Mr. Peter Osgood. The circumstances are these:—Mr. Osgood had placed a bottle on the stove containing between two and three gallons of Alcohol, with several pounds of Gum Shellac for solution. It had been customary occasionally to shake the bottle, in order to facilitate the process, but *always raising the cork.* The young man neglected to observe this caution—shook the bottle, when it burst, throwing its contents over him, and coming in instant contact with the stove, he was covered, and the store filled, with flame. The young man and Mr. Osgood made for the street door, but were both unable to open it, when the young man plunged headlong through the glazed part of the door into the street, the fire and smoke bursting out furiously through the opening thus made. Mr. Osgood made his escape through a back door. The flame which enveloped the young man was very soon extinguished by an individual in a neighboring shop throwing a pail of water upon him. Medical aid was immediately procured, and it was found that he was burnt from his face to his feet. He lingered in distress until Thursday afternoon, when he expired.

FOREIGN INTELLIGENCE.

From Liverpool, we have by the Pacific, packet ship, papers of 16th, and London papers of 15th November. They complete our files, and, though affording no news, enable us to present some details of what was before known.

A letter of the 14th, from a house of the highest commercial standing in London, expresses great solicitude lest a general war in Europe should ensue; and adds, that owing to such an apprehension, trade was very much at a stand.

A meeting of Bankers and Traders was held at the London Tavern on the 13th, to express regret and apprehension at the measures taken by Ministers against the Dutch. This proceeding is thus ridiculed by the London Times:—

This Conservative party-colored, politico-mercantile, Dutch-loving, reform-hating, peace-professing, war-provoking city meeting of yesterday, turned out to be, as we were sure it would, a desperate failure. Nor could it be otherwise. In support of the professed object of the meeting, there was not a word to be said; not one syllable in the shape of argument could be pressed into the service by that ingenious gentleman, Mr. Thomas Baring, as a cloak for the shallowness of the pretence upon which the requisition was got up; and we will venture to say, that if the whole business was yesterday morning at breakfast time suspected by the more sagacious part of the public to be a mere vulgar election manœuvre, two hours before dinner the suspicion had ripened into proof.

The accounts from Berlin and the banks of the Rhine speak confidently of the assembling of Prussian forces on the frontier of France; and an arrangement is alluded to, by which *Venloo*, now held by Belgium, but which, according to the Protocols of the Conference, is to be given up to Holland, is to be taken possession of by a Prussian force. As Prussia did not at the Conference assent to the coercive measures adopted by France and England against Holland, she can have no pretext for sending her troops to occupy Venloo. The first and most important effect of such occupation would be to leave free for hostilities against Leopold the Dutch garrison, which otherwise would be required for that extensive fortress; and that is virtually aiding the Dutch King.

In Portugal things remain much as usual: the latest dates are of the 9th November from Oporto, which we find in the London Globe of 15th. That paper says—

No engagement had taken place subsequent to the accounts received to the 27th ultimo. Don Miguel, however, occasionally favors the besieged with a few shells and shot, without doing any mischief or exciting any alarm. The Miguelites are active in their preparations for a general and desperate attack on Oporto, which is expected to take place on or about the 15th inst. The Pedroites are adopting vigorous measures to repel it, and are determined again to convince Don Miguel that he has not such a puny foe to contend with as he imagines.

Don Miguel arrived at Braga on the 6th instant, where the major part of his army is, consisting of about 17,000 men, whom he is going to command in person. He has left his sisters at the Convent of the Ursalines. Don Miguel was warmly received by that division of his army, who have evinced great devotedness to his cause. He has caused strong batteries to be erected on the south side of the Douro, where he has about 11,000 men, to command the city and bar, so that the expected bombardment may be spontaneous at the time fixed, to paralyze, and, if possible, to discomfit the besieged. Don Pedro intends to send a reinforcement of troops to Villa Nova to attempt the destruction of the batteries, which it is supposed he will be enabled to do under the shelter of the Serra Convent. Don Miguel purposes to commence the attack on the Bon Successo side of Oporto, which has hitherto been the weakest side of the lines. Don Pedro, supposing such to be the design of his antagonist, has taken the precaution to strengthen that side, and has ordered the houses and trees which would cover the advance of the besiegers to be destroyed. Don Miguel has threatened to attack Foye; but it is not at all probable he will do so—he has made no effort to prevent the communication between it and the city; if he did he would be frustrated, and the party cut off from the centre of the line.

Great reinforcements have arrived from England and elsewhere, and it was stated at the time of the Royalist leaving, that Gen. Excelmans, from France, had arrived at Oporto in the Liverpool steamer. Count Villa Flor has resigned his command of the army, the cause of which is unknown; and Don Pedro has taken the command himself, which not at all disappointed his troops, and has expressed his determination either to conquer or die in the cause. He has appointed Sir J. M. Doyle as his Aid-de-Camp only for the present.

Two of Admiral Sartorius's frigates are in such a dilapidated state as to be unfit for further service unless repaired, and it is said they will proceed either to Vigo or England to refit. The Don John is in such a state from the late naval engagement as to be altogether unseaworthy; she has at least 300 shot in her hull, and about sixty under water; she is lying at Lisbon. The Caledonia and Asia are at anchor off Lisbon, which has given great joy to the British residents in that city, as they will be protected from the cowardly insults of the Miguelites. The Briton and Leveret were cruising off Oporto. The army of Don Pedro is estimated at 15,000 strong. Desertions to a small amount take place in the army of Don Miguel.

In Paris expectation was all alive about the meeting of the Chambers, of which the session was to commence on the 19th Nov. The contest for the Presidency of the Deputies will be between *M. Lafitte* and *M. Dupin*—neither of them warmly or well affected towards the present ministry. This question and that of how the Dutchess of Berry was to be disposed of, occupied the anxious attention of the Cabinet. On these heads the following letter, from a correspondent in Paris of the London Courier, is interesting; that paper says the fullest reliance may be placed on the writer of it:—

PARIS, Nov. 13.

"The Ministry are perplexed with the cogent arguments of the Parisian Press directed against the Ordonnance relative to the Duchess of Berry. It cannot now be withdrawn, and it has been resolved at the numerous assemblies of the centre gauche and by the majority of the members composing the reunion held at General de Thiers's, that the Princess shall be tried by the Chamber of Peers. Government should have begun by an Ordonnance to this effect; though not strictly conformable to the Charter, it would have been tolerated as the only means of avoiding the ignominy of a Court of Assizes.

The capture of the Duchess has made less impression in the capital than strangers may suppose.—The Court is afflicted and embarrassed beyond all idea; but M. Thiers, with a view to his position at the opening of the Session, adopted this measure certainly without having *specially* consulted the higher powers, to whom it was a painful surprize. It was desired and intended, that a plan would have been adopted to oblige the Duchess to leave the country. M. Montalivet had made the necessary arrangements for this purpose—they had obtained the highest sanction.

It is, however, believed, that the passions of the multitude may be restrained at the presence of an illustrious female who was never unpopular in France, and whose adventures poortray so much gallantry and perseverance. Besides the *masses bourgeoises* stand in much need of repose; and the national guard, *especially of Paris*, forms a part of these masses. Declamation and invective are readily excited; but armed resistance and destruction are not so easy.

"The repugnance that the country feels at the incessant changes which have so often new moddeled the Administration since the Revolution, may win a feeble majority to Government at the opening of the Session. But, if obtained, how dearly will it be purchased! with what humiliations must it be preserved! M. Dupin, from the *fausse position* I have already described, has a far better chance of becoming President of the Chamber of deputies than Minister, at least for a time, unless he consents to enrol himself servilely under the banners of the present Administration. This his friends declare is not possible, while the Duc de Broglie and M. Guizot form part of it. *As long as* the King supports these Ministers they will remain, undaunted by the phrases of the address; but there are rumours afloat that, owing to the captivity of the Duchess, his Majesty will

be reluctantly obliged to offer up MM. de Broglie and Guizot as a holocaust to the Parisians. M. Thiers would have caused less regret; but the part he has played in the late event has consolidated his power for the present.

"The diplomatic world affirm here that, if the King of Holland does not evacuate Antwerp on the march of the French troops towards it, with the concurrence and in conformity to the offers of the French Cabinet, Prussia will occupy Venloo and the banks of the Meuse, comprehending a part of Luxembourg, until the siege of Antwerp is ended. The French complain they purchase the right of battle very dear. To-day 55,000 men cross the frontier.

Another correspondent of the same paper thus writes:

PARIS, Nov. 13.—The members of our two Chambers begin gradually to arrive in the metropolis, and preparatory deliberations among the different parties now daily take place. The first assembly of the opposition members was held on Saturday forenoon, at a house in the rue Neuve St. Augustin. A considerable number attended, a good deal of conversation took place, but no measure was decided upon. The same members are to assemble again on the 19th, the very day of the opening of the Session, to fix upon the person to whom they will give their votes for the Presidency. You know that the contest will be between Messrs. Lafitte and Dupin. Until very shortly, the triumph of M. Lafitte was looked upon certain; but I hear from good authority, that Government has succeeded in gaining over a good many votes on that point; and that in the present aspect of affairs, the majority seems to be rather in favor of M. Dupin. The great difficulty will, however, still be to persuade that gentleman to accept the post. In the mean while, many changes may still occur between this and the definitive vote, particularly if the general report be true, that the Cabinet is not at present as united as might be wish d. Marshal Soult and M. Thiers are, it is said, at complete variance with their colleagues; and if a modification should take place in the Cabinet, it will c rtainly be in *their* favor. The Chief discrepancy arose on M. Barthe, the ministers of Justice, refusing to sign the ordinance concerning the Dutches of Berry. This ordinance will besides be a considerable stumbling-block for Government.

Yesterday a numerous assembly of the Members of the Chamber of Deputies took place at a new Chamber, amongst whom were persons of all parties. After examining and admiring the new arrangements, which are really very handsome and generally approved of, excepting, however, the white and gold ornaments, which are found to be of too light a nature for the gravity of the place, the Members proceeded to discuss the measures of the Cabinet, and this I can mention to you *as a positive fact*, that an almost unanimous resolution was taken to reject any law whatever that might be presented to Government concerning the Princess, the Chamber not wishing to take any responsibility upon itself in that affair. Several Ministerial Members, and among the rest M. Delessert, supported strongly that resolution, and you may be assured that no law will pass to that effect.

It will also, perhaps, not be uninteresting to you to hear that the Marquis de Dalmatia, eldest son of Marshal Soult, is going as Ambassador to Constantinople, and takes with him M. Lawrence, late Vice Consul in Rotterdam, as Consul in Smyrna. This choice of the Marquis is meant to counteract the influence England may gain in Turkey by accepting the mediations proffered by the Sultan.

The arrest of the Duchess of Berri was effected through the treachery and venality of one whom she had treated too well. We annex some particulars respecting this villain.

The *Temps* says:—"It appears that the person pointed out by the *Quotidienne* under the name of Hyacinthe Gonzagues, is certainly the man who betrayed the Duchess of Berri, in consideration, it is said, of 300.000 francs, which was promised him as a reward. It also appears that this negotiation was entered into by M. Montalivet, before he went out of office. A circumstance, proving the confidence of the Duchess in this man, is, that he was accredited to her in the quality of agent of Don Miguel. It is reported that the Duchess was to have been arrested as she entered Nantes, but this failed from some misunderstanding, and the coming on of a thick fog, which prevented the agents from being at the rendezvous in time. It is further asserted, that, amongst the papers found, there are some very curious documents, with letters from princely personages, and curious drafts of articles written by the Duchess of Berri, which have already, or were intended to be inserted in the *Quotidienne* and the *Revenant*."

The *Breton* of Nantes, of the 11th inst. contains the following account of Etienne Gonzague Deutz, who betrayed the Duchess of Berry:

"He is aged thirty-one years, and a native of Cologne, where he was educated in the Jewish religion. In 1826, he resided at Romé, with his Uncle, the celebrated Deutz, Rabbi of that religion.—Without any means of subsistence, or at least without a fortune sufficient to supply his habits of extravagance, he left his protector to seek a more agreeable way of living. Urged by the Propaganda, he denied his God and became a Catholic. Great was the exultation of Christendom at his conversion, which was considered a great event at Rome. Deutz, in high favor with the heads of the Church lived a long time upon the pecuniary supplies granted him by the Cardinal Albani. It appears that in 1831, Gonzague Deutz, after having made a voyage to America, returned to Europe. From a desire to open to himself a new sphere of life, he attached himself, by some services which are unknown to us, to the Duchess of Berry, on her visit to Rome. An individual named Drack, brother-in-law to Deutz, became attached, under Charles the Tenth, to the Duke of Bordeaux, and this afforded the other the means of introducing himself to the Duchess of Berry. He soon gained the confidence of the Duchess, who amply rewarded him, and sent him on several delicate missions, and thereby strengthened the good opinion which the Princess entertained of him. After landing in France, Deutz was entrusted with important missions, of which, on their being accomplished, he rendered an account to the Princess at Nantes, a few months ago. After this, the Princess sent him on a fresh mission to Germany. It is said that, at Frankfort, he became acquainted with an individual attached to the French police. Here the first overtures for betraying the Duchess were made. On quitting Frankfort he went to Rome, where he was received by the Pope, who gave him letters for the Duchess of Berry. From Rome he proceeded to Portugal, where he saw Don Miguel, who also gave him letters for the Royal Duchess.—From Lisbon he returned to Paris, and made a final arrangement for delivering up the Duchess. It is stated that it amounts to nearly a million of francs. In order to carry his project into execution, he went to Nantes, and applied for an interview with the Princess. The persons who knew the retrest of the Dutchess being a little suspicious, at first refused his request. But as he would communicate the result of his journey, and the despatches he had, to the Duchess alone, he was admitted to an interview on the 6th, at the house of Mlle. Duguigny, at the moment of dinner. On his entering the house, the Duchess of Berry, by way of precaution, left the room; but when she perceived, through a kind of vasistas, that it was her protégé, she came back into the room, exclaiming, 'Ah, is it you, my dear Deutz?' . . . Deutz remained a few minutes with the Princess, and then went out to give to the numerous police officers, who surrounded the house, the signal for her arrest."

PRUSSIA.—BERLIN, Nov. 6.—Her Majesty the Queen of the Netherlands has arrived here.

BERLIN, Nov. 6.—(From a letter.)—The protest which Prussia had presented against the march of the French troops into Belgium, shows itself in the treatment which, ever since that plan has been in contemplation, General Merckx, the Belgian Minister, meets with. His cards are for the most part unanswered; the Court avoids him, and so he is for the most part left to himself. He has little communication with the diplomatic body, except that the English and French Ambassadors have frequent interviews with him, which must be the more important, as the question whether there shall be peace or war in Europe will be decided at Berlin.

At a grand dinner lately given by the Belgian Ambassador only the Ministers of the two Courts who are in alliance with the Sovereign were present, though there is no doubt that others were invited.

This evening it is reported that Prussia has consented to occupy Venloo as a security against any consequences of the march of the French into Belgium.

[*From the Messager des Chambres of Nov.* 14.]

BANKS OF THE RHINE, Nov. 10.—The Prussian troops now on the Rhine are the 7th and 8th Corps d'Armée. These two corps are each composed of two divisions, the 13th and 14th, and 15th and 16th. The General of Infantry, the Baron Muffling, commands the 7th corps in Westphalia. He was, in the war of invasion, Governor of Paris. He is an ultra, arrogant, clever, and crafty diplomatist, a good chief of staff, but not beloved by his corps, and incapable of making a campaign, on account of his infirmities.

NEWS BY THE WAY OF CHARLESTON.—The steam-packet *David Brown*, in four and a half days from Charleston, and bringing as usual the first report of her own arrival out, furnishes us with papers from that place of 28th and 29th. From the Mercury of 29th, we extract the following paragraph, referring to some days later accounts from Holland than those received here. The report of *Leopold's* asking a truce can hardly be accurate.

LATEST FROM EUROPE.—The barque Brighton, Capt. Baxter, arrived yesterday from Amsterdam, from which place she sailed on the 16th November. She brought no papers, but we learn from the Captain that the French and English squadron were blockading the coast of Holland. They detained only Dutch vessels, of which they had sent a number to England.

King Leopold had requested a truce of 14 days, but it was not ascertained whether it had been granted.

HOME AFFAIRS.

APPOINTMENTS BY THE PRESIDENT,
By and with the advice and consent of the Senate.

Charles Peavey, to be Surveyor and Inspector of the Revenue for the Port of Eastport in the State of Maine, vice Samuel Ayer, deceased.

David Turner, to be Collector of the Customs for the Port of Beaufort, in the State of South Carolina; vice William Joyner, removed.

Jeremiah A. Yates, to be Appraiser of Goods for the Port of Charleston, in the State of South Carolina; vice William E. Hayne, removed.

Charles L. West, to be Appraiser of Goods for the Port of Charleston, in the State of South Caroline; vice Legrand G. Capers, appointed during the recess of the Senate, who declines.

Charles Stephens, to be Appraiser of Goods for the Port of Savannah, in the State of Georgia; vice Edward F. Tatnall, deceased.

SOUTH CAROLINA.—The Legislature adjourned on the 21st ult., having passed—

An Act to carry into effect in part an Ordinance to Nullify certain acts of the Congress of the United States, purporting to be laws laying duties on the importation of foreign commodities, passed in Convention of the State, on the 24th November, 1832. The Replevin Act.

An Act concerning the Oath prescribed by the Ordinance.

These acts are not, according to the Mercury, materially variant from the original bills. If so, we see not how—even with the mediation! of Virginia—the issue of force is now to be avoided; for the laws are made, the Legislature had adjourned, and the 1st of February is at hand.

A correspondent of the Charleston Courier thus explains the provisions of the "act concerning an oath, &c.," as finally settled by a committee of conference:

All civil and military officers *now* in commission, shall *only* be required to take the additional oath *on* the happening of a contingency, in which shall be involved the authority of the ordinance, or the validity of the acts of the Legislature by virtue thereof, or the validity of the acts of Congress of 1828 and '32, purporting to be laws for the collection of imposts on foreign commodities. And in reference to officers who are *hereafter* to be elected, or who were elected during the present session, the bill requires them to take the additional oath previous to entering upon the duties of their office. Jurors are also included in the anticipation of a contingency. It gives the Governor a discretionary power in the matter, however, to order a compliance with the Ordinance, when, in his opinion, the public exigency shall require it.

The United States troops, says the Courier of the 25th December, which had been located in the Arsenal, at Charleston Neck, at the request of the State

and City authorities, were removed yesterday, with all the armament attached thereto, to Fort Moultrie.

The resolutions of Mr. Preston, published in this paper on Monday last, were adopted before the adjournment. On motion of the same gentleman, a certified copy of Gov. Hayne's proclamation was ordered to be transmitted to the President, with a request that he would lay it before Congress.

LEGISLATURE OF NEW YORK.

IN SENATE—*January* 1, 1833.

At 10 o'clock, Lieut. Gov. Tracy announced to the Senate that the hour had arrived to which it stood adjourned. The Clerk then proceeded to call the roll, and a quorum answered to their names.

The new members were then sworn in by the Lieut. Governor.

Resolutions requesting the Clergy of the city to attend, and for supplying the members with newspapers were passed.

Committees were appointed to wait upon the Governor and Assembly, at 11 o'clock to-morrow, and inform them that the Senate is ready to proceed to business. Adjourned.

ASSEMBLY.

At 10 o'clock, the members were called to order by Mr. Seger, the Clerk of the last House.

The Clerk then called over the list of members returned as elected, when 123 answered to their names, to whom the oath of office was administered by A. C. Flagg, Secretary of State.

Then House then proceeded to ballot for Speaker, Messrs. Van Duzer and W. Baker, tellers.

On counting the ballots, it appeared that

CHARLES L. LIVINGSTON, of New York, had 99 votes.

JOHN C. SPENCER, of Ontario, 22 votes.

Blank, 2.

Mr. Livingston was thereupon declared to be elected, and Messrs. Litchfield and Downing were appointed a committee to conduct him to the chair, when he delivered a brief address.

The following officers were then appointed by resolution:—

Francis Seger, clerk—on motion of Mr. Finch.

Cornelius A. Waldron, sergeant at arms—on motion of Mr. Curtis.

Alonzo Crosby, doorkeeper—on motion of Mr. Dodge.

James Courter, assistant doorkeeper—on motion of Mr. Humeston.

On motion of Mr. Myers, the Rules and Orders of last session were adopted.

On motion of Mr. G. W. Patterson, the Speaker was requested to appoint the usual Standing Committees.

On motion of Mr. Ostrander, the usual resolution fornishing newspapers, the price for each member not to exceed two daily papers.

On motion of Mr. Myers, to provide the Red Book.

Mr. E. Livingston offered a resolution to request the clergy of the city to officiate as chaplains, which, on motion of Mr. Hertell, was laid on the table.

Messrs. Litchfield and Downing were appointed a Committee to wait on the Governor and inform him that the House had organized and would be ready to receive a communication from him at eleven to-morrow. [The reason given for varying from the usual course, was the general desire to participate in the festivities of the day.]

Messrs. Spencer and Skinner were appointed to wait on the Senate and inform them that this House had organized. [It being stated that the Senate had adjourned, the committee did not perform their duty.

IN CONGRESS, there was little of interest transacted either on the 27th or 28th ult., beyond the rejection in the House of Representatives of Mr. Adams's call for the Proclamation and the South Caroline Ordinance—owing probably to unwillingness now to debate the merits of those documents—and the Tariff bill as reported.

CONGRESS.—The Senate did not sit on Saturday.

In the House of Representatives, the debate upon the resolution offered by Mr. E. Everett, for instructing the Commtitee on Post Offices and Post Roads to enquire into the expediency of reducing the rates of postage, was continued by Messrs. Wilde, Hoffman, J. Reed, and Craig, during the hour allotted to morning business, without the question being taken. Several other resolutions were introduced, on leave, and adopted; among which was one offered by Mr. Jarvis, that the House adjourn over to Wednesday. The House then went into Committee upon several private bills, which were gone through with and reported, and the House adjourned.

Monday, December 31.

In the Senate, Mr. Webster appeared and took his seat. The resolutions submitted to-day by Messrs. Robinson and Hendricks, were agreed to. The resolution offered by Mr. Sprague, directing the Committee on the Post Office to prepare and introduce a bill reducing the rates of postage, was taken up Mr. Grundy proposed to amend the resolution, so as to require the Committee to inquire into the *expediency* of reporting such bill. A lengthy and discursive debate ensued, in which Messrs. Grundy, Sprague, Clayton, Holmes, Foot, Buckner, Benton and Bibb participated Before the discussion was concluded, the resolution and amendment were laid on the table, with a view to going into Executive session, when after a short time spent therein, the Senate adjourned over to Wednesday.

The House of Representatives did not sit to-day.—[Globe.]

Wednesday, January 2.

In the Senate, Mr. Holmes introduced a bill extending the franking privilege to the members of Congress, in the recess, which was read twice and committed. Several private bills were presented, read, and committed to the Standing Committees. The resolution offered by Mr. Sprague, instructing the Committee on the Post Office to report a bill reducing the rates of postage, and the amendment proposed by Mr. Grundy, instructing said Committee to inquire into the expediency of such reduction, was taken up. the amendment was adopted—Yeas 20, Nays 18. Mr. Foot moved a farther amendment, directing the Committee to inquire into the propriety of equalizing the rates of postage, which was agreed to. Mr. Holmes moved an additional amendment, instructing the Committee to inquire into the expediency of abolishing the postage on newspapers, which was adopted. The resolution, as amended, was then agreed to. The Senate then adjourned.

In the House of representatives the debate upon the resolution heretofore offered by Mr. E. Everett for inquiring into the expediency of reducing the rates of postage, was further continued by Messrs. E. Everett, Hoffman, and Cambreleng, when at the expiration of the hour allotted to morning business, the House went into Committee of the Whole on the state of the Union, after the special orders of the day had been posponed till to-day.—Mr. Verplanck had in the first instance moved to postpone the special orders till next week, in order to take up the tariff bill, which was negatived, yeas 74, nays 83. They were then posponed till to day, and several appropriation bills were carried through the Committee, and the House adjourned.—[Globe.]

Yesterday (says the National Intelligencer of Wednesday) the first day of the new year neither House of Congress sat. A large concourse of visitors, as usual, thronged the Mansion of the President of the United States, and tendered him the compliments of the season with the respect due to his station, and were, as on similar occasions, courteously received and entertained.

[*From the Columbia Telescope, Extra—December 20th*, 1832.]

PROCLAMATION BY THE GOVERNOR OF SOUTH CAROLINA.

WHEREAS, the President of the United States hath issued his Proclamation concerning an "*Ordinance of the People of South Carolina, to nullify certain acts of the Congress of the United States*," laying "duties and imposts for the protection of domestic manufactures."

And WHEREAS, the Legislature of South Carolina, now in session, taking into consideration the matters contained in the said Proclamation of the President, have adopted a preamble and resolution to the following effect, viz.

"WHEREAS, the President of the U. States has issued his Proclamation, denouncing the proceedings of this State, calling upon the citizens thereof to renounce their primary allegiance, and threatening them with military coercion, unwarranted by the constitution, and utterly inconsistent with the existence of a free State: be it therefore—

"Resolved, That his Excellency the Governor be requested, forthwith, to issue his Proclamation warning the good people of this State against the attempt of the President of the United States to seduce them from their allegiance, exhorting them to disregard his vain menaces, and to be prepared to sustain the dignity and protect the liberty of the State against the arbitrary measures proposed by the President."

Now I, ROBERT Y. HAYNE, Governor of South Carolina, in obedience to the said Resolution, do hereby issue this my Proclamation, solemnly warning the good people of this State against the dangerous and pernicious doctrine promulgated in the said Proclamation of the President, as calculated to mislead their judgments as to the true character of the government under which they live, and the paramount obligation which they owe to the State, and manifestly intended to seduce them from their allegiance, and by drawing them to the support of the violent and unlawful measures contemplated by the President, to involve them in the guilt of REBELLION. I would earnestly admonish them to beware of the specious but false doctrine by which it is now attempted to be shewn that the several States have not retained their entire sovereignty: that "the allegiance of their citizens was transferred *in the first instance* to the government of the United States": that "a State cannot be said to be sovereign and independent, whose citizens owe obedience to laws not made by it": that "even under the royal government we had no separate character": that the constitution has created "a national government," which is not a "compact between Sovereign States": "that a State has NO RIGHT TO SECEDE"—in a word, that ours is A NATIONAL GOVERNMENT in which the people of all the States are represented, and by which we are constituted "ONE PEOPLE"—and "that our representatives in Congress are all representatives of the United States, and not of the particular States from which they come,"—doctrines which uproot the very foundation of our political system—annihilate the rights of the State—and utterly destroy the liberties of the citizen.

It requires no reasoning to show what the bare statement of these propositions demonstrates, that such a Government as is here described has not a single feature of a confederated republic. It is in truth an accurate delineation, drawn with a bold hand, of a great consolidated empire,—"one and indivisible,"—and under whatever specious form, its powers may be masked, it is in fact the worst of all despotisms, in which the spirit of an arbitrary government is suffered to pervade institutions professing to be free. Such was not the government for which our fathers fought and bled, and offered up their lives and fortunes as a willing sacrifice. Such was not the government, which the great and patriotic men who called the union into being in the plenitude of their wisdoms framed. Such was not the government which the fathers of the republican faith, led on by the Apostle of American Liberty, promulgated and successfully maintained in 1798, and by which they produced the great political revolution effected at that auspicious era. To a government based on such principles, South Carolina has not been a voluntary party, and to such a government she never will give her assent.

The records of our history do, indeed, afford the prototype of these sentiments, which is to be found in the recorded opinion of those, who, when the Constitution was framed, were in favor of a "firm National Government," in which the States should stand in the same relation to the Union that the colonies did towards the mother country. The Journals of the Convention and the secret history of the debates, will show that this party did propose to secure to the Federal Government an absolute supremacy over the States, by giving them a negative upon their laws, but the same history also teaches us that all these propositions were rejected, and a Federal Government was finally established, recognizing the sovereignty of the States, and leaving the constitutional compact on the footing of all other compacts between "parties having no common superior."

It is the natural and necessary consequence of the principles thus authoritatively announced by the President, as constituting the very basis of our political system, that the Federal Government is unlimited and supreme; being the exclusive judge of the extent of its own powers, the laws of Congress sanctioned by the Executive and the Judiciary, whether passed in direct violation of the Constitution and rights of the States, or not, are "the supreme law of the land." Hence it is that the President obviously considers the words, "made in pursuance of the Constitution," as mere surplusage; and therefore when he professes to recite the provision of the Constitution on this subject, he states that our "SOCIAL COMPACT in express terms declares that the *the laws of the United States*, its Constitution, and the Treaties made under it, are the supreme law of the land," and speaks throughout of "the explicit supremacy given to the laws of the Union over those of the States"—as if a law of Congress was of itself supreme, while it was necessary to the validity of a treaty that it should be made in pursuance of the Constitution. Such, however, is not the provision of the Constitution. That instrument expressly provides that "the Constitution, and laws of the United States *which shall be made in pursuance thereof*, shall be the supreme law of the land, any thing in the Constitution or laws of any State to the contrary notwithstanding."

Here it will be seen that a law of Congress, as such, can have no validity, unless made "in pursuance of the Constitution." An unconstitutional act is therefore null and void, and the only point that can arise in this case is, whether, to the Federal Government, or any department thereof, has been exclusively reserved the right to decide authoritatively *for the States* this question of Constitutionality. If this be so, to which of the departments, it may be asked, is this right of final judgment given? If it be to Congress, then is Congress not only elevated above the other departments of the Federal Government, but it is put above the Constitution itself. This, however, the President himself has publicly and solemnly denied, claiming and exercising, as is known to all the world—the right to refuse to execute acts of Congress and solemn treaties, even after they had received the sanction of every department of the Federal Government.

That the Executive possesses the right of deciding finally and exclusively as to the validity of acts of Congress, will hardly be pretended—and that it belongs to the Judiciary, except so far as may be necessary to the decision of questions which may incidentally come before them, in "cases of law and equity," has been denied by none more strongly than the President himself, who on a memorable occasion refused to acknowledge the binding authority of the Federal Court, and claimed for himself and has exercised the right of enforcing the laws, not according to their judgment, but "his own understanding of them." And yet when it serves the purpose of bringing odium upon South Carolina, "his native State," the President has no hesitation in regarding the attempt of a State to release herself from the control of the Federal Judiciary, in a matter affecting her sovereign rights, as a violation of the Constitution.

It is unnecessary to enter into an elaborate examination of the subject. It surely cannot admit of a doubt, that, by the Declaration of Independence, the several Colonies became "free, sovereign, and independent States," and our political history will abundantly show that at every subsequent change in their condition up to the formation of our present Constitution, the States preserved their sovereignty. The discovery of this new feature in our system, that the States exist only as members of the Union—that before the Declaration of Independence, we were known only as "United Colonies"—and that, even under the articles of confederation, the States were considered as forming "collectively ONE NATION"—without any right of refusing to submit to "any decision of Congress"—was reserved to the President and his *immediate predecessor*. To the latter "belongs the *invention*, and upon the former will unfortunately fall the evils of reducing it to practice."

South Carolina holds the principles now promulgated by the President (as they must always be held by all who claim to be supporters of the rights of the states) "as contradicted by the letter of the constitution—unauthorised by its spirit—inconsistent with every principle on which it was founded—destructive of all the objects for which it was framed"—utterly incompatible with the very existence of the States—and absolutely fatal to the rights and liberties of the people. South Carolina has so solemnly and repeatedly expressed to Congress and the World the principles which she believes to constitute the very pillars of the Constitution, that it is deemed unnecessary to do more at this time, than barely to present a summary of those great fundamental truths, which she believes can never be subverted without the inevitable destruction of the liberties of the people and of the union itself. South Carolina has never claimed (as is asserted by the President) the right of "repealing at pleasure, all the REVENUE LAWS of the Union," much less the right of "repealing the Constitution itself, and laws passed to give it effect which have NEVER BEEN ALLEGED TO BE UNCONSTITUTIONAL." She claims only the right to judge of infractions of the Constitutional compact, in violation of the reserved rights of the State, and of arresting the progress of usurpation within her own limits, and when, as in the Tariffs of 1828, and 1832, revenue and protection—constitutional and unconstitutional objects, have been so mixed up together, that it is found impossible to draw the line of discrimination,—she has no alternative, but to consider the whole as a system, unconstitutional in its character, and to leave it to those who have "woven the web, to unravel the threads." South Carolina insists, and she appeals to the whole political history of our country, in support of her position that the Constitution of the United States is a compact between sovereign States,—that it creates a confederated republic, not having a single feature of nationality in its foundation—that the people of the several States as distinct political communities ratified the Constitution, each State acting for itself, and binding its own citizens, and not those of any other State, the act of ratification declaring it to be binding on the States so ratifying—the States are its authors, their power created it—their voice clothed it with authority—the government which formed it is compesed of their agents, and the Union of which it is the bond is a Union of states and not individuals--that as regards the foundation and extent of its power, the government of the U. S. is strictly what its name implies—a Federal Government—that the states are as sovereign now as they were prior to the entering into the compact—that the Federal Constitution is a confederation in the nature of a treaty—or an alliance by which so many sovereign states agreed to exercise their sovereign powers CONJOINTLY, upon certain objects of external concern in which they are equally interested, such as WAR, PEACE, AND COMMERCE, foreign negotiation, and Indian trade; and upon all other subjects of civil government, they were to exercise their sovereignty SEPARATELY.

For the convenient conjoint exercise of the Sovereignty of the States, there must of necessity be some common agency or functionary. This *agency* is the Federal Government. It represents the confederated States, and executes their joint will, as expressed in the compact. The powers of this government are wholly *derivative*. It possesses no more inherent sovereignty than an incorporated town, or any other great corporate body—it is a political corporation, and like all other corporations, it looks for its powers to an exterior source. That source is the States.

South Carolina claims that, by the Declaration of Independence, she became, and has ever since continued, a free, sovereign, and independent State.

That as a Sovereign State she has the inherent power to do all those acts, which by the law of nations any prince or potentate may of right do. That like all independent states, she neither has, nor ought she to suffer, any other restraint upon her sovereign will or pleasure, than those high moral obligations under which all princes and states are bound before God and man, to perform their solemn pledges. The inevitable conclusion from what has been said therefore is, that as in all cases of compact between independent sovereigns, where, from the very nature of things, there can be no common judge or umpire, each sovereign has a right "to judge as well of infractions as of the mode and measure of redress," so in the present controversy between South Carolina and the Federal Government, it belongs solely to her, by her delegates in solemn convention assembled, to decide whether the federal compact be violated, and what remedy the state ought to pursue. South Carolina therefore cannot, and will not, yield, to any department of the Federal Government, a right which enters into the essence of all sovereignty, and without which it would become a bauble and a name."

Such are the doctrines which South Carolina has, through her convention, solemnly promulgated to the world, and by them she will stand or fall. Such were the principles promoulgated by Virginia in '98, and which then received the sanction of those great men, whose recorded sentiments have come down to us as a light to our feet, and a lamp to our path. It is Virginia, and not South Carolina, who speaks, when it is said that she "views the powers of the Federal Government as resulting from the compact, to which the states are parties, as limited by the plain sense and intention of the instrument constituting that compact—as no further valid than they are authorized by the grants enumerated in that compact; and that in case of a deliberate, palpable, and dangerous exercise of other powers, not granted by the said compact, the states who are parties thereto have the right, and are in duty bound, to interpose, for arresting the progress of the evil, and for maintaining within their respective limits the 'authorities, rights, and liberties, appertaining to them.'"

It is Kentucky who declared in '99, speaking in the explicit language of Thomas Jefferson, that "the principles and construction contended for by members of the State Legislatures [the very same now maintained by the President] that the general government is the exclusive judge of the extent of the powers delegated to it, stop nothing short of despotism—since the discretion of those who administer the government, and not the constitution, would be the measure of their powers. That the several states who formed the instrument being sovereign and independent, have the unquestionable right to judge of the infraction; and, THAT A NULLIFICATION BY THOSE SOVEREIGNTIES OF ALL UNAUTHORIZED ACTS DONE UNDER COLOUR OF THAT INSTUMENT, IS THE RIGHTFUL REMEDY."

It is the great apostle of American liberty himself who has consecrated these principles, and left them as a legacy to the American people, recorded by his own hand. It is by him that we are instructed—*that to the Constitutional compact, "each state acceded as a state, and is an integral party, its co-states forming as to itself the other party;" that "they alone being parties to the compact, are solely authorized TO JUDGE IN THE LAST RESORT of the powers exercised under it, Congress being not a party but a mere creature of the compact;" that "it becomes a sovereign state to submit to undelegated, and consequently unlimited power, in no man or body of men, upon earth; that where powers are assumed which have not been delegated [the very case now before us] a nullification of the act is the rightful remedy; that every state has a natural right, in cases not within the compact [casus non fœderis] to nullify of their own authority all assumption of power by others within their limits; and that without this right they would be under the dominion absolute and unlimited, of whomsoever might exercise the right of judgment for them;" and that in case of acts being passed by Congress "so palpably against the Constitution as to amount to an uudisguised

* See original draught of the Kentucky Resolutions in the hand writing of Mr. Jefferson, lately published by his grandson.

declaration, that the compact is not meant to be the measure of the powers of the General Government, but that it will proceed to exercise over the states all powers whatsoever, it would be the duty of the states to declare the acts VOID and of no force, and that 'EACH should take measures of its own' for providing that neither such acts, nor any other of the General Government not plainly and intentionally authorized by the Constitution, shall be exercised within their respective territories."

It is on these great and essential truths, that South Carolina has now acted. Judging for herself as a sovereign State, she has pronounced the Protecting System, in all its branches to be a "gross, deliberate, and palpable violation of the Constitutional compact;" and having exhausted every other means of redress, she has in the exercise of her sovereign rights as one of the parties to that compact, and in the performance of a high and sacred duty, interposed for arresting the evil of usurpation, within her own limits—by declaring these acts to be "null, void, and no law, and taking measures of her own, that they shall not be enforced within her limits."

South Carolina has not "assumed" what could be considered as at all doubtful, when she asserts "that the acts in question, were in reality intended for the protection of manufactures;" that their "operation is unequal;" that "the amount received by them, is greater than is required by the wants of the government"—and finally, "that the proceeds are to be applied to objects unauthorized by the constitution." These facts are notorious—these objects openly avowed. The President, without instituting any inquisition into motives, has himself discovered, and publicly denounced them; and his officer of finance is even now, devising measures intended as we are told, to correct these acknowledged abuses.

It is a vain and and idle dispute about words to ask whether this right of State Interposition may be most properly styled a Constitutional, a sovereign, or a reserved right. In calling this right constitutional, it could never have been intended to claim it as a right granted by or derived from the Constitution, but it is claimed as consistent with its genius, its letter and its spirit; it being not only distinctly understood, at the time of ratifying the Constitution, but expressly provided for, in the instrument itself, that all sovereign rights, not agreed to be exercised conjointly, should be exercised separately by the States. Virginia declared, in reference to the right asserted in the Resolutions of '98, above quoted, even after having fully and accurately re-examined and re-considered those Resolutions, "that she found it to be her indispensable duty to adhere to the same, as founded in truth. as *consonant with* the Constitution, and as conducive to its welfare." and Mr. Madison himself asserted them to be perfectly "constitutional and conclusive."

It is wholly immaterial, however, by what name this right may be called; for if the Constiiution be "a compact to which the States are parties," if "acts of the Federal Government are no further valid than they are authorized by the grants enumerated in that compact," then we have the authority of Mr. Madison himself for the inevitable conclusion that it is "a plain principle, illustrated by common practice, and essential to the nature of compacts, that when resort can be had to no tribunal superior to the authority of the parties, the parties themselves must be the rightful judge in the last resort, whether the bargain made has been pursued or violated." The Constitution, continues Mr. Madison, "*was formed* by the sanction of the *States, given by each* in its sovereign capacity; the States then being parties to the Constitutional compact, and in their sovereign capacity, it follows of necessity that there can be no tribunal above their authority, to decide, in the last resort, whether the compact made by them be violated: and, consequently, that, as the parties to it, they must themselves decide, in the last resort, such questions as may be of sufficient magnitude to require their interposition."

If this right does not exist in the several States, then it is clear that the discretion of Congress, and not the Constitution, would be the measure of their powers, and this, says Mr. Jefferson, would amount to the "seizing the rights of the States and consolidating them in the hands of the General Government, with a power assumed to bind the States not only in cases made federal, but in all cases whatsoever; which would be to surrender the form of government we have chosen, to live under one deriving its power from its own will."

We hold it to be impossible to resist the argument that the several States as sovereign parties to the compact, must possess the power, in cases of "gross deliberate and palpable violation of the Constitution, to judge *each for itself*, as well of the infraction as the mode and measure of redress," or ours is a CONSOLIDATED GOVERNMENT "without limitation of powers,"—a submission to which Mr. Jefferson has solemnly pronounced to be a greater evil than disunion itself. If, to borrow the language of Madison's report, "the deliberate exercise of dangerous powers palpably withheld by the Constitution, could not justify the parties to it, *in interposing* even so far as to *arrest the progress of the evil*, and thereby to PRESERVE the CONSTITUTION ITSELF, as well as to provide for the safety of the parties, there would be an end to all relief from usurped power, and a direct subversion of the rights specified or recognised under all the State Constitutions, as well as a plain denial of the fundamental principle on which our independence itself was declared."

The only plausible objection that can be urged against this right, so indispensable to the safety of the States, is, that it may be abused. But this danger is believed to be altogether imaginary. So long as our Union is felt as a blessing—and this will be just so long as the Federal Government shall confine its operation within the acknowledged limits of the Charter—there will be no temptation for any State to interfere with the harmonious operation of the system. There will exist the strongest motives to induce forbearance, and none to prompt to aggression on either side, so soon as it shall come to be universally felt and acknowledged that the States do not stand to the Union in relation of degraded and dependant colonies, but that our bond of union is formed by mutual sympathies and common interests. The true answer to this objection has been given by Mr. Madison, when he he says—

"It does not follow, however, that because the States, as sovereign parties to the constitutional compact, must ultimately decide whether it has been violated, that such a decision ought to be interposed, either in a hasty manner, or on doubtful and inferior occasions Even in the case of ordinary conventions between different nations, it is always laid down that the breach must be both wilful and material to justify an application of the rule. But in the case of an intimate and constitutional union, like that of the United States, it is evident that the interposition of the parties, in their sovereign capacity, can be called for by occasions only, deeply and essentially affecting the vital principles of their political system."

Experience demonstrates that the danger is not that a state will resort to her sovereign rights too frequently, or on light and trivial occasions, but that she may shrink from asserting them as often as may be necessary.

It is maintained by South Carolina that according to the true spirit of the Constitution it becomes Congress in all emergencies like the present, either to remove the error by legislation, or to solicit of the states the call of a Convention; and that on a failure to obtain by the consent of three-fourths of all the States an amendment giving the disputed power, it must be regarded as never having been intended to be given. These principles have been distinctly recognised by the President himself in his message to Congress at the commencement of the present session, and they seem only to be impractical absurdities when asserted by South Carolina, or made applicable to her existing controversy with the Federal Government.

But it seems that South Carolina receives from the President no credit for her sincerity, when it is declared through her Chief Magistrate, that "she sincerely and anxiously seeks and desires" the submission of her grievances to a Convention of all the States. "The only alternative (says the President) which she presents, is the *repeal of all the acts for raising revenue;* leaving the Government without the means of support, or an acquiescence in the *dissolution of our Union.*" South Carolina has presented no such alternatives. If the President had read the documents which the Convention caused to be forwarded to him for the express purpose of making known her wishes and her views, he would have found, that South Carolina asks no more than that the Tariff should be reduced to the revenue standard; and has distinctly expressed her willingness, that "an amount of duties substantially uniform, should be levied upon protected, as well as unprotected articles; sufficient to raise *the revenue* necessary to meet the demands of the government, for constitutional purposes." He would have found in the Exposition put forth by the Convention itself a a distinct appeal to our sister States, for the call of a Convention; and the expression of an entire willingness on the part of South Carolina, to submit the controversy to that tribunal. Even at the very moment when he was indulging these unjust and injurious imputations upon the People of South Carolina, and their late highly respected Chief Magistrate, a resolution had actually been passed through both branches of our Legislature, demanding a call of that very Convention, to which he declares that she had no desire that an appeal should be made.

It does not become the dignity of a Sovereign State, to notice in the spirit which might be considered as belonging to the occasion, the unwarrantable imputations in which the President has thought proper to indulge, in relation to South Carolina, the proceedings of her citizens, and constituted authorities. He has noticed, only to give it countenance, that miserable slander which imputes the noble stand that our People have taken in defence of their Rights and Liberties, to a faction instigated by the efforts of a few ambitious leaders who have got up an excitement for their own personal aggrandizement! The motives and characters of those who have been subjected to these unfounded imputations are beyond the reach of the President of the United States. The sacrifices they have made, and difficulties and trials through which they may have yet to pass, will leave no doubt as to the disinterested motives and noble impulses of patriotism and honor by which they are actuated. Could they have been induced to separate their own personal interests from those of the People of South Carolina, and have consented to abandon t eir duty to the State, no one knows better than the President himself, that they might have been honored with the highest manifestations of public regard, and, perhaps, instead of being the objects of vituperation, might even now have been basking in the sunshine of Executive favor. This topic is alluded to, merely for the purpose of guarding the People of our sister States against the fatal delusion that South Carolina has assumed her present position under the influence of a temporary excitement; and to warn them that it has been the result of the slow but steady progress of public opinion for the last ten years: that it is the act of the People themselves, taken in conformity with the spirit of resolutions repeatedly adopted in their primary assemblies, and the solemn determination of the Legislature, publicly announced more than two years ago. Let them not so far deceive themselves on this subject, as to persevere in a course which must in the end inevitably produce a dissolution of the Union, under the vain expectation that the great body of the People of South Carolina, listening to the councils of the President, will acknowledge their error or retrace their steps; and still less that they will be driven from the vindication of their rights, by the intimation of the danger of domestic discord, and threats of lawless violence! The brave men who have thrown themselves into the breach, in defence of the Rights and Liberties of their Country, are not to be driven from their holy purpose by such means. Even unmerited obloquy, and death itself, have no terrors for him who feels and knows that he is engaged in the performance of a sacred duty. The People of South Carolina are well aware, that, however passion and prejudice may obtain for a season the mastery of the public mind, reason and justice must sooner or later reassert their empire; and that whatever may be the event of this contest, posterity will do justice to their motives, and to the spotless purity, and devoted patriotism, with which they have entered into an arduous and most unequal conflict, and the unfaltering courage with which, by the blessing of Heaven, they will maintain it.

The whole argument, so far as it is designed at this time to enter into it, is now disposed of; and it is necessary to advert to some passages in the Proclamation which cannot be passed over in silence. The President distinctly intimates that it is his determination to exert the right of putting down the opposition of South Carolina to the Tariff, *by force of Arms.* He believes himself invested with power to do this under the provision of the Constitution which directs him "to take care that the laws be faithfully executed" Now if by this it was only meant to be asserted that under the laws of Congress now of force, the President would feel himself bound to aid the civil tribunals in the manner therein prescribed, supposing such laws to be constitutional, no just exception could be taken to this assertion of Executive duty. But if, as is manifestly intended, the President sets up the claim to judge for himself in what manner the laws are to be enforced, and feels himself at liberty to call forth the militia, and even the military and naval forces of the Union, against the State of South Carolina, her constituted authorities and citizens, then it is clear that he assumes a power not only not conferred on the Executive by the Constitution, but which belongs to no despot upon earth exercising a less un-

limited authority than the Autocrat of all the Russias: an authority, which, if submitted to, would at once reduce the free people of these United States to a state of the most abject and degraded slavery. But the President has no power whatsoever to execute the Laws except in the mode and manner prescribed by the Laws themselves. On looking into these Laws it will be seen that he has no shadow or semblance of authority to execute any of the threats which he has thrown out against the good people of South Carolina. The Act of 28 February, 1795, gives the President authority to call forth the Militia in case of invasion "by a foreign nation or Indian Tribe." By the 2nd section of that Act, it is provided that "whenever the Laws of the United States shall be opposed, or the execution thereof obstructed in any State, by combinations too powerful to be suppressed by the ordinary course of judicial proceedings, or by the powers vested in the marshals by this Act, it shall be lawful for the President of the United States to call forth the Military of such State, or of any other State or States, as may be necessary to suppress such combinations, and to cause the Laws to be duly executed."

The words here used, though they might br supposed to be very comprehensive in their import, are restrained by those which follow. By the next section it is declared that "whenever it may be necessary in the judgment of the President to use the Military force hereby directed to be called forth, the President shall forthwith, by Proclamation COMMAND SUCH INSURGENTS TO DISPERSE and retire peaceably to their respective abodes within a limited time."—On reading these two sections together, it is manifest that they relate entirely to combinations of individuals acting of themselves without any lawful authority. The constituted authorities acting under the laws of the State, and its citizens yielding obedience to its commands, cannot possibly be considered as a mere mob forming combinations against the authority and laws of the Union, to be dispersed by an Executive Proclamation, and any attempt so to treat them would be a gross and palpable violation of the sovereign authority of the State, and an offence punishable criminally in her own Courts.—Whether the late Proclamation of the President was intended as a compliance with the provisions of this act, does not very clearly appear. But if so, it can only be considered as directed against the State, since the Laws of the United States have certainly not been forcibly obstructed by combinations of any sort, and it is certainly worthy of observation that the command extended to the people is not that they should *disperse* but that they should *re-assemble* in Convention and repeal the obnoxious Ordinance.

The power of the President, so far as this subject is embraced, in relation to the Army and Navy, is exactly co-extensive with that over the militia. By the 1st section of Act of 3d March, 1807, it is expressly provided, that in all cases of "obstruction to the laws of the U. S. or of any individual State, where it is lawful for the President to call forth the Militia for the purpose of causing the laws to be duly executed, it shall be lawful for him to employ for the same, such part of the land or naval force of the U. States as may be necessary, having first observed all the pre requisites of the law in that respect." Here then it is seen, that unless the President is resolved to disregard all constitutional obligations, and to trample the laws of his country under his feet, he has no authority whatever to use force against the State of South Carolina, and should he attempt to do so, the patriotic citizens of this State know too well their own rights, and have too sacred a regard to their duties, to hesitate one moment in repelling invasion, come from what quarter it may. Could they be deterred by the threats of lawless violence, or any apprehension of consequences, from the faithful performance of their duty, they would feel that they were the unworthy descendants of the "Pinckneys, Sumters, and Rutledges, and a thousand other names which adorn the pages of our revolutionary history," some of whom have just gone from among us, and been gathered to their fathers, leaving as a legacy their solemn injunction, that we should never abandon this contest until we shall have obtained "*a fresh understanding of the bargain*," and restored the liberties for which they fought and bled. Others still linger among us, animating us by their example, and exhorting us to maintain that "solemn Ordinance and Declaration" which they have subscribed with their own names, and in support of which they have "pledged their lives, their fortunes, and their sacred honor."

The annals which record the struggles of freedom, show us that Rulers in every age and every country jealous of their power, have resorted to the very same means to extinguish in the bosom of man that noble instinct of Liberty which prompts him to resist oppression. The system by which Tyrants in every age have attempted to obliterate this sentiment and to crush the spirit of the people, consists in the skillful employement of promises and threats, in alternate efforts to encourage their hopes and excite their fears—to show that existing evils are exaggerated, the danger of resistance great—and the difficulties in the way of success insuperable: and finally to sow dissension among the people by creating jealousies and exciting a distrust of those whose counsels and example may be supposed to have an important bearing on the success of their cause.

These, with animated appeals to the loyalty of the people, and an imposing array of military force, constitute the means by which the people have in every age been reduced to slavery. When we turn to the pages of our own history, we find that such were the measures resorted to at the commencement of our own glorious revolution, to keep our fathers in subjection to Great Britain; and such are the means now used to induce the people of Carolina to "*retrace their steps*," and to remain forever degraded colonists, governed not in reference to their own interests but the interests of others. Our Fathers were told, as we now are, that their grievances were in a great measure imaginary. They were promised, as we have been, that those grievances should be redressed. They were told, as we now are, that the people were misled by a few designing men, whose object was a dissolution of the Union, and their own self aggrandisement—They were told, as we now are, of the *Danger* that would be incurred by disobedience to the Laws. The power and resources of the Mother Country were then, as now, ostentatiously displayed in insulting contrast with the scattered population and feeble resources on which we could alone rely. And the punishment due to Treason and Rebellion were held out as the certain fate of all who should disregard the paternal efforts of their Royal Master to bring back his erring children to the arms of their indulgent Mother. They were commanded, as we have been, to "retrace their steps." But though divided among themselves to a greater extent than we are now, without an organized Government, and destitute of arms and resources of every description, they bid defiance to the tyrant's power, and refused obedience to his commands.

They incurred the legal guilt of rebellion, and braved the dangers, both of the scaffold and the field, in opposition to the colossal power of their acknowledged sovereign, rather than submit to the imposition of taxes light and inconsiderable in themselves, but *imposed without their consent for the benefit of others*. And what is our present condition? We have an organized Government, and a population three times as great as that which existed in '76. We are maintaining not only the rights and liberties of the people, but the sovereignty of our own State, against whose authority rebellion may be committed, but in obedience to whose commands no man can commit treason. We are struggling against unconstitutional and oppressive taxation imposed upon us, not only without our consent, but in defiance of our repeated remonstrances and solemn protests. In such a quarrel our duty to our country, ourselves, and our posterity, is too plain to be mistaken. We will stand upon the soil of Carolina and maintain the sovereign authority of the State, or be buried beneath its ruins. As unhappy Poland fell before the power of the Autocrat, so may Carolina be crushed by the power of her enemies—but Poland was not surrounded by free and independent States, interested, like herself, in preventing the establishment of the very tyranny which they are called upon to impose upon a sister State. If in spite of our common kindred, and common interests, the glorious recollections of the past, and the proud hopes of the future, South Carolina should be coldly abandoned to her fate, and reduced to subjection, by an unholy combination among her sister States—which is believed to be utterly impossible—and the doctrines promulgated by the President are to become the foundations of a new system cemented by the blood of our citizens, it matters not what may be our lot. Under such a government, as there could be no liberty, so there could be no security either for our persons or our property.

But there is one consolation, of which in the providence of God no people can be deprived without their own consent. The proud consciousness of having done their duty. If our country must be enslaved, let her not be dishonored by her own sons! Let them not "*forge the chains themselves by which their liberties are to be manacled.*"

The President has intimated in his Proclamation that a "standing Army" is about to be raised to carry secession into effect. South Carolina desires that her true position shall be clearly understood both at home, and abroad. Her object is not "disunion"—she has raised no "standing Army," and if driven to repel invasion or resist aggression, she will do so by the strong arms and stout hearts of her citizens. South Carolina has solemnly proclaimed her purpose; that purpose is the vindication of her rights. She has professed a sincere attachment to the Union; and that to the utmost of her power she will endeavor to preserve it, "but believes that for this end, it is her duty to watch over and oppose any infraction of those principles which constitute the only basis of that union, because a faithful observance of them can alone secure its existence; that she venerates the CONSTITUTION and will protect and defend it 'against every aggression either foreign or domestic,' but above all, that she estimates as beyond all price her LIBERTY, which she is unalterably determined never to surrender while she has the power to maintain it."

The President denies in the most positive terms the right of a State under any circumstances to secede from the Union, and puts this denial on the ground "that from the time the States parted with so many powers as to constitute jointly with the other States a SINGLE NATION, they cannot from that period possess any right to secede." What then remains of those "rights of the States" for which the President professes so "high a reverence,"—in what do they consist? And by what tenure are they held? The uncontrolled will of the federal government. Like any other petty corporation, the States may exert such powers and such only as may be permitted by their superiors. When they step beyond those limits, even a federal officer will set at nought their decrees, repeal their solemn ordinances,—proclaim their citizens to be TRAITORS, and reduce them to subjection by military force; and if driven to desperation, they should seek a refuge in secession, they are to be told that they have bound themselves to those who have perpetrated or permitted these enormities, in the iron bonds of a "PERPETUAL UNION."

If these principles could be established, then indeed would the days of our liberty be numbered, and the republic will have found A MASTER. If South Carolina had not already taken her stand against the usurpation of the federal government, here would have been an occasion, when she must have felt herself impelled by every impulse of patriotism, and every sentiment of duty, to stand forth, in open defiance of the arbitrary decrees of the Executive. When a sovereign State is denounced, the allegiance of her citizens denied, and she is threatened with military power to reduce her to obedience to the will of one of the functionaries of the federal government, by whom she is *commanded* to "tear from her archives" her most solemn decrees—surely the time has come when it must be seen whether the people of the several States have indeed lost the spirit of the revolution, and whether they are to become the willing instruments of an unhallowed despotism.—In such a sacred cause South Carolina will feel that she is striking not for her own, but the liberties of the Union and the RIGHTS OF MAN, and she confidently trusts that the issue of this contest will be an example to freemen and a lesson to rulers throughout the world.

FELLOW CITIZENS—In the name and behalf of the State of South Carolina, I do once more solemnly warn you against all attempts to seduce you from your primary allegiance to the State,—I charge you to be faithful to your duty as citizens of South Carolina, and earnestly exhort you to disregard those "vain menaces" of military force, which, if the President, in violation of all his constitutional obligations, and of your most sacred rights, should be tempted to employ, it would become your solemn duty at all hazards to resist. I require you to be fully prepared, to sustain the dignity and protect the liberties of the State, if need be, with your "lives and fortunes." And may that great and good BEING, who, "as a father careth for his children," inspire us with that HOLY ZEAL IN A GOOD CAUSE, which is the BEST SAFEGUARD OF OUR RIGHTS AND LIBERTIES.

In testimony whereof, I have caused the [L. S.] seal of the State to be hereunto affixed, and have signed the same with my hand.

Done at Columbia, this 20th day of December, in the year of our Lord 1832, and of the Independence of the United States the fifty-seventh.

ROBERT Y. HAYNE.

By the Governor,

Samuel Hammond, Secretary of State.

POSTSCRIPT.

LATE AND IMPORTANT FROM EUROPE.

SPEECH OF THE FRENCH KING—ATTEMPT TO ASSASSINATE HIM—ANTWERP SUMMONED BY THE FRENCH ARMY, &c. &c.—Our papers are just received by the packet of 24th. We have not time for many extracts or any comments. Perhaps the following view from the London Times of 23d embraces the substance of the news.

The accounts received yesterday from Holland to Tuesday last, taken in connexion with those from Antwerp of the same date, afford us melancholy assurance that the Dutch Government has resolved upon warlike resistance, and that as the French army was ready to commence operations, almost immediate bloodshed has become inevitable. The "order of the day" of Gen. Chasse to the garrison he commands, dated the 17th, the "Order of the Day" of the commandant of Breda on the 18th, and the decree of King William, dated the 19th, for calling out the 2d and 3d bans of the *schuttery* (sedentary National Guards or militia), establish beyond a doubt that the Government of Holland has thrown down the gauntlet to France and England, and means to tempt the favors of victory against these powerful nations. The last measure, in particular, if it is not solely intended to excite the national enthusiasm, and to act on foreign Powers by a display of force or national unanimity, would seem to indicate that King William is preparing himself against an invasion of his dominions, and as that cannot take place (according to the principles on which the Allies are acting) without being provoked by an aggression of his own people upon Belgium, that the Dutch army intends to pass the Belgic frontiers. For it is obvious that men who have never before been under arms, and who have never before received any sort of military discipline, however they may "be formed into battalions," can only be called forth to defend their homes in the absence, or in aid of, the regular army.

The address of Gen. Chasse to his troops is such as might have been expected from a gallant officer commanded by his Sovereign to preserve his position, and to fight to the last, without any reference to the nature of the contest or the chances of success. He holds out no prospect of ultimate victory, but expects from his companions in arms a resolute purpose, like his own, to maintain their honor, and to display their courage, even in defeat.

The order of the day, addressed to the garrison of Breda, resembling so much the addresses made to the troops during the last twelve months by the King and the Prince of Orage, and commemorating the invasion of Belgium in August, 1831, would not be of the slightest interest by itself, or detached from the other hostile declarations with which it is connected. But the resistance of the garrison of Antwerp, and the decree for organizing another great portion of the population as a defensive force, are facts of great importance, as indicating an entire system of warlike policy.

Respecting the attempt to assassinate the King, the latest accounts insinuate that it was an accident —or a police invention.

We are still left, says the Liverpool Journal of the 24th inst., in suspense respecting the probable issue of the present demonstrations against Holland. The plot however begins to thicken, and a few hours will disclose the policy of the European courts, or bring intelligence of the reluctant submission of his Dutch Majesty.

On Tuesday the French Army crossed the Belgian frontier, and by the latest accounts they were concentrating within a league of Antwerp. Upwards of 30,000 men had halted there, the two eldest sons of Louis Philip being with them, the Duke of Orleans at the head of his brigade, and the Duke of Nemours at the head of the 1st Lancers. The remainder of the forces was hourly expected, and the whole when assembled, would present a grand military display of about 60,000 infantry and 16,000 horse.

The correspondent of the Morning Herald, who appears to accompany or follow close on the French army, writes that it is not the intention of Marshal Gerard to summon the citadel before Tuesday next, the 27th; but the Antwerp correspondent of the Times asserts, that this ceremony will be gone through this day, (Saturday). Some accounts state that the Duke of Orleans had summoned General Chasse to surrender, and that, on his positive refusal, the prince demanded to know whether it was his intention to consider the city neutral ground. To this interrogation he is said to have returned an answer in the affirmative; but had it been otherwise, the French were to have taken possession of Antwerp in the name of France and England.

The Belgian forces were then to co-operate with them; but, in the event of the city being exempted from bombardment, the Belgians were to remain inactive, and the French were to assault the citadel from their trenches. This report, it has been observed, cannot be true; for it is not the military custom to summon a place before the General summoning is in a situation to strengthen his demand by the presence of his army. Up to the last moment, therefore, nothing positive had been done beyond the concentration of the French army in the immediate vicinity of Antwerp. The Times, as if from authority, assures us that General Chasse will not fire upon the city.

From the Berlin Staats Gazette, Nov. 10.

DECLARATION OF PRUSSIA.—The Courts of London and Paris have found it suitable to their interests to carry into effect the treaty of 15th November, last year, with respect to the division of territory stipulated in it between Holland and Belgium, by the declaration addressed to both governments, that each of those governments is to evacuate by the 12th instant, the places and portions of territory, which according to that treaty, are to remain in their possession, and that, in case of refusal, a compliance with this demand shall be obtained from the King of the Netherlands by military measures

His Majesty the King, conformably to the declarations which he has made on every occasion, and in concert with Austria and Russia, has caused notice to be given to the governments of England and France, that he must refuse to these coercive measures not only all kind of co-operation, but also his assent, and that, on the contrary, he has resolved to place a corps of observation on the Maese, in order to be ready, on the entrance of a French army into Belgium, to avert the eventual consequences which the intended military operations might have with respect to the tranquility of Germany, and of his Majesty's dominions, and to the general peace.

His Majesty has accordingly issued the necessary orders to the corps of the army stationed in the Rhenish provinces and Westphalia, and the said corps of observation will be immediately posted in the manner above stated.

We last night received by express from Falmouth letters from our correspondent at Oporto, brought by the Liverpool steamer, which left that city on the 16th inst. The letters of our correspondent are dated the 11th, 12th, 14th and 16th instant. Though they record no great event, they are full of interesting details. The chief points to which we would invite the attention of the reader (not having room for comment) is the change in the command-in-chief of the army, the Emperor himself having replaced Count Villa Flor to that post,—the insults offered by the troops of Don Miguel to British ships of war, —the curious progress of Don Miguel through the country, along with his sister as a hostage; the spirited affair which took place on the 14th inst.; the resignation of Colonel Hodges, and the changes in the other appointments of the army. Gount Villa Flor is created Duke of Torceira, to console him by a title for the loss of the chief command of the army. The change may be judicious, for the reasons stated by our correspondent, tho' we do not see that the army suffers much by the absence of Saldanha. The English public, who may be entertained with the cavalcade of Don Miguel, should know that the poor Princess rides in a litter or sedanchair, because in the blessed country of Don Miguel there are no roads by which she could be conveyed in a carriage without the danger of jolting her to death, or overturning in a ditch. We are sorry at the resignation of Colonel Hodges, who has returned by the steamer which brought our letters. The army of the Emperor, which at first had received a compensation in the arrival of Sir John Doyle, has been also deprived of the services of that gallant officer.—[Times, 23d.]

PARIS, Nov. 20.—The following are further details respecting the circumstances of the attack yesterday upon the King:

"Amongst the persons who, on seeing the King, shouted the loudest acclamations, the spectators remarked a man, ill dressed, aged about thirty, of middle size, who waved his hat with his right hand. At the moment the King arrived opposite this individual, the latter drew from his pocket a pistol, and presenting it at his Majesty with his left hand, continued to wave his hat with his right.

"A young woman near him, observing his movements, seized hold of his right arm, and thus changed the direction of the shot. The assassin disappeared immediately amongst groups composed of ill-dressed persons, who appeared disposed to protect him. In his flight he threw down the pistol which he had fired, and a second pistol which was loaded. The detonation was very loud. The ball grazed the hat of M. Gabriel Delessert, Aide-Major-General of the National Guards, who formed part of the procession. A movement of alarm was manifested among his Majesty's suite.

"The young woman who seized the arm of the assassin, is named Mademoiselle Boury. She is the daughter of a post-master in the environs of Dunkirk. On being escorted to the house of the Commissary of Police of the chateau, where she made her declaration, she experienced a violent nervous attack. On the return of the King she was visited by their Majesties and Madame Adelaide, who paid her every attention.

"Disclosures made to the authorities have been the means of tracing the assassin, and a conspiracy, of which he was to be the instrument. At the hour at which we are writing (midnight) the Minister of the Interior and the Procureur General are at the house of the Prefect of the Police."

DEATHS.

Suddenly, at West Point, on Monday evening, 24th ultimo, THOMAS GIMBREDE, Instructor of Drawing in the Military Academy, West Point, aged 51.

That "we know not what a day or an hour may bring forth," was never more fully exemplified than in the sudden death of this lamented individual. Mr. Gimbrede was born in November, 1781, in the city of Agen, in the south of France. When about 21 he left his native country for the West Indies, where he remained only a few months, having been unfortunate in the loss of his entire property. Misfortune in one clime did not, however, deter him from making use of the means with which nature and education had liberally endowed him, to support himself in another. Accordingly he landed at New York about 1802, and sought to maintain himself by portrait painting. This he practiced for several years, but without success equal to his expectations, and therefore abandoned it for the employment of another of his versatile talents—engraving—wherein he was more successful. His reputation as an artist about this time attracted the attention of the War Department, and he was appointed in 1919 to fill the station in the Military Academy which he so ably sustained until the period of his death. Under his care this department in the Military Academy has been perfected to merit the approbation of the public, and imparted much useful instruction to the members of the Institution. Long will the loss of his services be felt in the Academy, but still longer will his kind and gentlemanly intercourse with his pupils be cherished and remembered by the Cadets and officers of the Army. No one knew better than he, how to obviate the difficulties and make attractive the department of learning entrusted to his charge; and it may truly be said of him, that in every respect he fulfilled the duties of his station.

But it is in the relation of husband and parent, that the loss of Mr Gimbrede will be most severely felt. To intrude upon the sanctity of that grief which mourns the sudden transition from life to death—from time to eternity—of their best and dearest friend,—is not within the province of an obituary; to heal the wound and administer consolation, needs the Divine mercy; and He who "tempers the wind to the shorn lamb," must be the comforter under this affliction.—[Communicated.]

On Monay morning, Dec. 30, Major Charles B. Tallmadge, Paymaster U. S. Army.

Last evening, Dec. 31, of a lingering illness, Mr. Samuel White, in the 60th year of his age.

At Stonington, Con. on Thursday, 27th Dec., Sally Palmer, relict of Amos Palmer, aged 72 years.

At his seat at Throgg's Neck, Westchester, on the morning of the 30th Dec., Abijah Hammond, Esq. aged 75 years.

This morning, after a short illness, Jonathan Ogden, in the 65th year of his age.

On Monday evening last, Mrs. Ann-Maria, wife of Aaron Goodrich, aged 31 years.

On Thursday night, Mrs Isabella Mason.

On Tuesday evening last, Mr. John Earle, aged 33 years

In Charleston, on the 22d ult. in her 86th year, *Mrs. Mary Smith*, relict of Roger Smith, Esq. In the death of this respectable lady, the eldest branch of the distinguished family of Rutledge is extinct.

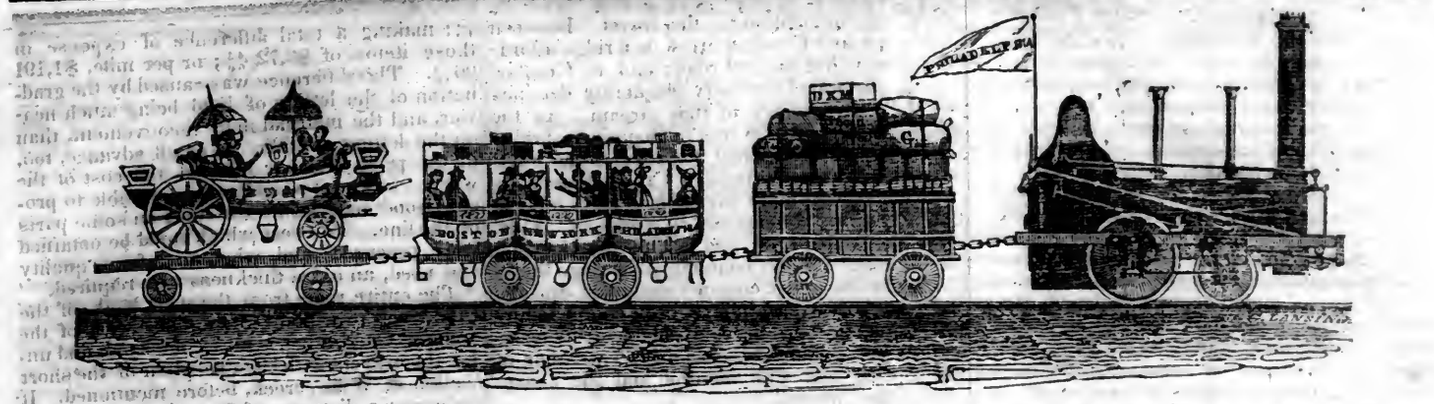
At his residence near Greenville, S. C. on the 21st ult. Mr. *Rawlins W. Lowndes*, son of the late Hon. Wm. Lowndes.

On the 1st inst. at his residence, Flushing, L. I after a short illness, Thomas Powell, in the 56th year of his age.

In Brooklyn, on the 1st inst. Mrs. Anne Moore Tucker, wife of Fanning C. Tucker.

Suddenly, in Albany, on Saturday morning, 29th ult. Prudence M., wife of John F. Bacon, in the 40th year of her age.

☞ The engravings *alone* for the Journal the ensuing year, even upon *wood*—to correspond with *this* number—will cost us $500.—Will our subscribers then hesitate to remit, in *advance*, and *free of postage*, the small sum of *three* dollars? We pledge them the Journal shall be worth more than *double* the money.



AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JANUARY 12, 1833. [VOLUME II.—No. 2.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 12, 1833.

☞ We have been disappointed in getting our engraving of the Steam *Fire* Engine, promised in our last. It will be given in the next number.

In this number will be found a representation of *Mason's* Patent for Locking Carriage Wheels for descending steep hills.

Map of Antwerp.—The map and description of the Seat of War in Holland, published in the Journal of to-day, will be found of much interest. A few typographical errors have occurred in the names of places, in the haste with which the engraving was made. The engraving is by Mr. G. Lansing, of this city, who executes wood engravings in a very handsome manner. It is due him, however, in this case, to say, that he was not allowed sufficient time to finish it—not even to take a proof before it went to press.

The following remarks upon the Petersburg, Va. Railroad were designed to accompany the Report which was published in our last, but were deferred for want of room. They are now, however, none the less appropriate.

Petersburg, Va. Railroad.—We find in the Petersburg Intelligencer of the 18th ult. a report made by Moncure Robinson, Esq. Engineer, to the 2d Auditor, of the present condition and prospects of the above named work.

The rapidity and quietness with which this work has been prosecuted to its present state of forwardness is certainly high commendation of those who have had the management of its construction. No other work, we believe, in this country, of the same extent, has been more rapidly brought into use, and there are few others which will exert an equal influence upon the prosperity of that section of country they are designed to benefit. That part of Virginia, south and west of Petersburg, is susceptible of being made highly productive and profitable to the agriculturist who will *do it justice*; and increased facilities of communication and transportation will go far towards producing that very desirable object. The counties bordering on, and in the vicinity of the Roanoke, Charlotte, Mecklenburg, Halifax, and Pyttsylvania, are among the most wealthy and productive in the state; yet under present management and present means of getting to market, their resources are by no means developed nor appreciated; nor indeed, will they be, until the inhabitants learn from actual observation, within the limits of "the Old Dominion," the immense value of judicious internal improvements. It will not do for them to see those improvements in other States. They must see them *at home*; and their wonderful effects upon their own prosperity, to appreciate them fully—and no work yet undertaken in Virginia will probably do as much to produce this desirable effect as the *Petersburg and Roanoke Railroad*. It will show them that their *own interest* lies in the construction of other works of a similar character; and it will also show them, we believe, that they would be the gainers by selling even *one-half* of their plantations to enterprising agriculturists, investing the proceeds in works of internal improvement, and then put their "force" upon and give their attention to the remaining half, which would thereby be improved and made more productive and more valuable than the whole now is. This road, when completed and brought into use will serve as a *model*; and we have been informed that it is one worthy of imitation for others, not *only* in Virginia, but also in the Southern States generally. It will also afford great facilities for the transportation of the United States Mail. It is another important link in that grand chain of Railroad which will eventually pass through the Atlantic States, from Maine to Lousiana, and serve, in proportion to its facilities of communication, as a bond of union to the States. To the town of Petersburg its advantages must be immense. It will not only greatly increase the amount of trade from that section, which naturally finds an outlet through Petersburg, but it will also divert a large portion of trade which now flows down the Roanoke, and has, at any rate, to undergo a trans-shipment to other craft, at or near the point where the Railroad intersects the river, and may therefore as easily go into railroad cars as steam or other boats. Indeed, it would probably sooner by this route reach its destination, than to continue down the river and through the Dismal Swamp Canal, or Albemarle Sound. Its influence will soon be felt, and we doubt not, properly appreciated. Other works of a similar nature will naturally follow; the drooping spirits of the proprietors of the soil will again be revived, and the "Old Dominion" will once more assume a prosperous and flourishing station amongst her sister States—and eventually become, what, with her superior resources, she ought always to have been, one of the most productive and flourishing States in the Union. We most cordially wish all those interested in this road ample returns for their investment and labors; they will certainly be entitled to the gratitude and support of the inhabitants of a large section of country, for their enterprise and perseverance in projecting and thus rapidly bringing the work into use.

Cumberland, or Great National Road.—We have been politely favored by an esteemed friend, with the following report of C. W. Wever, Esq. to the Secretary of War, in 1828. It will not, however, be the less interesting to those who are desirous to obtain information upon the subject of McAdamizing roads, for having been made in 1828. Like other reports from the same source, it is conspicuous for its minute detail, and business-like character—and it will therefore be the more serviceable to those who are now seeking information upon the subject, especially as it shows what has been done in our own country.

CUMBERLAND ROAD.

BALTIMORE, Nov. 18, 1828.

To Col. CHARLES GRATIOT, Chief Engineer U. S.

SIR: In obedience to the regulations of the Engineer Department, I have the honor to report upon the progress made in the construction of the United States' road in the State of Ohio, under my superintendency.

The work was commenced on the 4th day of July, 1825. In that year, 28 miles and 157 $\frac{6}{10}$ poles of the road, together with the requisite masonry, were put under contract, which were entirely completed in the year 1827. The road has a cover of metal, of nine inches in thickness, composed of stone reduced to particles not exceeding four ounces in weight, and applied in three successive strata of three inches each. The first stratum was compacted with a heavy roller. Upon the second stratum the travel was admitted and continued until the stone were sufficiently consolidated for the reception of the third layer. The cover on this part of the line of road has become entirely compact, impervious to water, very smooth and elastic, with the exception of a few short pieces. To the most sceptical, a clear and most satisfactory demonstration is afforded, by this portion of the road, of the decided superiority of the McAdam system of constructing roads over any and all other systems which have been used in this country. On this part of the road, have been built by separate contract, thirty-five thousand two hundred and fifty three perches of masonry, of 24.75 cubical feet to the perch, and no allowance of extra measurement for arches, pier heads, &c. exclusive of about fifteen hundred perches built by the road contractors; making the whole quantity about 36,753 perches.

The average cost of the graduation, and cover of metal, of six inches in thickness, of this part of the road, has been, per pole, $10,96$\frac{3}{4}$; per mile, $3,509 72$\frac{1}{2}$.

The average cost of the third stratum of metal, of three inches in thickness, has been, per pole, $3,66$\frac{16}{100}$: per mile, $1,172 67$\frac{1}{2}$.

The average cost of the road, with a cover of nine inches, has been, per pole, $14,63$\frac{1}{4}$: per mile, $4,682 40.

The average cost of the masonry of every description has been, per pole, $6,18$\frac{3}{4}$; per mile, $1,980.

The average cost of the road, with a cover of nine inches, masonry included, has been, per pole, $20,82; per mile, $6,662 40.

The contingent expenditures on the whole line amounted, up to the period of the completion of this part of the road, only to the sum of $13,596 14$\frac{3}{4}$; and three fourths of this sum being assumed as applicable to this part of the road, it results that the contingent expenditures have been, per pole, $1,11 $\frac{3}{100}$ per mile, $356,76, or about 5 per centum.

The total average cost of this part of the road, with a cover of metal of nine inches in thickness, masonry and all contingencies, inclusive, has been, per pole, $21,93$\frac{4}{100}$; per mile, $7,020 16.

The average cost of the masonry, in bridges over twelve feet chord, has been per perch, $2,18.

The average cost of masonry, in bridges of and under 12 feet chord, has been per perch, $1,40.

The average cost of masonry in gothic and common culverts and detached walls, has been per perch 80 cents.

The average cost of masonry of every description, has been per perch $1,60.

On the 11th of September, 1826, a further distance of 23 miles 266$\frac{34}{100}$ poles, excepting 32 $\frac{69}{100}$ poles, with the necessary masonry, were let. This distance has also been finished in the same manner with that just described. That small piece which was excepted at the letting, crosses Wills' creek, a large stream, and subject to very high freshets. Its banks are low, and require heavy embankments to raise the road above the reach of high water. Over this creek exists a toll bridge, which affords accommodation to the travel. Between this creek and Crooked creek, is a ridge affording a very bad natural road; and at Crooked creek, the travel was very frequently detained by the overflowings of that stream. As the appropriation of 1826 was inadequate to bridge Wills' creek, and extend the road to the western side of the bottoms of Crooked creek, it was considered more advisable to leave undone for a season, the necessary works at Wills' creek and extend the road. This short portion of the road, and the contemplated bridge thereon, were put under contract early last Spring; and would, no doubt, have been completed by this time, but for the unavoidable delay occasioned by the almost incessant wet weather of the Spring and Fall months, and the consequent high waters.

The bridge will be composed of stone abutments, supporting an arch of wood, constructed in the best possible style of bridge architecture, of one hundred and fifty feet chord. Mr. Joseph P. Shannon, the son-in-law of the justly celebrated and extensively known bridge builder, Mr. Lewis Wernwag, is the undertaker.

Mr. Shannon received his instructions in the art of bridge building from Mr. Wernwag, and at this time avails himself of the full benefit of his counsel and experience. No fears, therefore, can be entertained of the fidelity and permanence of the work. The bridge and small piece of road connected with it, will, it is confidently believed, be completed before the expiration of this year. On this part of the road have been erected 21,543 perches of substantial masonry.

The average cost of the graduation alone of this part of the road, will be per pole, $6,24$\frac{2}{10}$; per mile, $1,997 44.

The average cost of the cover of metal, of six inches in thickness, will be per pole, $6,84; per mile, $2,188 80.

The average cost of the graduation and cover of six inches will be, per pole, $13,08$\frac{2}{10}$; per mile, $5,186 24.

The average cost of the third stratum of metal of three inches in thickness, will be per pole, $5,27$\frac{1}{2}$; per mile, $1,688.

The average cost of the road, with a cover of metal of 9 inches in thickness, exclusive of masonry and contingencies, will be per pole, $18,35$\frac{7}{10}$; per mile, $5,874 24.

The average cost of the masonry of every description, including also the cost of the wooden bridge over Wills' creek, will be per pole of road, $7,20; per mile, $2,304.

The contingent expenditures upon the whole line of road between the Ohio and Muskingum rivers, of every description, amounted on the 30th day of September last, only to the sum of $20,585 88$\frac{1}{4}$. Of this amount, $10,197 11$\frac{1}{4}$ have been charged as applicable to that portion of the road *let* in 1825, and completed in 1827, and a further sum of $2,597 19 to that portion of the road still under operation; leaving as chargeable to that part of the road now under consideration, the sum of $7,791 58, which gives, as its average contingent expenditures, per pole, $1,02$\frac{3}{10}$; per mile, $327,36.

The total average cost of this part of the road, with a cover of metal of nine inches in thickness, the wooden bridge over Wills creek, the masonry and all contingencies included, will be per pole, $26,58; per mile, $8,505 60.

The average cost of the masonry in arched bridges, including also the abutments of the wooden bridge over Wills' creek, will be, on this part of the road, per perch, $2,22$\frac{8}{10}$.

The average cost of the masonry in gothic and common culverts and detached walls, will be per perch, $4,14$\frac{3}{4}$.

It will be observed that the cost of the graduation and cover of six inches, on that part of the road let in 1826, exceeds that of the same items of work let in 1825, $2,11$\frac{45}{100}$ per pole; or per mile, $676,64; and that the cost of the third layer of metal of three inches in thickness, exceeds in cost, that upon the letting of 1825, $1,61$\frac{1}{10}$ per pole; or per mile, $515,32 $\frac{3}{10}$; making a total difference of expense in those items, of $3,72$\frac{43}{100}$; or per mile, $1,191 96$\frac{8}{10}$. This difference was caused by the graduation of the letting of 1826 being much heavier, and the material more inconvenient, than on the letting of 1825. A small advance, too, in the price of labor affected the cost of the work. Indeed it was almost impossible to procure good material for the cover on some parts of the line. The best which could be obtained were procured; and when an inferior quality was used, an extra thickness was required.

The entire road from the west bank of the Ohio river to a point three miles west of the town of Cambridge, is now completed, and under the travel, with the exception of the short section at Wills' creek, before mentioned. It embraces a distance of 52 miles and 104$\frac{44}{100}$ poles. If, to the actual expenditures be added, the estimated cost of the short section, before adverted to, and of the bridge erecting on it, the following results will be furnished, viz:

That the average cost of the graduation, and cover of metal of six inches, on the first 52 miles and 104$\frac{44}{100}$ poles of the road will have been $11,93 per pole, or per mile, $3,817 60.

That the average cost of the 3d stratum of metal on that distance, will have been per pole, $4,39$\frac{1}{6}$, or per mile, $1,405 12.

That the average cost of the masonry thereon will have been per pole, $6,17$\frac{1}{10}$, or per mile, $1,974 72.

That the average cost of the masonry thereon, with the cost of the wooden superstructure over Wills' creek, added, will have been per pole, $6,52$\frac{8}{10}$, or per mile, $2,099 28. This may be called the cost of the bridging.

That the average contingent expenditures thereon will have been per pole, $1,07$\frac{6}{10}$, or per mile, $344,32, or a fraction over four per cent.

The total expenditure on that portion of the road between the Ohio river and a point three miles west of Cambridge, Ohio, distance of 52 miles and 104$\frac{44}{100}$ poles, will have been $400,640 17$\frac{3}{4}$, which gives the average cost of the location, the construction of the road with a covering of 9 inches of metal, reduced to particles not exceeding four ounces in weight, and applied in three successive layers of three inches each, the building of bridges and other masonry, the erection of the large wooden bridge over Wills' creek, and every contingent expense for superintendence, damage to real estate, &c. of $23,92$\frac{6}{10}$ per pole, or per mile, $7,656$\frac{32}{100}$.

The report of the Secretary of the Treasury, communicated to Congress on the 10th day of January, 1827, by the President of the United States, furnishes the following statements, namely:*

1st. The whole expenditure on that section of the Cumberland road, between Cumberland and Brownsville, a distance of 74 miles, being $830,765 03, the average cost for making the road, building bridges, including salaries, &c. was per mile, $11,226 55.

2d. The whole expenditure on that section, between Brownsville and Wheeling, a distance of 56 miles, for constructing the road, building bridges, including salaries, &c. being $879,533 90, makes the average of the cost, per mile, to be $15,705 96.

On the 21st July, 1827, the balance of the line extending to the eastern boundary of the town of Zanesville, being a distance of 20 miles and 136$\frac{6}{10}$ poles, was let, together with the requisite masonry, at fair prices. After the letting, it was supposed that some advantage might result from a change of about seven miles of the location. The work was accordingly suspended until the necessary examinations could be made. Those examinations satisfactorily demonstrated the propriety of the change. One hundred and fifteen poles of distance were abo-

* The Cumberland road between Cumberland and Wheeling, was made by first laying large stones in a trench, and then reducing some upon them to a size to pass through a ring 3 inches in diameter. It was not under the superintendency of Mr. Weyer.

lished, the grades improved, and the expense of construction increased but little, if any. This examination was made at the suggestion of Mr. Knight, the commissioner of location, whose pressing duties further westward denied him the time to attend to it himself. No detriment to the service resulted from the suspension. That portion of the line is now in as forward a state of progress as the other parts.

Last Spring, the main street of Zanesville, embracing a distance of 18 $\frac{96}{100}$ poles, and extending from the eastern boundary of that town to the east bank of the Muskingum, was put under contract; making the whole distance now under operation, and in a state of progress towards completion, 21 miles and 312 $\frac{56}{100}$ poles. On the whole of this distance, in its graded and bridged state, the travel was admitted on the 15th day of last June, and would have been admitted earlier, but for the almost steady rains during the last Winter and Spring. Much material for the cover has been carried to the line, and reduced to the required size; and it is believed that the road may be completed, with a cover of metal of nine inches in thickness, by the 1st of next September. If the last appropriation of Congress had been made in the early part of the last session, this part of the road could have been completed by this time.

Contracts could not be made for the cover of the road, until the funds were apropriated; and as the appropriation was not given until late in the Spring, the contractors lost the Winter months, the usual time of quarrying and hauling the metal.

After the appropriation was made, it was impracticable to procure, prepare, and lay the two first strata of the cover, in time to be sufficiently consolidated by the action of the travel for the reception of the third stratum, before the approach of Winter. It was therefore considered best to defer the application of the cover, until the earth is sufficiently dry next Spring to receive it.

On this part of the line have been constructed eighteen thousand and one-half perches of excellent masonry, for the sum of $32,242 72½, being at an average cost of $1 23½ cents a perch.

For the execution of the work, which must necessarily be done on all newly-constructed roads, such as raking and keeping in place the metal before it has acquired compactness, keeping open and cleaning the side drains, supplying some portions of the cover with small quantities of stone, &c. &c. and for the removal of landslips, the sum of ten thousand one hundred and twenty-five dollars and fifty-eight cents was expended prior to the 30th of last September. More than a moiety of this sum was expended in the removal of landslips, which have been exceedingly heavy, and of very frequent occurrence, during the last year. This expenditure is equal to sixty cents a pole, or one hundred and ninety-two dollars a mile, on the whole line now finished.

The whole quantum of masonry which has been constructed on the line between the Ohio and Muskingum rivers, a distance of 73 miles and 97 poles, is 76,296½ perches, averaging a little over a thousand perches to the mile.

This masonry is continued in forty-two stone arched bridges, in the abutments of one with an arch of wood of 150 feet chord, and in gothic and square culverts, and detached walls. The size of those forty-two bridges are as follows, viz: one of three arches of 50, 40, and 30 feet chord; one of 60 feet chord; five of 40 feet chord each; three of 30 feet chord each; two of 25 chord each; eight of 20 feet chord each; nine of 12 feet chord each; one of 10 feet chord; and twelve of 6 feet chord each.

In the gothic and square culverts, and detached walls, are contained 19,799½ perches. The very expansive quality of the earth, when wet, on the line of the road, rendered it absolutely necessary that the retaining and sustaining walls of the masonry should be of larger dimensions than would have been requisite in the eastern section of the Union. The great height to which the streams rise, and the quantity of drift wood and ice which they float, required an ample provision of vent. Those two causes very largely contributed to swell the amount of masonry greatly beyond what would be necessary on streams of equal width in the eastern part of our country. The inconvenience and certain injury which would result to the community from the stoppage of the mail on one of the most important routes, which, in most places where masonry was required, would be the effect of the abruption of a bridge, was deemed an adequate reason, not only for giving full vent to the stream, but also for building the masonry in the most substantial and permanent manner. A belief is entertained, that this important object has been accomplished, and that the masonry on this line of the road will bear a comparison, in that respect, with that upon any other road within the limits of our Republic.

The road also has been constructed with great care and fidelity on the part of the contractors; and on it, as well as on the masonry, no expense, consistent with propriety and sound economy, has been spared, so that it might be formed of as permanent character as it was susceptible of. With proper attention, it will endure for years to come, with the exception of such portions of it as pass through towns and villages. Those parts are liable to an accumulation of mud from the frequent entry of travel from the side or branch roads, and cannot last long. The cover, indeed, attains such a perfect smoothness, that it is impossible it should wear away rapidly. The traveller prefers the cover to the side roads, which are true and well formed, and they are now becoming covered with grass.

To the graduation of this road, exception, no doubt, will be taken hereafter, when correct views shall prevail. The angles which the road forms with horizontal lines are too great. This opinion has been long entertained, and further reflection and experience has fully confirmed it. The chain is but a very imperfect criterion of distance. Time and burthen are the only correct criteria. It is a problem of easy solution: indeed it is apparent to every one, that low grades not only accelerate the speed, but also give to the power employed much more efficiency. It is evident to the most superficial observer, that, if the road had been very considerably elongated, in order to effect a graduation at angles not exceeding three degrees (and for the maximum two degrees would be better,) the road could be travelled in as short a space of time as it now is, and that the power used could move double the burthen it now can; thus rendering the road, for commercial purposes at least, doubly advantageous. It would, besides, endure longer, and of course the annual expense of repair would be much less. It is highly proper to remark, that Mr. Knight, the commissioner who located the road, fully accords with me in these views.

The Department is aware that a survey and location of this road were made in the year 1820, under the direction of three Commissioners; and that the distance to the eastern boundary of the town of Zanesville, by their location was 74 miles and 173 $\frac{38}{100}$ poles. The distance by the location of that skilful and faithful officer, Mr. Jonathan Knight, to the same point, was 73 miles and 110 $\frac{52}{100}$ poles; showing that Mr. Knight's location was the shorter, by one mile and 63 $\frac{36}{100}$ poles. This of itself would be a sufficient recommendation of his route; but its advantages do not stop here. His location was carried over ground much more favorable for the construction of a road of comparatively easy grade, and on which the traveller can procure water for himself and his animals. The materials, too, for the construction and repair of the road, can in general be obtained more cheaply than on the Commissioners' location. In consequence of Mr. Knight's engagements not permitting him to make those minute examinations which are so important in the final location of road ways, that service was performed by myself; and, although it was done less perfectly than if it had been done by him, nevertheless resulted in a change of several short pieces. The aggregate saving of distance by those changes amounted to 195 $\frac{58}{100}$ poles. The total difference, then, between the location made by the Commissioners, and the road as now constructing, is one mile and 258 $\frac{34}{100}$ poles. It is believed that the expenditure saved, in consequence of this difference of distance, is more than equal to the whole cost of the location and superintendence of the road. The old travelled road is between eight and nine miles longer than the new one.

The preservation and repair of this highly important public work must be an object of anxious solicitude to every citizen, and more especially so to the enlightened Members of Congress. It cannot but be the expectation of every person, that Congress will devise some system for this purpose, before another session of that body passes by. The Legislature of Ohio, at their last session, with a spirit becoming a great State, and with great unanimity, passed an act for the prevention and punishment of injuries committed upon this work. The act like all others on new subjects, is not as perfect as could be desired. It does not require the ministerial and executive officers of the State to take cognizance of violations of it, unless upon the information of other persons. The character of an informer is looked upon as one of baseness and dishonor. Informations are, therefore, few, except by the agents of the road, whose duty it is. Some of those sapient magistrates assume the right of questioning the constitutionality of the law, and hesitate to act when information is given. The stage proprietors, who probably reap more benefit from the road than any other class of citizens, have been in the almost daily practice of injuring the road by locking the wheels of their carriages, in contempt and defiance of the law, under the fallacious pretence that it is impracticable to descend hills in safety, without resorting to that measure.

Their example has had a most pernicious effect, as other persons very justly concluded that if the stage proprietors had the right to do so, they had also, and followed the example. Here, too, the magistrates doubt their right to fine the drivers of the mail stage, and thus the law is rendered almost nugatory. May we not hope that the Legislature will, at their next session, revise this act, and give its provisions more efficiency?

The attention of the Department was called, in my last annual report, to the dilapidated condition of the United States' road, east of the river Ohio. I do not deem it necessary to add to what was then said, except to remark that its progress towards complete and irretrievable ruin has been, since that time, much more rapid than I then expected it would be. Is there not a saving power somewhere, and a disposition, too?

The appropriations of 1825-6-7-8, for the construction of the road confided to my superintendency, amount together to the sum of $595,000; of that sum, $424,853 38 were expended up to the 30th of last September, and accounted for; leaving a balance of $170,146 62 unexpended. This balance will complete the road to the east bank of the Muskingum river, at the west end of Zanesville, and leave a surplus of about $40,000, applicable to the various casualties and incidental expenditures to which all new roads are subject. No further application is therefore necessary for this part of that great and important public work. If Congress should determine on its extension beyond the Muskingum, they will, of course, appropriate such sum as in their wisdom may seem meet. I will, however, be excused for suggesting the propriety of adopting a system of appropriation different from that heretofore pursued; it is this, that an amount equivalent to the total cost of the distance of the road intended to be constructed, be appropriated at once. The necessity of annually awaiting the appropriations retard the work under my management very much: but for that, the road could have been

completed in the course of two years from its commencement. If the whole amount cannot be immediately applied, it need not be drawn from the treasury. An appropriation sufficient in amount for the construction of bridges over the Monongahela, Ohio, and Muskingum rivers, would most certainly be a measure of wisdom. At the two first of those streams, the great western mail is frequently delayed, and its safety often endangered; the traveller impeded in his journey, and his life and property jeopardized. It is believed that the small sum—small indeed when compared with the vast resources of the nation, and great good to be effected by its disbursement is considered, of $175,000, will be adequate to the effectuation of those most desirable and important purposes.

It is due to the various contractors, both of masonry and road work, to state that their conduct has been in general very exemplary. Indeed, both contractors and laborers have conducted themselves with such propriety and correctness, as to challenge a comparison in that respect with those on any other public work. This testimony is borne with great cheerfulness. When it is known that considerably upwards of two hundred contracts of various kinds were made, it will excite surprise to learn that probably not more, if so many, as ten failures occurred. Some of the contractors have not received a sufficient reward for their toils and their labors, in an honorable and useful avocation; but many of them have had their exertions amply remunerated.

The selection of the M'Adam system by the Department was a measure of wisdom, fully proven and established by the success of the work.

Its introduction to the notice of the American people is infinitely more important and beneficial than the construction of the road itself.—It is due to my feelings and to justice, to acknowledge the debt which I owe to your predecessor, Major General Alexander Macomb, for the generous and unwavering support which he yielded to me during his continuance in the direction of the Department; and to say, that, but for him, whatever capacity I had to serve the Government, might have been entirely paralyzed. The great interest which he manifested for that work, and the indefatigable exertions which he made in its behalf, in my opinion, has mainly contributed to its entire success. And, however great and glorious was the victory achieved by his bravery and talents at Plattsburgh, on the ever memorable 11th day of September, I will be pardoned for believing that the triumph which he has gained over prejudice and ignorance in the successful introduction of the McAdam system of constructing roads, will prove in its consequences more signally and lastingly beneficial to this nation.

From the late and present Secretaries of War, and from yourself, sir, since you have assumed the responsible and arduous duties of the Engineer Department, I have received polite and prompt attention to all my communications. I make the acknowledgment with great cheerfulness, and cannot deny myself that pleasure, as this will, in all probability, be the last annual report which I shall make to the Department.

I seize upon this opportunity of introducing to the favorable notice of the Department my assistant, Mr. John S. Williams. To his skill, untiring exertion, and patient industry, the work is much indebted for the fidelity and accuracy of its execution, in all its parts.

I have the honor to be, sir, yours, most respectfully,

CASPAR W. WEVER,
Sup't. U. S. Road.

BALTIMORE AND OHIO RAILROAD.—From the Baltimore Gazette, we learn that the receipts for the current half year will be $92,500 00

District expenses incident to transportation,	38,691 84	
Do. Repairs to the road,	4,500 00	
		43,191 84
		49,308 16

It is proposed to declare a dividend of one dollar per share for the six months, amounting to 40,000 00

Which would leave a surplus of $9,308 16

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, JANUARY 7, 1833.

[COMMUNICATED FOR THE AMERICAN RAILROAD JOURNAL.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of wind.	Clouds from what direction.	Weather and Remarks.
January..1	6 a. m.	30.15	49	S to SSW	moderate	SSW	rain
	10	.13	51	SSW to WSW	"	SW	" —foggy
	2 p. m.	.14	52	WSW	"	WSW	" —cloudy
	6	.15	49		calm		cloudy—fair
	10	.17	47				fair
" 2	6 a. m.	.37	40	NNE	light	NW	"
	10	.43	40	NNE & NE	"	WNW	"
	2 p. m.	.45	43	NE	faint	W	"
	6	.40	42		calm	W by S	"
	10	.40	41			WSW / S by E	"
" 3	6 a. m.	.39	40		"	W	cloudy and foggy
	10	.40	42	S—S by W	light	WSW & W / S	" —fair
	2 p. m.	.33	47	SSW & S	"	WSW&NW / S by W	fair
	6	.35	45	S & SSE	"	NW	"
	10	.35	42		calm		"
" 4	6 a. m.	.28	40	SW	light	WSW	"
	10	.28	42	"	"	"	"
	2 p. m.	.22	52	"	"	"	"
	6	.22	49	WSW	"	"	"
	10	.20	48	"	"	"	"
" 5	6 a. m.	.10	48	"			"
	10	.05	54	"	"		clear
	2 p. m.	29.99	57	"	"	SSW	fair
	6	.98	54	"	"	SW	"
	10	.97	53	W	moderate	SSW	"
" 6	6 a. m.	.92	50	"	"		" —light shower—eclipse of the
	10	.80	54	"	light		fair [moon at 2–4 o'clock
	2 p. m.	.73	56	"	"	W	cloudy
	6	.71	53	WSW	"	SSW	"
	10	.72	52	"	"	SW	"
" 7	6 a. m.	.81	45		moderate	"	"
	10	.87	42	NW	"	NW	"
	2 p. m.	.90	42	"	fresh	W by S	fair
	6	.93	37	"	"	"	"
	10	.98	34	"	"		"

ELECTRICAL TELEGRAPH.—The following communication was handed to us by an intelligent foreigner, now in this city, relative to the transmission of intelligence between commercial cities, as New-York and Albany, or New-York and Philadelphia—for instance, by means of Electricity. He has also explained to us his proposed plan of communicating or receiving intelligence between any two given points, however distant, almost instantaneously. The *principle* is by no means new; but the *application* of it to this important purpose has not been, that we are aware of, attempted by any person before. The inventor, Mr. Borch, of St. Croix,—who has, as he informs us, secured a patent for his invention,—thinks it may be applied with great ease to long lines of Railroad.

To the Editor of the American Railroad Journal:

SIR,—On the principle that the electric fluid can, by the means of an insulated conductor, be conveyed to any distance instantaneously, and that where there is any small opening in the conductor a spark will appear, which principle has been proved or established by numberless experiments. I have discovered a mode by which an instantaneous and reciprocal communicator of any intelligence from one place to another, at any distance, may be made.

G. V. BORCH.

P. S. This communicator might especially be of great use in railroads.

[For the American Railroad Journal.]

FOOT RAILROADS.—Those inventions are the most important which enable all classes of society to make the best use of their personal strength. Railroads for the use of individuals, like a foot path, will do this. Stages, steamboats, and railroads for steam and horse carriage, will never do half the conveyance of passengers and goods over the country. Large railroads must necessarily be confined to great channels of communication: they require too great capital to be extended to every village.—It is stated that to move a weight of a ton on a level railroad requires but the strength that is requisite to raise up eight pounds over a pulley. To move 500 lbs. on a level railroad, would require then only the strength necessary to raise up 2 pounds over a pulley. Carriages of about the weight of a wheel-barrow, or less than fifty pounds, might be made for what I shall call a foot railroad. Probably the families that go to country stores, do not carry generally more than 100 lbs. weight; and most commonly they do not carry more than 50 lbs. But suppose that it is 100; then there is a carriage of 50 and a load of 100 lbs. The force required to move this on a level railroad, will be only a small fraction more than that required to raise half a pound over a pulley. And then there is level path to walk on. If there are departures from a level, some more strength must be exerted at the ascending planes; but then the traveller can rest on his carriage at the descents. In fact, according to the principles of mechanics, as easily as a man of 140 pounds weight can travel up a hill 50 feet high, he can move forward a load of 280 pounds a mile and a quarter on a level railroad. It will appear then, that foot railroads will be a vast public benefit: an advantage not to the rich only, but chiefly to the laboring classes.

PUBLICOLA.

PHILADELPHIA AND TRENTON RAILROAD.—We learn that the whole of the grading and all the bridges, on the line of this road, are placed under contract, that the work is to be commenced immediately, and that it will be perseveringly and vigorously prosecuted.

We believe the doubts of many citizens, as to the expediency of a Railroad running so nearly parallel with the Delaware river to Trenton, are pretty generally removed. In the season of the year, when travelling and transportation between the two cities is greatest—the communication by steam is usually totally prevented, in consequence of ice. The great length of last winter, which for several months closed the navigation of the river, and the enormous extent of carriage, convinced the most skeptical of the necessity of such an improvement as the one which is about to be commenced. When completed, it will be the most direct, sure and expeditious route between the two cities; its location entirely obviating all the objections which will operate against the other routes, crossing the river where there are no bridges. The difficulty of crossing the Delaware, when frozen over, will be an insuperable objection to the Bordentown and Amboy Railroad, and the Trenton route will receive the preference from travellers, as well as for the transportation of merchandize.

This Railroad will be of considerable importance to the citizens of Bucks County, passing as it does through the most wealthy and densely populated extremity; adding greater facilities to the already superior advantages which the citizens residing on the borders of the Delaware have, in their intercourse with Philadelphia.—[Bucks Co. Intelligencer, Dec. 24.]

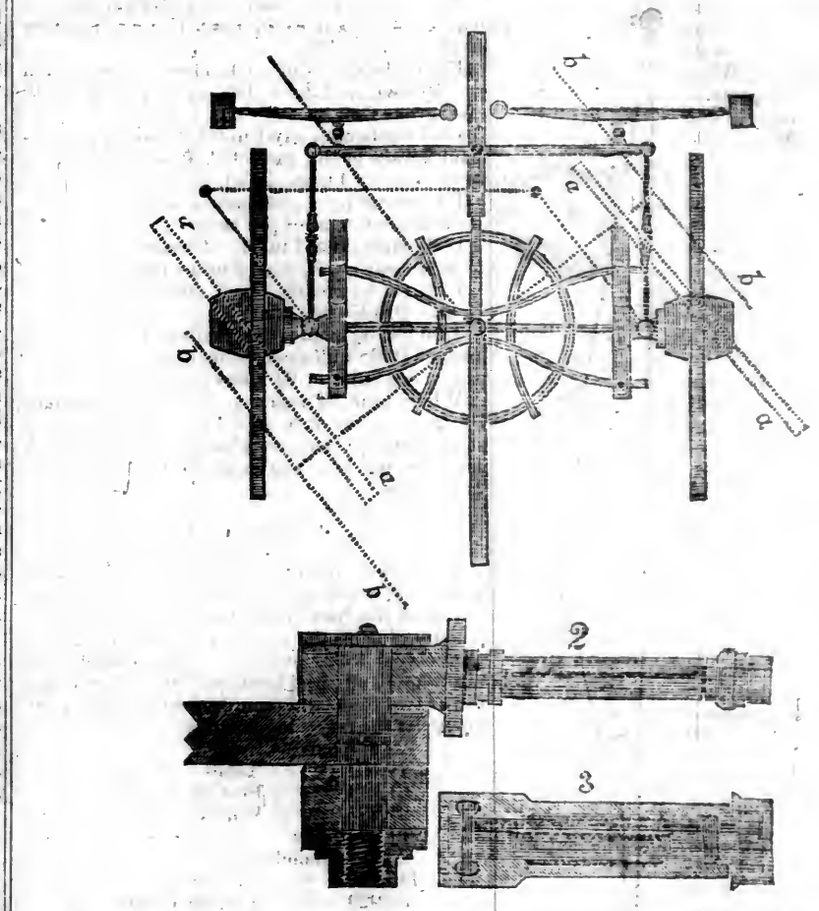
THE RAILROAD.—It gives us great pleasure to inform our readers that the Railroad is now finished and in complete order, from the Depot at North Spring to Belfield, a distance of forty miles. A party of our citizens, accompanied by several Members of the Legislature, made the first trip between the two places on Tuesday last; and we understand that there was an universal expression of admiration, elicited as well by the beauty and substantial construction of the work, as by the conviction of the superior facility and safety which this mode of transportation possesses over all others. The return trip from Belfield to North Spring, was performed in about *two hours*, deducting the time lost in the several stoppages. To those who have not yet had an opportunity of personally observing the facilities of this method of travelling, it may not be amiss to say, that the party above mentioned breakfasted in Petersburg, dined and spent part of the day at Belfield, and returned to town before dark, thus traversing a distance of 85 miles without the least fatigue.

It is expected that the section of the road between the town depot and that at North Spring, will be completed by the 1st of February next.—[Petersburg Intelligencer, Jan. 1.]

THE LACE BARK TREE (Lagetta lintearia) grows in the high rocky hills of Jamaica, to the height of 20 feet; the bark is thick, and may be separated into 20 or 30 laminæ, white and fine like gauze; of this caps, ruffles, and even whole ladies' suits of clothes, have been made.

[*From the London Mechanics' Magazine.*]

MASON'S PATENT IMPROVEMENTS IN LOCKING THE FORE WHEELS OF FOUR-WHEEL CARRIAGES. *Communicated by the Inventor.*—It has long been acknowledged, that the present mode of locking the fore wheels of four-wheeled carriages from the centre is very unsafe, and many times the cause of serious accidents. This arises from both the fore wheels being fixed or mounted to the same axletree; the consequence is, that when wheels so attached are locked, the fore wheels form little more than three bearings or points of support, from which circumstance four wheel carriages are very liable to be overturned. Another great inconvenience is produced by the fore wheels so attached to the axletree being of necessity made much smaller than the hinder ones, causing thereby a very great increase in the draught; and if such wheels are increased in diameter, it can only be by allowing the body of the carriage to be placed much higher, which makes it both unsafe for use and inelegant in appearance.



In W. Mason's patent improvements on four-wheel carriages, the fore wheels may be made very nearly or quite as large as the hinder ones, thereby reducing the draught in a very considerable degree, and giving greater ease to those who travel in such vehicles, for it must be evident, that the smaller the wheels are, the more likely they are to fall into the inequalities found in the surfaces of roads, and thereby to cause jolting and very unpleasant motion; but in the improved mode herein submitted, these inconveniences are avoided, and the body of the carriage is also hung much lower, and in consequence it is more convenient to enter in and get out of; the appearance in point of elegance, is also much improved

The principal advantages arising from the improvements herein submitted are as follow:

Firstly, instead of both fore wheels being mounted upon one axletree as usual, each wheel is mounted on an arm, which arm is joined to the end of the fixed axletree, by which means each wheel locks so near its own centre, that a 3 feet 6 inch wheel will only run back one inch and a half when locked to the utmost extent required. Wheels thus mounted can never be placed under the body of the carriage, as they are in the usual manner, when locked from the centre, by which means the carriage is, in many instances, placed on three points of bearing only, from which cause so many accidents occur by the overturning of carriages, when the fore wheels are locked; but in the improved construction, the fore wheels when locked, never pass under the body, but always, and in every position, present four points of support, even when locked to the utmost extent.

The dotted lines *a*, Fig. 1, represent the axletree and wheels, with the new and improved method of locking them. The old method, of turning upon a pin or bolt in its centre, is shown by other dotted lines *b*.

Secondly, by fixing the axletree in the centre, between the spring-bed and the horn-bar, the distance between the wheels is reduced, without diminishing the length of the upper carriage; by which arrangement the body will hang in a better and more elegant position.

Thirdly, by increasing the height of the fore wheels, and making them very nearly the diameter of the hinder ones, the unpleasant jolting that is produced by the present small fore-wheels will be avoided; it being a well established fact that the larger any carriage wheel can be made, the less will it be liable to fall into the inequalities of the roads over which it passes, and from which cause so much unpleasant motion is produced. To this advantage may be likewise added the great reduction in the draught; which, with wheels so nearly equal in diameter, will be little more than half what it is in the old construction. while the beauty of a carriage constructed in this improved manner will be greatly increased; small fore wheels at all times producing a vacant appearance when viewed externally.

Fourthly, by fixing the swinging bars on joints, the draught of the horses are equalised at any position; and in turning, each is always kept tight.

Fifthly, these improvements can be applied to any four wheel carriage without altering the hind part.

New contrivances for oiling the wheels and joints are also introduced, by which means carriages will run many thousand miles without oiling. These will be sufficiently understood by references to Figs. 2 and 3.

Fig. 2 is an elevation and section of one of the improved arms and joints by which it is connected with the axletree.

Fig. 3, section of the improved box. Both the arm and the joints have cavities in their centres to contain oil, which passes through a side hole in each, to lubricate the box, the arm, and the joint, and one oiling will last for years.

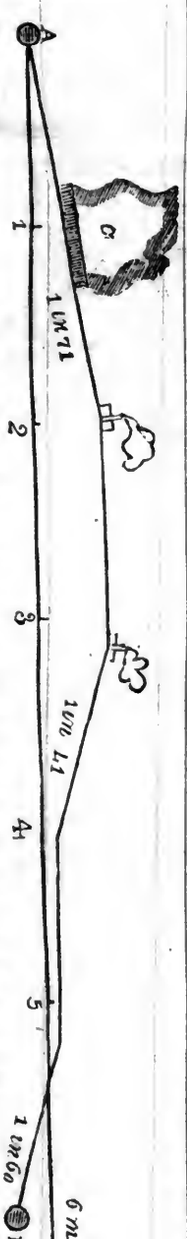
W. M.

[*From the London Mechanics' Magazine.*]

CANTERBURY AND WHITSTABLE RAILWAY.—Sir: the following account of some experiments recently made on the Canterbury and Whitstable Railway, may perhaps be acceptable to many of the readers of the Mechanics' Magazine.

Yours, &c. F. W.
Ely-place, Jan. 7, 1832.

Section of the Railway.—The accompanying sketch represents a section of the railway between Canterbury (A) and Whitstable (H) a distance of six miles; C, an eminence, under which the railway is carried by a tunnel.



*Experiments.**—General Particulars.—Rails of iron, wrought, in lengths of 15 feet, and 5 feet apart. Cast-iron chairs secured to oak sleepers; width of top bank, 10 feet. Two stationary engines, of 25 horse power, and high pressure; one locomotive engine, on Stephenson's principle, of 10 horse power; rope roll 5 feet long, between flanches, and 4 feet diameter; length of planes 3300 yards; the first part, consisting of 1320 yards, rises 1 in 71, the remainder or 1980 yards, rises say 1 in 80; sheaves 137, 10 inches diameter, 24 feet apart; rope 1¼ inch diameter; work 12 hours per diem. The stationary engines consume each 1 chaldron of coals, or 120-89 lbs. per horse power, or 1-44 bushels of 83.44 pounds.

Journey from Canterbury to Whitstable.—The loaded wagons contained (according to information which I received) 40 tons weight, in sacks of flour, &c.

Distance.	Time.
¼ of a mile	3 min.
¼ - -	3 min.
¼ - - -	2 min.
¼ (thro' tunnel,)	4½ min.
½ a mile -	2½ min.
¼ - - -	2½ min.
¼ - - -	1¼ min.

Total, 18¾ min. 1.875 miles in 18 min. is at the rate of 6 miles per hour.

Next length—1980 yards nearly level; engines, sheaves, &c. as before.

Distance.	Time.
¼ of a mile	2½ min.
¼ "	2¼ min.
¼ "	2¼ min.
¼ "	2 min.
¼ "	2 min.

Total, 11 min., at the rate of 6.136 miles per hour.

Next plane— one mile, or 1760 yards, fall 1 in 41. Loaded wagons (above weight) drawing out rope after them, 5 min. = 12 miles per hour.

Next 1760 yards level; Stephenson's locomotive engine, 10 horse power; height of chimney from ground, about 15 or 16 feet; 13 min. at the rate of 4.61 miles per hour.

Next plane descending, curved laterally 1760 yards, 6 min. = 10 miles per hour.

Total distance 6 miles, at the average rate of 7 miles per hour, exclusive of stoppages. Time, including stoppages, 1¾ hour, or less than 3½ miles an hour, 51¼ min. stoppages.

Journey back to Canterbury.—Eight wagons with two boxes to each, about 15 cwt. including 4 wheels, total 120 cwt.

Eight chaldrons of coal, about 27 cwt. each = 216 cwt. + 120 = 136 cwt. or 16 tons 16 cwt. gross weight.

1760 yards rise, say 1 in 60. Four large powerful horses at the rate of 2.60 miles per hour = 23 min. = 4 tons, 4 cwt. each horse.

1760 yards level; locomotive engine, 7½ min. at the rate of 8 miles per hour.

1760 yards, rise 1 in 41. Engine stationary, 25 horse power, 7½ min. 8 miles per hour.

1980 yards, nearly level, stationary engine, 7½ min. 9 miles per hour.

3300 yards, plane descending 1 in 71. 10 min. = 10.68 miles per hour, exclusive of stoppages, 55½ min. or 6½ miles per hour.

Whole time of journey, including stoppages 70 min. at the rate of 5.14 miles (14½ min. stoppages). Cast iron chairs, secured to oak sleepers, width of top bank 10 feet. Sheaves, 24 feet apart. F. W.

* The distances and times were taken by myself; the slopes or inclinations, weights, &c., were furnished to me by persons employed on the work

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CANAL COLLECTOR'S OFFICE,
Albany, Dec. 24, 1832.

The whole quantity of down freight, upon which toll is charged by freight, that was conveyed on the New-York Canals to the city of Albany, during the season of canal navigation in the year 1832, amounts to one hundred and nine thousand three hundred tons, estimating a ton at two thousand pounds, and consists principally of the following articles:

422,695	barrels	Flour
19,091	"	Ashes
21,274	"	Beef and Pork
21,285	"	Whiskey
1,274	hhds.	do.
23,117	bushels	Salt
145,960	"	Wheat
57,929	"	Coarse Grain
151,014	"	Barley

Also, the following property, upon which toll is not charged by weight: 15,224 cords of Wood, 55,569 feet of solid Timber, 36,020,594 do. sawed Lumber.

The quantity of Merchandize, &c. that was conveyed on the Canals *from* the city of Albany was forty-six thousand seven hundred and ninety-one tons, and the amount of toll paid thereon at this office is two hundred and thirty-six thousand six hundred and twenty-eight dollars. The number of boats that arrived at and departed from Albany is thirteen thousand five hundred and twenty-one.

JOHN B. STAATS, Collector.

[*From the Miner's Journal.*]

COAL TRADE.—We have laid before the public some statistical information respecting certain branches of the Coal trade, including a view of the capital invested and labor employed in the business of mining and transporting to market the amount of the annual exportations of this mineral from this region. We have not entered into any calculation relative to the cost or value of the very expensive improvements incident to mining establishments. Neither have we said any thing concerning the lands themselves, whence our supplies are derived. The whole number of miners, laborers, horses, cars and boats employed, together with the respective wages of the two first, and original cost of the latter, is comprehended in our statement, without any reference to other collateral subjects which might be introduced. The amount of coal exported from this region during the season which is just ended, is equal to two hundred and four thousand tons. If sufficient encouragement by early purchases is afforded to the industry of the miner and laborer, this quantity may be indefinitely increased, in a ratio at least equal to any future demands. No one in any degree acquainted with the extensive resources of this region will for a moment question the truth of this proposition. The natural capacity of our mountains to supply the article is literally boundless—the means of exportation adequate—the industry of our population greater than any requisitions that can be made upon it. An example afforded by a single locality will illustrate our meaning. On the West Branch rail-road there are 325 cars, belonging to thirty colliers. Contracts have been already made for supplying 100 additional cars. Without including other cars than those which are already on hand or positively engaged, we will commence our calculation by stating that each car will carry two and a half tons of coal. Allowing only one trip per day, while many very frequently make two, the sum total would equal 1000 tons per day, or 6000 tons per week. Estimating a period of 30 weeks for active operations during the season, the aggregate quantity would amount to 180,000 tons, almost thrice as much as is required for the annual supply of New-York. This is a very moderate statement of what can actually be accomplished by one-third of the coal region. Should the backwardness of purchasers and contractors suffer a considerable portion of the season for active operations to elapse without making provision, our calculation may be verified—but the fault will not be ours.

Of the above mentioned 204,000 tons of the coal shipped from this region, there passed down the West Branch railroad - 67,059
Mount Carbon, - - - 57,234
Schuylkill Valley, - - - 27,981*
Mill Creek, about - - - 30,300
Total - - - - - 182,574

The balance of the 204,000 tons was mined on the line of the canal in this vicinity.

One miner can mine 1½ tons of coal per day—say that he works 5 days in the week, and 45 weeks in the year, this will make 225 days; to mine 203,000 tons of coal will require in round numbers 600 miners. It will require as many persons to haul out, skreen, and convey the coal to the landings, making openings, &c. as it does to mine the Coal—therefore say 600 laborers.

The West Branch railroad is about 12 miles long—the average distance of hauling thereon about - - - - 9 miles
Mount Carbon railroad 4 miles, do do 3 do
Mill Creek railroad 4 miles, do do 3 do
Schuylkill Valley do 10 miles do do 5 do
—20

Average distance (say 5 miles)—one horse hauls 4 wagons, and makes two trips per day—each wagon averaging 1¾ tons—will make 14 tons for each horse per day—multiplied by 225 days, gives 3150 tons to each horse—which divided into 203,000, gives 65 horses. It requires an equal number of horses to haul the coal out of the drifts—say 130 horses.

To carry this Coal to market it requires about 400 boats—400 horses—and two men and one boy to each boat—making 1200 men and boys on the line of the canal. Total, 2400 persons and 530 horses actually engaged in mining the above coal and conveying it to market.

There are on the West Branch Railroad in use 325 cars, Mount Carbon 150, Mill Creek about 200, Schuylkill Valley 230—total 905 cars.

The cars on the West Branch and Mount Carbon railroads cost on an average $90 a piece—and those on the Mill Creek and Schuylkill Valley cost about $50 a piece—which would amount to - - - - $64,550
400 boats at $500 each - - 200,000
530 horses at $40 each - - 21,200
600 miners at $7 each per week - 189,000
600 laborers at $6 do do 162,000
1200 boatmen at $5 do for 32 weeks 192,000
Active capital - - $828,750

RECAPITULATION.

Miners - - - - -	600
Laborers and boatmen - -	1800
Total - - - -	2400

* There also passed down this road 33,470 shingles and 628,092 feet of boards.

Horses - - - - - -	530
Cars - - - - - -	905
Boats - - - - - -	400
Active capital - - -	$828,750

Price of Fuel in New-York, Dec. 18, 1832.

COAL.

	Cargo.	Retail.
Liverpool, per chaldron, -	$11 50	$13 50
Sydney do - -	9 50	10 50
Virginia do - -	9 00	10 00
Schuylkill, per ton - -	9 50	11 00
Lehigh do - -	9 50	11 00
Lackawanna, do - - -	9 50	10 00

WOOD.

Hickory, per load, (¼ cord) -	$2 50 *a* 3 00
Oak do - - -	2 00 *a* 2 25
Ash do - - -	2 00 *a* 2 25
Pine do - - -	1 50 *a* 2 00
Chesnut do - - -	1 37 *a* 1 50

The following is the quantity of Coal sent to market in the years 1831 and 1832, as near as can be ascertained, in round numbers:

	1831.	1832.
Schuylkill - -	81,000 tons	204,000
Little Schuylkill -		14,000
Lehigh - -	43,000	76,000
Lackawanna -	53,000	85,000
	177,000	379,000
The consumption last year, as near as can be ascertained, was		227,000
		152,000

Showing an increase over the consumption of last year of 152,000 tons, and over the supply of the same year of 202,000 tons.

AGRICULTURE, &c.

(*From the New-York Farmer.*)

PUBLIC ATTENTION TO THE MANUFACTURE OF SILK.—The editor of the New England Farmer, after approving of a petition to the Legislature of Massachusetts for a bounty on Mulberry Trees and Silk, inserts the following letter from a lady. Miss Parmentier, of Brooklyn, had her cocoons spun in paper, rolled in the shape of a sugar-loaf, and pinned upon a board or other convenient article: a paper for each worm.—[ED.]

A lady who prohibits our making her name public, after some inquiries relative to obtaining some of Mr. Derby's Durham short horn cows, says, "I regularly seek for more information on the silk culture, and wish much to obtain such knowledge of the improved method of accommodating the worms with mounting frames, instead of the old fashioned custom of oak branches. I began last summer the work of feeding the worms, and, aided by Mr. Cobb's Manual, and the work of Dr. Pascalis, produced twelve bushels of cocoons. But after obtaining the reel from Mr. Cobb, was not able to find any one here to reel it, and have reason to fear have lost all the silk by not having it reeled in proper season.

"I am so well convinced of the value of the mulberry tree that I have lately set out 3000 trees of three and four years old—part at regular distances, and part thick in fences—being anxious to improve the little spot of land about my house (22 acres) I have also set out 3600 of the best orchard trees of grafted fruit, and about two thousand grape vines of the best sort for wine, with a large portion of native or wild vines, to see what may be done with land well stocked, well planted, and well tilled.

"The plate of the mounting frame for the silk worms in Dr. Pascalis' book is not such as any common carpenter can make them by. If in Philadelphia, or elsewhere, you can obtain the best mode of superseding the branches of trees, which spoil the floss, and require much labor to pick, you will do the silk culturist an important service; and during the season of leisure is the time for preparing for the next summer. I visited Mansfield, in July, when they were feeding the worms, with the hope of seeing the best improvements, but found the old way was still practised. I have no doubt that if there was an agent in this city, [New-Haven,] for the purchase of cocoons, or the silk reeled according to the improved reel, many families among the industrious classes would avail themselves of it. But during the last silk season I had many persons bring a few hundred, or a few pounds of unreeled silk to me to try to dispose of their labor, but I was unable to find a market *here* for my own; and for this cause, I heard several say that they would never have any thing more to do with silk. I am induced to name this circumstance to you, sir, in hopes that it may be in your power to remedy the evil and promote the cause. There must be a market open for all produce at the place, for small farmers cannot afford to send it to a distance. * * * * * *

"My natural love of rural occupations has induced me to build my cottage out of the city, where I prefer the hum of the bee to the rolling of wheels, and to converse with Dame Nature at early dawn, when her school room opens to give instruction to her children."

By the Editor.—We are under great obligations to the lady who favored us with the above remarks; and should be happy if some friend to American industry, who has a practical as well as theoretical acquaintance with the manufacture of silk, would oblige us with such directions as might meet the wishes of our correspondent. P. S. Du Ponceau, Esq. of Philadelphia, in a letter to Gen. Dearborn, published in the New England Farmer, vol. ix. pp. 57, 58, says, "I have discovered that we have in this country, from England, France, Germany, and other places, manufacturers of silk of almost every description. We have silk throwsters, silk dyers, silk weavers, silk manufacturers, all but good reelers, without which the labor of the others must be at a stand. These then are all waiting for employment, some of them in very poor circumstances. All we want is the art of reeling, and every thing else will follow. As to mulberry trees and silk-worms, let but a good price be given for the cocoons, and they will be produced as if by magic. *Every thing, as the silk brokers say, depends upon good reeling.*"

Rearing of Sheep and Lambs, particularly the Merino Breeds. By MR. S. LYMAN. To the Editor of the New-York Farmer.

GOSHEN, CONN. October, 1832.

SIR,—I have had the pleasure of seeing several numbers of the "New York Farmer and Horticultural Repository," and I am much pleased with the design and execution; I am likewise gratified with seeing the recent establishment of the New York State Agricultural Society; it cannot fail of being extensively useful, as your object is not only to stimulate farmers to use the best means to improve their lands, and obtain the best stock, but to give the public the benefit of their experience and success.

A writer in the March number, speaking of the rearing of sheep and lambs, requests every Farmer who has had good success to trace the cause and make it known to the public. It has been a part of my business for the last twenty-five years, to raise sheep, particularly the Merino and Saxony breed.

As my success has been far beyond my expectation, I am induced to think myself fortunate in hitting upon the cause.

My practice during the summer months, is to give my flocks a sufficiency of pasture to keep them in good heart, but not to have them become fat. To do this, I find it best to change them once in twelve or fifteen days, keeping the feed short but fresh, and frequently salt them. In the month of October lessen the flocks, so as not to have more than fifty or sixty together; put them into pastures reserved for the purpose, where the feed is rather better than where they have been kept. By this means they will soon begin to gain, so by the beginning of winter they will be in a thriving condition; then, by plenty of good hay and water, continuing the salting when the weather is moderate, I have been able to keep them in good condition. Two or three weeks before yeaning time, they ought to have plenty of rowen hay; if this cannot be had, let them have the best of English or clover hay, and be fed with turnips or potatoes three or four times a week, and they will usually have plenty of milk, which I consider the *great secret* of raising lambs. Agriculturists know that ewes go with young about one hundred and fifty days. When the time comes for them to yean, they require the strictest attention. They must be kept in warm places, well littered, and the lambs assisted to suck as soon as they can stand; any further assistance is rarely necessary, provided the ewes own their lambs, but this is not always the case. Some ewes will have their lambs and take no further notice of them; if so, they must be put together in small pens, the ewes tied, and the lambs assisted often to suck; in a few days the ewes will be fond of them, when they may be untied, and there is no further trouble. I think it important to have sheds, open on one side, that the sheep may go under during storms or very cold weather. Always keep the yards well littered, and in this way they make large quantities of manure.

I do not think it best for them to ramble much after the winter sets in, and it becomes necessary to feed them, for it seems to take away their relish for hay, and they will most surely lose flesh. I have thus given an outline of my plan, I will now state the result of my success. I have repeatedly raised one hundred lambs without losing one; and one year I raised one hundred and sixty, and no ewe that had a lamb failed rearing it.

In a few cases ewes lost their lambs, and twin lambs were substituted in their places. The ewe was made to receive the lamb by rubbing the dead lamb all over it, and tying the ewe in a small pen, often assisting the lamb to suck, and a few days will be sufficient to make her receive it as her own. If you think these remarks are worthy a place in your paper they are at your disposal. Yours, &c. S. LYMAN.

THE CRANBERRY is a native of New-Holland, Europe and America: it grows spontaneously in the flat sandy, and in some of the mossy bogs in this country. At Sandy Neck, on the north side of Barnstable harbor, are quite extensive tracts covered with the wiry vines of the cranberry, and are estimated to produce in favorable seasons one thousand bushels of fruit. The cranberry grows most luxuriantly in soils composed almost wholly of beach sand, where water, at all seasons of the year, can be obtained a few inches below the surface. It can be profitably cultivated. A particular account of the method pursued by Mr. Henry Hall, of Dennis, was some time since given in this paper. He has been engaged in the cultivation of this fruit upwards of twenty years, and his grounds have averaged about seventy bushels per acre annually. Mr. Hall practiced taking the plants from their natural situations in autumn, with balls of earth about their roots, and setting them 3 or 4 feet distant from each other. In the course of a few years they spread out, and cover the whole surface of the ground, requiring no other care thereafter, except keeping the ground so well drained as to prevent water from standing over the vines. The cranberry may be propagated from the seed. It should be planted in autumn, as soon as the fruit is ripe, and a year afterwards the plants may be transplanted to the situations where it is intended for them to grow. There are many situations in this country, and we doubt not in every part of England, well adapted to the profitable cultivation of the cranberry. Grounds that are overgrown with fine rushes or moss, may be rendered suitable, by spreading over a suitable dressing of beach sand previously to transplanting the vines.—[*Barnstable Journal.*]

HOME AFFAIRS.

Mr. *Calhoun* has resigned the Vice-Presidency, and takes his seat as a Senator. This the first time in our history, that either of the first two offices of our Government has been vacated before the constitutional period.

CONGRESS.

In the SENATE, on 3d inst., Mr. Kane, from the Committee on the Public Lands, to whom had been referred the bill to appropriate for a limited time the proceeds of the sales of the public lands, and granting lands to certain States, reported the same with an amendment, striking out all after the enacting clause, and inserting, in lieu thereof, a proposition for the reduction of the price of the public lands, &c. On motion of Mr. Clay, the bill and amendment, was made the special order of the day for Monday next. Mr. Silsbee introduced a bill to explain and amend the 18th section of the act of July last, "to amend the several acts imposing duties on imports," which was read twice and committed. Mr. Benton introduced a bill to increase and regulate the pay of the Medical Staff of the Army, which was read and ordered to a second reading.

In the HOUSE OF REPRESENTATIVES, Mr. Verplanck, from the Committee of Ways and Means, reported a resolution ordering that, on and after Monday next, the House will, at one o'clock of each day, go into the consideration of the bill to reduce and otherwise alter the duties on imports, until the same shall be disposed of. By the rules this resolution should lay one day on the table. Mr. Verplanck moved to suspend the rules that it might be acted on without delay. Upon this question the yeas and nays were—Yeas 106—Nays 77.

Two thirds not voting in favor of the motion it was lost, and the resolution lies on the table until to-day. The resolution of Mr. Everett, for inquiring into the expediency of reducing the rates of postage then came up. Mr. Cambreleng offered an amendment, when Mr. Polk moved to lay resolution and amendment on the table, which was carried, Ayes 90, Noes 89. The bills reported on the preceding day from the Committee of the whole on the state of the Union, were then ordered to be engrossed, excepting the bill providing for the exemption of merchandize imported under certain circumstances from the operation of the act of May 1828, upon which an animated debate arose, in which Messrs. Wickliffe, Dearborn, Hoffman, and Ingersol, took part. Before the question was taken upon the engrossment of the bill, the House adjourned.

In the SENATE, on 4th inst., the Hon. John C. Calhoun, of South Carolina; and the Hon. William C. Rives, of Virginia, appeared, when the usual oath to support the Constitution of the United States was administered to them and they took their seats. The Hon. George A. Waggaman, of Louisiana, also attended. Mr. Dallas, from the Committee on Naval Affairs, reported a bill to increase and regulate the pay of the officers of the Navy, which was read and ordered to a second reading. The bill to provide for the continuation of the Cumberland Road from Vandalia, in Illinois, to Jefferson City, in Missouri, was taken up, and considered in Committee of the Whole Mr. Benton moved an amendment, providing for the continuation of said road to the frontiers of the State of Missouri. After a short discussion, the bill was laid on the table.

In the HOUSE OF REPRESENTATIVES, several bills were reported by the Standing Committee. The resolution reported on the previous day, on the consideration of the bill to reduce and otherwise alter the duties on imports, came up; but after some trifling debate, the hour allotted to morning business having elapsed, various other bills heretofore ordered to be engrossed, were read a third time and *passed*.—The residue of the day was devoted to private bills.

The Senate did not sit on Saturday.

In the HOUSE OF REPRESENTATIVES, after various petitions had been presented, Mr. Ellsworth, from the Judiciary Committee, reported a bill to revive and continue in force an act providing for the reports of the decisions of the Supreme Court. which was read twice. Mr. E. moved that it be engrossed for a third reading. The Speaker decided that the bill came within the rule, which provided that every proposition for a tax or charge upon the people, shall receive its first discussion in a Committee of the Whole House. Mr. Adams appealed from the decision of the Chair, upon which a prolonged discussion took place. The decision of the Chair was affirmed —ayes 162, noes 14. The residue of the sitting was devoted to private bills.

THE GOVERNOR'S MESSAGE TO THE LEGISLATURE OF NEW-YORK.

Fellow-Citizens of the Senate and the Assembly:

In reviewing the condition of the State since the last annual meeting of the Legislature, we have cause to be thankful that all the sources of our prosperity continue undiminished. The labor of our citizens, in every department of industry, has been rewarded with a generous return; our harvests have been abundant, our manufactures flourishing, and our internal commerce growing in activity and extent. It has usually been the grateful duty of my predecessors, in adverting to the occurrences of the preceding year, to acknowledge in their annual messages a large measure of public health, as one of the blessings which the Sovereign Ruler of Nations had vouchsafed to the People of this State. But during the past season he has, doubtless for wise purposes, permitted a malignant disease to ravage our principal cities and villages, and to sweep away many thousands of our fellow citizens. It becomes us as dependent beings, sharing largely in his bounties, to submit with humble resignation to all his afflictive dispensations. Considering the many millions of the human family who in Asia and Europe had fallen victims to this epidemic, its appearance among us was naturally regarded as one of the greatest calamities. But we have reason to rejoice, although our appehensions of its destructive power were during its prevalence fully realized, that the period of its duration was so brief, and that it has now ceased to exist within this State. Whether it shall return to renew its work of destruction, and clothe our land in mourning, must depend upon the sovereign will of Him who holds in his hands the destinies of mankind. As guardians of the public health, it is your duty to prevent, as far as it can be done by human agency, the re-appearance of this fatal scourge; and, in the event of its return, to mitigate its severity and circumscribe the sphere of its ravages. The act relative to this subject, passed at the last session of the Legislature, as to some of its important provisions, will expire on the first day of February next. The propriety of continuing those provisions, with such additions and modifications as experience has suggested, is respectfully submitted to your consideration.

Our penitentiariary establishments have heretofore received, as they certainly deserved, the peculiar regard of the Legislature. To such institutions philanthropists have long looked for a diminution of human sufferings, moralists for a check to human depravity, and statesmen for a valuable improvement in the affairs of government. The results anticipated from this system, were the almost entire abolition of sanguinary punishments, the reformation of delinquents, the decrease of crimes, and the relief of the public, to a great extent, from the onerous burdens of supporting those who by a violation of the laws, should forfeit the rights and privileges belonging to obedient citizens, and render themselves unworthy as well as unsafe members of society. In some considerable degree these anticipations have been realized. Your benevolent feelings will come in aid of your sense of duty to urge you on, to do whatever yet remains to be done to improve the system, and make it subserve, as far as practicable, the beneficial ends for which it was instituted.—The full consideration which this subject received from my immediate predecessor, and the sound views and wise suggestions, not only in relation to the State Prisons, but to subordinate establishments contained in his annual messages, render it, as I conceive, unnecessary to enlarge upon these topics. There is also another reason which induces me to abstain from them at this time. At the last session of the Legislature, the House of Assembly appointed a committee to visit the State prisons, to examine the manner in which their accounts are kept and their affairs conducted, and to report the result to the Legislature. This examination has been made; and you may expect, at an early day in the present session, a report which will furnish such information as you may require to guide your legislation on this interesting subject.

In the course of the last summer, the epidemic cholera made its appearance in the prison at Mount-Pleasant, and prevailed there for about forty-five days. The number of cases was three hundred and seventy-six, and the deaths one hundred and three. On receiving notice of this event, the Executive, with commendable promptness, repaired to the prison, in order that the most efficient assistance should be given to the sick, and the best measures taken to check the ravages of the disease, and abridge the period of its duration.

I am not aware that the prevalence of the epidemic in this institution has indicated the necessity of any further legislation in regard to our penitentiary establishments, except the adoption of a provision excluding, for a proper period, all convicts coming from places where contagious or epidemic diseases of a malignant character prevail, and for keeping the persons thus excluded in some healthful situation, until they can be introduced with safety among the other prisoners.

The number of convicts belonging to this prison, including the females confined at Bellevue, is eight hundred and sixty-six. Two hundred and seventy-three have been received into it during the last year. This number is sixty-five less than that of the year preceding. The total number of deaths, including those by the cholera, is one hundred and forty-five. One hundred and sixty-five convicts have been discharged on the expiration of their sentences —sixty were transferred to the prison at Auburn, and thirty-two pardoned. By reason of the prevalence of the cholera, the financial affairs of this prison do not exhibit the favorable result that was anticipated. A full statement in relation not only to this subject, but to the entire operations of the establishment, will be submitted to you in the annual report of the inspectors.

The account from the State Prison at Auburn, presents a highly gratifying result. The number of convicts in it at this time, is six-hundred and seventy nine. One hundred and twenty-seven were received into it, pursuant to the sentence of courts between the first day of January last and the twenty-second day of December following. This is twenty-seven less than the number received there the preceding year. One hundred and fourteen have been discharged by reason of the expiration of the period for which they were sentenced; twenty-seven have been pardoned; twelve have died, and one was released by order of the Supreme Court. The sum charged during the year ending on the thirtieth of September last, for the services of the convicts, to those who employed them, is forty-one thousand five hundred and fifty dollars and 32 cents; and the expenditures for the general support and repairs of the prison, including the expenses of erecting a stone shop, one hundred feet long and forty wide, have amounted to thirty-eight thousand, three hundred and five dollars, and thirty-one cents. The Legislature directed, at its last session, two hundred and twenty additional cells to be built in this prison, and authorized the payment of six thousand dollars from the Treasury for this purpose, if it should become necessary, in addition to the unexpended balance in the hands of the agent, accruing from the earnings of the convicts. These cells have been built during the past season, from the avails of the labor of the convicts, without resorting for any aid to this appropriation. These additional cells will enable the agent to assign a separate one to each convict, thereby giving full effect to a valuable improvement in prison discipline.

It is worthy of remark, that there has been no conviction for murder or other capital offence in this State during the past year; and that the whole number of sentences to the state prisons during the same period, has been ninety-two less than those of the preceding year.

I cannot reconcile it to my sense of duty, to pass from this subject, without calling your attention, as my immediate predecessor has repeatedly and earnestly done, to what I am persuaded would be a valuable improvement in our penitentiary system—the erection of a separate prison for female convicts.

I have received from the Mayor of the city of New-York information that the subordinate authorities of a foreign government, have sent on board a vessel bound to that place, a number of convicts. As soon as the fact was ascertained, an application was made by him to the General Government for the interposition of its authority to prevent this practice. The answer to this application intimates that the remedy must be applied by the State, or by the municipal authorities of our cities. A regard for the morals of our citizens, as well as the safety of their persons and property, requires, that the introduction of such persons within our borders should be prevented as far as practicable. I therefore respectfully suggest, that you should take this subject into your consideration, and provide a remedy for the evil.

At a late Court of Oyer and Terminer held in the city of New York, the lotteries were presented as unauthorized by constitutional laws, and a public nuisance. In compliance with the request of the grand jury making the presentment, the court has transmitted it to the governor, in order to have the

subject brought to the attention of the Legislature. At the last session, a resolution was passed by the Assembly, directing the Attorney General to examine the question, as to the constitutionality of the law authorizing the lotteries. When his report is received, you will, I trust, take the subject into consideration, and make such disposition of it as shall comport with the public interest and the rights of individuals.

The militia system has an essential connection with the preservation of our liberties. The political sagacity which, in the organization of our government, perceived the importance of laying its foundations in popular principles, saw also the necessity of arraying the whole body of our citizens in support of the public authority, and in defence of our sovereign rights. If the only advantage resulting from the periodical trainings of the militia was to suggest to those of whom it is composed a sense of the solemn responsibility which devolves upon them as a part of the public defonce, and the duty of being at all times prepared for the exercise of that exalted function, this alone would be a sufficient reason for upholding the system, even with its present expense and inconvenience. But it is believed that there is no difficulty in removing, consistently with all the ends of its institution, a large portion of the public burden, which, in the progress of events, has become unnecessary. This object cannot, however, be accomplished by State authority. The Constitution of the United States has given to Congress the power to provide for organizing, arming and disciplining the militia, and the power has been exerted by an act of Congress passed at an early period of the Government. The provisions of this act cannot be suspended or vacated by the laws of the State. The changes which have been wrought in the condition of the People of the United States since this act was passed, require modifications of some of its most essential provisions; and it is due to the People that no burden should be continued, when the exigency which called for it has ceased to exist. The alterations in the established system deemed most material, are a diminution of the period of enrolment and some provisions by law, which shall convert the expense of arming the militia from an unequal tax upon the person performing the service, into a just and equal tax upon the property of all. The President of the United States has, in his recent message to Congress, called their attention, in general terms, to this important subject, and it is earnestly to be hoped that they will make such amendments to the militia law as shall, without impairing the efficiency of the system, diminish to every practicable extent, the burden of military service. In the meantime every good citizen will esteem it his duty to uphold by his countenance and support, the law as it exists, and to discourage, so far as may be in his power, all attempts to bring into disrepute an institution which, whatever defects it may have, is as vitally connected as any other with the durability of popular governments.

It will appear by the annual returns of the Adjutant General that the numerical force of the militia of the state exceeds 188,000 men.

Of all our institutions, there is none that presents such strong claims to the patronage of the government, as our system of common schools: and it is gratifying to know that these claims have been recognized, and to a very considerable extent satisfied. The wisdom and providence of our legislation appear perhaps nowhere so conspicuously, as in the measures which have been adopted, and the means which have been provided, for the general diffusion of primary education among the children of all classes of our citizens. The communication on this subject, which you will receive from the Superintendent of Common Schools, will exhibit very satisfactory results. Reports have been received by him from 811 towns and wards, (the whole number in the state,) containing abstracts of returns from 8,941 districts, in which there are 508,878 children, between five and sixteen years of age, of whom 494,959 have been taught in the common schools during the past year. The public money distributed the last year to the several districts, amounts to 305,582 dollars, including the annual appropriation of 100,000 dollars derived from the common school fund, and the sum of 17,198 dollars, produced by the local funds belonging to certain towns. Besides these sums of public money, the inhabitants of the districts have paid 350 thousand 320 dollars; all these several sums, amounting, in the aggregate, to six hundred and sixty-three thousand, nine hundred and two dollars, have been expended during the last year in payment of the wages of teachers.—The Superintendent estimates, from the data furnished by the reports of the last year, that the expenditure under this system has been one million, one hundred and twenty-six thousand dollars, of which the public fund provided by the State, contributed less than eleventh part. An active and adventurous spirit of improvement, characterizes the present age; its best direction would seem to be, towards multiplying the facilities, and consequently abridging the time and labor, of acquiring knowledge. I indulge the hope that much may yet be done in this respect for primary education. One of the most obvious improvements in relation to common schools, would be a plan for supplying them with competent teachers. Under present circumstances, the remedy to the evils resulting from the employment of persons not properly qualified, can only be applied by the trustees and inspectors, and I am not apprized that any further direction for regulating their duties in this respect could be usefully presented to the Legislature.

The two medical institutions established by the authority of the State, and cherished by its patronage, are in a highly flourishing condition. The number of pupils attending the course of lectures at the college in the city of New York, has for several years past, been annually increasing, and is now one hundred and eighty-eight; the number in the college of Fairfield is one hundred and ninety.

I also commend to your care and protection the colleges, and other seminaries of learning in this State. They shed a healtful influence upon our free institutions, and contribute in an efficient manner, and in various ways, to improve our social condition.

Nothing, I am convinced, need be said by me, to turn your favorable regard towards institutions having for their object the dispensation of benefits to those from whom have been witheld some of the best faculties that belong to the common condition of us all. The Asylum for the instruction of the deaf and dumb at New York, is provided with capable teachers, and merits the public confidence, and a continuance of the fostering care and patronage of the Legislature.

There is a diminution in the income provided for the support of this institution to such an amount, that it has become necessary, in order to continue its present usefulness, that aid should be given to it. An application will be made to you for assistance, and will no doubt receive your kind consideration. I regret to learn that the Central Asylum for the deaf and dumb is in a less prosperous conditon, and still more deficient in its pecuniary means, than the institution in the city of New-York. It has also claims to your favorable consideration, and to the bounty of the government.

The method of giving relief and support to indigent persons, by the adoption of the county poor house system, in most of the counties, has essentially improved the condition of this class of persons, and greatly diminished the charge upon the public for their maintenance. In forty-five counties farms have been purchased, and poor houses erected, at an aggregate expense of two hundred and sixty-eight thousand, eight hundred and fifty dollars; being an average expense to each county of five thousand nine hundred and seventy-five dollars. In this estimate are not included the almshouse and penitentiary in the city of New York, which cost five hundred and thirty thousand dollars. The number of persons in the poorhouses on the first of December, one thousand eight hundred and thirty-one, including the city of New York, was five thousand five hundred and fifty-four; and the average annual expense of supporting each pauper in these establishments, as ascertained from the reports of the superintendents of the poor, is thirty-three dollars and twenty-eight cents. The abstract of the reports of county superintendents, which the Secretary of State is required to lay before you, will furnish the results of the system for the past year.

The several funds of the State, except that ordinarily resorted to for the means of defraying the expenses of the government, are in a prosperous condition. The income from the Erie and Champlain canals, and the canal fund, during the last year, is about one million, five hundred and ninety-four thousand dollars. The Commissioners of this fund now have under their control, applicable to the payment of the canal debt when it shall become due, or sooner if the stock can be purchased on favorable terms, about three millions and fifty-five thousand dollars.

If no important changes take place, in the business of these canals, and none of the revenues are diverted from the fund, it is reasonable to anticipate that before the first of January, one thousand eight hundred and thirty-eight, means will have been realized for the entire extinguishment of the whole of this canal debt; but should the change now contemplated, as to two important items of this revenue, be effected, the period at which the Commissioners will be in possession of the means to discharge the whole debt, will be proportionably deferred. The views of the Commissioners of the Canal Fund, as presented in their last annual report, have been substantially realized, in relation to the Oswego Canal Fund, and the Cayuga and Seneca Canal. The revenues have been less than the estimates, and the deficiencies to be drawn from the treasury have a little exceeded them. The estimated deficiency for the current year in the revenues of the Oswego Canal Fund, is nineteen thousand three hundred and sixty-seven dollars. and thirty-six cents; and that of the Cayuga and Seneca Canal, four thousand three hundred and fifty dollars; making together a total of twenty-three thousand seven hundred and seventeen dollars, and thirty-six cents.

The expenditures upon the Chemung canal, during the last fiscal year, were eighty-nine thousand nine hundred and thirty-nine dollars and sixty-eight cents; and the balance of moneys in the hand of the Commissioners, on the thirtieth of September last, appropriated to the construction of this canal, was thirteen thousand and eighty-six dollars, and thirty-nine cents. I learn, however, that the Commissioners are authorized, by existing laws, to make further loans for this object, to the amount of twenty-five thousand seven hundred and thirty-seven dollars, and that this sum was supposed to be sufficient for the completion of the work. Not having received from the Canal Commissioners any intimation that further means will be required, or that any further legislation is called for in reference to this canal, I am not aware that the subject will claim your particular attention.

The Crooked Lake canal is also in progress, and the expenditures upon it, between the 12th of October, 1831, and the 30th of September of the following year, amount to sixty-seven thousand nine hundred and six dollars, and forty-six cents. The unexpended balance, on the latter day, of moneys applicable to this canal, was nineteen thousand two hundred and five dollars, and eighty-seven cents; and twenty thousand dollars of the appropriation had not then been borrowed. I am not advised that the work will require additional appropriation. The Canal Commissioners will communicate to you the present condition of the two last named canals, and their opinion as to the period when they will probably become navigable.

The fund set apart for the encouragement and support of common schools, is safely vested, and in a highly prosperous condition. The constitution declares that this fund "shall be and remain a perpetual fund, the interest of which shall be inviolably appropriated and applied to the support of common schools throughout this state." This injunction has been faithfully observed. Since the adoption of the Constitution, the nett increase of this fund has been five hundred and seventy-nine thousand, three hundred and forty-seven dollars; and the whole of it now amounts to one million, seven hundred and thirty-five thousand, one hundred and seventy-five dollars. The capital is now sufficiently productive to yield the one hundred thousand dollars required by law to be annually distributed for common school instruction.

The Regents of the University are enabled to apportion annually to the academies ten thousand dollars, from the revenues of the literature fund.

The general fund is almost exhausted, by the liberal contributions it has yielded to all other funds, by the payment of the State debts, and by furnishing, unaided for the last five years, all the means for the ordinary and extraordinary expenses of the government. The revenue from this fund has at no time been sufficient, without the avails of a general tax, to satisfy the demands upon the Treasury. In order to meet these demands, and to relieve our fiscal affairs from embarrassments, it became necessary in 1814, to impose a tax of two mills on each dollar of the valuation of real and personal property in the state. This tax was continued until eighteen hundred and eighteen; then it was reduced to one mill; in eighteen hundred and twenty-four, to half a mill, and in eighteen hundred and twenty-seven it was wholly discontinued. When the Legislature refused to continue the tax it was well understood that the general fund could not long sustain the burden cast upon it; that its capital would be rapidly reduced and soon exhausted. Tho' this event has not approached so rapidly as was anticipated, it is now at hand, and this session should not in my judgment, be permitted to pass away without providing the means, by the adoption of some settled plan, to satisfy the demands that must inevitably be made upon the treasury. The annual expenses of the government, in future years, will not fall far below

three hundred thousand dollars, and all the available means for the current year, other than a resort to the remaining capital of the general fund, will be less than one hundred thousand dollars.

According to the statement of the Comptroller, the capital of this fund is now only five hundred and seventy-eight thousand, three hundred and ten dollars; and if from this amount be deducted the debt due for the stock issued to John Jacob Astor, now payable at the pleasure of the State, this capital may be regarded as almost entirely expended. At the period when the state tax was discontinued, I had the charge of the financial department of the government. Disapproving of the policy of impairing the general fund, I recommended the continuance of the tax; and in subsequent years I deemed it my duty to urge a return to it. It would be useless to attempt now to determine whether the policy thus recommended, and I believe every year since, urged upon the Legislature by the head of that department, and for the three last years by the Executive, was preferable to the course which has been pursued. We are now brought to a condition in which the expedient heretofore used for meeting the demands on the treasury, can be no longer resorted to, and a new system of revenue must be devised.

A movement has been made for the purpose of releasing the auction and salt duties from the constitutional pledge by which they are secured to the canal fund. If this measure should be consummated, and the avails of these duties restored to the general fund, and the amount of the income from these sources should not be materially affected by the anticipated change in the salt duty, or the possible legislation of Congress in relation to auction sales,—the revenue would in this manner receive an augmentation which will render it nearly, or quite, equal to the demands upon it. But it will be perceived, that this proposed measure is beset with contingencies, which cannot be effectually controlled by your legislation. The people may not approve of the proposition to release the pledge; and if they should, it may not be deemed wise to draw, after the canal debt is paid, a large revenue from these sources, or to devote what may be thence drawn to the support of the government.

The canals are rapidly accumulating the means for the extinguishment of the debt for which their income is hypothecated. When this object is accomplished, the tolls may, with fair claims of justice, be resorted to, for the means of replenishing the treasury, to an amount at least equal to the sum abstracted for the benefit of the canals from the general fund. On whatever principle this account shall be stated, the sum that will be found due will probably be sufficient not only to reimburse any loans which may be made for defraying the expenses of the government, but to afford a temporary aid to such works of internal improvement as the State may think it wise and prudent to undertake.

The money diverted from the general fund to the use of the canals, belonged equally to the citizens in all parts of the state; but the object to which it was appropriated, though eminently beneficial to all, was not so to all in an equal degree. The inhabitants, in districts of the State remote from the canals, do not derive as much advantage from them as those in their immediate vicinity. They will therefore naturally prefer to hane the treasury replenished by a re-payment of the contributions made to the canals, rather than by resorting to a general tax. The justice of the claim upon the revenue of the canals to some extent, in favor of the general fund, will probably not be denied, but the amount which shall be repaid, and the objects to which it shall be appropriated, will doubtless give rise to much diversity of opinion. If we were prepared to settle these questions, we have not the power to do so: they must be left for our successors. Shall we then anticipate their decision, and accumulate a debt for the ordinary expenses of the government, trusting to the future appropriations of the income of the canals for its repayment?—Without a confident reliance on this, or some certain and specific resource for its redemption, there are, in my mind, strong objections to the creation of such a debt. A national debt has been regarded by the true friends of a republican government as a national evil. When the public funds are not drawn immediately from the people, a proper sense of dependence on the part of those who have the appropriation of them is lost; and a salutary check to improvident and profuse expenditure is removed. When the motive for the constituent to scrutinize the conduct of the representative is enfeebled, the latter ceases to feel and act under the consciousness of a due accountability.

If the force of relationship in a government like ours be weakened, the action of the whole political system is deranged: economy is no longer regarded as a political virtue; public spirit loses its true aim, and its energies are directed to personal and ignoble ends. A large funded debt has a tendency to create artificial distinctions among the people—to d vide society into the rich and the poor, and to bring about a state of things, in which labor is made tributary to wealth, and power purchased by influence. At this time, when the General Government is presenting for the admiration of the world, the unprecedented fact of the total extinguishment of a large national debt, it would ill become this State, eminently distinguished for her wealth, her resources, and the enterprising spirit of her citizens, to counteract in any degree this impressive political lesson, by the commencement of a debt for defraying the expenses of her government.

A national debt may be the result of inevitable necessity. The efforts which nations are required to make, to recover their civil liberty, or to defend their rights, may involve an expenditure beyond their present ability to pay. A debt thus contracted confers no reproach, and its payment may be deferred until the people that incurred it have replenished their resources, and become able to sustain the burden of discharging it, without withering their prosperity. Such was the origin of our national debt, and such has been our course in regard to its payment. The debt contracted by this State on account of the canals, is justified on a different principle. The object for which it was incurred was specific, and ample means for its speedy redemption were provided in the very act which authorized it. It could in no event have been forwarded on to a future age, as an incumbrance upon it, to be paid by a general tax, without a violation of the most solemn pledges.

Whether to resort to a generst tax, moderate in amount, in order to provide the means to meet the exigencies of the government, shall be forborne, and a reliance be placed on the chance of deriving sufficient aid for that purpose from the duties on salt, and auction sales; or a debt contracted, with a view to its redemption from the canal revenue, after it is relieved from its present hypothecation, are questions which may with propriety be left to the immediate representatives of the people. If, upon due deliberation, you should determine to levy a tax, and leave the other revenues unanticipated and unimpaired, to be managed and disposed of by your successors, as the best interests of the State shall ind cate, when the existing incumbrance is removed, I feel the fullest confidence that the people will cheerfully acquiesce in the decision.

There is no subject connected with our local affairs that we can contemplate with so much satisfaction as our works of internal improvement. The advantages resulting from them are felt in all parts of the State, and in the diversified occupations of our citizens. Every where their beneficial effects are visible, bearing testimony to the wisdom which conceived the system, and the enterprize which put it in operation. The peculiar formation of our State, indicated at an early period to some of our enlightened and sagacious citizens, the practicability, as well as the usefulness, of connecting the great northern and western lakes with the Atlantic ocean by means of artificial water communications. The enterprize of the present age has most successfully carried into operation the grand conceptions of the past. The spirit which prompted us to enter upon this system was not, however, wild and reckless; while it anxiously sought the end, it carefully estimated and wisely provided the means for its attainment. Though much has been done to improve the condition of our State, much yet remains to be done. While we allow the success which has attended our efforts at home, to impel us forward in the career of improvement, we should not be regardless of the less fortunate effects which have resulted from similar enterprizes abroad. On the one hand, it would be unworthy of the character of the State to pause in this career: On the other, it would be unwise to rush forward in it, accumulating burdens upon the people without securing proportionate advantages.

From all internal improvements, there necessarily result local benefits, and it is natural that those parts of the state which have not participated in them should indulge an impatient desire to do so. Wise legislation should endeavor to gratify this desire as far as practicable, when it can be done with due regard to the public interest. Local interests concurring with, or pretending to, the general good, will devise and press upon your consideration particular plans for improvement, both by canals and roads, and if you should determine that it was expedient to do more at present than to complete those already begun, the difficult and responsible duty of selection will devolve on you. Though revenue is not the sole consideration that should influence your decision, it ought to have great weight with you, for it will be a test of the public usefulness of the work. In my judgement, the first object of inquiry should be, to ascertain, as accurately as possible, the amount of expenditure a proposed work will involve; and the next, the amount of revenue that may be derived from it. If the revenue promises to be sufficient to keep it in repair when finished, to defray the expenses of superintendence and the collection of tolls, and to meet the claims for interest on the capital expended, sound policy requires that it should be constructed. Even if a less favorable result should be anticipated for a few years, the question of authorising the construction of a public work may yet be very properly entertained. An improvement, opening an easy and cheap communication into the interior of any part of the State, would soon develope new resources in that section, increase the quantity of its productions, and expand its trade. If it should require the lapse of a few years to produce these effects, and to increase the revenue to an amount sufficient for the purposes before specified, this would constitute no conclusive objection to the undertaking. Should the proposed work be connected with those now in operation, the effect it might have on the productiveness of them, should also be regarded, and to a reasonable extent, influence your decision. Improvements that will ensure these results at the time of their completion, or shortly thereafter, should inspire no dread that a general burden will be cast upon the State, to discharge the debt created for their construction; because the gradual growth of the adjacent country, and consequently the extension of trade, will increase the revenue, until there will ultimately be a surplus to be applied in redemption of the debt contracted on their account.

I am not possessed of any particular information in regard to most of the applications for internal improvement, which may be brought before you at the present session, it would therefore be useless for me to go into any enumeration of them, for the purpose of submitting to you general remarks, which are probably alike obvious to you all.

An application for a public work, to connect the waters of the Susquehannah with the Erie Canal, by a communication through the valley of the Chenango, has for several successive years been made to the Legislature, and will doubtless be again renewed at this session. The proposed canal extends about ninety-five miles through an interesting section of the State, and will afford additional facilities to a market, for the products of a considerable portion of our citizens. Repeated examinations of the route have been made by skilful and experienced engineers, and the practicability of the work well ascertained. The expense has been uniformly estimated by the engineers, at less than one million of dollars; but the Canal Commissioners are of the opinion, that it will involve an expenditure beyond that sum. The amount of revenue it will yield, has been variously stated: some think it will not be sufficient to keep the canal in repair, and pay the expense of collection; while others who have given the subject an equally careful consideration, entertain a confident belief that it will be abundantly sufficient to bring the application within the rule I have laid down as justifying, in my judgment, the construction of any public work falling within it. It remains for you to decide upod these conflicting opinions. I commend this proposed work to your favorable notice, with the expression of a strong desire that its merits may be found such as to induce you to authorise its construction.

Agriculture, manufactures and commerce, are the three great departments of human industry. They furnish to all the means of subsistence, and the comforts of life, and constitute the only true sources of national wealth and prosperity. Legislators can never withhold from them a fostering care, without disregarding one of the most important and solemn duties which they owe to their constituents.

The power to regulate commerce is delegated to the General Government, and consequently the sphere of State legislation with regard to this subject, is very much circumscribed; it scarcely extends beyond the enactment of laws for the inspection of some of our principal domestic products, and the multiplication of facilities for the exchange and transportation of articles of commerce.

Manufactures are a branch of industry eminently connected with our prosperity, and at this time an object of peculiar solicitude to a large portion of our constituents. The principle of giving encouragement and protection to them, was recognized in one of the first acts of Congress passed after the adoption of the Constitution of the United States. The representatives of all the States in the councils of the nation, have at one period or another, given their sanction to this principle, and down to the present period, it has entered into and influenced, the policy of the Federal Government. The extent to which it should be carried, has often been in dispute; but the rightful authority to encourage and protect manufactures, either directly or incidentally, has not, until within a recent period, been seriously questioned by any considerable portion of the people of the United States. I am persuaded there is nothing in the operation of this principle, in a course of wise and prudent legislation, that conflicts with the objects for which our federal compact was formed, or that imposes unequal and oppressive burdens on the people of one section of the country, as the necessary consequence of the benefits it confers upon others. If this principle has been misapplied, and injurious effects have thereby resulted, the proper remedy for them does not require an abandonment of it.

From the consideration of these important subjects, I pass to one of greater and more general interest, lying more directly within the range of our legislative action, and demanding from us a particular attention. Agriculture was undoubtedly the primitive pursuit of men in a civilized state of society, and seems to be indicated to them by heaven as their best employment. Vigor of body and purity of mind, are eminently enjoyed by the husbandman. Without meaning to disparage any class of men, or to deny a due measure of public virtue and usefulness to all, history and experience warrant the assertion, that the cultivators of the soil have ever been among the first to cherish, and the last to abandon, free institutions. It is not however for this reason, that agriculture presents peculiar claims for your guardianship. It not only furnishes occupation to a much greater portion of our citizens than any other department of labor, but it supplies the materials for all others. It must be regarded as a matter of some surprise, that an employment in which so great a number of the human family are di-

rectly engaged, to which all look for their daily bread, and upon which commerce, manufactures and the mechanic arts—indeed all the various pursuits of mankind—so necessarily depend, should not have risen to a still higher consideration than it has yet attained, and received from those entrusted with the power of legislation more liberal aids.

The numerous agricultural societies organized in the several counties of this State in consequence of our legislation, flourished for a season, then languished, and are now generally dissolved. The interest of agriculture was, to a considerable extent, promoted by these societies. The contributions from the public Treasury, distributed principally in premiums, gave a sudden impulse to agricultural industry, and induced many laudable efforts among farmers, not only to excel in their productions, but to introduce valuable improvements in husbandry; yet it has been questioned whether the benefits thus obtained were of such an extensive and abiding character, as might have been realized by a different application of the funds derived from the government. Agriculture is a science, as well as an art; and both must be systematically cultivated, and widely edsseminated, before it will attain a high degree of improvement. The general intelligence and individual interprise of those devoted to this pursuit have carried the art as far, perhaps, as could be reasonably expected without a better knowledge of the sciences connected with it. With a salubrious climate and fertile soil; with extensive regions but partially brought under the power of cultivation; with rising manufactures and a flourishing commerce, demanding the surplus products of husbandry; with a population full of enterprise, and distinguished for native skill and practical talent, we may reasonably expect great advantages from the cultivation and diffusion of the sciences connected with this art. This subject appears to me to be in every respect worthy of your attention and to merit your liberal encouragement.

The Legislature has from time to time been informed by my predecessor, of the proceedings in the suit now pending in the Supreme Court of the United States, between this State and New Jersey, in relation to a disputed boundary. To the bill filed by New Jersey a demurrer was interposed, on the ground that the Court could not exercise jurisdiction in such a case.

The counsel of this State appeared in Court in March last, and commenced the argument of this demurrer, but before it was concluded, the Court found it necessary to suspend the discussion, and assigned the first Monday of February next for resuming it. Although our counsel entertain very decided opinions against the jurisdiction of the Court, yet it is extremely desirable that the whole controversy should be definitely settled by an amicable arrangement. A decision of the issue formed by the demurrer in favor of New York, would not necessarily put an end to the controversy out of which the suit has arisen; on the contrary, it is possible such a result might serve to increase the embarrassments which have been already produced by the conflicting claims. But without reference to the possible issue of the proceedings now pending in Court, the interests of both States, and many other important considerations, concur at this time in recommending an adjustment of this question upon terms of honorable compromise.

Although two unsuccessful attempts have heretofore been made to accomplish this object, yet on reviewing the proceedings, I do not perceive any difficulty that may not be removed by new efforts to bring about a proper accommodation. Viewing the subject in this light, I feel that I shall not be considered as wanting in a just regard to the rights or the honor of our State, when I submit to you the propriety of making provision by law for appointing commissioners with full powers, to meet those of New-Jersey, in case her Legislature should appoint them, with a view to such an adjustment of this question, as shall comport with the real interests, and define the future rights of both States.

Such a measure on our part, even if it should not be met by a corresponding one on the part of New Jersey, could not in the slighest degree compromit our rights; but I have reason to believe that it would be received with a liberal and conciliatory spirit, and might in all probability ultimately lead to an adjustment beneficial to both States. Such an amicable termination of the controversy could not be otherwise than gratifying to the feelings of their respective citizens, who entertain congenial sentiments, and are united by the ties of kindred interests, and, to a great extent, of a common origin.

It is but a few weeks since the last suriving signer of the Declaration of Independence was gathered to his compatriots. Such an event is well calculated to excite feelings and reflections difficult to be suppressed, and not improper, perhaps, to be indulged, even on an occasion like this. The men who proclaimed our independence as a nation, were the most distinguished assemblage of sages and patriots that ever appeared in any country. The favor for which we should be most grateful, next to that of having such men for our forefathers, is the long life which it pleased a kind Providence to bestow on most of them. Some were permitted for nearly half a century after they had laid the foundations of our free government, to continue their invaluable labors in rearing thereon a structure of human liberty which stands without a rival, challenging the admiration of the world. That we might not lose too much at once—that we might be gradually prepared to pursue, without the strong light of their example, the career which they had opened, they were one by one, withdrawn from us. The last is now gone; and on us is devolved the high responsibility of preserving unimpaired the most valuable inheritance that one generation ever transmitted to another.

In performing this most difficult duty, which we owe alike to those whom we have succeeded, to our own age, and to posterity, we are happily not without a guide.—The history of their lives, and their recorded precepts, are full of instruction, in regard not only to the great principles which lie at the foundation of our government, but to the practical rules concerning the administration of its affairs. While we enjoy the civil and political rights inherited from them, let us emulate their devoted patriotism; let us cultivate a spirit of forbearance and conciliation amid the conflicts which, as human nature is constituted, will inevitably arise from the discordant views of men with regard to the various interests of a great people; and let us continue our efforts, to the extent of our abilities, to carry forward our country in the direction indicated by them, to a degree of prosperity and renown which shall equal their fondest anticipations.

Undervaluing the virtue and intelligence of the people, the enemies of our free government have constantly predicted, and some of its true friends have feared, that it would ere long be impaired, perhaps overthrown, by popular convulsions.—Experience has thus far disappointed the hopes of the one, and greatly allayed the apprehensions of the other. As a nation, we have already encountered the severest trials, and our free institutions remain unimpaired. Some, entertaining a disparaging opinion of the virtue of the people, have deemed it necessary that those who are intrusted with public affairs, should be as far removed as possible from the influence of fluctuations in the popular will; and as their theory of administering the government requires large powers, they have not hesitated to derive them from a latitudinarian construction of the constitution. Others have placed a confident reliance on the judgment of the people, regarding them as possessed not only of the sovereign power, but of a perfect right to have their wishes respected by their public servants, and the authority conferred on them confined within the limits fixed in the instrument by which that authority is delegated. The difference in these views, has been, in my opinion, the principal cause of our party divisions. Those who entertained the views last described, considered the elevation of our present patriotic chief magistrate of the United States, as a measure necessary to bring back the administration of our government to its true constitutional principles.

Nearly every beneficial result anticipated in that event has been realized. Our foreign relations, involved as they were in the most serious embarrassments, have been placed in the best possible condition; our negotiations in almost every case brought, by persevering efforts and consummate ability, to a successful termination, and our country exalted to a higher consideration with foreign powers, than it has enjoyed at any former period.

The management of its internal affairs, not less difficult than that of its foreign relations, has called forth an equal display of wisdom and talent, and has been conducted with equal success. Abuses in the subordinate departments of the government have been corrected: its fiscal resources have been husbanded, and the public debt nearly extinguished; legislation, of doubtful authority, and of equally doubtful utility, has been arrested by the salutary exercise of a high constitutional prerogative. So far as depended on the executive department, all that prudence required or wisdom could suggest, has been done, to remove the causes of local excitement and to inspire general content; and a system of measures suited to our local condition, and congenial to the principles of our political institutions, has been fearlessly recommended to Congress for their adoption. If such an administration had not secured to itself the continuance of the public confidence, fears might well have been entertained for the stability of republican governments. Sustained as it has been against a combination of interests, the coalition of hostile parties, the use of extraordinary means, and violent efforts, the auspicious result of the late contest may justly be regarded as a triumphant refutation of the fallacy, that the people are unworthy of being trusted with the unlimited control of their political affairs, and an unanswerable argument in favor of a free government, confided to the guardianship of intelligent and virtuous citizens.

I perform an unpleasant duty in laying before you, at the request of the Governor of South Carolina, the proceedings of a recent convention of the people of that State. In expressing my unequivocal disapprobation of those proceedings, and my deep regret that a State, which, in all past time, has so nobly performed her duty to the confederacy of which she is a member, should thus attempt to exonerate her citizens from the operation of the laws of the United States, I am persuaded I do but speak the universal sentiment of the people of this State. For the first time in the history of this Republic, a claim has been set up, on the justly cherished ground of State rights, which, if well founded, belongs equally to all the members of the Union, but which is repudiated by all, and by none more earnestly than by those members who, in respect to the evils complained of, and for the redress of which the claim in question has been asserted, stand in precisely the same situation with the State of S. Carolina. Whatever, therefore, may be the nature and extent of the alleged grievances, I do not go too far, I trust, in assuming that the remedy to which our fellow citizens of South Carolina have resorted, and on the strength of which they are apparently preparing for themselves the most fearful of all responsibilities, is not merely unauthorized by the Constitution of the United States, but fatally repugnant to all the objects for which it was framed. Let the doctrine be once established, and the union of these States is destroyed forever.

From a state of things so novel in its character, and so ruinous in its tendencies, duties of the highest importance, increasing in interest and delicacy, according to the course of events, may devolve on us as one of the members of the sacred union of these States.—Whatever embarrassments may arise, I feel confident that the people and government of this State will support the Executive of the United States in all measures which are proper, and may be necessary for the preservation of the Union, and for the due execution of the laws, and will faithfully perform all their duties resulting from our national compact.

But I should be unmindful of the just and generous character of our constituents, if in expressing what I believe to be their sentiments, I did not at the same time disclaim for New York all desire to aggrandize herself at the expense of her sister States, or to pervert to local purpose a system of government intended for the common benefit of all. She cherishes the union of these States. She knows what it cost. She estimates, as highly as any other member, its value, both on account of the benefits it confers and the evils it averts; and it is not to be doubted, that she would make any sacrifice which would be considered reasonable to preserve it.—Though its destruction would not certainly be more calamitous to her than to others, yet none would adhere to it longer or exceed her in great and generous efforts to sustain it. Without it, she might be prosperous; but her highest prosperity would be embittered by regrets on account of the blessings lost to herself, her associates, and the world: With it, there is no policy that would be long pursued by a people so virtuous and enlightened as those of the United States, under which she could fail to be an important and flourishing commonwealth. If, therefore, the operation of existing laws be adverse to these views, I am persuaded New York will consent to such a modification of them as will remove all just ground of complaint, and afford substantial relief to every real grievance.

The duty of deciding upon these points is committed, so far as our State has a voice in the discussion, to those who represent us in the congress of the United States. To the wisdom and patriotism of that body, to the firmness and well-tried virtue of the President, and to the gracious care of a beneficent Providence, we may confidently commit the issue of the deeply interesting questions presented by the unprecedented state of the country.

One of the duties which require your earliest action, is the selection of a citizen to fill the vacancy in the Senate of the United States, created by my resignation of the office of Senator, which I hereby present to you. In the portents of the times you will find additional motives for exercising much care and consideration, in making this selection. Not only the general policy, but many of the particular measures of the national government, exert an important influence upon the diversified pursuits of our constituents. How far this influence shall be benficial, may depend in no inconsiderable degree, upon the character and capacity of those who represent us in the Senate of the United States.

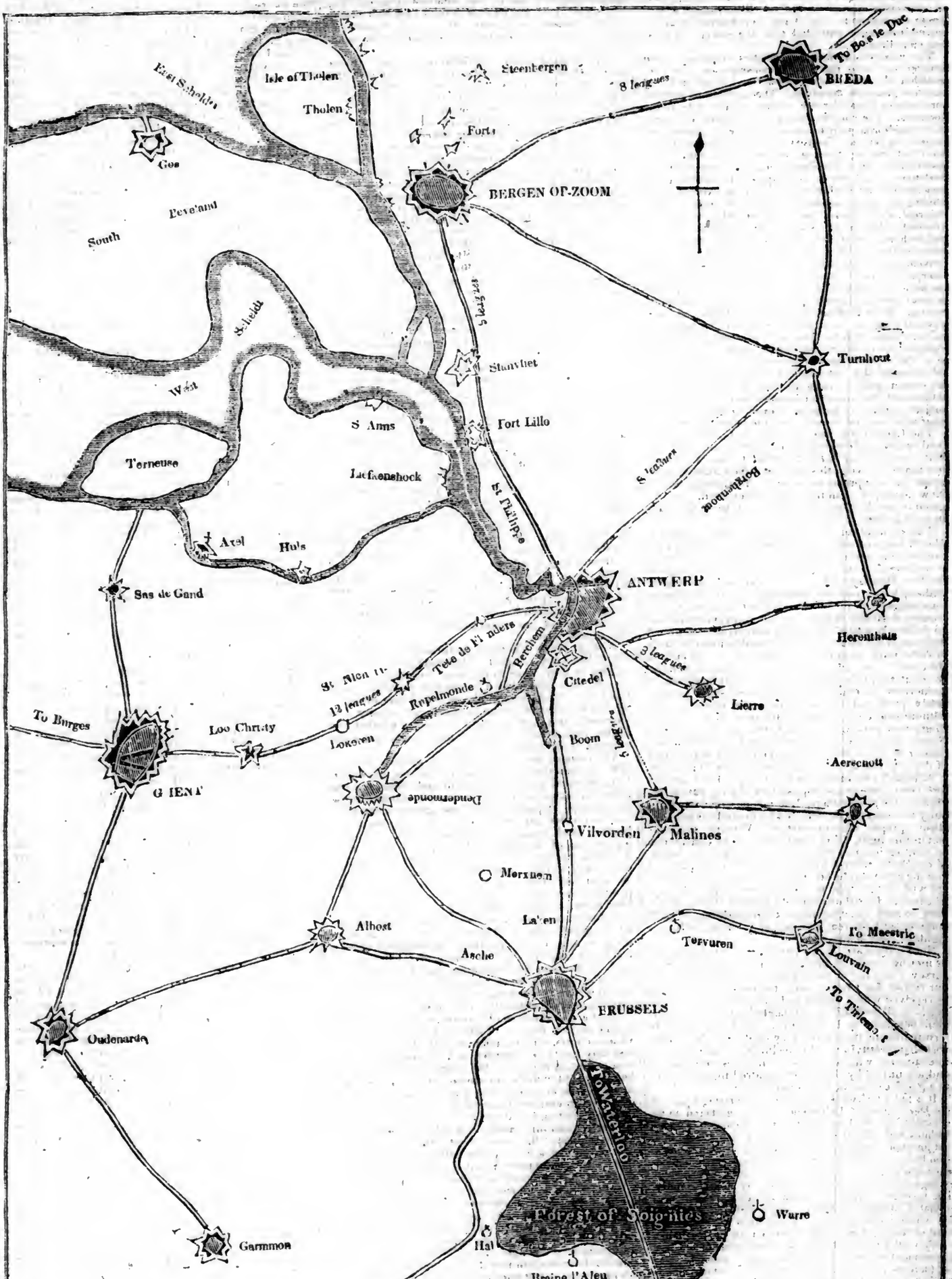
On passing from one station to the responsible duties of another, I trust I may so far indulge in the expression of my feelings as to say, that while I have been very sensible of the favor, received in repeated instances from the Legislature, and recently from the people of this State, I have been at the same time equally diffident of my ability to discharge the trusts so liberally confided to me, in a manner corresponding to my own wishes, or the expectations of my fellow citizens. A lively sense of gratitude will not, I venture to assert, be the least efficient motive in disposing me to devote myself to the welfare of the State.

My earnest endeavor shall be, to do every thing falling within the sphere of the executive powers, that my humble abilities will enable me to do, to preserve the sovereign rights of the State, to secure the due execution of the laws, to sustain our invaluable institutions, to develope the vast and exhaustless resources, with which we are liberally supplied by nature, and to carry us on in the progress of moral, intellectual and physical improvement, wisely begun and so prosperously continued that we have already become, under the operation of the free principles of our government, and with the favorable regard of Him who controls the destiny of nations, a great, a happy, and a powerful commonwealth.

W. L. MARCY.

Albany, January 1st, 1833.

ANTWERP AND ITS APPROACHES.



Antwerp was a marquisate under the Dukes of Brabant, and included Ghent, Termonde, Tournay, Valenciennes, and all the castles on the Scheldt. The city itself is situated on the eastern or right bank of the river, 17 leagues from the sea, 8 from Brussels, 6 from Bergen-op-Zoom, 22 from the Hague, 38 from Amsterdam, 11 from Breda, 8 from Tournhout, 3 from Lierre, 5 from Malines or Mechlin, 28 from Maestricht, 25 from Liege, 36 from Aix-la-Chapelle, 60 from Luxembourg, 24 from Mons, 5 from St. Nicholas, 12 from Ghent.

The city of Antwerp was burnt by the Normans in 830, and half of the inhabitants massacred. In 879 it was taken possession of by the Moors. They were driven out, in 886, by the Gauls: who kept possession till 980; when it fell into the hands of the Flemings. At the commencement of the sixteenth century, the Spaniards, under Charles, son of the Emperor Maximilian, took the town. After a lapse of two hundred years, it came under the dominion of Austria. In 1585, it was taken by the Prince of Parma, after a twelve-month's siege. After the battle of Ramilies, in 1706, it surrendered to the Duke of Marlborough, the French having occupied it for some years previous. The French re-took it in 1746; quitted it again in 1748; again took possession of it in 1792; quitted it in 1793; took it once more in 1794, and held it till 1814. From 1814 to 1816, it was garrisoned by the English, for William, King of the Netherlands.

The population of Antwerp is about 60,000; two centuries back, it was 200,000.* It has 22 public squares, and 21 streets. The fine tower of Notre Dame is 450 feet high, exclusive of the cross, which is 15 feet more. From the top can be seen every thing, even the smallest, that takes place in the Citadel.

The Church of Notre Dame is well known to artists from its possessing two of the finest specimens of Rubens' pencil. They were carried off by the French, but restored along with the other restorations of 1815. We believe every means have been used, under their present circumstances, to protect them from accidental injury. When Napoleon had annexed the Belgian provinces to France, he formed the design of raising Antwerp into a great naval emporium. In pursuance of this design, in the summer of 1804 he caused the first stone of a navy-yard to be laid with great solemnity by Malonet, the Maritime Prefect of the department. This yard was intended to be sufficiently spacious for laying down at least twenty ships of the line. It was never completed, and there is not at present a vestige of it remaining. On the port very large sums were expended; the wet-docks alone cost upwards of 13,000,000 of francs.

Antwerp and its Citadel were confided, after the disasters of the Russian campaign and the reverses which almost immediately followed, to the guardianship of the celebrated Carnot. Carnot had for years abstained from mingling in public business; and though it was said of him in the early years of the Revolution, that he organized victory in the armies of France, during the brilliant career of the Emperor he led a life of the most strict and unambitious privacy, conversing only with a few friends and with his books. When, however, he saw the soil of his beloved France threatened, he came forth from his long retreat to assist in its defence, and the immediate consequence of his offer of service was the confiding of Antwerp to his care. So high was his reputation, that no attempt was made to disturb him by the victorious Allies; nor was it until the treaty of Paris that the city of Antwerp was placed at their disposal. Opposite the Tete-de-Flandre, the Scheldt is about 700 yards across. It is 20 feet deep at low-water, and 40 feet deep at high-water. At that point it was proposed, in the time of Napoleon, to throw a bridge across, but a sort of *pont volant* is all that has ever been established for facilitating the communications between the opposite banks of the river. The quays, which extend from the ruins of the arsenal, near the Citadel, to the wet-docks at the opposite extremity of the town, are spacious.

The city is built in the form of a segment of a circle, of which the river is the chord. There are covered ways both on the land and the river side, communicating with the intrenched camp in the neighborhood of the Docks; into which, should the town fall into the hands of the Dutch, the Belgian troops could readily retire. The fine walks which the quays afforded to the inhabitants are now cut up into batteries, erected, some to threaten the Tete-de-Flandre, and others to bombard the Citadel.

The Citadel is in the form of a pentagon, with nine bastions. It was erected in 1568, under the directions of the Duke of Alva, by Pacerotti. It has one principal entrance, on the North side, from the Marine Arsenal; and a private entrance, to admit supplies from the East side, near the causeway, leading from Boom. It contains a handsome church, fifteen wells, and bomb-proof buildings for a garrison of 8,000 men. Its present garrison is about 6,000. The Citadel is a place of great strength. It is defended externally by several outworks; two triangular batteries being situated to the landward, on the side opposite to the town, and three still more considerable fortifications on the promontory called the Tete-de-Flandre, on the other side of the river. To strengthen himself on that side, General Chasse has caused the dikes † of the polder ‡ to be cut; and has thus inundated the whole district from Burcht, above Antwerp, to the Pyp de Tabac, below it. The principal outworks on the right bank are the Lunette de Rid, which is close to the river, and the Lunette St. Laurent, which serves to protect the only landward entrance into the Citadel. Fort Montebello, which is in the immediate neighborhood of the Lunette St. Laurent, is in the hands of the Belgians.

In addition to the Citadel, the Dutch forces are in possession of Fort Lieftenshock, on the left, and Fort Lillo, on the right bank of the river, both about three leagues below the city; the Lunette St. Laurent already noticed, above the city, on the right bank; the Tete-de-Flandre, with its dependency, Fort Oosterweel or St. Hilaire, on the left bank, immediately opposite to the Citadel. There is also a redoubt called Zwyndrecht attached to the Tete-de-Flandre, but it is of no great value.

Tête de-Flandres.—This strong fortification has three grand bastions; two which command the river, and one to the westward or land side, besides some strong works built under the direction of the Duke of Wellington to defend the access by the Ghent road. The whole of the works are entirely surrounded by ditches about fifty feet across. The Tête-de-Flandres must be carried before an effectual attack can be made upon the Citadel. Since the peace, the military roads and approaches round the fort have been put in complete repair: formerly there was a marsh for some miles round, which was completely impassable.

Ghent, or *Gand*, is situated on the Scheldt, at its confluence with the Lys, 10 leagues N. W. of Brussels, and about the same distance S. W. of Antwerp. The Lys nearly surrounds the town. Ghent has a commodious canal navigation to Bruges, which is about 22 miles distant on the road to Ostend. The city is completely surrounded with ditches, fed by the different streams in its neighborhood; there are nine principal gates, all furnished with drawbridges and guard-houses. Sixty-eight principal bridges (forty-five of stone and twenty-three of wood), besides numerous smaller ones for foot passengers, connect the different parts of the town. The citadel, which stands at the N. E. extremity, facing the road to Antwerp, is a regular square, with strong bastions at each corner. To the north, is a canal which runs to Sas de Gand and Terneuse. The circuit of the walls of Ghent is about twelve miles. It contains about 70,000 inhabitants. The streets are spacious, and the market-places large and numerous. There are many buildings still remaining, which exhibit the architecture of its ancient masters, the Moors and Spaniards. Ghent and its neighborhood have been a principal theatre of warfare in all the long contested struggles of the different competitors for the sovereignty of Flanders, whether Austrians, Spaniards, French, or Dutch. In ancient times, the city was formidable; but under the modern system of attack, it is incapable of much resistance, from the great extent of its lines. It is worthy of remark, that the citadels both of this place and Antwerp were not built for defence from foreign assailants, but as a military check upon the mutinous spirit of the cities themselves, amidst the conflicting interests of the different states who held them from time to time in subjection.

Bergen-op-Zoom, one of the strongest fortresses in Dutch Brabant, is situated about 25 miles N. of Antwerp, and 22 S. W. of Breda. It stands partly on the river Zee, a branch of the East Scheldt. Along the river, opposite the Isle of Tholen, is a line of very strong batteries. Another line of forts stretches across the country northward, completely commanding all the approaches from the Dutch side. Bergen-op-Zoom contains 5,000 inhabitants, exclusive of the garrison. An attempt to storm it, in 1813, was attended with great loss to the English force employed.

Breda is a strongly-fortified town; it stands on the rivers Aa and Merck, 22 miles N. E. of Bergen-op-Zoom, and 22 W. by S. of Bois le-Duc, or, as the Dutch call it, Hertogenbusch. Breda contains upwards of 2,000 houses, and not less than 9,000 inhabitants.

Brussels, the capital of the new kingdom of Belgium, is situated about 10 leagues from Antwerp, and about the same distance from Ghent. The city is walled, with different gates of entrance. The river Senne passes through the middle of the town, together with a canal connected with the branch of the river which falls into the Scheldt near Boom. A chain of fortifications surrounds the whole town, and there are double rows of trees both around the outer fortifications and the city walls. The population of Brussels is about 70,000, besides military.—In 1578, the city lost 27,000 of its inhabitants by the plague. In 1695, it was bombarded by the French, under Marshal Villeroy; when upwards of 4,000 houses, and 16 churches, chapels, and convents were destroyed. There is a paved road from Antwerp to Malines, and one which leads through the midst of the forest of Soigny to Waterloo.

Malines, or Mechlin, stands on the river Dyle, a branch of the Scheldt, 12 miles N. E. of Brussels, about the same distance N. W. of Louvaine, and 15 miles S. E. of Antwerp. The town is intersected by numerous canals. It is noted for its foundaries for cannon and other warlike engines; it has also famous quilt-manufactures, and excellent beer. Its most noted production, however, is its well-known thread lace, which is even more celebrated than that of Brussels. Mechlin contains a population of 16,000. It is well fortified.

Dendermonde, or Termonde, lies on the bank of the Scheldt to the right of the high road leading from Ghent to Antwerp. It occupies a very convenient position as a military station from which to attack either of these cities, and more particularly by the ready access to stores and provisions from its water-carriage. Dendermonde contains 8,000 inhabitants.

The following statement of the strength and disposition of the French army of the North appears in the London papers:

Sum total of the infantry 49,000, cavalry 6,000.

There are twelve companies of artillery and five of sappers and miners,

The battering train consists of eighty pieces, of which forty are twenty-four pounders, and the rest sixteen pounders and mortars.

The Duke of Orleans commands the avant-guard. His head quarters are at Merxchem.

The head quarters of the 1st division, under Gen. Tiburce Sebastiani, are at St. Nicholas, on the left bank of the Scheldt.

Those of the 2d division, under General Archard, at Schooten.

Those of the 3d division, under General Jamin, at Malines.

Those of the 4th division, under General Faber, at Henigen.

Those of the 5th division, under General Schraum, at Valenciennes.

To each division are attached two batteries of artillery.

There are two divisions of artillery.

The head-quarters of the 1st, under General Déjean, are at Alost; those of the 2d, under General Gentil St. Alphonse, at Oudenarde. To each division is attached a battery of horse artillery. There are also two brigades of light cavalry, under Generals Lauristine and Simoneau.

* 60,057. *Encyclopædia Britannica*, new edition, art. "Antwerp."

† *Dike* does not bear in Holland the same meaning that it does in England; in Holland it is used to signify a mound or bank for the purpose of protecting the low lands from inundation.

‡ *Polder* is a name given by the Dutch to those fields that lie considerably below the ordinary level of the river. By cutting the dike that surrounds them, they can of course at any time be flooded.

Map of the Seat of Hostilities.—In presenting this evening a more accurate and enlarged plan than any published here, of the position of Antwerp, and of its citadel, as well as of the *tête de Flandres*, and other fortifications on the other side of the Scheldt, we put it in the power of our readers, by preserving this paper, to follow the events of the siege. Embracing too, as this sketch does, the neighboring towns, in and arround which the French forces are distributed—their respective movements, as we shall hereafter learn them, may be the more readily traced.

A propos of this siege, we take from the London Times the annexed description of a new and destructive projectile, which is expected to make its *debut* on this occasion;

Amongst other destructive means of offence mention is made of 'the infernal machine'—an invention of M. Favard, to which the power attributed to the Cadiz mortar in your St. James's park is but as that of a pocket pistol in comparison. This machine, I understand, consists of an immense cask or barrel, hooped round with massive iron binding of enormous strength. It is fixed in the ground, at the same angle of elevation as is used for the discharge of a shell, and is so contrived as to be brought to bear on any given point, the same as a mortar. Its great power consists in the enormous size of the projectile, which it can throw to an immense distance, the destructive effects of which on explosion are said to be irresistible. I have been told, that in an experiment made with it in a wood in France, the explosion of the projectile tore up and shattered to atoms some scores of large trees in every direction round. The materials which it scatters on exploding are calculated to set any combustible substance in a blaze. The citadel, with all its powers of resistance, could not long hold out against the terrific effects of such a machine, which, if it realize only half what is said of it would well deserve the name it has received.

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JANUARY 5, 7, 8, 9, 10, 11—1833.

LITERARY NOTICES.

RECOLLECTIONS OF MIRABEAU, by ETIENNE DUMONT, of Geneva. 1 vol. 8vo. pp. 400. Philadelphia—*Carey & Lea.*—The name of *Dumont* has heretofore only been known by its connection with that of *Jeremy Bentham.* In this volume we see him for the first time in an original work; and it is one which will cause every reader to regret that, owing to the death of the author, it can have no sequel. A native of Geneva, where in early life he was a successful preacher, M. Dumont, by reason of political events, became a voluntary exile; and, after spending some time in St. Petersburgh, took up his residence in England, where, by his connection with the Marquis of Lansdown as tutor to his son, he became intimate with many of the distinguished men of the nation, and particularly so with Sir Samuel Romilly. Through this gentleman, with whom he made an excursion to Paris in 1788, he became acquainted with Mirabeau, then in the depth of disgrace, and shunned for his vices by all that was virtuous in France, but yet of transcendant talent and powers of pleasing. The next year M. Neckar having become Minister, M. Dumont thought the conjuncture a favorable one for making an effort for the restoration of the liberties of Geneva; and therefore, in company with the Ex-Attorney General of that Republic, M. *Durouverai*, proceeded to Paris. The acquaintance with Mirabeau was here renewed and confirmed into the most close intimacy, although between men similar only in certain intellectual qualifications, but differing entirely in moral character and tastes. Detained in Paris by the hope, always receding, of doing some service to his native country, and thrown into constant and confidential association with, perhaps, the most remarkable man of the French Revolution at its dawn, M. Dumont was enabled to look with the eye of an intelligent and impartial stranger, whose opportunities of observation were the best, and whose love of liberty was a part of his inheritance—on the assembling of the States General, the scene of anarchy that ensued, and especially on the dazzling and extraordinary career of *Mirabeau*—and it is the Recollections of this period, which are embodied in the attractive and instructive volume now before us. It cannot be read by any one without interest; and no man accustomed to political studies will lay it down without the resolution of often recurring to it. We published some months ago from an English periodical, a sort of parallel instituted on occasion of the first appearance of this work and of Sparks' Life of *Gouverneur Morris*, between *Mirabeau* and our American Statesman, in which the character, events, and consequences of the revolution in France, and of that in this country, were judged in a degree by, and likened to, the characters and motives of the distinguished men who took part in each. As Americans, we were well content with the parallel; and indeed, for self-denial, disinterestedness, high motives, enduring exertions, and never despairing hopes of his country in her struggle for independence—there are few names among these enrolled in the catalogue of that heroic race, more worthy of honor than that of *Gouverneur Morris.* The results of the French Revolution did not differ more essentially from that of the American Revolution, than his character and conduct differed from that of *Mirabeau.* Yet these "Recollections," though they may take something from Mirabeau's reputation as a profound original thinker or speaker, are, we think, calculated to inspire somewhat more respect for his motives and aims, as a public man, than is now generally felt.

The American publishers have reprinted the work in very good style.

LETTERS ON NATURAL MAGIC, by *Sir David Brewster*, addressed to *Sir Walter Scott*—constituting Vol. L. of Harpers' edition of the Family Library.—We have before, in remarking upon this series of publications, taken occasion to note with gratification the fact, that the highest intellects seem willing here to combine to explain, to simplify, and render both intelligible and attractive to ordinary readers, the results of the profoundest sciences.—The Letters on Demonology and Witchcraft, by Sir Walter Scott, which constitute volume XI. of the Family Library, and Abercrombie's Work on the Intellectual Powers, which forms volume XXXVII.—taken with the volume now before us, elucidate most clearly and beautifully, problems which to the uninstructed mind, appear inexplicable, except through supernatural agency. The optical illusions which the investigations of modern times, aided by the art of printing, have unveiled to all eyes, were in other days the sources of power and dominion to rulers and priests. Rebellious spirits were subjugated by phantasmagoric representations, of which the secret was known only to the initiated; and the toy, or something analogous to it, which now delights only the nursery—the magic lantern—has made the stoutest hearts and most obstinate wills of determined manhood to quail. In this very amusing volume, where pleasure and instruction certainly go hand in hand, not only are the various kinds of optical illusions explained, but the many ingenious mechanical contrivances are described, whereby men's judgment has been puzzled, and, against conviction, imposed upon, such as the automaton Chess-player, Maillardet's Conjuror, and Babbage's Calculating Machine.

Readers of all ages, almost, and classes, will be charmed with this book.

BOYS' AND GIRLS' LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE. Vol. IV. *J. & J. Harper.*—This series is for children what the Family Library is for those of maturer years—and is well fitted to prepare the youthful mind for the more general and miscellaneous knowledge of the larger series. In the present little volume, of which the stories are illustrated by wood cuts, the chief incidents of the Old Testament are related in plain language, and incidentally the topography and general appearance of the countries referred to are described.

HISTORY OF SPAIN AND PORTUGAL, vol. III; Lardner's Cabinet Cyclopedia: Carey & Lea, Philadel.—This volume commences with the early History of Navarre; which, from the conflicting traditions of the Franks, Austrians, and Arabs, is wrapt in much obscurity. The author, however, after a fair examination of the various chronicles of that ancient day, fixes the period when Garcia I, the first King of Navarre, ascended the throne, somewhere about the year 886 7. The regular course of History once entered upon, we find a rapid, but interesting relation of the early wars of this principality; the invasion of France under Sancho—surnamed Abarca; the irruption of the Arabs in his absence, whom returning he defeats; his subsequent conquest and retirement to the monastery of San Salvador de Leyre, and his issuing thence again and checking the presumption of the infidels, are summarily described; the exploits of Sancho II., and of Garcia III., and the disputes between Castile and Aragon for the crown of Navarre, follow. Then succeeds the life and character of Sancho V., best known to those familiar with English romance as the father of Berengaria, the bride of Richard Cœur de Lion, who was despatched from her father's court to meet and marry her affianced husband at the Isle of Cyprus, where Richard remained long enough on his way to the holy-land to have the ceremony performed. But our limits do not allow us to give even a general view of this whole history, and we must therefore content ourselves with calling attention to a few of the details. One of the first passages of interest that catches our eye, is the story of the ill-fated Blanche, the wife of Juan of Aragon: but as we cannot make room for the whole of it, we quote a shorter one, which shows the retributive justice that Heaven kept in reserve for the unhappy Princess, and the manner in which that sceptre, the prize of her dark murder, was wrested from the house of Foix.

After the death of Charles and of Blanche, the condition of Navarre was deplorable. In 1460, the the count de Foix, outraged that the government was not confided to him by his father-in law, invaded the kingdom, but was speedily expelled by the archbishop of Saragossa, an illegitimate son of Juan.—This was not the only mortification of the Count: the same year he lost his son Gaston de Foix, who was killed, whether accidentally or by design is doubtful, at Bourdeaux. By the princess Magdeleine the young prince left a son named Phœbus, and a daughter named Catherine, who in the sequel swayed the sceptre of Navarre. Anarchy and violence now reigned triumphant: the two parties, the Beaumonts and the Agramontese, became more implacable than ever; the chief of one, Don Pedro de Peralta, assassinated in open day the bishop of Pamplona, though that prelate was the intimate friend of the Countess Leonora, then at Tafalla. In short, owing to the character of the king, whose authority, even had he been present, would have been disputed by a considerable party, there was no government; for though Leonora, from her evident proximity to the throne, was courted by many nobles, her commands were seldom obeyed, while her intrigues were frequently thwarted. In 1471, through the earnest and repeated remonstrances of some barons, and above all of his daughter, Juan went to Olite to arrange the affairs of this distracted kingdom. It was then agreed that he should have the title of king during life; that the three estates should do homage to the Countess and Count de Foix as heirs of the crown, and that they, as perpetual viceroys, should exercise the chief authority throughout the kingdom whenever the king was absent; and that there should be a full pardon for all political offenders, a restitution of all property violently or arbitrarily obtained, and an oblivion of all injuries. This last provision might be very excellent in itself, but where there was no power to insure its observance it was sure to be inoperative. The Countess herself had soon experience of this truth. Intending to pass to Pamplona, which had long been held by the Beaumonts in opposition both to her and the Agramontese, she acquainted the Count de Lorin, chief of that faction, with her purpose, and at the same time told him that, in consequence of the treaty which had just been concluded, she should be accompanied by the Marshal Don Pedro, chief of the Agramontese. The Beaumont replied that she should be welcome, but advised her to leave Don Pedro behind. The Countess persisted, and as there were many of the Agramontese faction in the city, the Marshal secretly bribed one of them to open a gate on a certain night. At the time appointed he arrived before it, escorted by a strong body of cavalry. As the man was not immediately at his post the horsemen grew impatient, and endeavored to break it open: the noise awakened one of the Beaumonts, who had time to give the alarm; the bell sounded from the Tower of St. Firmin; the partisans leaped from their beds, put on their armor and hastened to the gate, which in the interim had been opened for the enemy. A bloody combat ensued, which ended in the expulsion of the Agramontese: the Marshal fell; and such of his faction as could be found were hanged or cut down.

The husband of the Countess, who was at this time in his hereditary domain, upon hearing what had happened, collected troops and put himself at their head—but the curse that seemed to rest upon the members of his house overtook him too, and he expired suddenly in the Pyrenees, before his march was well begun.

But though these pages abound in those incidents, from which romance writers derive their happiest materials, they are all exceeded in interest by the melancholy history of Inez de Castro—which is thus told:

Soon after his marriage with Constanza, daughter of Don Juan Manuel, Pedro, the infante of Portugal, had become passionately smitten with one of her attendants, Doña Inez de Castro, a lady of surpassing beauty, and frail as beautiful. That he made

love to her, and that his criminal suit was favorably received, is indubitable, both from the deep grief which preyed on the spirits of Constanza, and from the anxiety of the king, lest this new favorite should be the cause of the same disturbance in Portugal as Leonora de Guzman had occasioned in Castile. To prevent the possibility of a marriage between the two lovers, Alfonso caused Iñes to hold over the baptismal font a child of Pedro's,—in other words, to contract a near spiritual affinity. But the man whom the sacred bond of wedlock could not restrain, was not likely to be deterred from his purpose by an imaginary bar. After Constanza's death, which was doubtless hastened by sorrow, he privately married the seductive favorite. How soon after the death of the first wife this second union was contracted, whether immediately, or after Iñes had borne him three children, has been matter of much dispute. But the documents recording it have long since been produced; and from these it appears that the marriage was celebrated on the 1st day of January, 1354, when Iñes must have borne him four children, of which three survived. It also appears that a papal dispensation was obtained for it, and that it took place at Braganza, in presence of a Portuguese prelate and his own chamberlain. However secret this step, it was suspected by some courtiers, who, partly through envy at the rising favor of the Castros, and partly through dread of the consequences which might ensue, endeavored to prevail on the king to interfere in behalf of young Fernando, the son of Pedro and Constanza, and the lawful heir to the monarchy. With the view of ascertaining whether a marriage had really been effected, the prince was urged to take a second wife from one of the royal families of Europe; and the manner in which he rejected the proposal confirmed the suspicion. But mere suspicion was not enough. The prince was summoned to court, compelled to a private interview with his father, and urged, in the most pressing terms, to declare whether his connexion with doña Iñes was one of matrimony or gallantry. He solemnly and repeatedly replied, that she was not his wife, but his mistress; yet, when the entreaty was renewed, that he would abandon so guilty an intercourse, he firmly refused. The king now secretly consulted with his confidential advisers, as to the precautions he ought to adopt in regard to young Fernando, since, from the boundless influence possessed over the mind of Pedro by doña Iñes, it was feared that the true heir would be set aside from the succession in favor of her offspring. Unfortunately, both for his own fame, and for the interests of the kingdom, Alfonso consulted with such only as were personally hostile to the lady: they did not scruple to assure him, that unless she were forcibly removed, the state after his death would become a prey to all the horrors of a disputed succession. We are told that his soul revolted at the deed; but that, in the end, they wrung from him a reluctant consent to her death. The time, however, which elapsed from the formation to the execution of this murderous purpose, proves that pity was a sentiment strange to his breast. That purpose was not so secret as to escape two friends of Pedro,—his mother, the queen Beatrix, and the archbishop of Braga. Both, in the design of averting the catastrophe, warned him of the plot; but he disregarded the intimation—doubtless, because he could not believe that the royal mind of his father could be contaminated by the guilt of murder, and because he considered the warning as a feint to procure his separation from Iñes. After the lapse of some months, the king hearing that his son had departed on a hunting excursion for a few days, hastily left Monte Mór, and proceeded to the convent of St. Clair, at Coimbra, where she then was. On learning his approach, she at once apprehended his object. Her only resource was an appeal to his pity. Taking her three children by the hand, she issued from the convent to meet him, prostrated herself at his feet, and in the most pathetic terms begged for mercy. Her beauty, her youth, her deep emotion, and the sight of her offspring,—his own grand-children,—so affected him, that after a struggle between policy and nature, the latter triumphed, and he retired. No sooner, however, was he in private with his confidants, than they censured his compassion, though natural in itself, as ruinous in its consequences to his family and kingdom. By their artful representations, they not only confirmed him in his original purpose, but obtained his consent that they should be intrusted with its immediate execution. Accordingly they hastened to the convent, and the unfortunate, guilty Iñes, fell beneath their daggers.

The fate of this lady has called for the deepest commisseration of novelists and poets, and has given rise to some rigorous effusions of the tragic muse. But her crimes have been carefully thrown into the shade; and the author of this work justly observes, that "the woman who could consent to a criminal connexion with a married man—the object of an amiable wife's love;—who, by her guilt, broke the heart of that excellent princess; who, before the remains of that princess were cold, renewed the criminal intercourse; and who, during so many successive years, was the ready, nay eager creature of his lust, must, by unbiassed posterity, be regarded with anything but respect." Her tragical end must indeed command our sympathy, and cover her assassins with abhorrence; but let not these natural sentiments blind us to her crimes,—for, if pity be a weakness when lavished upon the undeserving, sympathy becomes sin when it leads us to tolerate guilt.

*

TRIBUTE TO THE MEMORY OF SIR WALTER SCOTT; by the Rev. J. McVickar, D. D.—The eulogium of Dr. McVickar which was some weeks since pronounced before a large and delighted auditory at Clinton Hall, has since then been looked for with much interest, and will now be read with eagerness. The opportunities which the orator enjoyed of close and intimate, though brief, intercourse with the illustrious deceased, suggest so many affecting reminiscences of the individual, and striking illustrations of his writings, drawn from his own habits or observations, that the discourse independent of its literary and critical merits, possesses a *Boswellian* charm—if we may use the term—that will recommend it to every one who would domesticate himself for an hour with the lamented master of Abbotsford. As the pamphlet will probably be in the hands of most of our readers, it is hardly worth while to quote at length; but there are some little passages which like the following, are too happy to pass over unnoticed. Speaking of that peculiarly felicitous temperament with which Scott was gifted, Prof. McVickar remarks, that

Never did man show in his ordinary deportment more of those gentle qualities which sweeten life and banish envy,—which cannot give, and therefore never take, offence. He seemed to me to have his dwelling within the circle of his own happy benevolent imaginings; and when he came forth, it was not like the Baron bold, with visor barred and spear in rest, seeking cause of offence with all whom he chanced to meet,—but rather, like the minstrel of his own sweet and simple picture,

——"on prancing palfry borne,
He carroll'd light, as lark at morn."

Again, in speaking of the light of Scott's fame, as a poet, growing dim before the rising splendor of Byron's genius, the orator thus alludes to "the Northern Magician's" changing the form of his talisman, and casting his spell where no counter-charm could defeat its power:

To yield power without a sigh, may be the part of wisdom; but to yield it without a struggle, belongs only to a feeble mind. Such was not Scott's: and the failure of his poetry in the presence of Byron's (a fact which his family in conversation were more apt to overstate than to deny), threw him upon a new effort to recover the ground he had lost, and led to one of the most remarkable and successful instances of anonymous authorship which the literary world had ever witnessed;—to borrow the happy allusion of Cunninghame, "it was like his own black knight in Ivanhoe, who not only chose to fight with his beaver down, but refused to raise it and show himself, when he had overcome all opponents;" and to this analogy we may add, that the cause of refusal was in both the same,—namely, because it was their own banished sovereign, come to vindicate, with resistless arm, his lost dominion

We had marked for quotation, but must defer for the present, a passage containing a just and animated defence of the *solid* value of Scott's writings. We concur entirely with the orator in his high estimation of their moral effect, though we have before now in this place endeavored to show, that their political tendency was much to be deprecated in an age, when the enlightening spirit of republicanism teaches us to look with pity upon the generous but servile devotion of a brave nobility to the bigoted and tyrannic Stuarts, and to reject with scorn and indignation the audacious claim of a weak and profligate race to heaven-granted power, over men with thews and sinews like their own.

*

Messrs. Cary & Lea have published, in an octavo volume, of 571 pages, Prince Puckler Muskau's famous *Tour in England, France, and Ireland*. We have already mentioned this work as one of the most acute, lively, entertaining and instructive of the kind. Every American may enjoy it as a complete retaliation upon England, for the disparagement which other countries, and ours particularly, have suffered from her travellers, whether Moores, Fearons, or Trollopes. It is entitled to authority, possesses general interest, and conveys much information. Goethe wrote an encomiastic review of the German original; the English translation is excellent. The American edition has the advantage of chronological order, and consisting of one well printed volume instead of the English four, is more convenient than the English,—to say nothing of the difference of price.—[National Gazette.]

Mr. P. T. Roger, a deaf and dumb person, late of the Royal Institute for the Deaf and Dumb at Paris, has arrived at New Orleans, where he has opened a boarding house at 255 Dauphin street, for the accommodation and instruction of unfortunate persons of this description.

POETRY.

[FOR THE NEW-YORK AMERICAN.]

ON THE DEATH OF ROBERT C. SANDS, ESQ.

——— quia nec fato, merita nec morte, peribat,
Sed miser ante diem.—*Virg.*

Shall he who for the illustrious dead,*
The Poet's plaintive strain could raise—
Now darkness rolls above his head,
Shall he e'er want the song of praise?

Thy memory claims the just amend,
And warmly shall thy praise be sung,
Could Friendship's feelings, for a friend,
In sadness find a willing tongue.

Ah! mournful is that honored part,
Which hearts yet bleeding may condemn;
When thine—thy own, true, noble heart—
Is cold, and cannot beat with them.

Sleep in the silent halls of Death,
It is thy early manhood's doom—
Sleep well, for Fame's applauding breath,
Shall keep oblivion from thy tomb.

There in those calm Elysian Shades,†
The Child of Nature finds a grave:
He loved his native forest glades,
The sloping hills, the rippling wave.

And well the lonely, rural scene,
Suits for his silent place of rest;
Whose memory, like the Summer's green,
Unscathed by Autumn, shall be blessed.

What are the honors of the dead?
Be not their idle pomp thine own—
For worth and friendship shall be said,
To form thy monument alone!

G. B.

* "The Dead of 1832," a Poem, by Mr. S.

† The beautiful grounds around Hoboken, near which Mr. S. resided, and where he was buried, are called "The Elysian Fields."

A SONG.

Oh Lilla is a lovely lass
As ever man did woo!
Her eyes all eyes on earth surpass,
They kill and cure you too!
Her winsome waist, however laced,
A hand might span it all:—
Her shoulders fair, lit by her hair,
Whose yellow tresses fall
Like sunbeams shed upon a bed
Of lilies in mid June,
Or golden light in summer night
Soft streaming from the moon;—
These are charms which moral men
May behold with careless eye;
I, who am devoutest then,
Love them to idolatry!

Her ruddy lips, like scarlet hips,
The balmy breath between;
Her soft sweet tones, who hears them owns
The music which they mean;
Her hands and arms have each their charms;
Her nimble stepping feet,
The very ground loves their light sound,
Soft as her bosom's beat:—
Her winsome waist—her shoulders, graced
With sunny showers of hair—
Her voice, how sweet!—her dancing feet,
Her face, like heaven's, fair;—
These are charms which moral men
May behold with careless eye;
I, who am devoutest then,
Love them to idolatry!

FOREIGN INTELLIGENCE.

LATE FROM EUROPE.—*Actual Commencement of Hostilities, &c.*—The South America, packet ship, from Liverpool, brings, us papers from that city to the 5th, and from London to the 4th, both inclusive—their contents are important.

The Dutch Commander of the Citadel of Antwerp was summoned on the 30th to yield up that fortress. He unequivocally refused. The French proceeded that night to open trenches before it, and, favored by thick and stormy weather, were enabled to put themselves under cover in their first parallel from the fire of the fort—which, however, had been feeble and reluctant, and without much, if any execution.

In the civil history of Belgium, the most important piece of news is the resignation of Leopold's Ministers, in consequence of their defeat on the motion for the address to the Crown. The Debate, which had been urged with great heat, terminated on Monday; when an amendment was carried on an amendment, which conveyed a direct censure on the Ministers. Even the amendment that was carried implies a censure for their having complied with the demand of the Conference to deliver up Venloo, Limburg, and part of Luxembourg to Holland, on condition that Holland delivered up the Citadel of Antwerp. It was moved by a friendly deputy, instead of the original paragraph, in which they were praised for what they had done. The amendment was carried, in a house of 86, by a majority of 2; 44 voting for it, and 42 against it—three of the majority were the Ministers themselves. The proffered resignation of the Ministers had not been accepted by the King; and it is supposed that, sooner than consent to it, he will dissolve the Chambers.

On the part of *Holland*, there is no abatement of spirit. The King has called out a levée en masse of his people, and issued a proclamation in which he says that the measures of aggression against the Dutch navigation, and the entrance of the French army into the Netherlands "to support by violence the iniquitous demands" to deliver up the fortresses, leave him no alternative but

To defend the safety, the right, and the independence of Holland, by all the means which Providence has placed in our hands, and which are seconded by the patriotism, union and firmness of a people which has been for ages respected by the most powerful States. Far, however, from relying on our own strength, we are humbly sensible of our dependence on the Supreme Sovereign of the world, whose mighty arm has so often delivered us and our ancestors from the greatest perils;

and accordingly, he orders the 2d December next to be held as a day of solemn fasting and humiliation.

In *France*, the ministry carried everything before them in the Chamber of Deputies. M. *Dupin* was elected President, and in both houses the addresses in answer to the King's speech, which were but echoes of its sentiments, were carried almost without modification,—an amendment offered by M. *Merilhou*, to disapprove the placing Paris in a state of siege after the days in June, being rejected by a great majority.

Marshal Soult, as President of the Council, talks confidently of preserving peace. "Nothing," he said, "was changed in the foreign relations of France. It remained to consolidate the general peace by the execution of treaties; and to make the harmony of the great powers evident to all interests. It was therefore necessary to dissipate the last pretext for the embarrassments which existed in Europe, and thus to prove the fidelity of all Cabinets *to engagements which they had taken in common.*" The following allusion to the movements of the Prussian forces on the Rhine is deemed explicit and satisfactory:—"The co-operation of England and France will be sufficient to attain the desired object. If, on the other hand, precautions have been imposed by a natural prudence on a neighboring state, in the presence of military movements, there is nothing in them to alarm the most suspicious policy. These are measures which the most ordinary caution would counsel to every people in such a case; and we have opposed to them on our part measures of the same kind, which establish in our means of observation the most perfect and satisfactory balance. They ought to be regarded, therefore, rather as the guarantees of peace than the eventual menaces of war." The Marshal, in speaking of the operations of the siege of Antwerp, held out strong hopes of a speedy result. "These operations are to be pushed forward with the greatest activity, and in a few days we shall be able to mark their termination in a precise manner. Success will not be long waited for."

In the Chamber of Peers the address was adopted on Wednesday with only a minority of 8!

In the discussion on the address in the Deputies, a direct contradiction being given by *Admi. Rigny*, minister of Marine, to a statement of *Odillon Barrot*, a duel was expected, but by the interposition of friends was prevented.

M. Hyde de Neuville, in imitation of M. de Chateaubriand, has addressed a letter to the Duchess of Berry, offering her his services as one of her defenders on her anticipated trial.

In *Portugal*, the star of Don Pedro is paling before that of his more fortunate brother. Though worsted at sea, Miguel had nevertheless succeeded in blockading the entrance of the *Douro*, by erecting a battery on the south bank, which commanded the passage, and thus Oporto was closely invested by sea and land. Due notice thereof had been given to the British naval commander, with a positive intimation that neither merchant vessels nor ships of war would be permitted to enter; and subsequently upon a British cutter attempting to go in, the fort opened a fire and kept it up till she put about. The Marquis Palmella had suddenly gone to England, hoping perhaps yet to induce that country to aid Donna Maria—or perhaps to interpose at least to make terms for the unhappy force cooped up in Oporto,—where the greatest discontent prevailed, especially among the foreign mercenaries—must we not call them so?

In *Spain*, Count Ofalia, long the Ambassador in Paris, had been appointed prime minister in the place we believe of *Zea Bermudez*, who declined. *Calomarde*, the disgraced minister of the Apostolical party, who had been banished to Minorca, escaping thence had arrived in a destitute state in France.

In *England*, the Parliament was at length dissolved, and writs issued for the first election under the Reform law. The writs not being returnable till 29th January, there will be no session till February. Meantime, the country will be agitated from one extreme to the other, with warmly contested elections.

The King in Council had issued two new orders respecting the detention of Dutch vessels, and the blockade of Dutch ports. By the first, all Dutch vessels that had been, or might be, detained, having on board perishable cargoes, were to be released, and allowed to proceed. By the second, the interdict of British vessels to trade with Dutch ports, was limited to the ports of Holland alone, and not to extend to the colonies.

ANTWERP, Sunday, 7 P. M.—8,000 Frenchmen of the army of reserve have entered Mons; they will reach Brussels on Monday. Contracts have been signed for the provisioning of the army of reserve.

There are nearly 100,000 Frenchmen now in Belgium.—[Herald.]

A letter from Malta, of the 12th of Nov.—"We have in port the U. S. ships-of-war the Brandywine and John Adams, which vessels may perhaps winter here. Their Consul, Mr. M'Cauley, at Tripoli, has struck his flag, in consequence of one of the Bey's sentinels having shot his dragoman."

MARRIAGES.

On Monday evening 7th instant, at St. George's Church, by the Rev. Dr. Milnor, Henry B. Starr, to Miss Eliza Hardman, both of this city.

In Castine, on the 18th Dec., Lieut. Charles Thomas, of the U. S. Army, to Miss Mary S. Mason, daughter of the Rev. Wm. Mason.

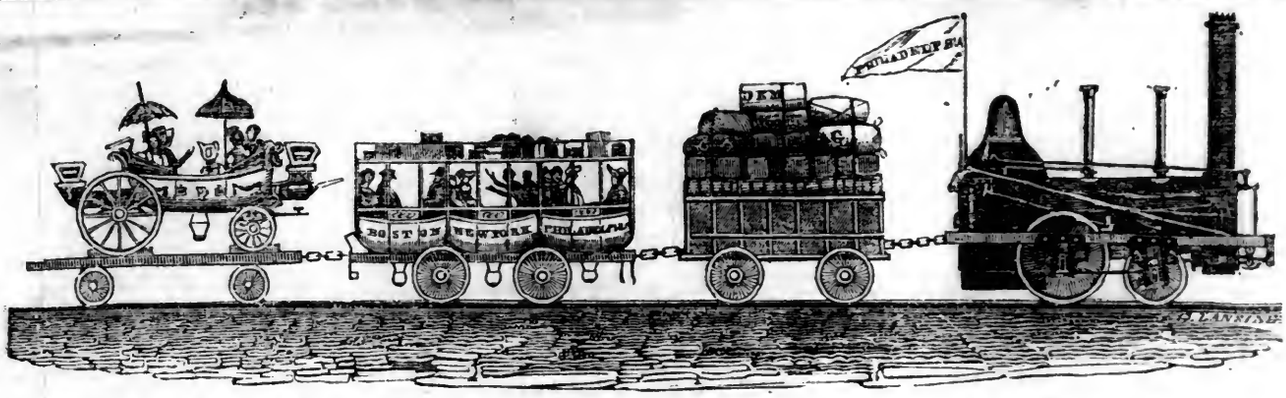
DEATHS.

This morning at 5 o'clock, after a lingering illness, Caroline Elizabeth, wife of John T. B. Ketcham, in the 24th year of her age.

January the 6th, after a long and severe illness, Miss Maria Clinton Leggett, Esq.

On Saturday last, at New Haven, the Hon. JAMES HILLHOUSE, aged 78. Mr. H. had been during the morning attending of the Prudential Committee of Yale College, apparently in his usual health. About noon he returned to his house, and sat down reading letters received that morning. Without speaking to any one he rose from his chair and entered his bed room. As it was not his practice to lie down during the day, a member of the family followed him in a moment or two, and found him lying in the bed already dead. From the appearance of the body it is probable that he died instantly on reaching the bed. The physician, who was immediately summoned, pronounced it apoplexy.

At Greensburgh, Westchester County, on the 4th instant, Mr. Joseph Paulding, aged 69 years.



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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 19, 1833.

It will be perceived on reference to our Legislative proceedings, that, in Assembly, the Harlaem Railroad Charter, has been so amended as to allow them to lay their Rails through such streets as the Common Council may permit.—We hope, and believe there is little doubt, but that the bill will become a law—as it is now reduced to a certainty, that there is less danger to be apprehended from coaches on a railroad than those drawn in any other way. We anticipated the laying of the rails during the ensuing season, at least as far down as the Merchants' Exchange, in *Wall-street*.

We perceive by the London Mechanics' Magazine for October, that Mr. *Sherman Converse*, of New-York, has secured a patent in England for improvements, made by a gentleman of this city, in manufacturing metalic rails for railroads; the same we believe to which we referred in the first number of this volume, under the title of *New-York Guard Rail*. A patent has been secured, we understand, in France and Italy, as well as in England and the United States, and we hope a rich reward will be realised by the gentleman who has by this invention, we doubt not, effected a saving of hundreds and hundreds of thousands of dollars to railroad companies, and thereby brought the advantages of railways nearer to every man's door.

A few days since, as the train was passing on the Newcastle and Frenchtown Railroad, the Baggage Car took fire, as is supposed from a spark from the engine, by which a great proportion of the baggage was destroyed,—and amongst the rest, a carpet bag, belonging to one of the passengers, containing United States Bank notes to a large amount, designed for the Fayetteville, N. C. Branch, was considerably burned. One package of $60,000, in hundred dollar notes, was lost, and another package much burned. The guardian of *such* a bag should never lose sight of it when travelling.

The following extract of a letter from an intelligent and highly respectable gentleman living in the interior of the State of New-York, comes directly to a subject of much interest to a large portion of our readers and the community at large: we therefore take the liberty of publishing, and we would respectfully request of gentlemen who have charge of the *transporting* department of Railroads and Canals, the favor of such a statement of the rates or charges, both for passengers and freight, as will enable us to furnish the necessary information.

Dear Sir,—I take the liberty, which I presume will be kindly indulged in a subscriber to your valuable Journal, (whatever may be the course adopted,) to suggest two improvements in the paper, viz:

1st, To the large fund of useful information respecting the *construction and cost* of railways and engines, &c. and the occasional views of *aggregate and daily income*, &c. information directly essential to the actual or intended *Stockholder* or *Engineer*, that you will collect and add a species of information no less interesting to that portion of your readers who neither have nor expect any immediate concern in the *stock* of *railways*, &c.: a detail of the charges for *passage* and *transportation*, with the *distances*, &c. on the most prominent *railroad* and *canal* routes in the Union.—The utility of this information to merchants, persons travelling, and the curious inquirer into the relative benefits of *railways* and *canals*, will be seen at a glance.

2d, That in selecting from the pages of the *London Mechanics' Magazine*, you will favor us as far as possible with all those improvements in mechanics, &c. that are applicable to the uses, and which come within the means, of the citizen of moderate fortune. Your subscriber here humbly conceives, that where a portion of valuable matter must be excluded, a large majority of your readers would prefer to be informed respecting improvements of the above description to those adapted only to the heavy capitals of large Companies. But of this your subscription list will furnish the best hint.

[*From the Boston Daily Advertiser.*]

Boston and Lowell Railroad.—From the 2d annual report it appears that, during the past year, the location has been determined and the road laid out through the whole line; and the damages have been settled for lands and fences for about half the line in length. The grading of the road, namely, the excavation and embankment along the whole line, with the exception of three deep cuttings in Charlestown and Medford, is under contract and nearly completed, of a sufficient width for two tracks. The bridges in the country (one over Patucket canal excepted) are under contract, and in a state of forwardness; and the materials for those over Charles river and Patucket canal are on hand and contracted for. The rails are laid for a single track, about 3800 feet, from Miller's creek to Winter hill, and a sufficient quantity of the rails is imported to lay a single track of 11¼ miles. To facilitate the crossing of Charles river, and to provide sufficient land for a depot, as well as to receive the large quantity of earth which must be removed in graduating the road, the Corporation have purchased of the proprietors of the Canal Bridge all their flats lying north of their bridge and between the channels of Charles river and Mill creek, except a piece for a toll house. A tract has also been purchased in Charlestown, containing a ledge of rocks, which has proved of much value in the construction of the road, and various other tracts have been purchased, which were necessary either for the proper construction of the road, or to avoid claims for damages. Two locomotive engines have been imported, and materials have been provided and contracts made for 100 cars, to remove the earth from the deep cuttings. Seven assessments upon the stock have been made, amounting to $300 per share, the amount received from which is $310,050.—A balance of interest of $364 08, has been also received, with rents amounting to $77 77; and on loans and an acceptance of iron, $16,371 93; making the whole amount of receipts $326,-863 78. Since the commencement of their undertaking, to the 20th ult. the whole amount expended has been $325,779 55.

[*For the American Railroad Journal.*]

Note.—Thro' inadvertence, the formula $v = \frac{90\,b}{T+f}$ in the following communication, is placed with the succeeding or final formula, instead of being inserted after the paragraph beginning with "Substituting this value," &c.—*Printer.*

The Treatise on Railroads written by Nicholas Wood, contains a table exhibiting the performance of certain locomotive engines, moving with different loads, and upon planes of different inclinations. This subject is an interesting one to the practical engineer; and to

the speculative mathematician it presents a problem for investigation.

The principal difficulty in estimating the performance of these Engines, is the uncertainty which seems to exist with respect to the amount of the loss of leverage under which the pressure of the steam in the cylinders must act, in communicating motion to the travelling or adhesion wheels. For with respect to steam engineers in general, a great source of loss in power arises from the oblique action of the connecting rods in communicating a rotary motion to the crank.

Some of the English engines, according to the above named treatise, are capable of exerting a motive force equal to 30 per cent. of the whole pressure of the steam upon the pistons. But it will appear from the following remarks, that an estimate of 30 per cent. much exceeds the truth. Indeed, as the effective pressure will vary with the length of stroke, and the diameter of the adhesion wheels and other things, it is impossible from any principles which would seem to have been contemplated by Mr. Wood, to make any just estimate of the effective pressure of the steam in engines differently constructed in those respects. The loss of effect, as far as the crank alone is connected, is susceptible of being determined by a strict mathematical investigation. For the object of inquiry will evidently be to ascertain what must be the value of a constant and uniform force, which, acting at the extremity of the crank, in the direction of its motion, will communicate the same momentum, in the time of one complete revolution, as is communicated by the variable pressure of the connecting rod, in the same time.

The differential and integral calculus renders this an inquiry of easy solution. I take the following notation: P= given force or pressure of the steam upon the piston; P′ = pressure communicated from the piston to the connecting rod; P″ = pressure communicated from the connecting rod to the extremity of the crank, in the direction which produces a motion of rotation; P‴ = effective pressure of the steam upon the crank, or an uniform pressure, required to act upon the extremity of the crank, in the direction of its motion, in order to generate the same momentum in a given time, as is generated in the same time by the variable pressure P″; k = length of the connecting rod; h = length of the stroke of the piston.

There are evidently two points in each revolution of the crank, which gives P″ = o; and two other points *nearly* in the middle between the former, which gives P″ a *maximum*. Take therefore a circular arc z, to radius unity, containing the angle between the position of the crank at any time, and the remote point where P″ = o.

The quantity of motion, communicated to the crank by the pressure P″ in an instant of time, is, agreeably to the principles of dynamics, represented by P″ × dz; and therefore the whole quantity of motion, communicated to the crank, in describing the arc z, will be represented by the integral of P″ × dz. But the whole quantity of motion which the constant pressure P‴ would generate in describing the same arc, is in like manner represented by P‴ × z.

When therefore those two quantities of motion are made equal, the general expression is,

$$P''' = \frac{\text{Integral of } P'' \times dz}{z}$$

Taking an arc A, whose sine is $\frac{h \sin z}{2k}$, it follows from the principles of mechanics, that P′ = P × *Cos.* A; and also, that P″ = P′ × sin (z — A). Hence,

$$P'' = P \times Cos.\ A \times \sin (z - A).$$

Substitute for *Cos.* A and *sin* A, their values; expand $\left\{ 4k^2 - h^2 \sin^2 z \right\}^{\frac{1}{2}}$ into a series; and because $2k$ is always much greater than h, omit all quantities which contain $\frac{h}{2k}$ beyond the first power; multiply by dz, and integrate. The result, when $z = 180°$, is very nearly P‴ = $\frac{2}{3}$ P. And hence the following general

THEOREM:—A rotary motion being communicated to a crank, from the oscillations of the piston rods of a steam engine, by means of connecting rods much longer than the length of the crank: I say, the effective force upon the crank, during each complete revolution, abstracting from inertia and friction, is equivalent to a constant and uniform pressure of very nearly two-thirds of the whole force of the steam upon the piston rods, acting at the extremity of the crank, in the direction of its motion.

Having now found the effective pressure upon the crank, it is easy to determine what part of the whole force of the steam upon the pistons is communicated to the periphery of the adhesion wheels of the engine.

Let r be the radius of those wheels, and take E to represent the force communicated to the peripheries thereof. The principle of virtual velocities, gives E : P‴ : : velocity of the extremity of the crank : velocity of the periphery of the adhesion wheels. But in uniform motion, the velocity is as the space directly and time inversely; and supposing the gearing of the engine to be such, that each ascent or descent of the piston, produces $\frac{1}{u}$ part of a revolution of the adhesion wheels, the time of one revolution of the crank, will be = $\frac{2}{u}$ × time of one revolution of the adhesion wheels. It thus follows that E : P‴ : : $\frac{h}{2}$: $\frac{2r}{u}$; or, E = P‴ × $\frac{uh}{4r}$; and substituting for P‴ its value $\frac{2}{3}$ P, the following practical formula is at once obtained, viz.:

$$E = P \times \frac{uh}{6r}.$$

In the "Planet" engine, described by Mr. Wood, the following values obtain, viz. r = 2.5 ft. h = 1.33 ft. and u = 2; and therefore in this case E = P × $\frac{8}{45}$: showing that engine to be capable of yielding an effective pressure of only about 17 per cent. of the whole pressure upon the pistons, even without regard to inertia and friction. This engine is stated by Mr. Wood to be capable of yielding an effective pressure of upward of 30 per cent.! Indeed, the effective pressure of the English engines appear to be much overrated by Mr. Wood, as will be seen from an application of the above formula.

In an engine recently constructed for the Lexington and Ohio Railway, the following values are given, viz: r = 1.5, h = 1.5, and u = 2; and therefore E = P × $\frac{1}{3}$; indicating an effective pressure of 33 per cent. when inertia and friction are not considered.

Let T = force of traction in lbs. which an engine may be required to exert upon its own carriage and upon the load; f = a force of traction in lbs. which is equivalent to the inertia and friction of the machinery of the engine; c = surface area of pistons in sq. feet; p = pressure per sq. inch upon the pistons; b = gallons of water which the boiler is capable of evaporating into steam per hour; v = rate of travelling in miles per hour.

From known principles the following formula is soon obtained, viz:

$$v = \frac{15\,br}{4\,uchp}$$

The whole pressure upon the pistons is denoted by 144 pc; and therefore 144 pc × $\frac{uh}{6r}$ = effective pressure, without inertia or friction; or, 144 p c × $\frac{uh}{6r}$ — f = T; and eliminating p, the result is,

$$p = \frac{r \times (T + f)}{24\,c\,u\,h}$$

Substituting this value for p, in the expression for the value of v given above, the following general formula is the result, viz.

Taking the case of the engine "Atlantic," as given in a report of the chief engineer of the Baltimore and Ohio Railway, the following values obtain, viz: b = 300 gal. f = 450 lbs. and the adhesion of the wheels = 1120 lbs. In this case therefore, $v = \frac{270000}{15750} = 17\frac{1}{3}$ miles per hour, being the velocity with which this engine will travel when exerting a force of traction equal to the adhesion of its wheels; the same result as given in said report very nearly.

A general expression has thus been investigated, for determining the velocity with which a given locomotive will be capable of travelling, when it has to effect any given force of traction. But upon curves the traction will vary with the velocity, in which case a different formula will be required. Let w denote the weight in lbs. of an engine, capable of moving a load with the carriages whose weight in lbs. is W, with a velocity v in miles per hour, upon a curve whose radius in feet is R, and upon a grade whose ascent or descent in a distance unity is n, and in carriages whose moving friction is m.

The following is then the general formula:

$$v = \frac{90\,b}{T + f}$$

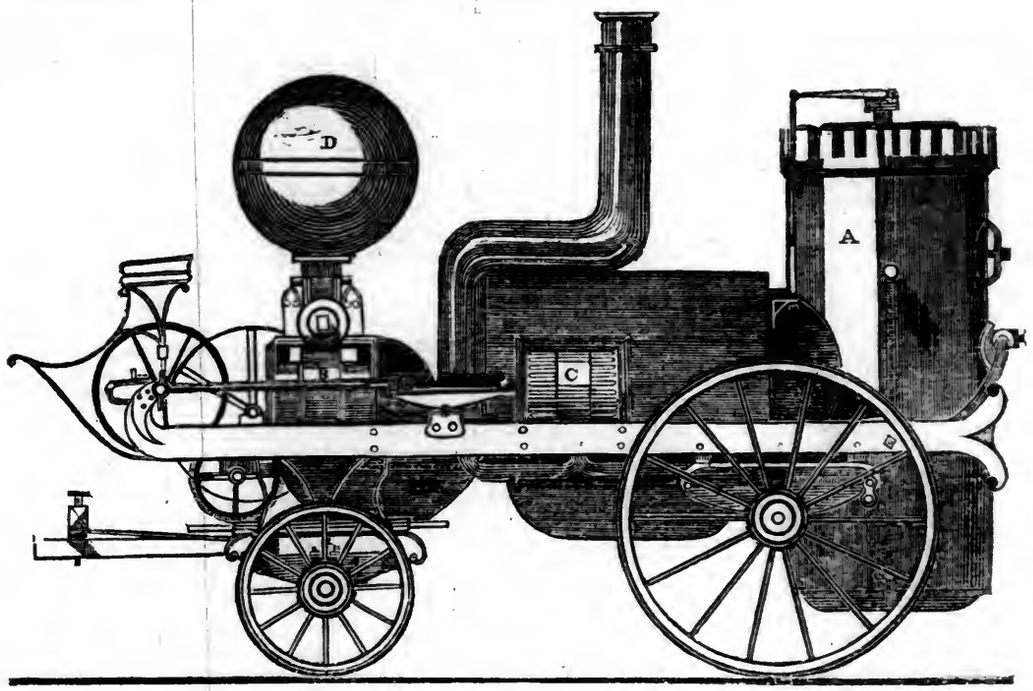
$$V^3 + V \times 60R. \left\{ m \pm n + \frac{f}{w + W} \right\} = \frac{5400\,R\,b}{w + W}.$$

Which cubic will give the velocity when the engine moves under circumstances of various loads, grades, and curvatures. The investigation I omit for want of room in this Journal, and will only observe, that it is easily obtained from the preceding.

Should the calculations given above be found, upon further examination, to be defective in principle, still it is hoped that they may be the means of suggesting to the scientific engineer some hint which may guide him in the pursuit of an investigation leading to results more consonant with experience; and thereby enable him to estimate the performance of any proposed locomotive engine, from the pressure and quantity of steam given, with more precision than seems to have been hitherto understood.

V. D. G.

Lexington and Ohio Railroad,
18th Dec. 1832.



[*From the London Mechanics' Magazine.*]

THE STEAM FIRE ENGINE "COMET."—We give on the preceding page an engraving of a new steam fire engine, which has been built by Mr. Braithwaite for the King of Prussia, and has been named the "Comet," (in honor we presume of the portentous stranger whose near approach is

——with fear of change
Perplexing monarchs.)

It is intended to be exclusively employed for the protection of the public buildings of Berlin, and will in a day or two take its departure for that capital. On Monday last we were present at a public trial of its capabilities at Mr. Braithwaite's Wharf, on the Paddington Canal, and we now proceed to report the results of which we were eye-witnesses.

But first, a word or two by way of description:—the engine, it will be seen, bears a general resemblance to the one of which we gave an account of in our 340th number, and which has been repeatedly employed with so much effect at fires in this metropolis. A, the boiler, is on the same plan as that of the Novelty with this exception, that the combustion is promoted by means of an exhauster F, instead of a bellows; the flue is in two lengths, and the greatest diameter 5 inches. The steam cylinder, (C) is 12 inches in diameter, with a 14 inch stroke. The water cylinders, (of which one only (B) is seen in the engraving,) are ten and a half inches in diameter, with also a fourteen inch stroke. The steam from the eduction pipe is conveyed through two coils of tubing laid in the water tank, and imparts a considerable degree of heat to the water before it is transferred to the boiler. D is the air vessel, E the furnace grating. The feed pump, (not seen in the engraving), is equal to the supply of from 20 to 25 cubic feet of water per hour.

The steam having been got up (in 20 minutes as we were informed) and the pressure in the boiler being at 70 lbs. the square inch, the engine was set to work with a single pipe applied, of 1¼ inch in diameter. The height to which the water was ejected could not be less than from 115 to 120 feet. The number of strokes per minute was eighteen, which gives for the quantity of water thrown 1 ton 7 cwt. 13 lbs. per minute. For,

The water cylinder being 10½ in diameter, the area of the water piston must be 86.6 square inches:

And a 14 inch stroke of the engine, gives for the length of the stroke in the water cylinder 56 inches;

Therefore, 86.6 × 56 = 4849 6 cubic inches of water each stroke = 2.8 cubic feet. Deduct for back water through the valves, 1, leaves for the effectual result 2.7 cubic feet;

And, multiplying 2.7 by 18, the number of strokes per minute, we have 48.6 cubic feet per minute = 3037 lbs. = 1 ton 7 cwt. 13 lbs.

Two pipes were afterwards substituted, of 7-8 inch in diameter; then four of 5-8 inch in diameter; and the effect produced in each instance was as nearly as possible equivalent to that obtained by the 1¼ inch jet.

The average working power of the engine may be therefore stated at between 80 and 90 tons of water ejected per hour.

The consumption of coke per hour is about three bushels.

The sum agreed to be paid for the Comet is £1200; but we should imagine that this can scarcely be a remunerating price for an engine of such magnitude and power, and finished in a style of workmanship which called forth the most unqualified encomiums from the numerous engineers and other scientific persons present at the exhibition of Monday last.

The following able, yet not more able than true, exposition of the advantages of Railroads, is from the *Edinburgh Review*. It is but a plain statement of facts, yet they are so *clearly* and *forcibly* stated, that they can hardly fail to convince those who still doubt the truths therein set forth. We should be gratified to see them extensively copied.

RAILWAYS.—Railways are in progress between the points of greatest intercourse in the United Kingdoms, and travelling steam engines are in preparation in every quarter for the common turnpike roads; the practicability and utility of that application of the steam engine having not only been established by experiment to the satisfaction of their projectors, but proved before the legislature so conclusively, as to be taken for the foundation of parliamentary enactments.

The important commercial and political effects attending such increased facility and speed in the transport of persons and goods, are too obvious to require any very extended notice here. A part of the price (and in many cases a considerable part) of every article of necessity or luxury, consists of the cost of transporting it from the producer to the consumer; and consequently every abatement or saving in this cost must produce a corresponding reduction in the price of every article transported; that is to say, of every thing which is necessary for the subsistence of the poor, or for the enjoyment of the rich, of every comfort, and of every luxury of life. The benefit of this will extend, not to the consumer only, but to the producer; by lowering the expense of transport of the producer, whether of the soil or of the loom, a less quantity of that produce will be spent in bringing the remainder to market, and consequently a greater surplus will reward the labor of the producer. The benefit of this will be felt even more by the agriculturist than by the manufacturer; because the proportional cost of transport of the produce of the soil is greater than that of the manufactures. If 200 quarters of corn be necessary to raise 400, and 100 more be required to bring the 400 to market, then the net surplus will be 100. But if by the use of steam carriages the same quantity can be brought to market with an expenditure of 50 quarters, then the net surplus will be increased from 100 to 150 quarters; and either the profit of the farmer or the rent of the landlord must be increased by the same amount.

But the agriculturist would not merely be benefitted by an increased return from the soil already under cultivation. Any reduction in the cost of transporting the produce to market would call into cultivation tracts of inferior fertility, the returns from which would not at present repay the cost of cultivation and transport. Thus land would become productive which is now waste, and an effect would be produced equivalent to adding so much fertile soil to the present extent of the country. It is well known that land of a given degree of fertility will yield increased produce by the increased application of capital and labor. By a reduction in the cost of transport, a saving will be made which may enable the agriculturist to apply to tracts already under cultivation the capital thus saved, and thereby increase their actual production. Not only, therefore, would such an effect be attended with an increased extent of cultivated land, but also with an increased degree of cultivation in that which is already productive.

It has been said that in Great Britain there are above a million of horses, engaged in various ways, in the transport of passengers and goods, and that to support each horse requires as land as much would upon an average support eight men. If this quantity of animal power were displaced by steam engines, and the means of transport drawn from the bowels of the earth, instead of being raised upon its surface, then, supposing the above calculation correct, as

much land would become available for the support of human beings as would suffice for an additional population of eight millions, or, what amounts to the same, would increase the means of support of the present population by about one-third of the present available means. The land which now supports horses for transport, would then support men, or produce corn for food.

The objection that a quantity of land exists in the country capable of supporting horses alone, and that such land would be thrown out of cultivation, scarcely deserves notice here. The existence of any considerable quantity of such land is extremely doubtful. What is the soil that will feed a horse, and not feed oxen or sheep, or produce food for man? But even if it be admitted that there exists in the country a small portion of such land, that portion cannot exceed, nor indeed equal, what would be sufficient for the number of horses which must, after all, continue to be employed for the purpose of pleasure, and in a variety of cases where steam must necessarily be inapplicable. It is to be remembered also, that the displacing of horses in one extensive occupation, by diminishing their price, must necessarily increase the demand for them in others.

The reduction in the cost of transport of manufactured articles, lowering their price in the market, will stimulate their consumption. This observation applies of course not only to home but to foreign markets. In the latter we already, in many branches of manufacture, command a monopoly. The reduced price which we shall attain by cheapness and facility of transport, will still further extend and increase our advantages. The necessary consequences will be an increased demand for a manufacturing population; and this increased population again re-acting on the agricultural interests, will form an increased market for that species of produce. So interwoven and complicated are the fibres which form the texture of the highly-civilized and artificial community in which we live, that an effect produced on any one point is instantly transmitted to the most remote and apparently unconnected parts of the system.

The two advantages of increased cheapness and speed, besides extending the amount of existing traffic, call into existence new objects of commercial intercourse. For the same reason that the reduced cost of transport, as we have shown, calls new soils into cultivation, it also calls into existence new markets for manufactured and agricultural produce. The great speed of transit, which has been proved to be practicable, must open a commerce between distant points in various articles, the nature of which does not permit them to be preserved so as to be fit for use beyond a certain time. Such are, for example, many species of vegetable and animal food, which at present are confined to markets at a very limited distance from the grower or feeder. The truth of this observation is manifested by the effects which have followed the intercourse by steam on the Irish Channel. The western towns of England have become markets for a prodigious quantity of Irish produce, which it had been previously impossible to export. If animal food be transported alive from the grower to the consumer, the distance of the market is limited by the power of the animal to travel, and the cost of its support on the road. It is only particular species of cattle which bear to be carried to market on common roads and by horse carriages. But the peculiar nature of a railway, the magnitude and weight of the loads which may be transported on it, and the prodigious speed which may be attained, render the transport of cattle of every species, to almost any distance, both easy and cheap. In process of time, when the railway system becomes extended, the metropolis and populous towns will therefore become markets, not as at present to districts within limited distances of them, but to the whole country.

The moral and political consequences of so great a change in the powers of transition of persons and intelligence from place to place, are not easily calculated. The concentration of mind and exertion which a great metropolis always exhibits, will be extended in a considerable degree to the whole realm. The same effect will be produced as if all distances were lessened in the proportion in which the speed and cheapness of transit are increased.—Towns, at present removed some stages from the metropolis, will become its suburbs; others, now at a day's journey, will be removed to its immediate vicinity; business will be carried on with as much ease between them and the metropolis, as it is now between distant points of the metropolis itself. The ordinary habitations of various classes of citizens engaged in active business in the towns, will be at what are now regarded considerable distances from the places of their occupation. The salubrity of cities will thus be increased by superseding the necessity of heaping the inhabitants together, story upon story, in a confined space; and by enabling the town population to spread itself over a large extent of surface, without incurring the inconvenience of distance.—Let those who discard speculations like these as wild and improbable, recur to the state of public opinion at no remote period on the subject of steam navigation. Within the memory of persons who have not yet passed the meridian of life, the possibility of traversing by the steam engine the channels and seas that surround and intersect these islands, was regarded as the dream of enthusiasts. Nautical men and men of science rejected such speculations with equal incredulity, and with little less than scorn for the understanding of those who could for a moment entertain them. Yet we have witnessed steam engines traversing, not these channels and seas alone, but sweeping the face of the waters round every coast in Europe, and even ploughing the great oceans of the world. If steam be not used as the only means of connecting the most distant habitable points of our planet, it is not because it is inadequate to the accomplishment of that end, but because local and accidental causes limit the supply of that material from which at the present moment it derives its powers.

STEAM ENGINE.—The following very extraordinary performance of a locomotive engine, on the Philadelphia, Germantown and Norristown Railroad, is taken from the Philadelphia National Gazette. According to this description Mr. Baldwin has outdone all who have constructed locomotives before him; and we may say also, the most sanguine anticipations of the friends of railroads. At 60 or 40, or even 20 miles the hour, a complete revolution would be effected in the mode of doing business; and it will be done, too, before many years.

The extraordinary speed and power of the locomotive on the Germantown Railroad should excite more attention than it has obtained from the enlightened community in which it has been made. It is the more remarkable because it is in many points original, and because it is the very first working engine of the locomotive kind made by Mr. Baldwin, and yet it has surpassed in fleetness and proportional working power, any engine of whose performance we have been able to find any authentic account. In the celebrated trial of speed and power on the Liverpool and Manchester Railroad, the "Novelty," of Braithwaite and Erickson, took the palm for swiftness, and the "Rocket" of Stephenson that for power and efficiency. The former has not been since heard of, because of its want of adaptation to useful purposes, whilst the slower engines of Stephenson have been at work on almost every English railroad. According to the partial estimate of its friends, the Novelty, *on that fine railway, cleaned for the occasion, and on a set day of trial*, ran a mile in a minute, while Stephenson's engine requires a minute and a quarter to pass over the same space, or travelled on a straight and level road at the rate of 40 miles per hour. At present his locomotives take an hour and ten minutes to go the thirty miles between Low-hill and the depot at Manchester. In the trials recently made on Mr. Baldwin's engine, the road was muddy so as to impair the grip, and to lessen the smoothness, and she was used immediately after her return from her afternoon's trip to Germantown. For the experiment a space of two miles and a quarter was selected, in which there are four curves, and several very muddy crossways. In passing through this space the steam was *cut off at each curve* so as to *visibly* lessen the speed, and yet the whole distance was passed over in 3 minutes and 3-8ths. It was therefore done at the rate of 40 miles per hour. On the straight lines the speed seemed much greater, but no estimate of it was then made. On a subsequent day, however, when Dr. Patterson, of the University of Virginia, was in the 'tender,' the mile on a straight line was run through in 58 seconds according to the estimates of one computer, whilst another observer of time counted 52 seconds. That the distance might have been run in less time was obvious to all, for Mr. Baldwin made the engineer cut off the steam entirely, to check a career which he feared might become too great for the strength of the road, or the tenacity of the parts of the locomotive. At 58 seconds, the speed was more than 62 miles per hour. From this rapid movement no inconvenience was felt by the passengers: but a stiff breeze was produced by the quick motion through the air so as to endanger the security of the hats.

By the contract the weight of the engine was, we understand, limited to 5 tons, so that on a muddy rail the weight is not such as to secure a grip for a very long and heavy train of cars. What the engine could draw on a clean road cannot be well ascertained, for another reason. The rails not being inclined laterally, the space pressed by the inclined rim of the wheels is very limited; but when over-loaded, the engine has shewn her great power by turning her wheels on the rails, whilst the grip was not adequate to the propulsion of her load. By this we perceive that she can pull as much as it is possible for any engine of the same weight to pull on that road.

Although formed on the basis of Stephenson's engine, Baldwin's is superior in simplicity and compactness. The boiler is lighter in front, the pumps are formed in the guide rods, there is but one rod and rock shaft attached to the main valve; the throttle valve is a sliding one, placed close to the station of the engineer, and managed by a very short rod and lever. The eccentric has no lateral motion, but is reserved by moving the rod to the opposite side of the centre of motion of the rock-shaft.

Power and fleetness having been adequately obtained, simplification was that for which Mr. Baldwin sought, and in that he has succeeded so well as to leave little if any room for more pruning. The arrangements are such, too, as to enable the engineer to observe and correct defects without penetrating to the interior of the boiler. A man-hole is therefore unnecessary.

On the whole, as the first instrument of its kind, containing so many new points, and issuing from the hands of a mechanic who never before constructed such a machine, its strength, ease of motion and fitness, must appear remarkable. As far as our opportunity of judging goes, we are warranted in esteeming this engine the best that has yet been constructed in any country, and fully capable of going at the highest speed compatible with comfort or safety.

M.

PETERSBURG RAILROAD.—The annexed letter from the Danville, Va. Reporter, we presume to be from General CABEL, the senior editor, we believe, of that paper, and a member of the

present Legislature of Virginia. It sets forth in vivid colors the delightful sensations produced by a first excursion on a Railroad. We hope it may have a tendency to induce other Virginians to visit the Petersburg Railroad, and enjoy similar pleasures: as every visit from such a man as Gen. CABEL will make many proselytes to the Railroad system; and Virginia will soon be aroused to her true interest, and other parts of the state *will* do as Petersburg *has* done.

[*From the Danville Reporter.*]

The following interesting letter in relation to this great work of Internal Improvement must be exceedingly animating to the citizens of Danville, and indeed of all persons interested in the prosperity of the Upper Roanoke country. We have ever regarded it a magnificent enterprize, worthy the most liberal patronage of the State. The people of Petersburg will receive upon its completion, in addition to the renown of unrivalled enterprize, energy, and public spirit, the golden reward which she so justly merits.

PETERSBURG, Christmas night, 1832.

To the Editors of the Danville Reporter:—

Perfectly well acquainted as you are with my sentiments on the subject of Internal Improvement, you will not be surprised at the expression of the real delight I experienced this day, in one of the coaches drawn by the locomotive Engine (*the Roanoke*) from the depot, at North Spring, two miles south of town, to Bellefield, a distance of forty-five miles from this place by the old road, and upwards of forty by the Railroad Line. We reached Bellefield at 12 o'clock, after a passage, including at least half a dozen halts, at different places, for various purposes. The party, of which I had the honor to be one, consisted of several members of the Senate and House of Delegates, the President, Engineer and Officers of the Company, and a number of gentlemen of the highest respectability, residents of this place, besides some strangers, also highly respectable. From the officers of the company, and the gentlemen above alluded to, we received the most distinguished politeness. Our return trip from Bellefield to the North Spring was made in two hours and fifty minutes, forty minutes of which was employed either in receiving or letting off passengers, and in taking in fuel and water. On some portion of the route, I was informed that we passed at the rate of upwards of forty miles to the hour. The influence of such a ride upon our feelings is absolutely electrical. Now winding your way through an interval of deep cutting, your road lies fifteen or twenty feet below the natural surface, then reduced and smoothly graduated, now rising from five to thirty feet above the natural surface—gliding over the earth at the rate of twenty miles an hour, the very trees of the forest appearing to be waltzing on either hand as you sweep by, and yet, you sit so steadily that you may read or even write—certainly sleep as profoundly as on your own couch at home. The locomotive *flying* on the *Rail*-road absolutely reminds one of the fables of the Fairy Slipper, Giant's Boots, Aladdin's Lamp,—the Arabian Nights are scarcely less wonderful, than the realities of spectacle exhibited before our eyes. The application of Steam to Railroads marks one of the signal triumphs of science, and one of the memorable epochs in the revolutions of human affairs. It is, perhaps, second only to the discovery of the Mariner's Compass and art of Printing. If its advantages are pushed to their legitimate consequences, its benefits will be absolutely incalculable.—Petersburg deserves immortal honor. In WAR and in PEACE, in ARTS and in ARMS, she has stood forth the ELITE of the ancient dominion! All the heavy work of the Railroad from Bellefield south to the Roanoke, is already executed, and the whole line will be put into operation between July and October next. Then the Engineer promises me a ride from the banks of the Roanoke to this place in *two hours*. Will you believe this *fancy*—be assured, sir, it is a *fact*. Will our good friends at home never be awakened to the advantages of well planned and well executed lines of Internal Improvement?

In haste, most truly, ——— ———

THE SENECA AND CAYUGA CANAL.—The following statement, politely furnished us by Col. N. Ayrault, the collector at this port, presents a gratifying increase of our canal revenue, and of the business and commerce of our Lake. As was predicted by its early friends and advocates, the Seneca and Cayuga Canal will soon become one of the most important and profitable links in our great chain of internal improvements.

The tolls of this year amount to more than fourteen thousand dollars, being an access of more than two thousand dollars over those of last year.

In the course of another year the Chemung and Crooked Lake Canals will be opened, and will pour the products of a fertile and extensive country through this channel: thus at once adding to the resources of the state, and to the wealth and comforts of an hitherto isolated portion of our citizens.

If it be true, as it doubtless is to a very great extent, that the productive industry of a country, and consequently its social and moral improvement, are in proportion to its advantages of market, and the facilities of intercourse, there are still large sections of our state that have strong and undeniable claims upon the prosecution of our favorite system of internal improvement. Wise and enlightened legislation will seldom be controlled solely by pecuniary considerations. A mere calculation of dollars and cents is altogether too sordid in its character, and too limited in its results, to comport with its dignity, or to accomplish the high purposes of a government whose boast and distinction it is that it secures the greatest possible amount of human happiness. The ability of the state, indeed, should always be a primary consideration. That this, considered in reference to its present and prospective resources, is most abundant to meet all justand equitable demands upon it, there is no question. It is much to be hoped that those portions of our citizens, who have hitherto been excluded from legislative beneficence, will be permitted to participate in those favors which their neighbors so extensively enjoy, and to which they have so liberally contributed.

Schedule of Produce and Miscellaneous Property cleared at the Collector's Office, Geneva, from April 4th to December 15th, 1832.

Wheat,	bushels,	228,559
Barley,	"	11,335
Rye, Corn and Oats,	"	2,034
Flour,	barrels,	23,988
Pork and Beef,	"	2,256
Whiskey, Gin, Cider, &c.	"	616
Ashes,	"	1,926
Butter and Lard,	kegs,	3,518
Peaches, Fruit, Beans, &c.	pounds,	278,849
Plaster,	"	3,389,771
Staves, Heading, &c.	"	2,378,110
Wool,	"	69,248
Furniture, Hops, Tallow, Hides, Skins, Leather, Rags, Cheese, Hardware, Tin, &c.	"	468,000
Glass,	boxes,	1,756
Lumber, &c.	feet,	2,820,627
Timber,	"	250,806
Shingles,	thousands,	16,319
Bran and Shorts,	bushels,	3,533
Wood,	cords,	121

Also, Merchandise and Miscellaneous Property, reported at the Collector's Office, Geneva, from the East, during the same time.

Merchandise,	pounds,	8,432,535
Furniture,	"	468,673
Clay, Sand, Brick, Lime, G. Stones, and Marble,	"	442,992
Salt,	barrels,	17,065

Amount of tolls received at the Collector's Office, Geneva, from April 4th to December 15th—thirty-five thousand seven hundred and seventy-four dollars and sixty-eight cents! of which sum six thousand four hundred and forty dollars and ninety-nine cents was received from the Cayuga and Seneca Canal.

N. AYRAULT, Collector.

Collector's Office, Geneva, Dec. 15, 1832.

[*From the Boston Daily Advertiser.*]

BOSTON AND PROVIDENCE RAILROAD.—On Saturday last, the first report of the receipts and expenditures and of the proceedings of the Directors of the Boston and Providence Railroad was presented to the Senate. It states, that the Board of Directors, shortly after they were chosen in July, 1831, employed Wm. G. McNeill, Esq. as their engineer, who proceeded to make the requisite surveys, and was afterwards contracted with by the directors as their chief engineer and agent for the completion of the surveys, and the construction of the road. In consequence of his surveys and examinations, the Directors were persuaded of the superior advantages of the route through Sharon, which was accordingly adopted, and a portion of the road located from Waitt's mill in Roxbury to the summit level in Sharon. The residue of the route has been accurately surveyed, and will be fixed as soon as the progress of the work shall require. The graduation of the part of it which has been located is under contract, and is proceeding with all practicable dispatch. Four assessments have been laid, amounting in the whole to $17 a share; the whole amount received by virtue of these is $63,190; nothing has been received from any other source except $16 75 for interest. The whole amount expended is $18,669 28.

We learn that subscriptions were taken last week for a new joint stock company, to establish a line of steam-carriages between this town and Boston, over the turnpike. The plan is said to be, to run a carriage every hour in the day, each way; and if the project is successful, the line will be continued to Newburyport.—[Salem (Mass.) Gazette.]

[*From the London Times.*]

NEW STEAM-CARRIAGE.—A steam-carriage, constructed by Col. Macirone and Mr. J. Squire, Paddington-wharf, and which professes to be, by the superiority of its peculiar boiler, and the simplification of its machinery, a decided improvement on all former vehicles of that description, has been exhibited for some time past in the neighborhood of Paddington. We drove out in it a few days ago along the Harrow-road, with, in all, 11 persons. The utmost velocity on level ground was near 10 miles an hour; a part of the road covered with a coating of loose wet pebbles was crossed at a rate of about 8 miles; and the bridge over the Grand Junction Canal, where the steep is rather a smart one, at 4 or 5 miles an hour. It ought to be observed, that at this time the first fire was burning, and that therefore the boiler might not have been heated to its maximum. The jolting was not much greater than an ordinary stage-coach. When moving rapidly, the noise of the engine was lost in that of the carriage, but observable to the passengers as soon as the speed diminished. Some of the horses on the Harrow-road shied on seeing it.

The appearance of the vehicle, its boiler and grate being covered with a casting of sheet iron, and surmounted by a short chimney, seemed to be the cause of this, as there was no smoke perceptible. But on running down the Edgware-road, followed by a delighted crowd of boys and girls, it caused no alarm to the horses there. The command of the conductor over it was remarkable. Its speed was readily diminished, short turns were made with apparent ease, and hills were descended at a satisfactory pace. The whole distance travelled was about five miles, and in performing this, 3-4ths of the first supply of coke was expended. We were not able to witness the results of the second fire.

On setting out the proprietor stated that the pressure on the boiler was 300lb. the square inch, and the pressure on the pistons nearly the same. The weight of the whole vehicle when ready to move, with its supply of fuel and water, was stated by him at 2¼ tons. Weight of the boiler 17 cwt. thickness 3-16ths of an inch, usual quantity of water in it 20 gallons, utmost distance ever travelled with one supply of fuel and water near 12 miles, utmost cost of fuel per mile 3d, diameter of the (two) pistons 7 inches each, piston stroke 16 inches, the length of the steam-pipe, which he asserts does not affect the power at the working point, seemed to us about 12 feet. Descending from the boiler, it turns horizontally, runs under the body of the vehicle to the conductor's seat, then turns backward at rather a sharp curve, and enters the cylinders.

The pistons are connected with a frame, which rests on one pair of very free elastic springs, placed at the front of the carriage. The boiler rests on much stronger ones, but also elastic. It may be necessary to mention this, as it has been said that in steam-carriages the springs have been springs only in name. The boiler is not tubular, but the proprietor declines stating its peculiar nature until he has secured a patent. One circumstance stated by him is remarkable. He positively declares that though his steam-carriage has worked, on an average, four or five days a-week since last June, it has not cost him a penny for repairs, excepting the charge for one new set of fire bars.

New Gun introduced into England by M. Jacques Auguste Demondion. *From the London Mechanics' Magazine.*

The gun is loaded and primed at one operation, and is cocked by lifting up the breech to introduce the cartridge.

The cartridge is of a peculiar kind; containing within itself a tube filled with detonating powder, which, exploding in the very middle of the cartridge, produces a better discharge. It requires a third less powder than common cartridges, and the bore of the gun is greater at the breech than at the muzzle, which makes it carry farther and more correctly.

From the peculiarities of the cartridges and barrel, the cartridges taken from the enemy can be immediately used with the new gun, but the new cartridges will not do for the pieces of the enemy.

The bayonet is more easily managed in exercising; is more difficult to be pulled off by an enemy; is longer, and the shoulder shorter than usual; therefore it is stronger; and being underneath the gun instead of at the side, is more dangerous, and does not interfere with the aim: the charge is completely covered up and protected from wet.

The gun is so easily managed, that with a few hours practice a soldier will fire 10 to 19 shots a minute; and can load and fire upright or lying down—marching or standing—one almost as well as the other. From not having to use his arm to load, he is less liable to be wounded by the enemy's shot; and for the same reason, the gun is particularly advantageous on board of ship. Moreover it can be loaded easily in the dark.

And although more shots are fired in a minute, the barrel does not heat so much as those of common guns, because at every shot there is a rush of air through it.

It is very strong, cannot be inadvertently double-loaded, and is free from many of the disadvantages of flint or percussion lock guns.

It is simple, and can be made by common workmen, and all its parts are of regular shape, so that they can be made by machinery, which will reduce its expense below that of ordinary guns.

It is easily cleaned, having neither cocks nor any complicated system of springs; and the ring that holds the bayonet on, has a screw-driver on it to unscrew the parts.

AGRICULTURE, &c.

Remarks on the Economy of Peat as Fuel, and the Ashes as Manure, particularly in Reference to the Poor. By T. Bridgeman, Florist and Seedsman. To the Editor and Proprietor of the New-York Farmer and American Gardener's Magazine:

Gentlemen,—I am constrained to offer my congratulations to the Farmers and Gardeners of our country, on the prospect of their being furnished with a periodical publication calculated to exhibit to the attentive reader a fund of information on subjects which are constantly gaining proselytes; and from the circumstance of your having introduced into your specimen number, articles on a variety of subjects, I shall be induced to become a more regular correspondent.

The subject on which I am about to treat appears to me to be one of the utmost importance to the Farmer, as well as to the community at large. It must be acknowledged, that although this country contains an abundance of wood, coal, and peat, as well as almost every other description of fuel, that the poor of our large cities, in general, suffer greatly from cold; and if all the tales of woe, could be sounded in the ears of a sympathizing community during our severe winter, I am persuaded it would arouse them to the consideration of a remedy. It is an acknowledged fact, that the poor of Europe are cheaper and better supplied with fuel than those of this country. This arises in a great measure from the circumstance of ashes being held in high estimation by Agriculturists; they are consequently a saleable article in their large towns and cities, at a price equal in some instances to half the cost of a winter's fuel.

In the third edition of a book I published last Spring, entitled "The Young Gardener's Assistant," I endeavored to stimulate the public to a consideration of this subject; and being convinced of its importance, I beg leave to introduce the following paragraph from page 178 of that work, as being calculated to exhibit the subject in its most important bearings.

"Although our limits will not allow of a further description of the various sorts of insects which injure our gardens, and frequently destroy the first fruits of our labor, I cannot forbear directing the attention of our citizens to the importance of saving all kinds of ashes. If all agriculturists and horticulturists were to offer an inducement to the inhabitants of large cities to save their ashes, *in a dry state*, they would be supplied not only with a valuable manure, but an antidote for many kinds of insects; and our citizens would be at less risk from fire, by having a brick vault on the premises for safe keeping them. In England, a private dwelling is not considered complete without an ash vault, and a good farmer would dispense with his barn, rather than be destitute of an ash-house. I have known farmers supply the cottagers with as much peat as they could burn, on condition of their saving them the ashes; and there are some that will keep men under pay throughout the year, burning peat for the same purpose; and any thing that has passed the fire is so valuable, that a chimney-sweep will frequently clean chimneys for the sake of the soot, which is conveyed miles into the country, and sold at a price sufficient to reward the collector, besides paying all expenses; even the house-keeper's ashes in cities is a marketable article at all times, at from ten to twenty-five cents per bushel, *when kept dry and clean*, and a guinea a load (equal to $5) was formerly the common price in the villages of Berkshire and Hampshire."

Now I would ask, how it is that ashes are not as valuable to the farmers here, as they are in Europe. The extreme heat of the summers must certainly engender insects in equal if not greater proportions; and as respects manure, it must be scarcer in some parts of this extensive country, than it is in the dense populated countries of Europe. Perhaps some may answer that ashes are already used by our cultivators to a considerable extent; but I would remind such, that from the circumstance of their being mixed up with other manures and exposed to all sorts of weather, (as in our city,) they loose their virtue, so that a load may not be worth more than a bushel would be, *if kept dry and clean.* The farmers of Europe consider peat ashes of more value than any others, and I am persuaded that could they be fairly tested by some of our best cultivators, great good may result to the community. If the farmers of England can afford to keep men under pay, perpetually burning peat for the sake of the ashes, it is natural to suppose that the poor of our community may be placed in easier circumstances as respects the article of fuel. Thousands of acres of land are to be found in the States of New-York and New-Jersey, and within a few miles of this city, which abound with peat earth; and the owners of such have already began to explore their treasures of this description. Good peat is now to be had in the city at the low price of eight cents per bushel, or three dollars per chaldron. It burns well in all sorts of stoves, and grates, whether made for wood or coal, and also on the hearth; and if the ashes are not used to any better purpose than other ashes have hitherto been, it is the cheapest fuel known. I am persuaded that this subject is worthy of serious consideration, and if the editors of the different papers would arouse the public attention so as to enlist some of our most active citizens to a consideration of the subject, incalculable good may result to the community at large.

If the honourable the Corporation of our city, and others who distribute fuel amongst the poor, gratis, would give them peat instead of wood, it would be much cheaper, and would answer every purpose to the consumers. In such cases twelve bushels may be given in the first winter month to each of the applicants, instead of wood, with a strict injunction that they save the ashes in a dry state, in order to their being taken in exchange for a future supply of peat. It could easily be ascertained how much ashes welve bushels of peat would make, and if a strict attention be paid to the conditions of exchange, it would soon be discovered which of the applicants was most entitled to the distributor's bounty. The same sheds which it would be necessary to provide for housing the peat, could be used as a deposit for the ashes.—If such sheds be conveniently constructed to hold each a moderate quantity, the first which is emptied of peat may be filled with the first ashes that are returned in exchange for a future supply of fuel, and they could be all used for the same purpose as they become empty. These ashes when fairly tested, may become a merchantable article, as in Europe; and it is very probable that farmers may be induced to take them in exchange for future supplies of peat; they could, however, be conveyed into the country at a trifling expense, and would no doubt meet a ready sale.

I am persuaded, Mr. Editor, if you should succeed in arousing the public to a consideration of this important subject, that your periodical will be viewed as a public blessing; which like railroads and canals, open channels calculated to extend our intercourse, and thereby promote the general interest and happiness of the inhabitants of this highly favored country.

Yours, most respectfully,

Thomas Bridgeman.

Bowery Road, December, 1832.

The Farmer.—Happiness seems to have fixed her seats in rural scenes. The spacious hall, the splendid equipage, and the pomp of courts, do not sooth and entertain the mind in any degree like the verdant plain, the enamelled mead, the fragrant grove, melodious birds, the sport of beasts, the azure sky, and the starry heavens.

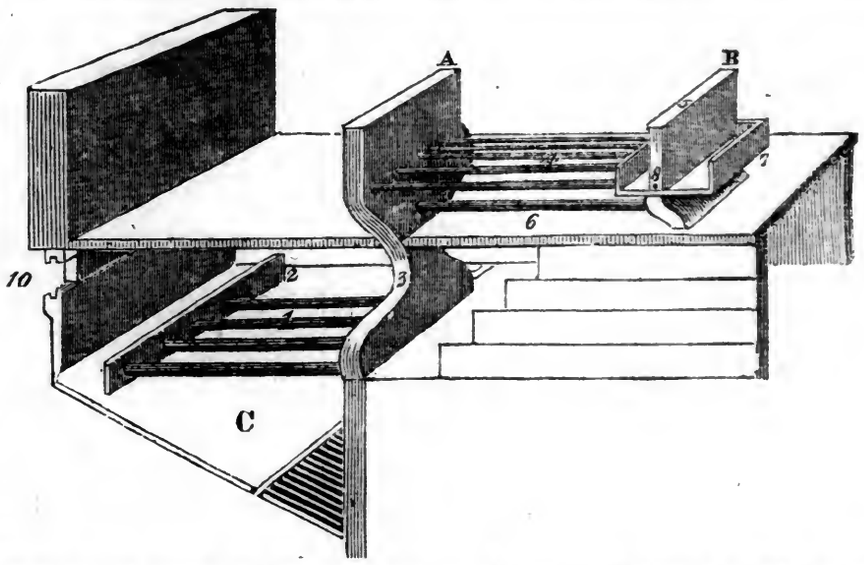
It is undoubtedly a fact, that in proportion to our population, too many leave the occupation

of the agriculturalist for other employments. If this arises from its being considered that the employment of the farmer is not respectable, it is a very great mistake. Every thing is honorable, which is useful and virtuous. This is an employment instituted by God himself, and by him particularly owned and blest. It is that on which every thing depends. True, it is laborious; but then labor brings health, and health is the foundation of the farmer, in the condition of independence. His little dominion is his own, his comforts are his own, and he is not at the mercy of the public whim and caprice. It is not necessarily the case, in this happy country, especially, that the farmer must be a stupid ignorant man. He is taught in his youth the first rudiments of education, and he has many spare hours to read. In the heat of a summer's noon, and by the long winter evening's fire, he has much time for his books, and in this country they are placed within the reach of all.

Salt.—A farmer in Missouri asks through the newspapers for the reason why, when the duty on salt has been so much reduced, the price is so much increased? Is it not a fact that high duties often reduce prices, and *vice versa?* Certainly, so far as high or low duties diminish or increase production or consumption. Instance molasses and coffee. Very soon after a duty of ten cents per gallon was laid on molasses, by the tariff of 1828, its selling price declined in the West Indies and the United States—for the distilleries were stopped; and coffee, for a year or two past, though the duty had been reduced from five cents to one cent per pound, has been dearer than it was in several preceding years. Duties may, or may not, enhance the price of articles—for price depends on supply and demand. The advanced price of salt, as above suggested, may be caused by a discouragement of the makers of it in the west, in consequence of a reduction of duty on the imported article. A brisk competition among producers is the surest means of cheapening commodities to consumers. But it is hard to make the people believe that duties on imports are not always taxes imposed on them; and yet a greater or more injurious mistake can hardly be committed on the subject of taxation. Price, besides, is relative. Tens of thousands of persons were starving in Ireland when potatoes were selling for less than one-third of a cent per pound—at which time they were worth in the cities of the United States one and a half cents per pound; but the first had not the means to purchase potatoes, and hence they were dear in Ireland, though cheap in the United States.—[Niles' Reg.]

Butter.—With the exception of leather, we believe there is no single article shipped from this place that bears any comparison to the value of Butter. We have been politely furnished by the two principal freighting establishments in the village, with the quantity of butter shipped by them respectively during the last sixty days, seven-eighths or nine-tenths of which was made in the county of Delaware. The quantity shipped by Penfield, Day & Co. was 8,678 firkins; and by Donnelly, Cooper & Co., 3,186 firkins, making an aggregate of 11,864 firkins. Supposing each firkin to contain 100 pounds, which is the common average, it would make 1,186,400 pounds. The average price we are told is about 13 cents per pound, which would amount to the sum of *one hundred and sixty-six thousand and ninety-six dollars.*—[Catskill Recorder.]

To Catch Moles.—Many methods are recommended to destroy this troublesome intruder; but a good way, in the want of a better one, is when observing a fresh indication, to remain perfectly still for a short time. The little fellow will soon begin to stir the ground. By a sudden jump and heavy stamp with the foot to close his retreat, he may be taken or killed, if a hoe or an old axe previously provided, is used with dexterity and expedition.



Heating Green-Houses and Dwellings by Hot Water. By Mr. M. Saul, Florist. To the Editor of the New-York Farmer.

Sir,—I herewith send you my plan for heating by hot water. To save time and room, I have sent part of the London Mechanic's Magazine, which was published May 19, so that you may select what part you think proper, and the above plan I have drawn expressly for your work, which will be of greater power than the one in the Mechanic's Magazine, or Gardener's Magazine. Whether the hot water system is in use in America, I know not; but the following plan will well repay the expense. The fire-place is on the same principle as Witty's Improved Furnace in the Gardener's Magazine, volume 7th, page 482. It is founded on the modern discoveries in chemistry, and forms so beautiful an instance of the application of scientific principle to the useful arts that I shal attempt to give your readers an idea of it. Coal, when dry, if submitted to distillation, or in other words exposed to greater heat, emits a large quantity of aqueous vapor and inflammable gas and becomes coke, which consists, when the coal is pure, almost entirely of carbonaceous matter. My fire-place is an inclined plane and terminated by a grate, and I also find that it is of no consequence whether the grate is fixed or moveable, like Witty's.

As the fire begins to burn at the lower end, and which is supported by air admitted through the grate, the coal, while it lies on the under surface of the inclined plane, and before it reaches the grate, undergoes a dry distillation, and the steam and gas which are thus expelled, occupy the space above the coal. At the same time the coal which has already undergone this process, and in the shape of coke has reached the grate, is burning, and the air which passes through this coke fire, heats to a very high temperature, sweeps over the surface of the unburnt coal, or the inclined plane, and inflames all the gas as it is evolved. Thus the gaseous matters evolved from the coal are converted by combustion into gaseous vapors, thereby forming steam, and carried off through the flues, which are connected, diffusing heat wherever it is required without being accompanied with a single particle of smoke, which is a great advantage to hot-house plants. Wood might be burnt in this fire-place the same as coal.

My plan of increasing the heat by the same fire, is on the same principle of a locomotive steam engine, which is, I have found to be, very great, having no boiler or cistern, but tubes in the fire, which is the reason our Liverpool railway carriages have such great power.

References.—1, the tubes, 21 inches long, 1¼ inches inside—these tubes put the water in motion as soon as the fire is kindled; 2, supports the tubes; 3, the conductor through the top of the flue; 4, the upper pipes for the hot water, which is carried forward with great power to 5, and returns through the pipe, 6, which is about 3 inches inside—the upper pipes are only 1 inch inside; 7, the reservoir, for supplying the waste—it supplies itself by a small aperture at 8—a loose plug is fixed so that the water gets in, and prevents the whole force of the hot water entering the reservoir, which would cause too great a steam in the house—by the stroke, as described in the other plan, I have removed one end of the reservoir, to show the place where it supplies the pipes, at 8; I have removed the brick-work at the side of the fire to show the tubes; 10, there is a sliding door for feeding the fire, as described in the other plan; C is the fire-place, also described in the other plan; A B, to be considered as running all the length of the front flue.

You will not perhaps have seen in the Gardener's Magazine a plan of a hot water cistern being fixed on the top of the flue; you will therefore select what part of this communication you think proper, as you will have observed in the last number of the Gardener's Magazine a notice of Perkins' mode of heating by hot water, and I suppose you will have a description of it in the next number for June: so that you may judge for yourself. I wrote to Mr. Loudon to wish him to furnish me with the time it took in getting the water to the boiling point in Perkins' mode of heating, so that I might judge fairly of it, as I have got a drawing of Perkins' which appears to me not so good as Mr. Loudon thinks of it.

I remain, yours, &c. M. Saul.

Lancaster England, May 29, 1832.

Agricultural Fair.—The Cattle Show and Fair of the Niagara District (U. C.) Agricultural Society was held at Clinton, Nov. 6, when there was a fine display of live stock and domestic manufactures, and Premiums to the amount of $160, were awarded. The Spring Fair of the Society is to be held at the village of St. Davids on the last Tuesday in May, 1833.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, JANUARY 14, 1833.

[COMMUNICATED FOR THE AMERICAN RAILROAD JOURNAL.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of wind.	Clouds from what direction.	Weather and Remarks.
January 8..	6 a. m.	29.95	29	NNE	moderate		cloudy
	10	.83	32	..	..		..
	2 p. m.	.72	32	..	..		..
	6	.70	33	NE	fresh		..
	10	.69	33	..	..		..
" 9..	6 a. m.	.61	32	SW	moderate	W	fair
	10	.60	35	..	..	..	..
	2 p. m.	.60	39	SSW	..		.. —clear
	6	.60	38	S	..		.. —hazy in the west
	10	.61	36	SW	..	..	cloudy
" 10..	6 a. m.	.50	34	W	..		..
	10	.50	40	..	..	NW	..
	2 p. m.	.47	40	..	..	..	fair
	6	.44	37	..	fresh	..	.. —snow
	10	.49	28	NW	gale		snow
" 11..	6 a. m.	.72	17	..	..		clear
	10	.86	18	..	..	W	fair
	2 p. m.	.88	18	WNW	..		clear
	6	.95	18	..	strong		..
	10	30.00	17	..	..		..
" 12 ..	6 a. m.	.07	18	SW	..		..
	10	.10	23	..	..	SW	fair
	2 p. m.	.10	27	WNW	..	NW	..
	6	.19	25	..	fresh	..	..
	10	.23	24	W	..		clear
" 13..	6 a. m.	.27	21	WSW	..		..
	10	.15	28	..	..	SW	fair
	2 p. m.	.14	30	SW	..	W	..
	6	.04	30	..	..	..	..
	10	29.95	30	..	..		cloudy
" 14..	6 a. m.	.83	28	..	moderate		fair
	10	.81	34	..	..	W	..
	2 p. m.	.78	37	..	fresh		..
	6	.91	35	..	..		..
	10	30.08	27	..	moderate		..

[*From the Albany Argus.*]

ANNUAL REPORT OF THE COMMISSIONERS OF THE CANAL FUND.

This interesting document was submitted to the Legislature at the opening of the session. Other and pressing matters have prevented us from giving the usual abstract of its statements until now.

The Erie and Champlain Canal Fund is as follows:—

Bonds for sales of lands,	$27,768 96
Stocks in Del. & Hud. Oswego, and C. Lake Canals,	399,000 00
Loan to the City of Albany,	75,000 00
Deposites on contracts in 16 banks,	1,230,243 77
Other deposites in various banks,	1,349,993 84
	$3,083,016 61

The fund of the Oswego Canal consists of $6,243 61 bonds for lands in Onondaga Salt Springs reservation. The Cayuga and Seneca Canal has no fund.

The receipts and expenditures from 30th Sept., 1831, to 30th Sept, 1832, were as follows:—

Erie and Champlain Canal Fund.

Bal. of revenue 1st Oct. 1831,		$1,833,220 41
Rec'd by the Commissioners, during the year—		
Tolls,	$1,061,221 03	
Vendue duty,	250,421 02	
Salt duty,	179,006 46	
Rents of surplus water,	389 00	
Sales of lands,	3 223 45	
	1,493,302 96	
Add interest on deposites, &c.	103 134 48	
	3,421,746 85	
Paid during the year,	2,039,752 97	
Balance on hand 30th Sept. 1832,		$1,389,994 88

Oswego Canal Fund.

Received by the commissioners,	$35,533 23
Paid during the year,	35,533 23

Cayuga & Seneca Canal Fund.

Received by the commissioners,	$16,961 53
Paid during the year,	16 2 2 85
Balance on hand Sept. 30, 1832,	$378 48

Chemung Canal.

Balance on hand 1st Oct. 1831,	$101,968 41
Received by commissioners during the year,	1,057 66
	$103,026 07
Paid during the year,	89,939 68
Balance on hand 30th Sept 1832,	$13,086 39

Crooked Lake Canal.

Balance on hand 1st Oct. 1831,	$87,112 33
Paid during the year,	67,906 46
Balance on hand 30th Sept. 1832,	$19,205 87

The aggregate balances in hand on the 30th Sept. 1832, deposited in eighteen different banks, amounts to $1,427,364 82.

The receipts and expenditures for the present year are estimated as follows:

Receipts on *Erie and Champlain Canal* (tolls estimated at $1,100,000,)	$1,637,421 42
Expenditures,	682,666 80
Estimated surplus for the year ending Sep. 30, 1833,	$954,754 62
Receipts on *Cayuga Canal*,	$15,000 00
Expenditures,	35,167 26
Deficiencies of revenue,	$19,367 26
Receipts on *Cayuga and Seneca Canal*,	13,000 00
Expenditures,	17,3 [illegible]
Deficiency,	4,3 [illegible]

The whole amount of the surplus moneys of the Canal Fund, under the care of the Commissioners, and applicable to the payment of the Canal Debt, at the close of the fiscal year, Sept. 30, 1832, was $3,055,247 65, variously invested, loaned and deposited.

The earliest period at which any portion of the Canal Stocks become redeemable, is the first of July, 1837, and on that day the following amounts are payable, to wit:

Six per cents,	$2,093,500 00
Five per cents,	1,395,500 00
Making a total of	$3,489,000 00
From this amount deduct the above means applicable to this object,	3,055,247 65
	$433,752 35
And there will remain a balance as yet unprovided for of	$433,752 35

This comparison, however, satisfactorily shows, that the current year will more than meet this balance, and therefore that the fund will be able to pay this portion of the debt about four years before it becomes payable. The whole remaining portion of this debt falls due on the first of July, 1845, and consists of the following amounts and descriptions of stock, to wit:

Six per cents,	$850,000 00
Five per cents,	2,662,035 86
Making a total of	$3,512 035 86

The Commissioners state, that it would have been far more satisfactory to have purchased the canal stock with the surplus moneys, as fast as they came into their hands; but that hitherto all efforts to purchase, upon advantageous terms, have failed; and that the rapid extinction of the United States stocks promises to elevate rather than to depress the price of the State stocks. That they have therefore resorted to the policy of the act of 1831, (authorizing loans to banks) : that "no other plan has as yet suggested itself to the Commissioners, by which the moneys of this fund can be made so immediately and extensively productive; and, that unless the legislature should signify a change of policy, it is their present contemplation to continue these loans to the banks of the State, upon terms which shall seem to them the most favorable, coupled with the greatest amount of security."

CAPITAL IN MANUFACTURES.—We have a table before us, says the Philadelphia Inquirer, furnished by a valuable friend, according to which the whole amount of capital invested in manufactures in 1831, in the States of Virginia, Maryland, Maine, Vermont, New Hampshire, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, and Delaware, in all twelve States, was $40,616,084. This sum was invested in 755 manufactories or mills, which employed upwards of *sixty thousand* persons, upon whose wages upwards of *one hundred and twenty thousand* lived.

NOTIONS.—The National Intelligencer of Friday contains an official list of patents for useful inventions and improvements, taken out in 1814, and which have consequently expired during the year which has just closed. They are *two hundred and twenty-two*, and embrace almost every thing conceivable. There are the "grammatical mirror" "the mud machine," contrivances for burning smoke and water, for "manufacturing corn-brooms and bungs for barrels," hair combs and steam engines, dog-churns and machines "for chopping sausage meat."

[*From the National Gazette of yesterday.*]

A singular and unfortunate accident happened yesterday, on the New Castle and Frenchtown Railroad. In the line proceeding to Baltimore, a spark from the Locomotive fell upon the baggage-car, and set fire to a lady's handbox, and in a short time, from the rapidity of the motion and force of the current of wind, the whole car was in combustion. Much baggage was destroyed, some valuable jewellery damaged, and injury done to a large amount of bank-notes, going to Baltimore from one of our banks — We are sorry to learn, in addition, that Mr. Binney and Mr. Sergeant, our eminent townsmen, who were among the passengers, suffered the loss of the clothing in their trunks, and have been obliged to return. Their papers were rescued. No steamboat was found at Frenchtown, owing, no doubt, to the ice in the rivers. If *coke* should be employed in the American locomotives, no danger of accidents of this nature would remain. It is used universally on the British railroads.

Would not the anthracite coal, which emits no sparks, answer as well?—[ED. N. Y. AM.]

Manufacture of Salt.—The annual report of the Superintendent of the Salt Springs and Inspector of Salt in the county of Onondaga, was made to the Legislature on Saturday. The whole number of bushels of salt inspected during the year 1832, was one million six hundred and fifty-two thousand nine hundred and eighty-five; of which one hundred eighty-seven thousand six hundred and fifty-three was coarse salt. The report states that the number of manufactories are substantially the same as at the time of the last annual report, two or three having been erected and the same number gone to decay.—[Albany Argus.]

Fire!—On Monday last, (11th inst.) about 2 o' A. M. a barn belonging to the Delaware and Hudson Canal Company, and situate on their Railroad, about 8 miles from this place, was discovered to be on fire, which, with its contents—*ten horses* and a quantity of hay, were entirely consumed. Eight of the horses belonged to Messrs. Jenkins and Eaton, whose loss amounts to about 900 dollars, and is to them a very severe one. The other two horses, hay, &c. belonged to the Delaware and Hudson Canal Co. whose loss does not probably exceed 300 dollars.—[Honesdale Herald and Inquirer.]

The vestry of St. Peter's Church, Albany, at a meeting held on the 19th of December, unanimously invited the Rev. Dr. Ducachet, of Christ Church, Norfolk, to become the Rector of that parish.

The price of a negro carpenter in Virginia is 1200 dollars; a boy of 14 brings 400 dollars.

FOREIGN INTELLIGENCE.

The foreign news by the Columbia, from London, is only a few hours later than before received, yet it is not without interest.

Mr. Manners Sutton, former Speaker of the House of Commons, was about to be again sent there by the University of Cambridge.

LONDON, Tuesday evening, Dec. 4.—We understand that intelligence has been received in town from Antwerp down to Sunday at noon, at which date the French had not commenced firing on the citadel.

We are also informed that Marshal Gerard is aware that General Chasse had been for some time mining the approaches to the place, in consequence of which the French are now employed in countermining before they approach the bastions.

Government, it is said, are in possession of accounts of Sunday's date from Antwerp.

The Paris correspondent of the London Albion says, "Letters from Madrid of the 22d inst. received in Paris, intimate a general belief in that capital of an agreement being about to be concluded between France and England, relative to the recognition of Donna Maria. France proposes to England to sign a treaty, according to which Don Miguel will be summoned to evacuate Portugal in a given time, at the end of which, a combined fleet would blockade Lisbon, and take possession of that capital in the

name of Donna Maria. The Infanta Isabella was to be declared Regent, and Don Pedro was to quit Portugal. The Spanish Cabinet, it is said, has made the latter stipulation, and consented on that condition, to take part in the plan. At Madrid, a complete stagnation prevailed—the Ministry seemed to think it had gone too far in its progression towards liberalism."

The German papers received at London on the 4th, communicates no new facts of importance.

Private Correspondence from Brussels.

Baron Evain's new mortar will arrive at Antwerp on the 3d of December. This monstrous piece of Ordinance has fully succeeded both in the casting and proof. It will carry a shell weighing, when empty, 500 kilogrammes, and when filled the weight of the projectile will exceed 1600 Flemish pounds.—The King is said to have first suggested the idea of this colossal machine.

PARIS, Dec. 2.—That neither in France or Belgium the mockery of war is anticipated, we have good reason to believe. In the former country every preparation is making for war. Gen. Schramm's division of reserve was to have crossed the frontiers on the 30th of November. The fiftieth regiment of the line, stationed at Lille, has been ordered to Belgium. A general order as been issued, prescribing the completion of the three first battalions of of regiments of the line.

To towns such as Lyons, where the National Guard has been dissolved, or to those where the exercises had been suspended, in consequence of the cholera, orders have been transmitted to complete the organization of the guard, to resume the exercises without delay. In the Eastern Departments, several grand reviews of the National Guard have taken place, and in this respect, as well as in all that relates to the regular troops, it may be seen that the French Government is now fully aware, that sooner or later, war will be an unavoidable catastrophe, and that it is resolved to be as much as possible ready for events.

Several other detachments are to reach Verdun at intervals, from the 1st to the 16th of this month. General Semele is appointed to take the command of the corps of reserve on the Meuse. All the fortified places in the military divisions of Metz and Strasbourg have received orders to arm, and in the division of Lille the General of Artillery, Zeewost, is at this moment inspecting military preparations of the same nature. Nor is the National Guard neglected. The complete organization of the Garde National Mobile is pursued with activity.

Surmises of the intentions of Prussia.—BERLIN, Nov. 21.—The visit of the Queen of Holland to Berlin has no political object whatever. Prussia has very decidedly taken its resolution in this matter.—We are neither inclined to suffer Belgium to become a French Province, nor to sacrifice to the obstinacy of Holland the manufacturing interest of our Rhenish provinces by the denial of the free navigation of the rivers, as has been the case for these fifteen years; but if Antwerp does not obtain the free communication with the sea, no alternative would remain for Belgium but to give itself up entirely to France. It ought to be the first care of Holland if it understood its own interest, to prevent this. A moderate tonnage duty will doubtless be allowed it; and wagers are laid here that peace will be signed in three weeks.

Nov. 22—The same activity is observed in the foreign departments; the conference with the Ambassadors of the Great Powers are very frequent, but hardly any body now believes that there will be a war. We hear that there are three different opinions in the Council of State. One decidedly in favor of peace, at the head of which is Prince William, the King's brother, who is seconded by several ministers; a second which considers that war will not be necessary, unless demonstrations should be of no avail, and the articles signed by the five Powers should be violated, and this opinion is said to be especially entertained in a high quarter; lastly one decidedly warlike, which would have every advance beyond the frontiers by an army considered as a declaration of war; and this opinion is said to be advocated by some Princes. With the well known pacific sentiments of our King, and the confidence of other governments in his impartiality and justice, we may still hope the best.

VIENNA, Nov. 22.—The news of the entrance of the French army into Belgium arrived here this morning. Our funds are not much affected, which proves that no very serious difficulties are expected from this event.

There are, indeed, accounts from the Hague that the King will have Antwerp evacuated, as soon as the French army appears, but this is very doubtful.

The moment is important, for nobody can foresee the consequences of an enterprize which is disapproved of in all Europe and even in England. If the Citadel of Antwerp is defended, and the conflict protracted, the greatest embarrassment may arise, in spite of all efforts to prevent collisions. A Spanish courier has arrived here from Naples. An Austrian Conrier has come to Berlin, and a Russian to St. Petersburgh.

STOCKHOLM, Nov. 10.—Many persons of rank, among whom were several ladies, are summoned to give evidence in the proceedings against Barons Van Vegesack and Van Dichen, for higd treason. Many of them live in the provinces. It is said that they were summoned in consequence of some conversations which they had with the accused, relative to Prince Gustavus of Wasa.

DRESDEN, Nov. 21.—We hear from good authority that her Majesty the Queen Dowager of Bavaria, will arrive here the next month with the Princess Mary, and that the marriage of her Royal Highness with our Prince Co-regent will then take place.

SWITZERLAND, Nov 23.—The presiding Canton, taking into consideration the present state of Europe, has invited the Governments of the Cantons, in a Circular of the 15th inst. to have their contingents in readiness, and the governments of the frontier Cantons to inform it, without delay, of all events that may occur near their territory.

STUTGARD, Nov. 21.—We learn that the Prussian Minister at our Court has made a complaint on account of the pamphlet of Doct. Schutz, of Darmstadt, entitled the Unity of Germany released by the Representation," and which was published here.

MEXICO.—According to advices up to 17th ult. from Vera Cruz, *via* Havana, it would seem that, instead of the bloody arbitrament of the sword that was anticipated between *Santa Anna* and *Bustamente*, an armistice has been patched up until a project for a firm and durable pacification, submitted by Generals *Pedraza* and *Santa Anna*, can be taken into consideration by the Government and Chambers. The heads of this plan are—

1st. That all acts of popular election since 1st of September, 1828, are to be covered with "the mantle of the nation," and no question is hereafter to be entertained concerning their legality or illegality.

2d. The General and State Authorities actually in function are to make arrangements for new elections, throughout the Republic, of members of the State and National Legislatures,—governing themselves as to the manner of conducting such elections by the existing laws.

3d. All the new State Legislatures shall be installed on or before the 15th of February, and shall immediately proceed to choose Senators and two persons for President and Vice President.

4th. On the 25th of March the National Congress shall meet, open the packages of votes for President and Vice President, and declare the result.

Meanwhile, Gen. *Pedraza* is to be recognized as legitimate President of the Republic until the first of April, when, by the law, his functions would cease. The first act of the new Congress is to be one of amnesty and general oblivion.

Generals *Pedraza* and *Santa Anna* pledge themselves solemnly to abide by this plan, if it be accepted.

French West Indies.—The following decree has just been received at the Department of State, and is published officially in the Washington Globe:

[TRANSLATION]

We, Louis Philip, King of the French, &c. &c. do hereby DECREE:

Art. 1. Foreign Wheat Flour may be imported into the Colonies of Martinique and Guadaloupe, at all seasons, without regard to the price, either in France or in those Colonies without need of farther authorization, on paying 21 francs 50 centimes. ($3 97) per barrel of 90 killogrammes, (198 l 8 pounds.)

Art. 2. The 14th Article of the Decree of February, 1826, is rendered void.

Art 3. Our Minister of Marine and Commerce is charged with the execution of this Decree.

(Signed) LOUIS PHILIP.
(Signed) COUNT D'ARGOUT.

NEW-YORK AMERICAN.

JANUARY 12, 14, 15, 16, 17, 18—1832.

LITERARY NOTICES.

ENCYCLOPÆDIA AMERICANA, &c. VOL. XII: Philad. CAREY & LEA.—This most useful and ably edited work is drawing to its close. One volume more, which the publishers inform us will probably be ready in March, will accomplish the plan, and then, in 13 large 8vo. volumes, at a low price, any one may possess what actually constitutes a whole library. There is no point scarcely in art, science, literature, politics, and history, whether of nations or individuals, which on reference to this work will not be found elucidated. In the present volume, embracing subjects from STE to VIS, there are some sixty pages dedicated to the article UNITED STATES, which, upon a hasty reading, seems to us to condense, very accurately, an account of the origin, history, and civil, literary, political, and religious institutions of the United States, together with its geography and statistics.

A NEW GAZETTEER OF THE UNITED STATES OF AMERICA, &c. &c. By WILLIAM DARBY and THEO. DWIGHT, Jr. 1 vol. 8vo. pp. 630: Hartford, *E. Hopkins.*—It was, we think, nearly two years ago, that we first alluded in this paper to the work now before us, as being then in the hands of its very capable Editors. It will afford some evidence of the great labor bestowed upon it, that now only does it see the light. This labor, and the extent and accuracy of the geographical and statistical information here brought up to the latest period,—taking for our guide in estimating these the statements concerning places with which we are familiar,—will certainly insure to the publishers rich and well merited returns. In all countries, Gazetteers are useful books; but in this country, whose limits are so vast, and growth so rapid, such a Gazetteer as this, carefully elaborated, and, considering the mass of matters to be treated of, wonderfully minute, and which furnishes not only the actual state, but the comparative increase of population commerce, &c. &c. should be in the hands of all business men, and of all general readers.

AMERICAN ANNUAL REGISTER, Vol. VI: BOSTON, *Chas. Bowen:* NEW-YORK, *E. & G. W. Blunt.*—We had the opportunity some weeks ago of seeing the proof-sheets of the historical portion of this volume, and of then expressing the high opinion we entertain both of the plan and execution of this truly national publication. The whole volume is now out, and we shall be well excused—by those at least who have occasion as often as we have to refresh or correct our impressions of passing events, by recurring to its pages—if we again invite attention and increased patronage to this work. The general character and aim of an Annual Register is known to most of our readers. It may be called, perhaps not improperly, a Digest of the newspapers of the day, stripped of their heats, partialities, and prejudices; and not of the newspapers of one country only, but of all, since it gives a connected and contemporaneous history of what is passing among nations as nations, and among individuals of all nations whether in the walks of art or science, of adventure, of law, or of arms—state papers, remarkable trials, important decisions, " moving accidents by flood or field,"—all in short that concerns man, fall within the province of such an annual recorder, and therefore for all tastes does it furnish some attraction. The essential is that these varied and abundant materials be skillfully selected, and faithfully presented,—and that the lessons for good or for evil, of warning or encouragement, to be deduced therefrom, either for political or individual improvement, be always inculcated in a spirit of good morality and sound patriotism.

We feel confident in saying, that in such a spirit

hitherto has the Annual Register been conducted, and in such a spirit we do not doubt it will be continued; and therefore it should and will, as we trust, prosper.

American Quarterly Review, No. XXIV, for December: *Philad.* Carey & Lea.—We take some blame to ourselves for having suffered this number to lie so long on our table unnoticed; but in these times of Congress and legislative talks, of proclamations and counter-proclamations; of rumors of war in Europe, and intestine changes at home, we have less space and time than usual for other matters. Proceed we, however, to redeem in part, past omissions; though even now, of the *ten articles* contained in this number, we shall only be able to speak of four or five.

The article *On the Results of Machinery*, good in itself, is remarkable for some well-reasoned and opportune observations on the distinction often invidiously made between theoretical and practical men, to the disadvantage of the former; as though he who reasons from one fact to another, and from a multitude of such reasonings educes what may be called a *theory*, is not more likely to arrive at the truth, than he who, content with the matter in hand, and applying his faculties only to the facts to be gathered from his particular vocation, rejoices in the assumed superiority of being a *practical* man.

The notice of the *Travels of a German Prince*, is in part devoted to a vindication of the tourist against the London Quarterly, a game hardly worth playing. For the rest, full justice is done to the very amusing, frank, and as we think, accurate, travels.

The most remarkable paper, however, in this number, in our judgment, is that on the *Life and Writings of Locke*. We say, most remarkable, because, if we are right in ascribing it to the pen of a youthful townsman of our own—so youthful as hardly yet to have assumed the *toga virilis*—it presents such originality, maturity, and reach of thought, so great variety of illustration, and such familiarity with literature and science, as few among us at much more advanced years can surpass. After some striking reflections as to the manner in which the life of a philosopher should be written,—very different from that in which Lord King has sent forth his Life of Locke,—this paper proceeds at once to discuss the character of, and the particular doctrines inculcated by, the author of the Essay on the Human Understanding. This is done with discrimination, and a thorough understanding of the author, and results in placing him as a benefactor to intellectual science, in the same rank which is on all hands conceded to Bacon in physical science.

The article on the *Slavery Question in Virginia*, espousing the side of emancipation, and generally in answer to the able paper on the opposite side by Professor Dew, of Virginia, which appeared in a previous number of the Review; and that on the *Italian Republics*, as affording most opportune instruction to us at this moment, on the value of the Union, and the danger of separate sovereignties, are entitled to grave attention, both from the importance of their topics, and the talent with which they are treated.

Tour in England, Ireland and France, in the years 1828–9, by Prince Puckler Muskau: Philadelphia, Carey & Lea; 1 vol. 8vo.—This work, which has been for some time a great favorite abroad, is one of the most deservedly popular books of travels that has been published within our recollection. It is written in the bold free style of a man of the world, and abounds in lively and judicious comment upon an immense variety of subjects, while the narrative, always entertaining in itself, is particularly so from relating chiefly to a country whose manners, customs, and character are less known through the medium of foreign observation, than almost any other in Europe. The remark may appear precipitate, but those who are startled by it will allow it to be justly made, when they reflect that while our knowledge of other countries, so far as it is derived from books, is derived from books written by Englishmen, our knowledge of England also has so long come through the same medium, that English prejudices against other people, and English partialities for their own nation, have become in us a sort of second instinct: until, with that amiable modesty which makes us always defer to her who, when in good humor, flatters us by acknowledging "Young America" as her child, we hang upon her maternal bosom, and draw thence not only our opinions, but our tastes, prejudices, and feelings, as if—petted infant!—we would never wish to be weaned.

If any one doubt this—if any one hesitates to believe that our depreciating views of other foreigners come through the English, and our exaggerated opinion of them through themselves, we would ask from whom whom are the liberal terms "Stupid German," "Fickle Frenchman." "Boorish Dutchman," "Assassin-like Italian," &c., borrowed, but from that amiable, hospitable, and unprejudiced people, who speak our language, on the other side of the water? and if, on the other side any one ask from whence we derive our impressions of British refinement, fidelity, valor, benevolence, generosity, and all the virtues that did clothe St. George, the answer is the same,—through English writers. You may fill a library with the libellous works of British travellers upon either France or this country.—But with what account of English life, by foreigners, are we familiar? Now, when it is remembered that the English, though respected, are disliked on the Continent, more than any people in Europe, and that the French, whom they have held up from time immemorial to especial execration, are liked, next to their own countrymen, by every other nation—either it does seem, as if we had not hitherto been in possession of the material to form a proper estimate of national character, or else that a weak and child-like indulgence of early associations leads us to do injustice to other peoples, for the sake of exalting nationally and individually one that is always sufficiently ready to take the first place at the board.—Many of our readers may be shocked at all this, and even throw aside our article lest it may be but the preamble to something more offensive to their prejudices. But we are very far from meaning it as a prelude to a tirade against England, such as her literary publications of the highest order have always indulged, and do still indulge against us. We mean only, by reminding the reader upon what feeble grounds, what unauthentic information, his partialities for this people are built, to hint to him the necessity of divesting his mind of many favorite associations, in order to do justice to the most comprehensive views of English Society that have ever been given to the public by an intelligent foreigner: of associations, not only of his youth and his reading, of the nurse of his childhood, and the business connections of mature life—but of those more delightful, and more tangible ones, which the felicitous pen of a countryman has woven around his imagination; where the amiable ingenuity of the author of Bracebridge Hall, has so grafted the refinement of the present day, in England, upon the warmth and hospitality of those of Sir Roger de Coverly, that nothing can be more inviting, more exquisite and more unreal, than his pictures of society. With such a warning, the reader may perhaps expect the same tone of remark in Prince Puckler, as that to which we are so habituated, from the amusing coxcombe, that, before Feron, and since De Roos, have scampered over our country. Such, however, is not the case; for the English have the advantage over us of having the holes in their coats tented by a man of education and a gentleman, while boors and boys—at least in the two above named instances—have thrust their rude untutored fingers through ours.—But with all his tenderness, we must confess that the intelligent German has left a pretty strong impression upon our minds, that the people with whom our countrymen are so proud to claim kindred, are, taken *en masse*, coarse and unmannerly, to a degree that gives a show of justice to the ancient prejudices of the Southern parts of Europe, who so recently regarded those distant islanders in the same barbarous light as did the English the Russians. By saying the mass of the people, we however mean to exclude a large portion of the populapulation from so sweeping a remark. In a country where wealth and luxury so abound, refinement must be shared by many; and an educated thoroughbred man in England is is what a thorough-bred and educated man is in every other country—a gentleman and a man of the world. Nor, indeed, by speaking of them as "coarse and unmannerly," do we mean more, at present, than to mark our opinion of the general deportment. Of the national character we may speak hereafter. But while there can be but little doubt that the polished and favored class, to which we have already alluded, are as numerous in England as in any other country, we have no hesitation in saying that, if Prince Puckler be an authentic witness, the mass of the population—they who, as they make up the body of a nation, represent as it were its person—in courtesy, hospitality, intelligence, and liberality of sentiment, are at least one generation behind those of equal pretensions in this country. There is in fact a leaven of boorishness and vulgarity in the character of this brave, ingenious, and industrious people, which continually breaks out in all classes. The latter quality is continually thrust upon our notice in these pictures of English society wherein people of the first pretensions to elegance are represented as taking their standard of refinement from tailors and upholsterers, and judging each other's breeding by the fashion of a coat, the use of a silver fork at dinner, or the possession of particular articles of furniture in their drawing rooms:—of all of which vulgar puerilities, it will be seen the German Prince takes due notice. Of the former quality, namely, *boorishness*, he could hardly have given a more glaring instance than the following:

It is indeed inconceivable, and a proof that it is only necessary to treat us contemptuously in order to obtain our reverence, that, as I have remarked, the mere name of Englishman is, with us, equivalent to the highest title. Many a person, who would scarcely get admission into very inferior circles in England, where the whole of society, down to the very lowest classes, is so stiffly aristocratical, in the various states of Germany is received at court and fêté by the first nobility; every act of coarseness and ill-breeding is set down as a trait of charming English originality, till perhaps, by some accident, a really respectable Englishman comes to the place, and people learn with astonishment that they have been doing all this honor to an ensign 'on half pay,' or a rich tailor or shoemaker. An individual of this rank is, however, generally, at least civil, but the impertinence of some of the higher classes surpasses all belief.

I know that in one of the largest towns of Germany, a prince of the royal house, distinguished for his frank, chivalrous courtesy, and his amiable character, invited an English Viscount, who was but just arrived, and had not yet been presented to him, to a hunting party; to which his lordship replied, *that he could not accept the invitation, as the prince was perfectly unknown to him.*

It is true, that no foreigner will ever have it in his power so to return a similar civility in England, where a grandee considers an invitation to dinner (they are very liberal of invitations to routs and soirées, for the sake of filling their rooms) as the most signal honor he can confer upon even a distinguished foreignor,—an honor only to be obtained by long

acquaintance, or by very powerful letters of introduction. But if by any miracle such a ready attention were to be paid in England, it would be impossible to find a single man of any pretensions to breeding, on the whole Continent, who would make such a return as this boorish lord did.

* * * * * No one can read the following enticing description of an English park and villa without acknowledging that, however little the English may understand the art of living, they excel all other people in the arts of life. And with this extract we take leave, for the present, of the agreeable Prince Puckler, Muskau. *

At ten o'clock we reached Cashiobury Park, the seat of the Earl of Essex. I sent in my name to him; upon which his son-in-law, Mr. F——, (whom I had formerly known in Dresden, and with whom I was happy to renew my acquaintance,) came to conduct me about. The house is modern Gothic, and magnificently furnished. You enter a hall with colored windows, which afford a view into an inner court laid out as a flower garden: leaving the hall, you go through a long gallery on the side, hung with armor, to the rich carved oak staircase leading to the library, which here generally serves as principal drawing room. The library has two small cabinets looking on the garden, and filled with rarities. Among these I was particularly pleased with two humorous sketches by Denon, representing the levée of Cardinal Bernis at Rome, and a dinner at Voltaire's, with the Abbé Maury, Diderot, Helvetius, d'Alembert, and other philosophers, —all portraits.

I was much interested, too, by a complete toilet of Marie Antoinette's, on which the portraits of her husband and of Henry the Fourth were painted in several places. From the library you go into an equally rich second drawing room; and from thence into the dining room. Near to both these rooms was a green house, in the form of a chapel; and in every apartment windows down to the ground afforded a view of the noble park and the river flowing through it. On a distant rising ground you look along a very broad avenue of limes, exactly at the end of which, during a part of the summer, the sun sets: its horizontal rays passing along the whole length of the green house must afford the most splendid natural decoration, heightened by the reflection of its beams from a large mirror at the end. The walls of the dining room are covered with oaken 'boiserie," with beautiful cornices and carving; the furniture is of rosewood, silk and velvet; and valuable pictures in antique gilded frames adorn the walls. The proportions of the room may be called hall-like, and the whole is regularly heated to a temperature of fourteen degrees of Reaumur.

The somewhat remote stables and all the domestic offices, &c, are on the left, connected with the house by an embattled wall; so that the building extends along an uninterrupted length of a thousand feet.

The flower gardens occupy a very considerable space. Part of them are laid out in the usual style; that is, a long green house at the bottom, in front of which are several 'berceaux' and shady walks around a large grass plat, which is broken with beds of all forms, and dotted with rare trees and shrubs. But here was also something new;—a deep secluded valley of oval form, around which is a thick belt of evergreens, and rock plants, planted impenetrably thick on artificial rockeries; a back ground of lofty fir trees and oak, with their tops waving in the wind; and, at one end of the grass plat, a single magnificent lime tree surrounded by a bench. From this point the whole of the little valley was covered with an embroidered parterre of the prettiest forms, although perfectly regular. The egress from this enclosure lay through a grotto overgrown with ivy, and lined with beautiful stones and shells, into a square rose garden surrounded with laurel hedges, in the centre of which is a temple, and opposite to the entrance a conservatory for aquatic plants. The rose beds are cut in various figures, which intersect each other. A walk, overarched with thick beeches neatly trimmed with the shears, winds in a sinuous line from this point to the Chinese garden, which is likewise enclosed by high trees and walls, and contains a number of vases, benches, fountains, and a third green house,—all in the genuine Chinese style. Here were beds surrounded by circles of white, blue, and red sand, fantastic dwarf plants and many dozens of large China vases placed on pedestals, thickly overgrown with trailing evergreens and exotics. The windows of the house were painted like Chinese hangings, and convex mirrors placed in the interior, which reflected us as in a 'camera obscura.' I say nothing of the endless rows of rich hot houses and forcing beds, nor of the kitchen gardens. You may estimate the thing for yourself, when I repeat to you Mr. F——'s assurance that the park, gardens, and house cost ten thousand a-year to keep up. The Earl has his own workmen in every department; masons, carpenters, cabinet makers, &c. each of whom has his prescribed province. One has, for instance, only to keep the fences in order, another the rooms, a third the furniture, &c.; a plan well worthy of imitation in the country.

Robert C. Sands.—We feel a melancholy pleasure in transferring the annexed paragraph from the Evening Post to our columns. The contemplated publication will be highly interesting and valuable, and we have no doubt it will meet with a liberal patronage:—[Gazette.]

"Proposals have been issued in this city for publishing, by subscription, in two volumes octavo, the works of the late Robert C. Sands. We have heretofore spoken of this writer's rare scholarship, his rich and racy humor, his fluency of composition, his powers of description, and his remarkable fertility of imagery, always original, and in general singularly striking and appropriate. The proposed volumes are intended to contain a copious collection of his writings, many of which, having appeared anonymously, have been much admired by readers who have had no knowledge of their source. A friend of the deceased has engaged to superintend the publication, and to supply a memoir of his life. We invite the attention of our readers to this work, in the earnest hope that by doing so we may promote the object in view.

HOME AFFAIRS.

The Tariff.—Annexed to the Report made by Mr. Verplanck, as chairman of the Committee of Ways and Means, on introducing the bill for the reduction of the Tariff, which is now under discussion, is a detailed statement of the duties which will accrue under the bill, at the different periods when the new rates are to take effect—the whole calculated upon the basis of the imports of 1831. There is also a like statement of the duties that would accrue under the act of last July.

We have received a copy of this document from Mr. Cambreleng, (and we take this occasion of returning our thanks to him, as well as to Messrs. Verplanck, C. P. White, E. H. Pendleton, and Ed. Everett, of the House of Representatives, for their kindness in the frequent transmission to us of the congressional documents,) and have endeavored to make a satisfactory abstract from it for publication, but find it impracticable. We must, therefore, content ourselves with stating the general results:—The nett revenue which, if the act of last July remain the law of the land, will be collected under it—the amount of the imports of 1831, say 103,191,124 dollars, being taken as a basis—is stated at 19,550,648 dollars: the average rate of duty if estimated only on dutiable articles, would be 27.21 per cent.; if on the whole value of imports, 23.66 per cent. As however the future ordinary expenditure of the Government will, as by the Report it is assumed, be at the outside 15,000,000 dollars, there would be an excess of four and a half millions of duties beyond the whole expenditure—even if it were all paid by the customs; but as at least two millions will be paid from the proceeds of the sales of public lands and other sources, it follows that there would be an excess of six and a half millions—a result, most certainly which no one who takes a just view of the principles or effect of taxation, or of the tendency to extravagant and corrupt expenditure which such an excess of revenue would encourage, can desire.

Hence the bill now reported—in the general principles and aim of which we entirely acquiesce—but which, in order to be just, must, we think, be modified as to some of its immediate and sweeping reductions.

Under this bill the gross revenue, estimated as above on the import of 1831, after 1st March, 1835, would be $17,017,158. From this sum, however, drawbacks to the amount of probably three or four millions must be deducted, leaving a net revenue varying from thirteen to fourteen millions.

The average duty after the last term of reduction, 1st March, 1835, will be, if taken on dutiable articles alone, 18.96 per cent—if on the whole imports, 16.49. These estimates proceed throughout, as we have said, on the basis of the imports of the year 1831. Consequently, no allowance is made for increased importations under diminished duties. But as it is certain that such an increase would take place, the revenue will undoubtedly exceed, in amount, that estimate; and the conclusion—so singular and so opposite to that which the history of all other Governments furnishes—seems unavoidable, that our greatest difficulty will be, to keep the revenue of the country from swelling above the proper and reasonable expenditures of the Government.

West Point.—The Globe publishes a letter from Col. Thayer to Gen. Gratiot, enclosing one from a South Carolina Cadet, denying in his own behalf, and that of all the other Cadets from that State, the imputation of having taken any part in the controversy now pending between South Carolina and the General Government. This letter was written without any suggestion from, or consultation with, Col. Thayer.

We were quite sure these fine fellows could not have made the mistake imputed to them, at the young mens meeting of Charleston.

In reference to future admissions to West Point, we find the following judicious regulation has been adopted as to age:

Engineer Department, Washington, Jan. 7, 1833 —The Chief Engineer, as Inspector of the Military Academy, has received the subjoined regulation, which is published for general information.

Department of War, Washington, Jan. 7, 1833. —The President of the United States directs, that hereafter no person be appointed a Cadet at the Mititary Academy, till he attain the age of 16 years.

C. Gratiot, *Chief Engineer.* Lewis Cass.

General *James Thomas*, of St. Mary's county, was elected, by the Legislature, on Monday last, Governor of Maryland for the ensuing year.

CONGRESS—*Monday, Jan. 7.*

In the *Senate*, Mr. Smith, from the Committee on Finance, reported the several appropriation bills from the House of Representatives, which he gave notice he should call up to-day. Mr. Benton introduced a bill granting to the State of Missouri, a quantity of public land, for the purposes of internal Improvements, which was read twice and committed to the Committee on Roads and Canals. Mr. Poindexter moved to take up the resolution submitted by him on the 17th ult. calling on the Secretary of the Treasury for his opinion, &c., on the subject of the Tariff and the reduction of the revenue, which was disagreed to, yeas thirteen, nays thirty-one.—The Senate proceeded to take up the bill to appropriate for a limited time, the proceeds of the sale of the public lands, and granting lands to certain States; and the amendment reported by the Committee on the Public Lands, proposing in lieu of the original bill a provision for the reduction of the price of the public lands, &c. Mr. Kane addressed the Senate at length in opposition to the original bill and in favor of the amendment. Mr. Clay followed in reply, and spoke an hour and a half in favor of the original bill and in opposition to the amendment. When he had concluded his remarks the Senate adj.

In the *House of Representatives*, the resolution reported from the Committee of Ways and Means, on Thursday, providing that the Tariff bill should be taken up every day at 1 o'clock, until it should be disposed of, came up—the previous question having been heretofore sustained upon it. Mr. Denny moved to lay the resolution on the table, upon which the ayes and noes were ordered. Mr Stewart moved a call of the House, on which Mr. Taylor demanded the ayes and noes, which were ordered. The motion

for a call was negatived—ayes 71, noes 116. The question was then taken upon the motion to lay the resolution on the table, which was also negatived—ayes 78, Noes 112. The question, "Shall the main question be now put?" was carried—ayes 107, noes 88. Mr. Denny then moved that the House proceed to the orders of the day. The Speaker decided that the motion was not in order—the House having determined that the main question on the adoption of the resolution be now put. From this decision, Mr. Denny appealed, and the decisinn was confirmed by the House. Mr. Denny demanded the ayes and noes on the adoption of the resolution, which were ordered. The resolution was adopted—ayes 118, noes 82. After several bills previously ordered to be engrossed, had been read a third time and *passed*, the House took up the unfinished business of Thursday. The bill to exempt merchandize imported under certain circumstances, from the operation of the act of 19th May, 1828—upon the question of ordering it to be engrossed, Messrs. Burges and Drayton advocated the principles of the bill—which were opposed by Messrs. Wickliffe and Williams—before the question was taken, the House adjourned.

Tuesday Jan 8.

In the *Senate* to-day, Mr. King introduced a bill for the establishment of the town of St. Marks, in Florida, which was read twice and committed. Mr. Robinson laid before the Senate a joint resolution of the Legislature of Illinois, recommending an increase of the United States corps of Mounted Rangers. Mr. Buckner introduced a bill making an appropriation to improve the post road between the towns of Benton and Jackson, in the State of Missouri; which was read twice and committed. Several appropriation bills, from the House of Representatives, were considered in Committee of the Whole, and subsequently ordered to be read a third time. Some time was spent in the consideration of Executive business.

In the *House of Representatives*, the bill to exempt merchandize imported under certain circumstances, from the operation of the act of 19th of May, 1828, which was under discussion on the preceding day, was laid on the table, ayes 98, noes 89. Various bills which had been made special orders were postponed, and the House went into Committee of the Whole on the state of the Union, in which the bill to reduce and otherwise alter the duties on imports was taken up. Mr. Verplanck explained the principles of the bill at length. After he had concluded the Committee rose, and the House adjourned. —[Globe.]

Wednesday, Jan. 9.

In the Senate, Mr. Forsyth presented a Preamble and Resolutions adopted by the Legislature of Georgia, recommending various amendments to the Constitution of the United States, and making application to Congress for the call of a Convention, with a view to such amendments. Mr. Forsyth laid before the Senate a Report and Resolutions of the Legislature of Georgia in relation to the appropriation of the public money by Congress, to objects of Internal Improvement. The bills from the House of Representatives appropriating money for carrying on fortifications for the year 1833—for revolutionary pensions—and for the support of government, (in part,) for the year 1833, &c. were passed. The Senate resumed the consideration of the bill to appropriate, for a limited time, the proceeds of the sales of the public lands and granting lands to certain States, and the amendment reported by the Committee on Public Lands, (in lieu of the original bill,) to reduce the price of the public domain, &c. Mr. Bibb addressed the Senate upwards of an hour and a half in opposition to the original bill. Before he had concluded, he gave way for a motion to adjourn, which was carried.

In the House of Representatives, several private bills were reported by the Standing Committees.—The House went into Committee of the Whole on the State of the Union, upon the bill to reduce and and otherwise alter the duties on imports. Mr. Huntington addressed the House two hours in opposition to the general principles of the bill, and concluded by moving that the 31st and 32d paragraphs, inposing duties on tea and coffee be stricken out. Mr. Ingersoll followed in opposition to the bill—before he had concluded, the Committee rose. After concurring with a formal amendment of the Senate to an appropriation bill, the House adjourned.

Thursday, Jan 10.

In the SENATE, to-day, the resolution reported on Wednesday by Mr. Forsyth, from the committee on foreign relations, and the resolution submitted on the same day by Mr. King, were considered and agreed to. Several bills from the House of Representatives were read a second time and committed. The Senate resumed the consideration of the bill introduced by Mr. Clay, appropriating, for a limited time, the proceeds of the sales of the public lands, and granting lands to certain States—and the amendment reported by the committee on the public lands (in lieu of the original bill) for the reduction of the price of the public domain. Mr. Bibb concluded his remarks in opposition to the bill, and in favor of the amendment. The further consideration of the subject was postponed to, and made the special order for, to-day. Some time was spent in the consideration of Executive business.

In the HOUSE OF REPRESENTATIVES, Mr. Wickliffe, from the committee of public lands, reported a bill authorizing the President to change the location of land offices, which was read twice and ordered to be engrossed for a third reading. The House went into committee of the whole on the state of the Union upon the tariff bill. Mr. Ingersoll resumed and concluded his speech against the bill, after addressing the committee about two hours. Mr. Crawford then addressed the committee a little more than an hour in opposition to the general principles of the bill. When he had concluded, Mr. Ellsworth moved the committee rise, which was carried. In the House, Mr. Verplanck moved that a committee of enrolled bills be appointed on the part of the House, which was agreed to; and the House adjourned.

Friday, Jan 11.

In the SENATE, Mr. Hendricks, from the Committee on Roads, and Canals, to whom numerous petitions on the subject had been referred, reported a bill authorizing the Secretary of the Treasury to purchase the stock owned by private individuals in the Louisville and Portland Canal Company, with a view of making said canal a free one, which was read and ordered to a second reading. Mr. Robinson laid before the Senate sundry memorials and resolutions of the Legislature of Illinois, in relation to the improvement of the navigation of the Illinois river—a change in the militia system of the United States—and pre-emption rights to settlers on public lands. They were referred to appropriate Committees. Mr. Miller laid before the Senate certain resolutions of the Legislature of South Carolina, in relation to the Proclamation issued by the President of the United States, which were on motion of Mr. Miller, directed to be printed.

The bill appropriating, for a limited time, the proceeds of the sales of the public lands, and the amendments thereto, was taken up. Mr. Buckner expressed a desire to address the Senate on the subject, but in consequence of indisposition, he moved that the bill be postponed and made the special order for to-morrow. The motion was opposed by Mess. Clay and Poindexter, and supported by Messrs. Buckner and Forsyth, when the question was taken, and the motion to postpone prevailed—yeas 24. nays 21. After some time spent in the consideration of Executive business, the Senate adjourned.

In the HOUSE OF REPRESENTATIVES, after some private bills were reported by the standing committees and resolutions adopted, the House went into committee of the whole on various private bills, in the discussion of which the whole sitting was spent.

Saturday, Jan. 12.

The Senate took up the bill to amend an act entitled an act to grant a quantity of land to enable the State of Illinois to make a canal to connect the waters of Illinois River with Lake Michigan.

The bill was amended, on motion of Mr. Sprague, and was then ordered to be engrossed for a third reading.

In the HOUSE, the joint resolution reported by Mr. Hubbard, from the Committee on Revolutionary Pensions, respecting the services of those soldiers who enlisted before April 11th, 1783, and held in service after that period, was ordered to be engrossed.

The bill to refund to the legal representatives of Matthew Lyon, deceased, a sum of money ($1060 96 cents) paid by him as a fine under the Sedition Law, with interest from 1799, having been yesterday reported from the Committee of the Whole, and ordered to a third reading, and the question being now on its passage—

Mr. Mason, of Virginia, demanded the yeas and nays, which were ordered.

Mr. Taylor moved to lay the bill on the table, and demanded the yeas and nays on that motion; and they were ordered by the House, and being taken, stood as follows. Yeas 57, Nays 91.

So the House refused to lay the bill on the table.

A very animated debate now arose, which occupied the House until past 3 o'clock, and was then suspended by the adjournment.

Monday, Jan. 14.

In SENATE, Mr. Dudley presented the credentials of Silas Wright, elected a Senator from the State of New-York. The usual oath of office was then administered to Mr. Wright, by the President, and he took his seat.

Mr. Webster in pursuance of public notice given on Friday last, moved the consideration of the bill for indemnifying the losses of American citizens by French spoliations, prior to 1800.

Mr. Webster proceeded to discuss the merits of the bill, in a speech of considerable length, with many references to documents. The great principle on which he rested his argument, was, that this private claim of American citizens against the French Government, had been expressly used by the United States, for the purpose of cancelling a supposed claim of the French Government against the American.

Mr. Tyler assented to the facts stated by Mr. Webster, but objected to the principle of the bill, which he supposed differed from that maintained by Mr. Webster. For the purpose of looking further into the subject, he moved that for the present the bill lie on the table; which motion prevailed, with Mr. W's assent. The Senate went into Executive business, and then adjourned.

HOUSE OF REPRESENTATIVES.

The House passed to the order of the day.

The Tariff.

Mr. Ellsworth, who had possession of the floor, addressed the committee on the character, principles, and, in the event of its adoption, of the probable results of the bill.

Mr. Briggs followed on the same side.

Mr. Dearborn next obtained possession of the floor, and moved that the committee rise, but the motion was negatived.

Mr. Dearborn then commenced an argument against the policy and the equity of the bill.

Mr. Dearborn concluded at 5 o'clock, when the committee rose and reported, and the House adj'd.

NEW-JERSEY.—The Legislature is now in session. On the 11th inst., Gov'r Southard transmitted his first Message to the Legislature. It is sensible and well written, as was to be expected. We make one or two extracts on a topic of general interest, viz.: as to the recommendation, sanctioned by the President, that the Public Lands of the Union be given up to the States within which they are situated.

The Message says:

Upon this recommendation, although it comes from a high and influential authority, I cannot anticipate that there will be a difference of opinion among the people of this State. If adopted, it would deprive us of a large amount of property which is as truly and justly ours as any other that we possess.

The amount of lands lying within the states and territories, and which are proposed to be given away, is not less than three hundred millions of acres, and of that which lies beyond the limits of the states and territories more than seven hundred millions of acres, in all more than one thousand millions of acres. The principles and the reasons which apply to those which are within the states, will apply hereafter, with increased force to those which are now out of them. * * * * *

The lands have been acquired to the Union by the revolutionary struggle by which it succeeded to the rights of the crown; by a transfer from the states, who, previous to the revolution had conflicting claims under grants from the crown; and by purchase by the Government of the United States from other nations. These modes of acquisition rendered them common property to all parts of the Union—to New Jersey as well as the rest. The transfers from the States were "for the only use and benefit of the states" who were parties to the confederation, and to be faithfully disposed of for that purpose, and no other purpose whatever. This state at the very commencement of the struggle claimed a right to her equal share, and these transfers did but execute the purposes and objects of those who took part in it. * * *

I know of no principle of justice to herself or others—of attachment to the Union or those who compose it, which can require at her hands the voluntary surrender of such a property and such means of prosperity and happiness. They were purchased by sufferings and blood, and cannot be lightly thrown away. The reasons which have been assigned for

it are most unsatisfactory, and especially so is the one which supposes that the new states will be discontented unless this grant be made to them. Those states are composed of people who but a short time since, left the old States, and acquired on easy terms, lands which render them comfortable and prosperous, and I do not perceive that the mere change of residence can give them a right to claim this enormous sacrifice from those whom those whom they left behind. If they be dissatisfied, it will be cause of regret, but the government and nation cannot therefore be required to yield, any more than they can to dissatisfaction and resistance of the laws in other parts of the Union.

LEGISLATURE OF NEW-YORK.

January 10.—IN SENATE.

Petition of citizens of New York for the incorporation of the Broadway Bank.

The bill extending the time for the collection of taxes in the town of Brooklyn, in King's county, was read a third time and passed.

ASSEMBLY.

Petitions for banks at New Berlin, Newburgh, Ulster, Saugerties, Canajoharie, and Martinsburgh; to increase the capital of the Farmers' Bank in Troy, and the Greenwich Bank, N. Y.

The Committee of the Whole took up the bill brought in by Mr. Woods, requiring Masters in Chancery to give sureties. [The bonds of those in New York to be in the sum of $10,000; of those in other counties, $5,000.] The original bill was passed, but some amendment being offered to the details, the committee rose and reported.

January 11.—IN SENATE.

Resolved, That the acting Comptroller do report to the Senate, the whole amount of the monies paid by the Banks respectively to the Bank Fund, together with the amount of the sums which may have been already received in the Treasury, on account of income thereon, and the total sum which has been paid for salaries to the Bank Commissioners, from the passage of the law in 1829 to the present time.

The Senate then went into executive business.—After the doors were opened, the President announced that the hour had arrived for the choice of a Comptroller. 21 Senators nominated Azariah C. Flagg.

A. C. Flagg was thereupon declared nominated on the part of the Senate.

The Senate then proceeded to the Assembly Chamber to compare nominations.

On the return of the Senate, the President announced that both Houses had agreed in the nomination of A. C. Flagg, who was declared appointed Comptroller.

IN ASSEMBLY.

Bills introduced:—By Mr. Downing, to incorporate the Mechanics' Benefit Society, N. Y.

By Mr. Stilwell, to amend the charter of the New York and Harlaem Railroad Company. [May extend it through such streets as the Common Council shall permit.]

Mr. Buckingham gave notice of a bill to remove the Seat of Government to Utica.

The committee of the whole, Mr. W. Baker in the chair, passed the bill requiring Masters in Chancery to give security.

January 12.—ASSEMBLY.

Petitions.—From Brooklyn to alter the law relative to auction sales in said village; to incorporate the N. Y. City coal and transportation Company; to alter the charter of the Clinton insurance Company; for banks at Le Roy, Little Falls, Herkimer, and Malone.

A communication was received from A. C. Flagg, accepting the office of Comptroller and resigning that of Secretary of State.

The bill requiring masters in Chancery to give securities, was read a third time and passed.

The Committee of the Whole, Mr. Dodge in the chair, took up the bill giving to the people of the several towns, the choice of Commissioners of Deeds. Mr. Van Duzer addressed the House against it, and moved to strike out the first enacting clause. This motion prevailed without a count. The committee then rose.

On the question of agreeing with the committee in their report, a debate arose.

The report was agreed to, ayes 92, noes 18.

IN SENATE—*Monday, January* 14, 1832.

Petitions—of inhabitants of Genesee, against the appointment of Priests to civil and ecclesiastical offices; for a Bank at Albion; for a Bank at Manius; for an increase of the Capital stock of the National Bank in New-York.

The joint resolution, from the Assembly, requesting our Representatives and Senators in Congress to use their exertions to procure the passage of a law granting certain lands to the officers of the late war, was called up and referred to the committee on the judiciary. Adjourned.

IN ASSEMBLY.

The committee of the whole took up the bill to incorporate the New York Mechanics' Benefit Society, which was passed; also the bill to amend the charter of the New York and Harlaem Railroad Company. [Authorizing them to lay their rails through such streets in New York as the Common Council may direct.]

Mr. Woods gave notice of a bill to amend the revised laws, in order to provide for costs and disbursements of attaching creditors. Adjourned.

APPOINTMENTS BY THE PRESIDENT,

By and with the advice and consent of the Senate.

Saul Alley, of New-York, Hertman Kuhn, Henry D. Gilpin, and John T. Sullivan, of Philadelphia, and Hugh McElderry, of Baltimore, to be Directors of the Bank of the United States for the year 1833.

Appointments—By the Governor and Senate—Friday, Jan. 11.

New York.—E. T. Throop Martin, Commissioner of Deeds, in the place of John R. Hedley, deceased. James Bergen, Notary Public, in the place of O. H. Hicks, deceased. A. Bleeker Nelson, Notary, in the place of Joseph Foulke, jr resigned.

The Augusta (Geo.) Courier of the 7th inst. says,—"The Georgia Guard were to have been discharged on the 1st January, according to law. The 11th section of the act passed the 22d Sept. 1830, being the section under which the Missionaries were imprisoned, has been repealed."

This seems to confirm, or at least to give countenance, to the rumour that the Missionaries are about to be set at liberty.

The same paper says—"The South Carolina Rail Road is announced as open to day, 72 miles from Charleston, for public travelling. A locomotive will start from each extremity at half past 6, A. M."

Opening of the Session of the Supreme Court of the United States.—The Supreme Court of the United States assembled on Monday at the Court Room at the Capitol, pursuant to law. Present—

Chief Justice MARSHALL,
Mr. Justice STORY,
Mr. Justice DUVALL,
Mr. Justice THOMPSON,
Mr. Justice MCLEAN.

The following gentlemen were admitted and sworn Attorneys and Counsellors of this Court; namely—

R. T. Lytle, of Cincinnati, Ohio.
J. R. Livingston, Jr. New-York.
Junius H. Hatch, New York.
Justin Butterfield, New York.
Wm. L. Brent, Maryland.
Wm. S. Fulton, Arkansas.

Mr. W. L. Brent, moved for a rule against the Attorney-General of the United States, to show cause why a writ of *habeas corpus* should not issue to bring before this Court the body of Tobias Watkins, now imprisoned in the prison of the county of Washington: and Saturday next was assigned for hearing the argument upon this application.—[Nat. Intel.]

NORFOLK, Jan. 12.—Major General Winfield Scott, and suite, of the U. S. Army, arrived here last evening from the South.

Lieut. Robert B. Randolph has been honorably acquitted, by a Court of Enquiry, of the charges against him as the acting Purser of the Java. This will be highly gratifying intelligence to the numerous friends of Lieut. R. in Norfolk, as well as elsewhere.—[Norfolk Herald, of Monday.]

[*From the Cincinnati Gazette.*]

INDIAN WAR.—Various rumors are afloat, of preparations by the upper Mississippi Indians, to commence hostilities in the spring upon the Mississippi frontier. It is to be hoped that the Government of the United States will be vigilant in preserving peace. There is great reason to believe that the whites in that region, or a goodly portion of them at least, prefer a state of hostilities with the Indians to one of peace. The war of last season is one of very questionable origin. The better opinion is that the whites were the aggressors. Most severe sufferings were visited upon the Indians, which too many deem it an offence to speak of with commiseration. The cost to the nation is supposed to exceed a million of dollars. An Indian war in the far West, and a civil war in the near South, may keep up a demand for expenditure sufficient to interfere with the revenue calculations of the anti-tariffites. Let them think of that, who now make everything subordinate to the destruction of the protective system of the country.

SUMMARY.

[*From the Philadelphia U. S. Gazette of Tuesday.*

Yesterday afternoon, the treasurer of the Girard trust presented to Councils a statement of the amount of personal property paid to him on the 12th by the Executors of the late Stephen Girard. The par value was $1,123,593 67. The present worth is $1,406 870.

General Blair has been tried for the late unhappy occurrence in the theatre. Dr. Sewall, his attending physician, gave evidence before the court, that he was subject to chronic rheumatism in his head, for which he occasionally had recourse to brandy and opium whereby he sometimes became partially deranged. The Court dismissed the case with a fine of *five dollars*. The action against him for the assault on Duff Green will not be tried for some time. —[Standard.]

A collection was taken up on Sunday, at St. John's Church, Philadelphia, for the benefit of the distressed Germans who were recently shipwrecked in the Pennsylvania, near Charleston. The amount received was $237.

The sloop Othello, of and from Poughkeepsie, on her passage down with a full cargo of grain and other produce; was yesterday morning about 9 o'clock, when opposite Tarrytown, obliged to throw over board, a part of her deck freight, consisting of 150 barrels of beer, 200 hogs dead and alive, 20 tons pig iron, nuts, seed, &c. in tierces and barrels, in order to lighten and save the vessel —she being aground at the time, and making water very fast, having been cut through to her timbers by the ice.

A number of vessels were seen about that neighborhood at the same time and in the same situation.

Accident.—The ship John Linton, Capt Wibray, from New Orleans, in coming up the harbor yesterday, when just below Governor's Island, came in contact with the new revenue cutter Jefferson, Capt. Randolph, bound to Norfolk. The cutter was beating out, and the ship coming in with a free wind.—The starboard bulwarks of the cutter were stove in, stanchions broke, fore-rigging and sails much injured, and mainmast carried away. The ship's fore-yard, jib-boom, and end of bowsprit gone. The Jefferson had on board an extra complement of men, intended for the cutter at Washington. Had it not been for the superior strength of the cutter, she would in all probability have sunk, and many lives lost; she had on board, all told, 62 persons.—[Gaz.]

A son of Andrew M'Laughlin, aged 8 years, was killed last week at Ellicott's mills, by a fall from a railroad car.

The late Wm. James has provided by his will for the disposition of his immense estate, and the investment of his entire property in the village of Syracuse, and in the cities of New York and Albany.

Loss of the Brig Cuba.—The vessel anchored within the Hook on Thursday night last, in the snow storm, wind at north west blowing a gale. The next morning nothing could be seen of her but her top-masts, the vessel having gone down during the night. For a day or two it was supposed the crew had reached the shore in their boat. It is now certain that they have not, and the only chance left for them is that they went to sea in their boat in a snow storm, and have been picked up by some outward bound vessel. The chance of safety considering the weather, we consider very small. She was loaded with coal and commanded by Capt. Keating; the vessel was built in Maine, 1821.—[Daily Adv.]

The schr. James and Catharine, from this port for Philadelphia, went ashore on Saturday last, near the Capes of Delaware—part of the cargo was saved

COMMON SCHOOLS OF NEW-YORK.—We hope the abstract of the Annual Report of the Secretary of State respecting the Common Schools, which we take from the Argus, will be attentively read. The statements it makes, and the results it exhibits, might justify almost any note of self-gratulation: yet no New-Yorker ever thinks of saying—"the eyes of the whole Union are on New-York"—"the nation expects New-York to interpose"—"when New-York speaks, it is pretty generally admitted that she does not speak in vain." This is never our tone. And yet, with *half a million* of children in our common schools, and 180,000 freemen under arms, the attitude and voice of New-York on any contested question might be, perhaps, without presumption, a matter for general consideration. A State, in which one million one hundred and twenty-five thousand dollars are *annually* expended in *common school education*, over and above all the sums paid for instruction in colleges and private schools, may certainly claim to speak with effect on every question, to the solution of which, intelligence and instruction are requisite, and when she can back her opinion, if need be, *with one hundred and eighty thousand men in arms*,—her moral influence, aided by such physical resources, could not but be acknowledged.

[*From the Albany Argus.*]

COMMON SCHOOLS OF NEW-YORK.—The annual report required of the Secretary of State, as Superintendent of Common Schools, was made to the Assembly on Monday. The following extracts from this interesting document, exhibits a most gratifying view of the progress and results of the system of common school instruction in this state:

"There are fifty-five organized counties, and eight hundred and eleven towns and wards in the state. Returns have been received from the clerks of all the counties, containing copies of the reports of the commissioners of common schools, from every town and ward in the state.

"These reports show that there are 9600 school districts organized in the state, and that 8941 of these districts have made their annual reports, as required by the statute.

"The trustees are required to furnish a census of the children over 6 and under 16 years of age, who reside in their respective districts on the last day of December of each year; and also the number of children taught in each district school during the year ending on that day. It will be seen by the abstracts, that in the districts from which reports have been received, there were, on the last day of December, 1831, five hundred and eight thousand eight hundred and seventy eight children over 5 and under 16 years of age; and that four hundred and ninety four thousand nine hundred and fifty nine scholars were taught in the same districts during the year, in the common schools of the state; and that eight thousand nine hundred and forty one district schools have been kept open for the reception of pupils an average period of eight out of the twelve months.

"Two hundred and sixty seven new districts have been formed during the year for which the reports are made; and the number of districts which have made reports to the commissioners, has increased one hundred and six during the same time.

"The reports from the commissioners of the several towns, show that the school moneys received by them and paid to the trustees of the several districts, in April, 1832, on the district reports of the previous January, amount to $305,582 78. Of this sum $100,000 were paid from the state treasury, $188,384 53 were raised by a tax upon the property of the inhabitants of the several towns in the state, and $17,198 25 were derived from local funds possessed by some of the towns.

"The amount paid for teachers' wages in the several districts of the state, over and above the public money apportioned by the commissioners, as may be seen by abstract B, is $358,320 17 cents. This sum, added to the public money, gives a total of $663,902 95, paid for teachers' wages; except about $60,000 in the city of New-York, which is raised by a special tax, and applied to the erection of school houses.

"The productive capital of the school fund has been increased during the year ending 30th September, 1831, $31,015 88, from the sale of school fund lands and other sources.

"The productive capital of this fund now amounts to $1,735,175 28. The revenue for the coming year is estimated by the Comptroller at $101,250.

"The perpetuity of the school fund is guarantied, and its gradual increase provided for, in the following provision of the new constitution: 'The proceeds of all lands belonging to this state, except such parts thereof as may be reserved or appropriated to public use, or ceded to the United States, which shall hereafter be sold or disposed of, together, with the fund denominated the common school fund, shall be and remain a perpetual fund; the interest of which shall be inviolably appropriated and applied to the support of common schools throughout this state.' This provision of the constitution, in relation to the transfer of the state lands to the school fund, took effect on the first January 1823; at which time the capital of the common school fund amounted to $1,155,827 40.

"It is now ten years since the constitutional provision to increase the school fund, took effect; and the aggregate increase of the fund during that period, deducting the loss of $50,000 by the failure of the Middle District Bank, is $579,347 88; which is an average annual increase of $57,937 for ten successive years.

"There remained in the Treasury on the 30th of September, 1831, $61,887 64 cents, of school fund capital uninvested: The accumulations of capital since, from the sales of school fund lands, and payments on the principal of the loans of 1786, 1792 and 1808, amount to $79,689 82 cents—making a total sum in the treasury to be invested, of $141,577 46 cents. This sum, with the exception of $2,714 02 has been invested in 6 per cent bonds and mortgages; which were transfered from the general fund, in compliance with the first section of chap. 296, of the session laws of 1832. An amount of 80,000 dollars of 5 per cent Oswego canal stock, has been exchanged for bonds and mortgages which belonged to the general fund. The total amount of bonds and mortgages transfered from the general fund to the school fund, was $218,863 44 cents. The productive capital of the school fund now consists of $607,009 23 in bonds and mortgages for lands sold, being at an interest of 6 per ct.; of loans to the counties of Broome, Erie, Clinton, Chautauque, and Cataragus, 17,663 dollars, at 6 per cent interest: the remainder of the loans of 1786, 1792 and 1808, in all amounting to $587,788 97 cents, at an average interest of 6 per cent; of canal stock, $327,000 bearing an interest of 5 per cent; of stock in the Merchants and Manhattan Banks of New-York, $230,000, on which the dividends are 6 per cent per annum; and 2,714 dollars are in the treasury uninvested. The entire capital, with the exception of the inconsiderable sum before mentioned, is securely and profitably vested, and the revenues from it may be relied on with reasonable certainty.

"Those who founded our common school system, never contemplated that the public funds would at any time yield a revenue adequate to the support of such an extensive establishment. The first condition on which the public money was offered to the towns, was, that the inhabitants of each town should by a vote at their town meeting authorize a tax to be raised equal at least in amount to the sum apportioned to their town from the state treasury; which sum was to be added to the apportionment from the school fund, and the amount thus made up be applied to the payment of teachers' wages. Another requirement of the system, is, that before the inhabitants of a neighborhood can participate in the public fund, they must organize a district, erect a school house, furnish it with fuel and necessary appendages, and have a school taught therein at least three months by a legally qualified teacher: And it is on a report of all these facts, by the trustees, that the commissioners are authorised to apportion the school money to a district.

"The voluntary contributions of the inhabitants of the school districts, form so important a portion of the means which are necessary to give effect to the school system, that when new forms were furnished with the revised statute, a column was added requiring the trustees in each district to report the sums paid for teachers' wages, by the patrons of the district schools, over and above the sums received from the state treasury, the town tax, and the local school fund.

"Seven hundred and sixty one towns, (omitting all the wards) have made returns the past year, exhibiting a total amount paid by individuals in the several school districts, for school bills, besides the public money apportioned to the districts, of $358,320 17 cents: which, added to the public money, ($305,582 78,) makes the aggragate amount of $663,902 95 cents, paid for teacher's wages alone, in the common schools of the State.*

"These returns show, that where the State, or the school fund, pays one dollar for teachers' wages, the inhabitant of a town, by a tax upon his property, pays $1 28 cents, ($60,000 deducted for New-York) and by voluntary contribution in the school district where he resides, $3 58 cents for the same object; and the proportion of 17 cents is derived from the local school fund.

"The amount paid for teachers' wages is only about one half of the expenses annually incurred for the support of the common schools, as the following estimates will show. Taking the average between the whole number of districts organized, ($9,600,) and the number from which reports have been received the last year, (8941,) and it will give 9270 as the probable number of schools in operation. Deducting 30 for the City of New-York, and there will remain 9240 school houses, which, at an average price of 200 dollars each, would make a capital of 1,840,000 dolls.; add to this the cost of school houses in the City of New-York, (say $200,000,) and it shows a capital of 2,040,000 dollars vested in school houses, which, at an interest of 6 per cent. per annum, is $122,400 00

Annual expense of books for 494,959 scholars at 50 cents each,	247,479 50
Fuel for 9270 school houses, at $10 each	92,700 00
	$662,579 50
Add the public money appearing from returns, and before referred to,	305,582 78
And also the amount paid in the districts besides public money,	358,320 17
And it makes a grand total of	$1,125,162 45

One million one hundred and twenty-five thousand one hundred and sixty two dollars, and forty-five cents, expended annually for the support of the common schools of of the state.

"The preceding estimates show that the revenue of the school fund, (that is, the $100,000 paid from the State treasury,) pays a fraction less than one-eleventh of the annual expenditures upon common schools; two-elevenths are raised by a tax upon the several towns and cities, and the three-elevenths thus made up, (being the item of $305,582 in the foregoing estimate,) constitutes what is called the "school money," and is the sum received by the commissioners of the cities and towns, and paid to the trustees of the several public schools: A fraction more than two-elevenths, (being $215,110 for school houses and fdel,) is raised by a tax upon the property of the several districts, in pursuance of a vote of the inhabitants thereof; and the residue, nearly six-elevenths, (being $605,799,) is paid voluntarily by the parents and guardians of the scholars, for the balance of their school bill, (after applying the public money,) and for school books."

* A part of the money received by the commissioners in the city of New York is applied to the erection of school houses, the purchase of fuel, books, &c., and that amount, perhaps 60,000 dollars, is not applied for teachers' wages.

The North River is now closed, and the boats have done running; the Constitution came down on Saturday from Poughkeepsie, and passed through much floating ice. The steamboat Linnæus started on Sunday with passengers, but got only about ten miles up, and had to return with her passengers.—The bay and river above is full of ice—at present there is no other than a land conveyance to Albany.

FIRE.—The Methodist Church at Bloomingdale, opposite Burnham's, was consumed by fire on Sunday afternoon, between 2 and 3 o'clock. It originated from the stove pipe.

COMMUNICATION.

At the annual meeting of the stockholders of the American Academy of the Fine Arts, on the 8th instant, the following gentlemen were elected officers:

Col. John Trumbull, President.
Sam. L. Waldo, Vice President.

David Hosack, M. D.	James Herring,
J. C. Ward,	Robert Ball Hughes,
John Glover,	J. Van Rensselaer, M. D.
Ithiel Towne,	F. R. Spencer,
Pierre Flandin,	Henry F. Rogers, and

Archibald Robertson, Esqrs. Directors.

At a subsequent meeting of the Board, Pierre

Flandin, Esq. was re-elected Treasurer, and James Herring, Secretary.

We cannot publish this notice without expressing the wish, that this institution and the National Academy of Design could unite their labors and their galleries. The bane of almost all our attempts in literature and the arts, arises from scattering over a large surface, and dividing among many, the efforts and the patronage which, concentrated upon one, would, or at any rate might, have the chance of producing something excellent and durable.

The following lamentable information is from the Augusta Courier, of the 4th January:

A passenger in the stage last night, who came through the Cherokee Nation, says that there was great excitement there. Some person who had drawn a tract of land, on which were improvements, attempted to take probably violent possession, and was resisted by the Indians, and that two families, consisting of nine persons, had been massacred by the enraged savages. He says the Georgia Guard is in close pursuit of the murderers.

[*From the Charleston Courier of 5th inst.*]

Loss of Ship Logan, by Fire.—Capt. Bunker, of the new Ship Logan, of New York, arrived at this port yesterday, in the ship Grand Turk, furnishes us with the following particulars of the destruction of his vessels, by lightning, on her passage from Savannah to Liverpool: Left Tybee 16th Dec. with a fair wind from South, which continued blowing a heavy gale from the Westward until the 19th, on which day, at 45 minutes past one o'clock, P. M. the ship was struck by lightning, which descended the starboard pump, from thence it passed up the after hatch way and went off; it was immediately observed that the ship was on fire, when the crew commenced breaking out cotton from the main hatch way, for the purpose of extinguishing it. In the course of half an hour, got into the lower hold, and on the starboard side of the pump well, found the cotton on fire; they then commenced throwing on water and heaving the cotton overboard, first cutting the bales in pieces: after working in this way for some time, and heaving overboard 8 or 10 bales, it was found that the fire was raging between decks on the larboard side; they then left the lower hold, and commenced breaking out between decks, and in a short time broke out 20 or 30 bales, but the smoke became so suffocating as to oblige the hands to leave the hold and close the hatches. It was now night, and the ship was under closed reefed topsails; after all the hatches were closed up, the upper decks began to grow hot—with the determination, therefore, to save the ship and cargo if possible, holes were cut around the pumps and capstan, and water poured down, which was continued all night—at daylight found that all the upper deck, from the main mast to the after hatch, was on fire, and in some places the deck had burnt through. The main hatches were then taken off, and spent about one hour in heaving down water, when the smoke became so dense that the men could stand it no longer. The hatches were then closed for the last time, and continued throwing water through the holes that were cut, the fire still gaining so fast that no hope was left of saving the ship. The long boat was now ordered out, and 60 gallons of water and what provisions could be obtained put on board, when the officers and crew (16 in number) embarked in her, being then in lat. 33 N. long. 66 West; having saved nothing but a chronometer and quadrant, and what clothes they stood in. The nearest land was the Island of Bermuda, which bore about S. E. 100 miles distant, which they endeavored to reach, but the wind blowing heavy from W. S. W. could not fetch it, but drifted to the eastward of it, when they fortunately fell in with the *Grand Turk*, and were rescued from a watery grave, after having been in the boat five days, most of which time it was blowing a gale. Capt. Madegan kindly took them on board and treated them with every attention which their distressed situation required.

The Logan, says the Journal of Commerce, was a fine new ship of this port, belonging to S. Hicks & Son, on her first voyage. She was about 420 tons burthen, cost about 25,000 dollars, and was insured nearly to the cost. The owners had also on board an invoice of cotton insured at about 22,000 dollars, sufficient to cover cost and premium. There was other freight on board, making up a total value for the ship and cargo of 75,000 dollars, most of which is insured in Wall street.

Huntsville, December 29.—George S. Gaines, Esq. the President of the new Branch of the State Bank located at Mobile, is about to proceed to New York for the purpose of negotiating the loan of $2,000,000, which is to form the capital of that Bank.—[Alabama Adv.]

Annual Meeting of the Episcopal Missionary Society.—Last evening an interesting annual meeting of the Missionary Society of the Protestant Episcopal Church, was held at the Mission Church in Vandewater street. The extensive and successful operations of this society, under the direction of their devoted missionary, the Rev. Mr. Cutler, were laid before the meeting, who heard much to convince them of the importance of extending the system of missionary churches, parochial visits with charitable aid to the poor, Sabbath and Infant Schools, by new and redoubled exertions.

The "Peaceable Remedy."—Twenty one pieces of heavy ordinance are being put on board the brig Lawrence and other vessels, bound to Charleston, for the benefit and behoof of the nation of South Carolina. They are intended, no doubt, to shoot the Tariff with. A shipment of small arms was made a few days since, for the same destination.—[Jour. of Commerce.]

[*From the Alexandria Phœnix.*]

Males and Females.—It appears by correct Schedules of the Fifth Census of the United States, just published, that in every section of the country except New-England, the free males out number the free females. The excess of free females over free males in New-England 24,688! Excess of free males in the Middle States, 59,944; do. in the Southern States, 10,526; do. in the Western and South Western States, 118,027; do. in the Districts and Territories, 3,679.

Missouri.—The Census of this State, as recently taken by authority of the State, presents an aggregate of 173,276 souls, of whom 32,184 are Slaves. The number of White Males, we observe, exceeds that of the White Females, by nearly nine thousand souls.

Nail Making.—It is stated in the Buffalo Bulletin that "Mr. F. Palmer, of Buffalo, has invented a new method of making nails for shoeing horses and oxen, for which he has obtained a patent. It is an invention which promises to be of great value to the community and to the inventor, who is at present the principal proprietor. Some idea may be formed of its importance, from the fact that one man can manufactnre nails in this way, at least as fast as fifty men can in the usual way. The nails have been proved to be equally "as good in quality, and far superior in point of form."

POETRY.

[*From the Albany Daily Advertiser.*]

TO THE PRINTER:—The enclosed piece was picked up about a year ago, in the road between Albany and Troy, and as I have not been able, after diligent inquiry, to find an owner for it I propose that it be advertised in your paper. *

To the Generous Lady, who proposed to keep my Conscience for me, during my absence at Court:

I hope, my fair one, that you may not find
That conscience you have charge of, troublesome—
And if you should, or if it will not mind
Your orders strictly—prithee, send it home—
Not that I want it—for the Law, 'tis said,
Is managed very well, without its aid.

But it is not a thing that one may sin with;
And it may ask more care than you can render—
For 'tis an arrant *coward*, to begin with.
And then, the little urchin is *so tender!*
Besides—most girls are of such gentle stuff
They find, I think, *one* conscience quite enough.

This conscience-keeping is a curious thing,
In lands where Priests have many such to boast of,
And tho' I'm neither Catholic, nor King,
I'm very glad that mine is so disposed of—
Only, let no Inquisitor compel you
E'en to disclose the *secrets* it may tell you!

☞ POSTSCRIPT. ☜

Oh!—apropos—pray did you not discover
My truant *heart* with you?—Do send it back—
I know full well its habit is to hover
About my conscience, and pursue *its* track—
I tho't 'twas gone when I got home last night;
To-day I'm very sure that I was right—

And yet no matter—'tis not worth bestowing—
But keep it if you will till my return—
I think I shall not want it where I'm going,
And hope it will not give you much concern—
But if it prove a torment, or a tease,
Why scold—chastise it—any thing you please—

Yet do not let it come to any harm,
'Tis liable to be so very ill—
The weather's very cold—do keep it warm—,
The least exposure gives it *such* a chill!
I think the *safest* place for't, ever known,
Would be—the little *boudoir* with *your own*—

Besides in that way—if your taste approves—
They'll know each other better—who can tell,
I'm sure 'twould be a very pleasant matter,
To yours and mine—especially the latter—

However, there's no telling after all—
These little creatures often do and say things
Which make the chances of affection small,
Just as young Misses pout about their playthings—
I'm sure you think 'twould be a pitty—don't you?
If *ours* should do so—do prevent them—won't you? B.

SALES AT AUCTION OF REAL ESTATE.

By J. P. Dieterich—January 8.

The two houses and lots, No 129 and 191 Orange st. 25 feet 5 inches by 100 feet each. $6,750

One lot on Thirty-first street, 21 feet 6 inches front by 98 feet 9 inches deep. 240

Two lots on the Seventh Avenue, between 29th and 30th street. 1,560

By W. F. Pell and Co.—January 10.

Building and lot 72 Sullivan street, 20 feet 5 inches in front, 18 ft. 7 in. rear, 76 deep—$2,100.

Building and lot 74 Sullivan-st., 22 ft. 2½ in. front, 22 ft. 8½ in. rear, 76 deep—$2,200.

Building and lot No. 76, 22 ft. 2½ in. front, 20 ft. 6 in. rear, 77 ft. 6 in. deep—$2,250.

Building and lot 84 Sullivan, 18 ft. 10 in. front, 19 ft. 1 in. rear, 80 ft. 5 in. deep—$1,500.

Building and lot No. 84½, 18 by 60—$1000.

Lease 172 Hester-st., 5 years—$710.

January 11.—Two story house and lot No. 24 Franklin-st., 25 by 100—$7,500, cash.

By James Bleecker & Sons—January 11.

House and Lot No. 24 Franklin street, 25 by 100 feet $7,600

The lot of ground north-west corner of Church and Barclay streets, (No. 25 Barclay street) 25 by 102 feet 12,600

Lot north-westerly corner of Greenwich and Barclay streets, (No. 167 Greenwich stret,) lot about 33 by 91 feet 11 inches. 21,700

The House and lot corner of Chapel and Anthony sts (No. 102 Chapel st.) 55 by 50 feet. 4,050

The brick house and lot adjoining, 104 do. 25 by 75 feet 3,050

The three story brick house and lot No. 41 Barclay st. 25 by 115 feet. 11,100

The three story brick house and lot N. W. corner of King and Hudson streets, No. 271 Hudson st., about 24 by 60 ft.—$3,980.

No. 273 Hudson-st. do. do. 17 by 60 ft.—$2,225.

Nos. 275 & 277 do. do do.—$4,600.

Lot in the rear, on King-st—$800.

One do. adjoining, do—$775.

The above lots are on lease for 32 years without ground rent.

One lot on Burton-st., 60 feet from the corner of Bedford-st., 20 by 60 feet—$1,000

One do adjoining—$1,075.

Three story brick house and lot No. 21 Rutgers-st.—lot 25 by 104 feet—$8,500.

No. 23 do. adjoining—$8,500.

The house and lot No 230 Delancy-st., 27 by 100 ft.—$2,450.

The three story house and lot No. 11 Dey-st., 26 ft. front, 50 ft. in the rear, and 99 ft. 10 in. deep—$16,300.

The two story brick front house and lot 39 Warren st., 25 by 75—$7,400.

The two story brick house and lot 29 Park Row, 24 ft. front, 26 in the rear, running thro' to Theatre Alley, 116 ft.—$14,500.

The brick house and lot No. 142 Water-st., 22 feet 10½ inches by 101—$16,600.

By James Bleecker and Sons—January 12.

The house and lot 81 Mulberry st. 25 by 100 feet.... $2 300

The two story house and lot 50 Franklin street, between Broadway and Church street. 25 by 100 feet.... 9,000

Two lots on Centre near Pearl st. 40 feet 9 inches front, 31 feet rear, and 60 feet deep. 3,000

The store and lot corner of Front and De Peyster sts. 35 by 47 feet. 27,000

The two story house and lot on Tenth street, near 6th Avenue, 25 by 92 feet. 2,500

Two lots at the corner of Jorollamon and Henry sts. Brooklyn, with a two story house on them, together 60 feet 6 inches front, 44 feet rear, and about 120 feet deep, 0,650

One lot at Williamsburgh, Ferry, South 3d and 7th sts. 0,116

Three lots do do adjoining on South 3d st.. 0,300

Two lots do do do do.... 0,210

One lot cor. South and 8th sts. 0,115

Two lots on do do. 0,200

One lot do do. 0,095

One lot do do. 0,100

Seven lots do do each $96. 0,672

Two lots do do. 0,200

LIST OF AGENTS
FOR THE
AMERICAN RAILROAD JOURNAL.

Post-Masters throughout the United States are respectfully invited tc receive and forward subscriptions.

Editors of Newspapers, with whom we exchange, and others who will do us the favor, aro also respectfully requested to act as Agents for the Journal.

MARRIAGES.

On the 14th instant, by the Rev. Mr. Hawks, Edward H. Ludlow, M. D., to Elizabeth, daughter of the Hon. Edward P. Livingston, of Clermont

On Wednesday evening, Jan. 9, by the Rev. Dr Broadhead, Mr. Ebenezer G. Bennet, of Brooklyn, to Miss Sarah Dobs, of this city.

On Saturday evening, 12th inst. by the Rev. Mr. Sommers, Charles W. A. Rodgers, to Miss Martha C. Turnbull, all of this city.

On the 10th inst. at Pompton, N. J. by the Rev. Mr. De mund, Aaron R. Thompson Esq. of New York, of the House of Thompson, Austen & Wymbs, to Eliza, daughter of Martin J. Ryerson, Esq of the former place

DEATHS.

On the morning, 14th January, Jane Kohler, infant daughter of Henry I. Knapp, aged 6 months and 18 days.

On Saturday morning, the 12th inst., at Newburgh, Orange County, Mr. Evert V. Finch, late of this city, aged 22 years.

At Hamilton, N. Y., on the 5.h inst., after a long and painful illness, Mrs. Olivia Davis, aged 38 years, wife of William Davis, of this city.

On Wednesday evening, January 16th, Thomas Swords, infant son of Robert Dumont, aged 6 months.

WEEKLY REPORT OF DEATHS.

The City Inspector reports the death of 90 persons during the week ending on Saturday last, Jan. 12th, viz.:—15 men, 21 women, 30 boys, and 21 girls—of whom 31 were of the age of 1 yea. and under, 7 between 1 and 2, 7 between 2 and 5, 6 between 5 and 10, 1 between 10 and 20, 8 between 20 and 30, 10 between 30 and 40, 12 between 40 and 50, 3 between 50 and 60, 2 between 60 and 70, and 3 between 70 and 80.

Diseases: Apoplexy 1, asphyxia 1. burned or scalded 1, cancer 1, childbed 1, consumption 19, convulsions 8, diarrhœa 1, dropsy 4, dropsy in the chest 1, dropsy in the head 1, drowned 1, fever, putrid 1, fever, scarlet 4, fever, typhus 1, hives or croup 7, inflammation of the bowels 1, inflammation of the brain 1, inflammation of the chest 3, inflammation of the liver 1 intemperance 2, mortification 2, old age 2, peripneumony 5, pleurisy 1, quinsy 1, stillborn 7, suicide 1, tabes mesenterica 2, teething 1, unknown 2 whooping cough 1, worms 1.

ABRAHAM D. STEPHENS. City Inspector.

☞ **THE NEW-YORK AMERICAN** is published DAILY at $10 per annum, and SEMI-WEEKLY at $4 per annum in advance.

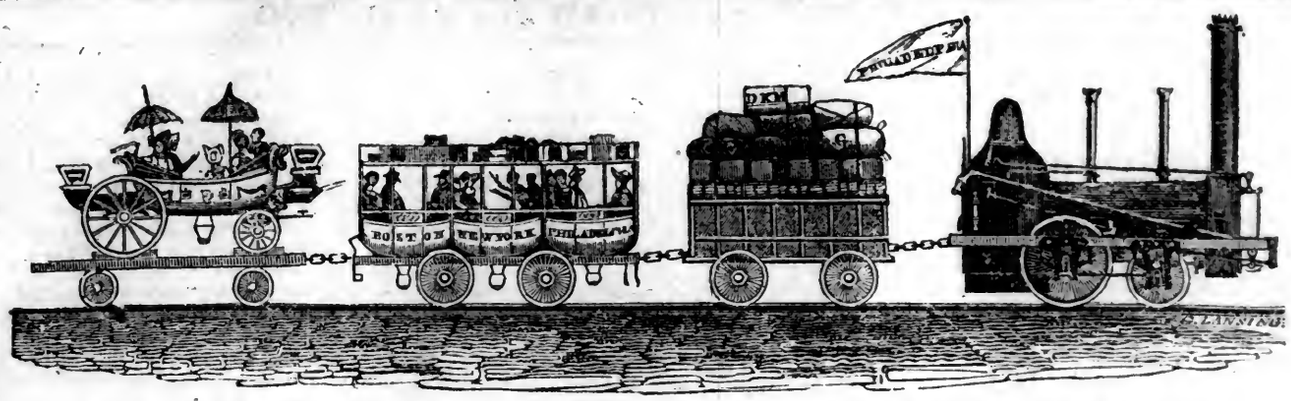
☞ Also, **TRI-WEEKLY,** containing all the reading, *marine news*, and advertisements of the *daily* paper, and the *only Tri-Weekly* paper published in the city of New-York.—Terms, $5 per annum *in advance*.

☞ Letters, referring to either of the above papers, may be addressed (*postage paid*) to the Publisher,
$1 D. K. MINOR, No. 35 Wall-street, New-York.

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, January 16, 1833.

ASHES—				
Pot, 1st sort 1832. 100 lbs	—	a	4	40
Pearl.....do	4 65	a	4	70
BEESWAX—				
White.....lb	38	a		40
Yellow.....do	18	a		20
BREAD—				
Navy.....lb	—	a		2½
Pilot.....do	—	a		5
Crackers.....do	6½	a		6¾
BRISTLES—				
Russia, first sort ....lb	60	a		70
Do. common...do	20	a		40
American.....do	15	a		50
CANDLES—				
Mould, tallow .....lb	12½	a		14
Dipped .....do	11½	a		12
Sperm.....do	33	a		35
CLOVERSEED ..lb	10	a		11
COAL—				
Liverpool ....chaldron	10 00	a		—
Scotch .....do	8 50	a	9	00
Sidney & Bridgeport..do	9 50	a		—
Albion.....do	8 50	a	9	00
Virginia .....do	8 00	a	10	00
Anthracite .....ton	8 50	a	10	00
COCOA—				
Caraccas .....lb	—	a		—
Trinidad.....do	7	a		8
St. Domingo.....do	—	a		7
Para .....do	—	a		6
COFFEE—				
Cuba .....lb	11	a		13½
Brazil.....do	13	a		13½
Porto Rico.....do	13	a		14
Laguira .....do	12	a		13½
St. Domingo.....do	11½	a		12
Java .....do	12½	a		14
Jamaica.....do	12	a		13
COPPER—				
Sheathing .....lb	—	a		24
Pig .....do	—	a		17
Old .....do	17	a		17½
Bolt.....do	24	a		—
CORDAGE—				
Foreign.....lb	9½	a		11½
American.....cwt	10½	a		11
CORKS—				
Velvet.....gross	40	a		50
Common .....do	20	a		30
Phial .....do	5	a		11
COTTON—				
New Orleans.....lb	11	a		13
Upland.....do	10	a		11½
Alabama .....do	10½	a		12¾
Tennessee.....do	10	a		11
COTTON BAGGING—				
Hemp.....yd	13	a		20
Flax .....do	11	a		15
Do. American .....do	19	a		21
DIAPERS—				
Russia, broad....piece	2 15	a	2	20
DUCK				
Russia, U. X. ....bolt	18 00	a	19	00
Do. Bruisguins				
Do. Zutoff & Konop'ff	17 00	a		—
Do. 3d quality ..do	15 50	a	16	00
Do. inferior.....do	12 50	a	15	00
German, Half.....do	11 00	a	12	00
Holland, A. A. .....do	24 00	a	25	00
Ravens .....do	8 50	a	9	75
Amer. Joy's, all flax. No. 1 a 8 .....do	15 50	a	12	00
Do. Phenix Mills, Paterson, flax, No. 1 a 6.	16 00	a	12	00
Do. cotton, Paterson, No. 1 a 10 .....yd	26	a		39
DYE WOODS—				
Braziletto .....ton	30 00	a		—
Camwood .....do	70 00	a		—
Fustic, Cuba.....do	21 00	a	25	00
Do. Tampico....do	—	a	23	00
Do. Maine.....do	20 00	a	21	00
Logwood, Camp'hy..do	27 00	a	28	00
Do. St. Dom..do	19 00	a	20	00
Do. Jamaica..do	15 00	a	17	00
Nicaragua. Bonaire..do	—	a	40	00
Do. Coro....do	—	a	45	00
Do. Hache ..do	—	a	70	00
FEATHERS—				
Live, Foreign .....lb	14	a		20
Do. American .....do	38	a		40
FISH—				
Dry Cod.....cwt	2 75	a		—
Scale .....do	2 00	a		—
Pickled Cod.....brl	4 25	a		—
Do. Salmon.....do	12 50	a	13	50
Smoked do. .....lb	14	a		15
Mackerel No. 1 ....brl	6 50	a	6	62½
Do. No. 2.....do	4 50	a	4	62½
Do. No. 3.....do	3 00	a	3	25
Shad, Conn. Mess....do	8 25	a	9	50
Do. Bucksport, do..do	—	a	6	25
Herrings.....do	2 25	a	2	50
Do. Smoked...box	40	a		90
FLAX—				
Russia.....lb	—	a		—
American.....do	9	a		11
FLAXSEED—				
Clean.....cask	—	a		—
Rough .....do	14 75	a		—
FLOUR AND MEAL—				
NewYork supfine..brl	6 00	a		—
Troy.....do	6 00	a	6	12
Western Canal .....do	6 12½	a	6	37½
Philadelphia .....do	6 00	a		—
Baltimore Howard st.do	6 25	a		—
Richmond City Mills.do	—	a	6	75
Do. Country...do	6 00	a	6	12½
Alexandria & Georgetown.....do	6 25	a	6	50
Fredericksburg .....do	—	a	5	87½
Peterabtig .....do	5 87½	a	6	00
Scratched and fine..do	5 62½	a	5	75
Fine middlings.....do	5 50	a		—
Rye Flour .....brl	4 00	a	4	25
Indian Meal .....do	3 75	a		—
Do. ..... hhd	17 00	a		—
FRUIT—				
Raisins, Malaga..cask	—	a	8	50
Do. bloom ....box	—	a	2	75
Do. muscatel ..do	3 00	a		—
Do. bunch .....do	3 25	a		—
Do. Smyrna....lb	7	a		7½
Currants, Zante ....do	8½	a		9
Almonds, soft shell..do	14	a		15
Do. shelled....do	—	a		16
Figs, Smyrna .....do	5	a		8
Filberts .....do	3½	a		5
Prunes Bordeaux ..do	22	a		23
Tamarinds .....do	3½	a		4
GRAIN—				
Wheat, North riv..bshl	—	a		—
Do. Genesee....do	—	a		—
Do. Virginia ....do	1 18	a	1	22
Do. N.Carolina..do	1 15	a	1	20
Rye, Northern .....do	85	a		—
Corn, Yellow, North..do	70	a		80
Do. White, L. I. & N.J..	85	a		—
Do. Southern.....do	68	a		75
Barley, North river..do	75	a		—
Oats, South & North..do	45	a		52
Peas, white dry..7 bshls	9 00	a		—
Do. black eyed....do	90	a		—
Beans.....do	8 50	a	10	00
HEMP—				
Russia.....ton	190 00	a	210	00
Manilla .....do	210 00	a	212	50
Sisal.....do	—	a		—
American dew-rot...do	130 00	a	150	00
Yarns, Kentucky ...lb	—	a		—
HIDES—				
LaPlata & R.Grande. lb	14	a		14½
Brazil .....do	11	a		12
Do. wet salted ...do	7	a		6½
Oronoco .....do	12½	a		13
W. India & Southern..do	10	a		12
S. A. Horse.....piece	1 15	a	1	30
HOPS—				
First sort, 1832.....lb	33	a		35
Second sort, do.....do	—	a		—
HORNS—				
Ox.....100	5 00	a	20	00
INDIGO—				
Bengal .....lb	1 00	a	1	50
Manilla .....do	75	a	1	12½
Caraccas.....do	1 12½	a	1	30
Guatemala .....do	75	a	1	25
IRON—				
Pig, Engl. & Scotch..ton	40 00	a	45	00
Do. American .....do	30 00	a	40	00
Bar, do. .....do	80 00	a	100	00
Do. Russia, P.S. I..do	95 00	a		—
Do. new Sable..do	83 00	a	85	00
Do. Swedes.....do	82 00	a	83	00
Do. English ass'td..do	75 00	a		—
Sheet, English.....cwt	6 75	a	8	00
Peru I.Co. flat & sq..ton	—	a		—
Do. round....do	—	a		—
Hoop, American...cwt	5 50	a	7	00
Do. English.....do	6 62½	a	6	75
LEAD				
Pig .....lb	5¾	a		6
Bar.....do	6	a		—
Sheet .....do	6¼	a		6½
Old .....do	4¼	a		—
LEATHER—				
Sole, Oak tanned....lb	20	a		27
Do. Hemlock.....do	17	a		20
Do. damaged.....do	14	a		16
Upper, dressed....side	75	a	2	75
Do. undressed...do	1 00	a	2	50
LUMBER—				
Boards, N. R.....M ft	—	a	15	00
Do. East'n Pine..do	16 00	a	17	00
Do. Albany do ..pce	16	a		17
Plank, Georgia do. M ft	25 00	a	35	00
Staves, W. O. pipe..do	—	a	60	00
Do. do hhd....do	—	a	45	00
Do. do brl.....do	—	a	30	00
Do. R. O. hhd.....do	—	a	30	00
Heading W. O. .....do	45 00	a	47	00
Hoops.....do	25 00	a		—
Scantling, Pine .....do	15 00	a	16	00
Do. Oak .....do	20 00	a	25	00
Timber, Oak.....sq. ft	20	a		25
Do. Geo. Yell. Pine..do	25	a		30
Shingles, Cypress. M ft	4 25	a	4	50
Do. Pine..bundle	—	a		—
MOLASSES—				
Martinique & Guad..gall	28	a		—
English Islands.....do	28	a		30
Havana & Matanzas..do	25	a		28
Trinidad de Cuba...do	29	a		—
New Orleans.....do	30	a		—
NAILS—				
Cut, 4d to 40d.....lb	—	a		6
Cut, 3d.....do	6¼	a		7½
Cut, 2½.....do	8	a		8½
Wrought.....do	10	a		16½
NAVAL STORES—				
Tar.....brl	2 12½	a	2	25
Pitch.....do	1 50	a	1	62½
Rosin.....do	1 12½	a	1	62½
Turpentine Wilm. soft.	2 81	a		—
Do. North Co. do..do	2 50	a		—
Spirits Turpentine. gall	40	a		42
OILS—				
Florence 50 flasks..box	5 00	a		—
French 12 bottles..bskt	3 00	a	4	00
Olive.....gallon	1 12½	a		—
Linseed, American..do	85	a		—
Do. Eng. & Dutch..do	87½	a		90
Whale .....do	21	a		25
Do. refined.....do	40	a		45
Sperm, Summer....do	—	a		95
Do. Winter .....do	1 06	a	1	08
Liver, Straits.....brl	15 00	a	15	50
Do. Shore & Bank..do	14 00	a		—
OSNABURGS...yd	9½	a		10
PROVISIONS—				
Beef, Mess.....brl	8 50	a	9	00
Do. Prime.....do	5 37½	a	5	75
Do. Cargo.....do	4 50	a	4	75
Butter, N. Y. Dairy..lb	14	a		18
Do. Shipping....do	12	a		13
Do. Philadelphia..do	—	a		12
Hog's Lard .....lb	8½	a		9½
Pork, Mess.....do	12 50	a	14	00
Do. Prime.....do	11 00	a	11	75
Do. Cargo.....do	10 00	a	10	50
Cheese, American...lb	6½	a		8½
Hams, Virginia.....do	10	a		11
Do. Northern....do	9	a		10
RAGS—				
Foreign .....do	4	a		8½
Country .....do	3	a		5
RICE.....100 lb	3 00	a	3	50
SALT—				
Turk's Island.....bshl	40	a		42
Isle of May.....do	38	a		40
St. Ubes .....do	—	a		—
Cadiz .....do	—	a		35
Lisbon .....do	—	a		—
Liverpool ground...do	35	a		35
Do. blown ....do	—	a		—
Do. sack do. ..sack	1 94	a	2	00
SALTPETRE—				
Refined.....lb	—	a		9
Crude E. I.....do	—	a		7½
SHEETINGS—				
Russia, white ....piece	10 50	a	11	00
Do. brown.....do	8 75	a	9	00
SOAP—				
New-York, Brown ..lb	5	a		6
Castile .....do	11	a		12
SPELTER .....lb	—	a		3½
SPICES—				
Cassia, in mats ..... lb	22	a		23
Cloves .....do	50	a		—
Ginger, race.....do	9	a		9½
Do. ground .....do	6	a		10
Nutmegs .....do	1 50	a	1	55
Pepper.....do	16	a		—
Pimento, Jam.....do	14	a		14½
SPIRITS—				
Brandy, Ot. D. & Co. gal	—	a	1	69
Do. Rochelle...do	1 50	a	1	56
Do. Bordeaux ..do	1 30	a	1	40
Rum, Jam. 4th proof..do	1 00	a	1	18
Do. St. Croix, 3d do..do	95	a	1	00
Do. Wind ísl. 3d do..do	85	a		87
Do. N Orl'ns, 1st do..do	—	a		—
Do. N. Eng. 1st do ..do	36	a		37
Gin, Holl'd, Meder Swan	1 20	a	1	25
Do. Hour Glass..do	—	a	1	15
Do. Pine Apple..do	—	a	1	17
Do. Imperial ...do	1 12½	a	1	15
Do. Country .....do	36	a		44
Whiskey, Rye.....do	31	a		32½
Cider Brandy .....do	40	a		42
STEEL—				
German .....lb	10½	a		12½
English .....do	11	a		14
Trieste, in boxes....do	5	a		5½
American.....do	5½	a		6
SUGARS—				
British Island.....lb	7¼	a		8½
St. Croix .....do	8	a		9½
New Orleans .....do	5	a		6½
Havana, White.....do	9	a		10½
Do. Brown.....do	7	a		8
Do. Muscovado..do	6¾	a		7
Porto Rico .....do	7¼	a		8
Brazil, White.....do	7	a		8½
Do. Brown .....do	6	a		7½
Manilla, Brown.....do	—	a		7
Lump.....do	12	a		13
Loaf .....do	14	a		17
SUMAC—				
Sicily.....ton	70 00	a	75	00
Trieste.....do	30 00	a	45	00
American .....do	27 00	a	30	00
TEAS—				
Imperial .....do	1 00	a	1	31
Gunpowder.....do	1 00	a	1	31
Hyson.....do	75	a	1	12
Young Hyson .....do	70	a	1	06
Hyson Skin.....do	50	a		75
Souchong .....do	36	a		62
Bohea .....do	21	a		24
TIMOTH. SEED..tce	15 00	a		—
TOBACCO—				
Richmond & Petersb..do	3	a		6
North Carolina .....do	3	a		4
Kentucky .....do	3	a		5½
Cuba.....do	9	a		18
St Domingo.....do	9	a		15
Manufactured, No. 1..do	10	a		12
Do. No. 2..do	7	a		—
Do. No. 3..do	6	a		7
Ladies' Twist.....do	14	a		16
Cavendish.....do	8	a		30
WINES—				
Madeira.....gall	1 12½	a	2	25
Sherry .....do	80	a	2	00
Canary, Cogswell's..do	95	a	1	37
Teneriffe L. P.....do	70	a	1	00½
Do. Cargo.....do	60	a		65
Malaga, dry .....do	40	a		45
Do. sweet.....do	43	a		46
Claret.....cask	14 00	a	25	00
Do. in bottles ....doz	2 25	a	6	00
Port.....gall	70	a	1	87½
Lisbon .....do	80	a	1	35
Marseilles Madeira..do	40	a		48
Catalonia.....do	30	a		36
WOOL—				
Merino, Am. fleece...lb	40	a		55
Do. pulled..do	37	a		40
Common .....do	30	a		35
Pulled, spinning ....do	35	a		37½
Lambs, 1st quality ..do	40	a		42
Do. 2d quality...lb	27	a		29
Do. 3d quality...do	20	a		24



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JANUARY 26, 1833.

☞ Will our friends at Albany, or north of there, who may have a stereotype plate of *Messrs. Ogle and Summers' Steam Carriage*, give it the direction of the "Free Press," Burlington, Vt.? We should like also to see that which was sent to Philadelphia, travelling south: it has been inquired for at Alexandria, and we would thank those who may now have it to forward it to the "Phenix Gazette" office, Alexandria, D. C.

We shall in our next give a description, with engravings, of Mr. Braithwaite's new Steam Engine. It has attracted much attention, and is highly spoken of in the London Mechanics' Magazine.

We have received the London Mechanics' Magazine for November. It contains several interesting communications, of which we shall give some account in our next.

We are gratified to learn that an effort is to be made to introduce a Steam Carriage for common Roads between Cambridge and Boston, as well as between Salem and Boston.

In this number will be found the Report of the President and Directors of the *Philadelphia and Trenton Railroad Company*. The surveys and estimates, which were made by Samuel H. Kneass, Esq. show the route to be uncommonly favorable for such a work. It is believed the road can be completed, with a single track, and the grading for a double track, for less than twelve thousand dollars per mile.

M'Adam Roads.—In this number of the Journal will be found proposals by Mr. John S. Williams, of Cincinnati, Ohio, for publishing by subscription a Treatise on Road-Making and Repairing upon the plan of Mr. J. Loudon M'Adam. Mr. Williams has been long and favorably known in Ohio and Kentucky, in this important, yet, at least in this section of the country, much neglected branch of business. He was, as we have before observed, with C. W. Weaver, Esq. on the National Road in Ohio, where he acquired a high reputation for skill, industry and perseverance in his profession. He has since been, and is still, we believe, engaged as engineer of the Lexington and Maysville turnpike road, and on the Cincinnati, Columbus and Worcester turnpike road: the former of which is spoken of as the most perfect specimen of the art to be found in this country. Of the importance of such a publication to this rapidly improving country, we presume no one will doubt; and of the ability of Mr. Williams to produce such a work as the country requires, as little doubt will be entertained when his vouchers shall have been examined. We therefore most cheerfully commend the work to this community, which, as much as any other, would be benefitted by its general circulation. Subscriptions for the work will be received at this office.

[*For the American Railroad Journal.*]

Foot Railroads, No. II.—In No. 23, Scientific Tracts, it is stated that a horse, at five miles an hour, usually exerts the force necessary to raise 45 lbs. over a pulley, and draws on a level railroad about four tons. At two miles an hour, he usually exerts a force necessary to raise 112 lbs. and draws on a level railroad about 10 tons. It is computed that a man can draw on a horizontal line about one-seventh the load a horse can draw; and therefore, he could draw at two miles an hour 29 cwt. or more than two horses could draw on a common road at four miles an hour,—and more than a yoke of oxen could draw at two miles an hour. One man on a level railroad could move, at two miles an hour, more than a yoke of oxen could move at the same rate on a level road. But, on a railroad, there will be some portions where the road will not be perfectly level. If, in these portions, there is a rise of one foot in eighty, or sixty-six feet in a mile, then, to overcome this ascent, there must be exerted a force sufficient to raise over a pulley one-eightieth of the load, in addition to the force necessary to move it forward on a level. To move it forward on a level, he must exert a force sufficient to raise 16 lbs. over a pulley; and, in addition to this, to draw 29 cwt. up an ascent of one foot in eighty, he must use a force sufficient to raise 40 lbs. over a pulley. A man, therefore, who with a cord over a pulley can raise up 56 lbs. can move a load of 29 cwt. up a railroad ascending one foot in eighty, or sixty-six feet in a mile; and, on a level, he can move such load as easily as he can raise 16 lbs. over a pulley. This shows the vast advantages of a railroad over a common road. The inquiry may now be made why a narrow, and therefore a very cheap, railroad may not be made for the use of men! If they can move forward on such a road only one ton, or even half a ton, they could easily do on one such road all the transportation that is needed on most of the routes leading to our principal market towns. Let those who have heavy articles to transport, and those who regard the welfare of the community, inquire into this matter.

Publicola.

[*From the London Mechanics' Magazine.*]

Domestic Self-Acting Pump.—Sir: I am desirous of knowing whether any method has been used to apply the force of a small stream of water, having a fall of about 60 or 70 feet, by hydraulic pressure to raise a large portion a less distance. I want such a force to produce power by raising a portion of water about six or eight feet in height, into a water wheel, by a stream about 300 yards distance, having a fall as above. It will be seen from the subjoined, from the Imperial Magazine, that such a method has been tried on a small scale with success.

I remain, Sir, yours, respectfully,

A. B. C.

"That such a pump is perfectly applicable to all domestic purposes is proved by the fact of a very small one having continued working for three months without being touched, raising about two tons of water in 24 hours; it acts entirely without friction, and by its means, the rain water collected at the top of the house will pump up a corresponding quantity of water from a well as deep as the house is high.—Its principle depends upon the alternate filling and emptying of four reservoirs with air and water by means of pipes and valves: invented by Jas. Hunter, Esq. of Thurston, in Scotland—the principle of which is to raise water above the original reservoir by the descent of a certain portion of it."

We find in the New-Orleans Emporium of the 7th of Dec. a report from the President of the Pontchartrain Railroad Company, which adds another evidence, if another was wanted, of the great utility of Railroads to large cities, as well as to their safety foo passengers; for where else but on a Railroad has so few accidents happened among so many (90,000) passengers as have passed on that railroad.

To the Stockholders of the Pontchartrain Railroad Company.—The period has arrived when, under the 3d section of the charter of the Company, it becomes the duty of the President and Directors to lay before you the third annual statement of the affairs of the company. In doing so they have the gratification to state that the labors of their undertaking are drawing to a close, and that the transportation of freight has commenced, promising results highly beneficial to the public, and to the company.

On comparing the extent of the works now nearly completed, with the plan upon which they were originally designed, they will be found to have been greatly enlarged. This circumstance has been the result of the increased confidenee of the Board of Directors in the success of the undertaking, and the necessity of giving that public accommodation which the present plan of the works could alone afford. Since the last annual report, the works have been prosecuted without intermission, but at the close of the summer the scarcity of mechanics, and their loss of time from sickness, have retarded by a few weeks the completion of the works to the extent contemplated.

The works then in contemplation have been completed, consisting of a great enlargement of the road at the city depot. The construction over it of an extensive shed on cast iron pillars, and an enclosure by a wall and railings—a double track to serve as a place of passing has been laid to the extent of half a mile, and several thousand yards of earth have been deposited to widen and secure the embankment through the lower swamp. In the lake, works of great magnitude and expense have been constructed, and on its shore has been reared one of the most extensive hotels in the southern country. The losses which have been experienced in the first attempt to construct a harbor in the open lake were not disproportioned to the inherent difficulties of the undertaking.—Those difficulties have now been overcome, and the advantages of such an improvement to the commerce of the city will be soon felt and appreciated. The first effort to construct a break-water was made under mechanics whose experience in works of the kind, on the northern lakes, justified the expectation of a favorable result, but it proved otherwise, for when the work had progressed to an expenditure of ten thousand dollars, it was entirely destroyed by a violent gale of wind. The break-water which now protects the harbor was commenced soon after the other, and has been put to the test in a manner to favor entire confidence in its sufficiency, side works on a similar plan have been put down to the extent of four hundred feet on the east side, and one half that extent on the west. The pier has been carried out to six feet water at the lowest tide, and will be completed early in January next. Three sets of rails are laid on it with crossings sufficient to afford the greatest facilities in receiving and delivering cargoes.

During these extensive preparations for transporting freight, the transportation of passengers was carried on in a manner to give complete accommodation to the public. This being done by horse power caused more than double the expense attending the use of steam, while by means of the latter a power five times more efficient can now be exerted when required. During the first six months of the second year commencing the 23d of April last, and ending 23d of October, the gross receipts for passengers amounted to $36,000—leaving $25,000 after paying the current expenses of the road. From that time to the present the passing on the road has been much diminished from causes which have operated alike on all business.

The restoration of the health of the city has a corresponding effect on the operations of the road, while the transportation of freight has opened an additional source of revenue.

When we look back upon the difficulties that have been overcome since the last annual meeting, there is room for congratulation at the prospect now before us. With many, the construction of a sufficient harbor was then deemed impracticable; with others, its utility for the purpose of commerce was wholly denied. With such impressions on the mind of the public, it should not surprise us that the value of the stock should suffer a depression from a momentary want of confidence. These impressions will soon be removed by the evidence now offered by the works of the company.

Apprehensive, however, that the change in the value of the stock might prove a cause of uneasiness to many of the stockholders, the Board of Directors thought fit to prepare in August last a circular, showing the situation of the affairs of the company. To this report the stockholders are now respectfully referred for a more detailed statement of the affairs of the company up to that period. Since that time the obligations of the company have been reduced by the payment of $15,000, while payments were made on account of the works of the harbor to the amount of $9,000.

Soon after the date of the circular referred to, the steam car Pontchartrain, then just received, was placed upon the road, and after a full trial, was found to realize the expectations of the most sanguine. This engine is capable of transporting one hundred passengers at a speed of thirty miles the hour, and can convey to the lake in twenty minutes the cargo of the largest vessel in that trade. In August last an order for another engine and twenty freight cars was sent to England, and one for twenty freight cars to New-York. Advices that the former were contracted for have been received, while most of the latter are on their way. The Directors were sensible of the difficulty of securing a timely delivery of cars without the presence of an agent, but did not feel justified in incurring the necessary expense. With the cars now in use, the transportation of freight will be limited, but relief is daily expected.

The road was opened for the transportation of freight early in November last, and on the 15th of that month, the schooner Orleans, Captain Crocker, entered for freight. The day after, the Isabella, Captain Vincent, arrived; and several vessels loaded with fire-wood, entered a few days after, discharged and departed, while from the low stage of water at the Bayou, no vessel could, during that period, either enter or depart with cargo.

The adaptation of the railroad for the transportation of passengers has been long since conceded, but some deny, and many have doubted its success in the transportation of freight, especially such articles as constitute the lake trade. The subject has received the earnest attention of the Board of Direction, and although they have had the experience of but a few weeks, they have the fullest conviction of a favorable result. The construction of the harbor offers the greatest facilities for receiving and discharging cargo, while equal facilities exist for handling on and off the cars. Preparations are making to afford similar facilities at the city end of the road, and will be completed in ten days. A vessel engaged in bringing wood has made her trips every 48 hours, while the same vessel averaged a trip per week when trading upon the Bayou. The packets Orleans and Isabella are now receiving their second cargoes in the harbor of the company, and when additional cars are received, may be loaded in a single day.

These are advantages important to the public and the company; but the company will not reap the benefits of them until more fully developed. This makes daily progress, and the inhabitants of the city will soon experience the advantages resulting from the introduction of wood and other articles of necessity through a channel of communication subject to no interruption. The experience already had in the management of freight has led to the conviction that bricks can be transported on the road, on terms satisfactory to the owners and profitable to the company. The great trade in that article entitles it to the special attention of the company, and its transportation will be recommenced as soon as a sufficient number of cars are provided.

The success of the company in the transportation of freight is a subject of such importance, that it is not thought out of place to insert a statement made out by the late Captain Loomis, for many years a respectable and intelligent captain in the trade between this and Mobile. It shows what advantages would, in his opinion, be enjoyed by a railroad over the Bayou, shewing a result highly favorable to the former. The statement is as follows:

"The tonnage of the Mobile is 67 tons, pays Bayou fees,	$50 12½
Average cargo in say 20 tons—out 65—85 tons at 75 cents,	63 75
Difference in favor of the Bayou,	$13 62½

Contra.—The time in coming up and going down the Bayou, detention in consequence of low water, is at lenst four days each trip. The expenses of the vessel's crew, consisting of

eight men at $1 25 each, 4 days,	$40 00
Two extra men up and two down, at $2 50 each,	10 00
Average amount of goods lighter-ed, say 200 barrels, at 12½ cents,	25 00
Detention of vessels 4 days, at $8,	32 00
	$107 00
To put the cargo on waggons and discharge it, would take 12 days work, at $1 50,	18 00
	89 00
	13 62½
In favor of the road,	$75 37½

If I were sure of plenty of water, say six feet at low water, I would bring in at least 80 tons, and take out at least 15 tons more, which would increase the amount of tonnage 75 tons each trip. We could always get plenty of lumber, brick, and wood, which would pay a small freight, as those articles are as low in Mobile as at Madisonville; but in consequence of the low water, we do not like to bring those heavy articles except for ballast."

Had this statement been given to the public at the time it was made, it would have been regarded only as something very fine on paper. It is now published when the vessels in that trade are loading in the harbor, and when the steam car and steamboats side by side saluted each other.

From this view of the subject, nothing is wanted to insure the success of the railroad but a judicious and active administration of the affairs of the company.

The great expenditure incurred in constructing the harbor, together with the extensive hotels and bathing houses, exhausted the means of the company and made it necessary to contract a loan of $50,000, which has been obtained from the City Bank of New-Orleans on the bonds of the company, payable in five, ten, and fifteen years, at an interest of 8 per cent. The Directors felt much reluctance in contracting a loan at that length of time, and rate of interest; but the importance of completing the works in time to profit by the winter's business, induced them to make the contract. The company is therefore in a situation to meet all their engagements and complete their works. The rents of the hotels and bath-houses of the company, and revenue from the mail, will more than pay

the interest on the loan, leaving the revenue of the road from passengers and freight to provide a sinking fund for extinguishing the loan thus contracted, pay the current expenses of the road, and the dividends. This will leave the company in possession of the proceeds of fauxbourg D'Arcantel as a surplus revenue.

One of the peculiar advantages of a railroad, as a means of transportation, over a canal, especially in this vicinity, is the great facility and small expense at which it may be extended and enlarged to meet the increase of business. To undertake therefore to affix limits to the works of the company, would be fixing a limit to the business to be done on it. This, it is believed, would prove injudicious in every point of view, and the Direction has accordingly adopted a system of administration which will enable the company to provide the facilities which the increase of business may require, without incurring any great increase in the expenses of the company beyond the mere cost of materials. With this view, and to insure a more efficient administration of the affairs of the company, an engagement has been made with Mr. John Grant to act as general superintendant of the operations of the company. The skill and enterprise evinced by that gentleman in the construction of the break-water and pier in the lake, leaves no doubt of his capacity as well to carry on the operations of the road as to enlarge and improve the whole undertaking.

For a general statement of the finances of the company, the stockholders are referred to the report of the finance committee herewith submitted.

In concluding their third annual statement, the president and directors look with confidence to the epoch when the result of the enterprising exertions of the company will be felt throughout the city and fauxbourgs, and when the advantages of the Railroad will not be confined to a section of this great commercial city; but will, by the means of branch railways, be extended to each extremity. The immense value of such extensions cannot be properly estimated by our citizens, until they are made. When the wishes of the company are met in a proper spirit by our municipal authorities, New-Orleans will be second to no city in the Union in profiting by the unexampled progress made in mechanical science.

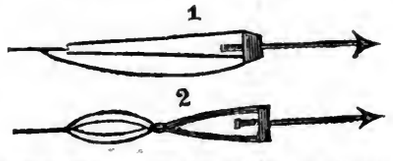
If the works already constructed, be found to have much exceeded in time and cost the limits first assigned, it must be remembered that the estimate was made without experience as a guide; that the works have been extended far beyond the plan originally contemplated, and that there is every reason to believe that the fruits of the undertaking will exceed calculation in a ratio equal to the excess of time and cost. In attempting to construct a harbor in the open lake, the company were pioneers in the undertaking. The timber which is now procured at 7 or 8 cents the foot, then cost 25. This reduction has been the result of a successful effort by the company to tow rafts by steam, and promises great advantages to the public. It should also be remembered, that the greater part of the works of the company have been constructed without the advice and assistance of an engineer, and are the result of such attention as the president and directors have been able to give them.

In reviewing the benefits resulting from the establishment of the Pontchartrain Railroad, there is no circumstance to which the president and directors advert with as much pleasure as the fact, that more than ninety thousand persons have been conveyed to and from the lake, without injury to any passenger.

M. W. HOFFMAN, *President*.

RAILROADS.—The long projected railway from Birmingham to London, is again to be brought before the legislature. It is expected that the railway will be continued from Birmingham to Liverpool, and from thence to Edinburgh. The Southampton to London, by Fauxhall, Wandsworth, and Kingston, across Ditton-Marsh and Walton-common, to Weybridge, thence south of Basingstoke Canal to Trimley, where it will cross and proceed to Winchester, and through Stoneham to Southampton. The whole distance of the line will be rather less than seventy-seven miles. The railway from London to Brighton projectors iniend to apply for a bill. Every preparation has been made to commence the railway from London to Greenwich. It will be continued to Woolwich, thence to Chatham and Dover.—The French have it in contemplation to make a railway from Calais to Paris.—[London paper.]

[*From the London Mechanics' Magazine.*]



IMPROVEMENTS IN MR. MURRAY'S PLAN FOR INSTANTANEOUS COMMUNICATION WITH STRANDED VESSELS.—In No. 441, we gave an account of Mr. Murray's excellent invention for saving from shipwreck, abstracted from a pamphlet published by that ingenious and very philanthropic gentleman. We have now before us a "Supplement" to that pamphlet, in which Mr. Murray describes some material improvements which he has since effected. In the experiments which we last recorded, Mr. Murray had only got the length of being able to project his safety line from a common musket; but the purpose of the present "Supplement" is to announce that "in a thousand instances a *pistol* with an arrow and its line will afford sufficient means to convey a rope and establish a medium of escape from the wreck to the shore."

The improvements made consist in a better construction of the arrows, and will be readily understood from a comparison of the prefixed sketches with that given in No. 441. The arrows, 1 and 2, are made of solid iron, and the spindle is polished to allow the sliding appendage and the recoil-spring to fly backwards with as little resistance as possible. The arrow is of metal, because it is found to project much further than one of wood. The recoil-spring is of steel, which answers better than the cork or catonchet originally proposed. The snapcord is intended to meet the first sudden jerk, and provide a double curb to the violent impetus of the projected line, so that a charge of gunpowder double or treble what is usual may be employed. The arrow, No. 1, weighs, together with its appendages, $4\frac{3}{4}$ ounces, is one foot long, and $\frac{7}{8}$ inch in circumference. The arrow, No. 2, with its adjustments, $5\frac{3}{4}$ ounces, is $10\frac{1}{2}$ inches long, and 1 inch in circumference.

With the arrow, No. 1, Mr. Murray made the following experiments, making use of a pistol $8\frac{1}{2}$ inches long, and $\frac{11}{16}$ inch diameter in the bore, and a cord 110 yards long, weighing 11 ounces:—

"First experiment; at an angle of 40 degrees, with 23 grains of gunpowder, the arrow carried the line 71 yards.

"Second experiment; at an angle of 30 degrees, with 34 grains of gunpowder, the line was carried 72 yards.

"Third experiment; at an angle of 45 degrees, with 46 grains of gunpowder, the line was carried 85 yards.

"Fourth experiment; at the same angle, and with a similar charge, the line was carried 83 yards.

"Fifth experiment; at the same angle and with a similar charge, the line was carried 84 yards.

"In no instance did the cord break."

With the arrow, No. 2, the following results were obtained; but it does not clearly appear from Mr. M.'s statement, whether with a musket or a pistol:—

"At an angle of 45 degrees, with 46 grains of gunpowder, and the wadding hard rammed down, the arrow carried with it 110 yards of line.

"The cord and all the adjustments as in the other experiments, remained completely entire, and were not, in the most remote degree, injured. The recoil, in the last case, however, was rather too violent, from the additional weight of the arrow, and the degree to which the wadding had been rammed down: a circumstance which it seems necessary to state.

"The gun which has been manufactured by Mr. Pritchard, of Birmingham, under my directions, can discharge eight drachms of gunpowder with great ease.

"The arrow, in this case, was formed of brass, with a sliding ring embracing the rod, and having the line attached to a loop, the whole weighing $6\frac{1}{2}$ ounces, carried a platted hemp cord, double the thickness of a garden line, more than sufficient to pull a considerable rope on board, from the shore, and adequate to form the requisite line of communication with the vessel. This arrow carried the line 57 yards, with only one drachm of gunpowder.

"In the second experiment the arrow carried the line 112 yards, with $2\frac{1}{2}$ drachms of gunpowder. These last experiments were made at Birmingham, and in no instance whatever did the line break."

Mr. Murray adds the following valuable practical remarks:—

"I. *The Arrow.*—The material of the arrow should be iron, and the more tough the better; perhaps old horse shoes, welded longitudinally and in separate pieces, will be the best, and finally wrought in the manner of the English twisted gun barrels, or the French "*canons a ruban*"—or ribbon barrels, which approach sufficiently near to them.

"II. *Gunpowder.*—This differs materially in power and propelling force. It has, I believe, been estimated as high in some cases as equivalent to a thousand atmospheres. Col. Mark Wilks informed me, as the result of a series of experiments made by him at St. Helena, that semi-burnt charcoal very materially increased the power of gunpowder. Willow, hazel, and dogwood, are the woods which supply charcoal for powder mills; and the last, if I am correctly informed, is preferred at Battle for the manufacture of the finest kinds. The smaller grained is inflamed more rapidly than the other, and it should seem, from experiments made in reference to the question, that the inflammation is also more complete. A little lycopodium powder mixed with the priming, while it would facilitate the ignition, would tend very materially to protect it from wet, and therefore render it much more certain.

III. *Wadding.*—This may be formed of a slice of thin cork, or of an old hat or card punched out, or of soft brown paper, which last will seldom fall to the ground nearer than a distance of 20 or 30 feet from the muzzle of the piece. Some attention must be paid to this circumstance, since, if formed of too pliant materials, such as cotton, &c. it will not be of sufficient consistency for the purpose; it will, therefore, lose in force, and the shot will not be carried so far. On the other hand, if the wadding be too stiff and inflexible, or rammed down too firmly, the shot will spread, and the piece will recoil considerably more. A medium in both, therefore, will be found essential.

"IV. *Recoil.*—This arises from the retrograde motion of the piece, and is dependant on a well known law in mechanics, namely, that action and re-action are alike. Excess in the recoil may be generally traced to inequality in bore, but it is taken for granted that the piece has been submitted to the usual proof before it leaves the hands of the manufacturer. The weight of the piece being the same, the recoil will be in the ratio of the quantity of gunpowder and the weight of the ball, or other projectile. The recoil will also increase with the number of times the piece is fired, which would seem to connect the question with the evolution of moisture or expansion by produced temperature; it is also, as has been stated, attendant on

the wadding being rammed down too firmly. The butt end of the gun must be held closely and firmly to the shoulder.

"V. *Bursting of the Barrel.*—This is a very rare event, and easily prevented. Sometimes, indeed, it is the fault of the workman, and proceeds from a defect in welding, but the reputation of a respectable manufacturer being compromised, very little danger need be apprehended. The only other causes likely to occur in this question is the danger of an over-charge, which a correct measure accompanying the powder flask or canister will most effectually prevent—the gun manufactured by Mr. Pritchard will bear 8 drachms of gunpowder, and not more than 3½ drachms can ever be required, leaving a reversion of 4½ drachms of powder. There therefore remains only another caution, and that is, the end of the arrow must be brought in complete contact with the wadding, which will be effectually secured by the angular elevation of 45 degrees—an elevation which secures the greatest range; the general cause of bursting in ordinary cases is to be attributed to the circumstance of the ball not being rammed home, and a space left between it and the charge of gunpowder.

"So simple an apparatus might be disposed of in a small compass, and when put up in a convenient case, kept on board vessels; it might thus be made available in a few seconds, in the hour of danger. The impulsion of the arrow would be materially assisted by the gale blowing towards a lee-shore, and it would have, in relation to the line of direction and its successful receipt on shore, the combined advantages of an extensive segment of a circle over a merely central point."

Not the least important feature of Mr. Murray's plan is its great cheapness, compared with every other which has been proposed:—"The expense required for the establishment of a few stations of Captain Manby's apparatus will supply some thousands of these, (blunderbusses, muskets or pistols)—in fact, suffice for the British isles." Mr. M. states, that a "gun with six arrows, two lines each 200 yards long, two tin cans to hold the lines, a powder-measure, a supply of wadding, &c., will cost (only) from 4*l.* to 5*l.*;" and "the smallest gun (query, the pistol!) with the apparatus complete, much less."

We are glad to perceive that the "National Institution for Saving from Shipwreck" have determined on forthwith introducing Mr. Murray's invention on the dangerous coast of Sussex; nor can we anticipate less than its speedy adoption along all our shores. Mr. M. adverts with great modesty to the trouble and expense which he has been at to bring the invention to its present state of perfection, but rather by way of apology for not doing more in its behalf, than with a view to eliciting any public reward. We trust, however, that a great and generous nation will not on that account be the less disposed to mark, in some suitable manner, its sense of the valuable present he has made to it. If Captain Manby was thought well deserving of 3,250*l.* for his imperfect apparatus, it cannot be that the inventor of one in every respect superior to it should be suffered to go wholly unrewarded.

[*From the London Athenæum.*]

RAILWAYS AND CANALS.—The question is one of great importance to the parties interested in the canals between London and Birmingham, as on the truth or falsity of the calculations of the promoters of the railway must depend the continuance of a considerable portion of the revenue of the canal proprietors, and the very existence of the trade or occupation of the canal flyboat carriers. Unless the London and Birmingham railway company obtain possession, not only of the whole revenue or tolls paid to the trustees on turnpike roads, with a portion of the canal tolls, and the entire income and profit of the carriers and coach-masters on those roads and canals, no return whatever could be obtained from their outlaid capital.

The railway company take it for granted, that the canals are unable to enter into competition with them for the turnpike road traffic; the coaching, posting, van and wagon trade on which they expect to take from the road without dispute. They consider that the canal companies must stand merely on the defensive, until the railway company, having taken the road trade, begin the attack, and that then the canal carriers and company can only protect and preserve a part of their light goods trade, by a reduction of dues and charges to compensate for the great rates of speed of the railway conveyance.

The writer proceeds to argue, that by constructing a canal of the same length as the proposed railway, the coaching trade of the latter could not stand for a single month in competition with the canal boats, in which passengers can travel with perfect safety, at the rate of ten miles an hour, with a degree of ease and comfort which no other conveyance can give, and at a tenth of the cost. Here are his calculations, founded, he says, on experiments made on the Manchester railway and the Ardrossan canal:

"The ordinary speed for the conveyance of passengers on the Ardrossan canal has, for nearly two years, been from nine to ten miles an hour, and although there are fourteen journies along the canal per day, at this rapid speed, the banks of the canal have sustained no injury; indeed injury is impossible, as there is no surge. The boats are formed seventy feet in length, about five feet six inches broad, and, but for the extreme narrowness of the canal, might be made broader. They carry easily from seventy to eighty passengers, and, when required, can, and have carried upwards of 110 passengers. The entire cost of a boat and fittings up, is about £125. The hulls are formed of light iron plates and ribs, and the covering is of wood and light oiled cloth. They are more airy, light, and comfortable, than any coach; they permit the passengers to move about from the outer to the inner cabin; and the fares per mile are one penny in the first, and three farthings in the second cabin. The passengers are all carried under cover, having the privileges also of an uncovered space. These boats are drawn by two horses, (the prices of which may be from £50 to £60 per pair,) in stages of four miles in length, which are done in from twenty-two to twenty-five minutes, including stoppages to let out and take in passengers, each set of horses doing three and four stages alternately each day. In fact, the boats are drawn through this narrow and shallow canal at a velocity which many celebrated engineers had demonstrated, and which the public believed to be impossible.

"The entire amount of the whole expense of attendants and horses, and of running one of these boats four trips of twelve miles each, (the length of the canal,) or forty-eight miles daily, including interest on the capital, and twenty per cent. laid aside annually for replacement of the boats, or loss on the capital therein invested, and a considerable sum laid aside for accidents and replacement of the horses, is £700 some odd shillings; or taking the number of working days to be 312 annually, something under £2 4s 3d per day, or about 11d per mile. The actual cost of carrying from eighty to one hundred persons a distance of thirty miles, (the length of the Liverpool railway,) at the velocity of nearly ten miles an hour, on the Paisley canal, one of the most curved, narrow, and shallow canals in Britain, is therefore just £1 7s 6d sterling. Such are the facts, and incredible as they may appear, they are facts which no one who inquires can possibly doubt.

"The result of the experiment on the Liverpool railway has been somewhat different from that on the Ardrossan canal.—On the railway, indeed, the expected velocities have been fully attained, and the calculations of the engineer, in this respect, satisfactorily demonstrated as possible and correct; but unluckily, one very important matter had not been admitted into the calculations, or rather had not been supposed to exist, viz: the probability, or rather certainty, of a great increase of expense, consequent on increased speed. The geometrical ratio of increased resistance on increasing the speed on canals has been transferred to the increase of expense on increasing the speed on railways, with this addition, that the increase of expense affects not merely the moving power, or locomotive engine, but the coaches, wagons, and roadway. The ordinary speed of conveyance on the Liverpool railway is from ten to twenty miles an hour, and depends much on the weather and the weight dragged. The railway engine, with its tender for carrying coke and water, costs about £1000, and drags after it a train of eight coaches, the cost of each of which, if the same as in the estimate for the London and Birmingham railway, should be £200, or a train of first class coaches, with accompanying engine and tender, costs £2600. The coaches accommodate one hundred and twenty passengers. There are other coaches, and also uncovered wagons, which travel at an inferior speed, and which will cost less. The fares are various: seven shillings, or nearly threepence per mile, for each passenger in the best coaches: and five shillings, or twopence per mile, for each passenger in the common coaches, of what is called the 'first train,'—being just double and triple the Paisley boat fares; and four shillings in the coaches, and three shillings and sixpence in the uncovered wagons, of what is called the 'second train,' which move at a lower velocity. The lowest railway fare to the traveller is therefore three halfpence per mile, in an open, uncovered wagon, moving at an inferior speed, exposed to wind and rain, and the steam and smoke of the engine—or double the fare on the Paisley canal, for being carried in a comfortable cabin under cover."

Having laid before our readers these observations of a man of science and experience, we shall encumber them with no remarks of our own. England has many splendid canals, and we confess we should be sorry to see a fine line—nay, a stream—of pure water exchanged for a road, with its carriages moving along, obscured in mud or in whirlwinds of dust.

First Annual Report of the Directors of the Philadelphia and Trenton Railroad Company.

In compliance with the provisions of the 7th section of the act of incorporation, which requires, "That at each Annual Meeting of the Stockholders, the Directors of the preceding year shall exhibit to them a complete statement of the affairs and proceedings of the Company, for such year," the President and Directors submit the following report:—

That on the 9th day of June last, the Directors, elected by the Stockholders on the 5th day of the same month, met, and having elected John Savage, President, and Thomas G. Kennedy, Secretary and Treasurer, proceeded to ascertain the state of the funds of the Company, when it appeared that three thousand shares of the capital stock had been subscribed, on each share of which five dollars had been paid to the Commissioners appointed by the act of incorporation to receive subscriptions to the stock, amounting in the whole to the sum of fifteen thousand dollars, and that five hundred and ninety-seven dollars and six cents thereof had been expended by the said Commissioners, while in the discharge of their duty; and that the balance of fourteen thousand four hundred and two dollars and ninety-five cents was paid over by the said Commissioners to the said President and Directors, and placed by them in the hands of the Treasurer, subject to the direction of the Board.

That at a meeting of the Board of Directors on the 28th June last, it was considered that the whole of the amount received by them from the Commissioners, and now at their disposal, would not be wanted immediately for the purposes of the Railroad, and that it would be to the advantage of the Stockholders to place so much thereof at interest as would not be re-

quired for current expenses: They therefore loaned on that day twelve thousand eight hundred and sixty-five dollars thereof, on good security, payable when required, at an interest of six per cent.; leaving fifteen hundred and thirty-seven dollars and ninety-four cents in the Treasurer's hands, for the purpose of defraying current expenses.

That at the same meeting of the Board, a Committee was appointed to examine the several routes proposed for the Railroad, with directions to employ an Engineer, and such Assistants as should be necessary to make a survey of such route or routes as they should direct, and make report to the Board at its next meeting.

The Board met again on the 8th December last, at which time the Committee made a report of the survey, accompanied with a draft, or map, profile and estimate of the cost of construction, by Mr. Samuel H. Kneass, whom they had employed as their Engineer, in making the said survey, together with a model of a Railroad.

From the whole of the surveys and examinations made, it appears that the ground between Kensington and Morrisville, on the south side of the Frankford and Bristol Turnpike, is peculiarly favorable for the construction of a railroad; that the whole distance will be a little short of twenty-seven miles; and that the grading of the same for a double track, and laying a single track of rails, on the plan of the models presented to the Board, with seven turnouts, is estimated to cost $38,422 66.

They further report, that at a meeting of the Board, on the 19th of December last, it was deemed expedient to place under contract the grading or road formation of the whole line, together with all the necessary bridges and culverts, and having appointed Mr. Samuel H. Kneass the Engineer of the Company, they directed him to proceed to the final location and staking out of the work, without further delay.

The Board then entered into, as they believe, a very advantageous contract on the part of the Company, with Richard Morris, of the City of Philadelphia, to execute and construct the said road formation, and bridges, for the sum of $161,047.—The road to be graded for a double track, and completed ready for the laying of rails on or before the first day of January, 1834, and the bridges to be completed on or before the first day of September, 1834, by which it is believed the whole road may be completed and ready for use, should the superstructure be judiciously contracted for in good season.

The Board are therefore happy to present to the Stockholders, in their first Annual Report, and within a period of six months from the time of their first coming into existence as a Board, the very flattering prospect of the completion of the road, on terms more favorable than those of any similar work in existence, and at as early a period as the nature, extent, and permanence of the undertaking will admit of. By order of the Board,

JOHN SAVAGE, President.
TH. G. KENNEDY, Secretary.
January 14, 1833.

PHILADELPHIA AND TRENTON RAILROAD.—At an election held 14th January, 1833, in Philadelphia, the following named gentlemen were unanimously elected Managers of the Philadelphia and Trenton Railroad Company:

John Savage, James Worth, Simon Gratz, Thos. G. Kennedy, Geo. Rundle, James Reeside, Jos. McIlvaine, Cephas G. Childs, Jonathan T. Knight, Charles Lombaert, F. G. Wolbert, Wm. F. Swift.

And at a meeting of the Board, John Savage was elected President, and Thomas G. Kennedy, Treasurer and Secretary.

NEW RAILROAD.—The Reading Journal states that a project is on foot, to make a railroad from Reading to Philadelphia, and that an application to the Legislature of this state is about to be made for an act of incorporation. The Journal says:—"The project originates from a source well calculated to insure success. The advantages of public improvements of this description considered as a means of profitable investment are daily becoming more apparent to our capitalists, and the immense public benefits arising from them are too obvious to admit any longer of doubt. A railroad from this borough to the city, in connection with the Schuylkill Navigation and Pottsville and Danville Railroad, cannot fail to render Reading, in a great measure, the entrepot between Philadelphia and the great country drained by the waters of the north and west branches of the Susquehanna. The completion of such a work appears, to us, to be equally desirable to the citizens of Philadelphia and the inhabitants of this place. We presume the Charter asked for will be readily granted by the Legislature, and we trust on such terms of liberality as to afford adequate encouragement to a laudable and beneficial undertaking.—[Philadelphia Saturday Post.]

Proposals for publishing a Practical Treatise on laying out and constructing M'Adamized Roads: together with general Observations on the best Mode of making and improving other Roads. By JNO. S. WILLIAMS, Engineer.

The subject proposed to be treated of is one which directly or indirectly interests every individual in civilized communities. There is no treatise known to the author which embodies as much matter as the importance of the subject demands. Most of what has been written on it is buried amidst masses of other matter, in very voluminous works, or scattered among the columns of newspapers, and alike unfitly situated to give general information in, or to improve the art of, road-making. The attempt, therefore, to treat it alone, and to make it the subject of a separate volume, needs no apology, nor will it elicit one.

The author in presenting the proposed work to the patronage of the public, is not ignorant of the antipathy to book subscriptions that exists in many minds, and although he has felt it himself, he is induced to adopt that course, under a firm conviction that he can never undertake the publication of so expensive a work without an assurance that he will not lose more than his own labor. A contrary course might involve himself and his dependant family in inextricable poverty, which would be a sacrifice that his desires to be useful do not require at his hands.

For the purpose of inspiring public confidence in his endeavors, and not ostentatious display, he presents in the order of their dates, the following recommendatory extracts and communications.

BALTIMORE, August 28th, 1832.

Esteemed Friend:—In relation to thy proposed publication of a treatise on laying out, making, and managing M'Adam and other public roads, I am free to say, that I think such a work much wanted in this country, and that I do not know any one who could probably approach the subject with greater requisite ability.

It is with unfeigned pleasure that I have an opportunity to express the foregoing sentiment, which thee can use as occasion shall appear to render necessary, and should I be able hereafter to serve thee in this or any other way, it will greatly contribute to my happiness. With sentiments of esteem and high respect I am thy friend,

J. KNIGHT, Chief Engineer
of the Baltimore and Ohio Railroad.

FREDERICK, MD. 8th Sept. 1832.

My Friend,—I am glad to learn from your last letter, that you propose publishing a system of Road-making.—I know of none more competent for the task than yourself, and that such a work is wanting, no one, I presume, doubts. Your long experience in the construction of M'Adamized roads, together with your close habits of observation, and general knowledge on subjects of engineering, render you peculiarly fitted for the undertaking. I hope then that your time may be so arranged, as to allow you to commence without delay; and if I can be of any service to you, which I doubt, you can command my aid, which shall be cheerfully given, to the extent of my ability. Yours sincerely, C. W. WEVER,*
Sup't. B. & O. Railroad.

* In order to show that the above named worthy gentleman did not speak without sufficient acquaintanceship, I refer to Document No. 14, House of Representatives, 20th Congress, 2d Session, being his report on the Cumberland Road between Wheeling and Zanesville, Ohio, in which he says: "To the skill, untiring exertion, and patient industry of my assistant, Mr. Jno. S. Williams, the work is much indebted for the fidelity and accuracy of its execution in all its parts."

ASHLAND, 10th September, 1832.

Dear Sir,—I received your letter of the 2d inst. communicating your views respecting internal improvements, especially artificial roads, and your inclination to publish a work which will embody the principles which should regulate their construction. I share with you in your zeal upon this interesting subject, and I concur also with you in thinking that, whilst railroads and canals may be best adapted to portages, and to connect points between which there is a very great commercial intercourse, M'Adam roads are best suited, generally, to the condition of our country. On this point there cannot be a doubt, if they are limited to such an elevation as may admit the passage of locomotive carriages.

Such a work as you propose to prepare and publish, is much wanted; and if it is well executed, I should think would be liberally patronized by the public. I am not intimately acquainted with your capacity for compilation and composition, but if it be equal to your judgment and skill in the construction of roads, and of which I have seen the most satisfactory and conclusive proofs, I have full confidence that you will give us a highly useful and valuable book.

Wishing you great success and individual prosperity, I am, with much respect, your friend and obedient servant,

H. CLAY.

PARIS, KY. Sept. 16th, 1832.

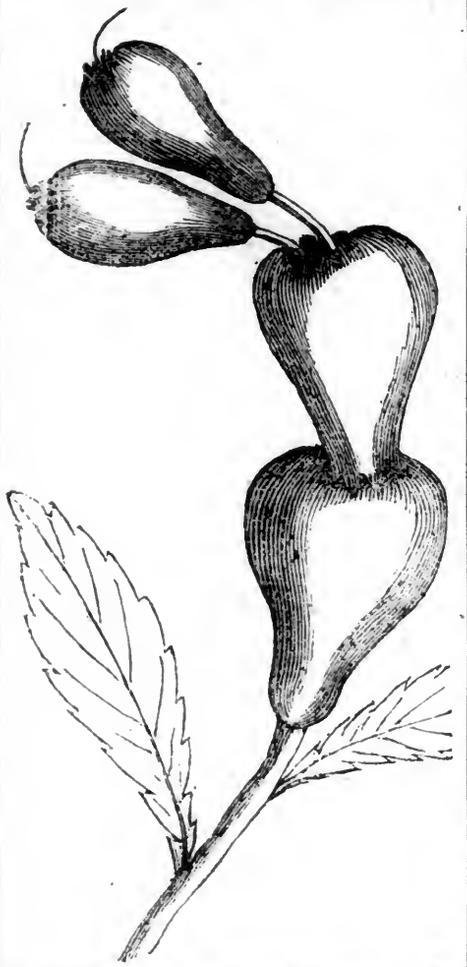
I was ten years engaged in making and repairing roads in England and Scotland, under the celebrated M'Adam, in his life-time. Mr. Jno. S. Williams, superintendant of the Maysville turnpike, is following Mr. M'Adam's principles much closer than is common in America. In fact, his are completely M'Adamized roads. With Mr. Williams personally, I have very little acquaintance, but judging from the goodness of his roads, and the system pursued by him in making them, I believe him second to no road-maker now living. ANDREW STEELE.

In writing and compiling the proposed work, it shall be my aim, neither to be tediously particular, nor obscurely brief; but as the safer, I intend to fall into the former rather than the latter error. My endeavors shall be to write a plain practical treatise, and not to make any unnecessary display of science or skill. The book most needed is one that might enable any person with a tolerable education, by close application, to make a first rate road, or to improve in the best manner those already made. Such a book, it is hoped, the proposed one may be. It will embrace nothing but what is connected with the laying out, the construction, the use, or the repair of two kinds of roads, upon which every one may be his own carrier, or travel in the way his fancy or circumstances may point out to him. Nevertheless, it is presumed that the Canal and Railroad maker may be interested, if not instructed by a perusal of it.

The matter in the work will be treated in something like the following order:—Introduction, Road Companies, Charter, By-Laws, Engineers, Mapping, Superintendants, Directors, Lettings, Contracts, Masonry, Bridging, Gradnation, M'Adamizing, Repairs, Tolls, Artificial Roads generally, Substitutes for Stone in the construction of Artificial Roads generally, Common Roads, Street Pavements, Wharves, Landings, Ferries, Viaducts, Yards, Walks, Vehicles, &c. &c. Believing that no man of observation is so ignorant that he cannot teach, nor so wise that he may not learn, a request is made to all who can communicate any useful matter on any of the above subjects to do so; but at the same time, the necessity of their paying the expense of sending their communications will appear to them, and be cheerfully borne by those who have the prosperity of their country at heart.

CONDITIONS.—The book will contain at least 450 octavo pages, and be illustrated with about 100 drawings arranged to suit the convenience of the reader. The workmanship throughout shall be no disparagement to the mechanical skill of the West. It will be delivered, bound, at three dollars per single copy, or at thirty dollars per dozen. My word upon it, I will never sell a copy at a less price, unless the number taken together be greatly increased. The work can be delivered in the principal cities of the Union, in large quantities, without extraordinary risk or expense. But at considerable distance from them, the patronage ought to be in proportion to the cost and risk of serving it. An uncommonly large subscription will be necessary to justify a publication at the prices fixed. I therefore solicit states, counties, corporations, turnpike and other companies, as well as enterprising individuals, to patronize the undertaking largely; which may render me, and perhaps the country, a service, by putting it in my power to publish the work, and give it an extensive circulation.

AGRICULTURE, &c.



An Extraordinary Jargonelle Pear. By Mr. M. Saul. To the Editor of the New-York Farmer and American Gardener's Magazine.

Sir,—The pear, of which the following is a drawing, was grown in this town this season. The one at the stem was first formed; it then sent out a blossom, which produced the second; this produced two blossom buds, from which were grown the two smaller ones. I have an account of a similar production of a pear, grown in another place. There were six well formed pears. Yours, M. Saul.

Lancaster, England, October, 1832.

Old Practices.—In some parts of Scotland, in former times, the plough used to be drawn by four horses abreast, and required the attendance of three men. The business of one was to drive. For that purpose he placed himself between the middle horses, with his face towards the plough to guide it straight, and in this position he walked backwards with the reins in his hand. Another walked behind the horses with a crooked staff, which he fastened in front of the beam, and by means of it regulated the depth of the furrow, by raising or lowering the plough as occasion required. The ploughman followed with a hold on the stilts; and in this formidable and ludicrous manner, they repeated their attacks upon the soil.

In harvest, a basket machine was placed on horseback for carrying home the grain, and persons were employed on each side with forks, to keep it on a proper poise. It is said that this practice was within a few years to be met with in Galloway.

Many practices, subsisting even at this day in Ireland, are still more ridiculous. Mr. Arthur Young tells us, that in Donegal he has actually seen horses ploughing, fastened by the tail.—[Lynn Weekly Messenger.]

Importance of the Silk Culture—Aid from the General Government required. By A. W. To the Editor of the New-York Farmer.

The Chinese, knowing the great value of the silk manufacture, closely guarded the secret of its management by the most rigid penal enactments, by which means they were enabled for many centuries to keep the silk worm from spreading over the world, consequently monopolized the whole business, which was a source of much wealth to their empire.

Many fruitless attempts were made by crowned heads to obtain the worms, and to learn the mode of their management, but for a long time without success.

The prospect of great reward at length put a few eggs of the silk worm in possession of the Emperor Justinian. From this small beginning all the silk worms in Western Asia, Europe, and America, have been produced.—England, Holland, Germany, Russia, and Sweden, are fully aware of the importance of the silk business. France, more than any other nation in Europe, is deriving her power and greatest resources from the culture and manufacture of silk.

Our Treasury returns, for several years past, shew that the silk imported and consumed in the States is more in amount than the bread stuff exported. Silk may be successfully and advantageously cultivated in every state in the Union. Experiments have shown American silk to be superior in color and texture to the silk of any nation. Other agricultural labor will not be lessened by such culture. The condition of the poor will be much improved; the young and infirm will make good silk culturists.

The climate of England is too damp and cold to propagate the silk worm. America may yet reap great profit on raw silk as an article of export.

Jay made no mention of cotton as an article of American production, in his treaty with England, 1794. The present year's crop of cotton is worth about thirty millions of dollars. Many of our citizens, who about 38 years ago planted cotton seed, may be living witnesses of the fact, that cotton is the first staple in the states. A large portion of those who are now planting the mulberry seed, may live to see raw silk the second grand staple of our country. The state of Connecticut has taken the lead in the growth and manufacture of silk. Many of her citizens are entitled to great credit for their persevering and patriotic efforts.

Mansfield has been engaged more or less in the raising of silk ever since 1760, and the quantity gradually increasing. Windham and Tolland counties have produced for the last year raw silk sufficient to employ fifty-five looms, which would manufacture about 30,000 yards per year, say vesting and other broad goods.

Considerable quantities of silk goods have been produced by the enterprising perseverance of Mr. Rapp, of Economy, in Pennsylvania. *Superior specimens of what might be accomplished by a judicious National fostering was exhibited last Winter at Washington, by the venerable and learned Mr. Duponceau.*—Many other parts of the Union have produced specimens of silk stuffs and sewing silk; the latter article is found the most profitable, yet in manufacturing this, a great drawback to profit is experienced from not systematically understanding the art of filature, or reeling the silk from the cocoon. In other countries, where sewing silk is manufactured, the tow of the silk is worked in; but we are obliged to make use of the best part of the fibre. Our sewing silk is stronger than the Italian, but in consequence of our defective reeling it is very wasteful, difficult to keep from tangling, &c. The finishing of piece goods suffers from the same cause.

It must be obvious that something is materially wrong in the silk operations of our people, or the manufacturing of it would ere this be entered into much more generally.

The culture of silk was attempted in Virginia a century and a half before cotton was brought into notice. The growth and manufacture of cotton has progressed with astonishing rapidity—the value of our cotton manufactories is immense.* It is now only 25 or 30 years since it was thought the ingenuity of our people would not be equal to manufacture as good and as cheap goods as the once celebrated India Baftas and Hummums. A very short period of experiment drove these very inferior trash from our shores. The bare mention of such fabrics being once in so general use in our country, causes almost as much risibility as the fact of importing building brick from Holland. Our cotton goods now find their way to the Indies; our bricks are equal to any in the world; and with a little national protection, we will soon cease importing silk, and have raw silk to spare for a profitable export.

Many of the states, by their public acts, have shown their very decided opinion of the immense importance of the culture of silk, as a great and commanding National object; yet still, this grand object lingers.

The chairman of our Congress committee on Agriculture, 1832, speaking of the manufacture of silk, remarks, "On an experiment untried in this country, and requiring considerable capital, a reliance on individual enterprise would be at least problematical; and it is not to be expected that the several states will ever be found to act in concert so as attain the result which a national operation is calculated to procure."

If the manufacture of silk should ever be undertaken upon an extensive scale in the United States, Congress must give us a National School, to teach the whole process of silk work, but more particularly the important art of filature.

The eight millions of dollars sent annually out of the country for silks, in its various forms, can be saved, and it is as well to begin now as wait another century. A. W.

Lansingburgh, Jan. 1, 1833.

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* The home consumption of raw cotton has increased 600 per cent. within the last 16 years, while that of Great Britain has only increased 220 per cent. in 21 years.

Rotation of Crops and Food of Plants. By Agricola. To the Editor of the New-York Farmer and American Gardener's Magazine.

Sir,—The Rev. Samuel Deane, D. D. Vice President of Bowdoin College, and Fellow of the American Academy of Arts and Sciences, and author of the New-England Farmer, or

Georgical Dictionary, &c. has given us a long article on the *Rotation of Crops*. Verily, I apprehend that Mr. Deane understood theology better than agriculture. The ignorance manifested on this subject appears to me inexcusable in one who sets himself up for a teacher. He would persuade us that we have only to change our crops in order to render our land perpetually fertile. The absurdity of this doctrine is too apparent to need refutation. Land once exhausted of vegetable food is utterly incapable, I believe, of producing any crop. Manures buried in the soil appear to be slowly resolved into carbonic acid gas; this is absorbed by the earth, and afforded little by little as the plants can receive, assimilate, and digest it.

This carbonic principle I take to be the true food of plants; and where it is wanting in the soil, it would be in vain to attempt to cultivate any crop whatever. All animal and vegetable matter appear to be principally composed of this carbonic principle, but when manure or a carcase is thrown on the top of the ground, it is absorbed by the sun, scattered by the winds, and its decomposition too rapid to allow the plants to receive, digest, and assimilate it: they can only take a limited quantity at a time. Hence we bury manures in the soil, that this food may be afforded slowly as the plants can use and assimilate it. This food is every where diffused in the atmosphere, but not in sufficient quantities to support plants in a vigorous state, unless we apply Plaster of Paris or some other substance to attract it, or bury manures in the earth to supply it in the neighborhood of the plant. Such are my views on this subject, and I remain yours, as ever, AGRICOLA.

September 11, 1832.

Vegetable Physiology—Lindley's Lectures.—By B. To the Editor of the New-York Farmer and American Gardener's Magazine.

I have been delighted, and withal much instructed, in perusing the notice of a course of lectures on Botany, as connected with Horticulture, recently delivered by Professor LINDLEY, before the London Horticultural Society. I have seen nothing better calculated to excite a taste for this delightful science, or to render it subservient to the wants of man. I hope soon to see the entire series advertised by our enterprising booksellers. There are some facts laid down by the Professor, in the analogy which he draws between the blood of animals and the sap of plants, that may be new, and I presume not uninteresting, to a portion of your readers, and which I take the liberty to send you, with some remarks, for publication.

The necessity of alternating crops in husbandry has been imputed to a power in plants of electing from the soil the peculiar food adapted to their wants; and it has been supposed, that as one crop ordinarily exhausted the specific food of its species, a succession could not follow without deterioration, or a fresh supply to the soil of the needful pabulum. But the Professor says, that plants absorb aqueous particles indiscriminately; "that the moisture absorbed by the spongioles having ascended to the leaves, and been elaborated there into sap, returns, depositing by the way all the nutritious particles it has acquired; and at last throws off the residuum, in the shape of a spongy excrescence, at the root. These excretions, consisting only of what the plant has rejected, are of course unfit for the support of other plants of a similar nature, and may be said (in relation to such) to poison the soil."

This goes to strengthen the argument in favor of alternating crops, in field as well as garden culture. It applies with particular force to the transplanting of trees; and indicates the propriety of removing all the soil from their roots, and even of washing them, instead of transplanting them with a ball of earth, as is often the case, particularly with evergreen. I have heard of the practice being successfully adopted, observing the precaution to prevent the drying of the fibres, so as to destroy their functions. But as evergreens have always a foliage to sustain, the ball of earth becomes in a measure necessary to preserve the spongioles (mouth) it contains, till new ones are formed, or those injured by the removal resume their functions.

The experiments employed to illustrate the deposit of vegetable excrementitious matter, served to show another remarkable analogy between animals and vegetables. "All poisons are either corrosive or narcotic; or, in other words, act either by over-stimulating or relaxing the system; and these different effects have been shown clearly, by various experiments, to be produced on plants. One branch of a common barberry was steeped in a solution of corrosive sublimate, and another in a decoction of opium, when, in a short time, the vessels of the one were found to have become turgid, and of the other relaxed: the natural irritability of the plant being, in both cases, destroyed." To this susceptibility in plants to the deleterious effects of poisons, I have no doubt we shall be able to trace the new maladies which injure our fruit trees. I consider that the disease which has destroyed many of our plum trees has been proved to originate with an insect, which punctures the branches, and injects a subtle corrosive poison into the sap vessels. The precaution, when it has been adopted, of cutting off and burning the affected parts as soon as they are discovered, and of thereby destroying the germ of the insect, has had a happy effect in diminishing the evil.

While employed in these remarks, I have met with the observations of M. MACAIRE, inserted in the French Journal of Science and Arts, upon this branch of physiology, which coincide with those above quoted from Professor LINDLEY. "A certain portion of the juices," says M. Macaire, "which are absorbed by the roots of plants, are, after the salutiferous portions have been extracted by the vessels of the plant, again thrown out by exudation, from the roots, and deposited in the soil. It is probable the existence of this exuded matter, which may be regarded, in some measure, as the excrement of the preceding crop of vegetables, that proves injurious to a succeeding vegetation. It has been compared to an attempt to feed vegetables upon their own excrements. The particles which have been deleterious to one tribe of plants cannot but prove deleterious to plants of the same kind, and probably to those of some other kinds, while they may furnish nutriment to another order of vegetables.

Admitting what these eminent physiologists seem to have demonstrated, that plants throw off by their roots whatever is deleterious to their health, the conclusion drawn from the fact does not seem rationally to follow—I mean, it does not result that the cause of the deterioration of the second is to be found in the deposits made in the soil by the first crop. Wheat, in particular, is found to deteriorate on ordinary soils, and on few will it bear repeating oftener than once in three or four years; yet there are soils which will bear cropping with this grain for many successive years without diminution of product. Such is particularly the case in the valleys of the Genesee and of the St. Lawrence. Here, upon their theory, must be an annual accumulation of poison, and yet the plant does not seem to be injured by it. This excrementitious or poisonous matter has, combined with aliment, once passed through the sap vessels of that plant without injury; and why not, combined with the aliment which is constantly preparing in the soil, may it not prove equally innoxious, the second year, to a like plant. I suspect it is not so much the presence of a poison, as the absence of food, which causes the falling off in the product. These gentlemen admit that, although plants cannot elect, in the soil, the food which is adapted to their wants, they can and do retain none other in their system. This is admitting that there is a *specific* food adapted to each species; and that what is aliment to one kind may prove a poison to another. Is it not rational then to conclude, that as a plant appropriates to itself all the salutiferous or alimentary particles which enter its sap vessels, the subsequent infertility to this kind of crop is owing to the soil being exhausted of its particular or specific food! The annual application of manures, containing this specific food, is generally successful in counteracting this sterility. The deep alluvial deposits of vegetables and animal matter, which have been accumulating for centuries, and to which I have alluded, seem to afford an inexhaustible supply of the specific pabulum of wheat, without any indications of the imaginary poisons. B.

December 8, 1832.

VOCAL MACHINERY OF BIRDS.—It is difficult to account for so small a creature as a bird making a tone as loud as some animals a thousand times its size; but a recent discovery has shown that, in birds, the lungs have several openings communicating with corresponding air-bags or cells, which fill the whole cavity of the body from the neck downwards, and into which the air passes and repasses in the progress of breathing. This is not all: the very bones are hollow, from which air pipes are conveyed to the most solid parts of the body, even into the quills and feathers. The air being rarified by the heat of their body, adds to their levity. By forcing the air out of the body, they can dart down from the greatest heights with astonishing velocity. No doubt the same machinery forms the basis of their vocal powers, and at once resolves the mystery.—[Gardener's Music of Nature.]

NEW-ENGLAND PORK.

MR. FESSENDEN.—Mr. Asa Littlefield, of Framingham, slaughtered a hog last week, that weighed when dressed 678 lbs.

It was weighed at the scales of Wheeler & Stone, and sold to Silvanus Phipps, of Framingham; the hog was between eighteen and nineteen months old. The lovers of fat pork are invited to call and see so fair a specimen of New-England production.

Yours, W. B.

December 10, 1832.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, JANUARY 21, 1833.

[COMMUNICATED FOR THE AMERICAN RAILROAD JOURNAL.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of wind.	Clouds from what direction	Weather and Remarks.
January 15..	6 a. m.	30.22	20	E	moderate	W	fair—thick in the West
	10	.27	27	..	..	..	cloudy—ice in North river
	2 p. m.	.20	32	SSE	..	E	.. —snow
	6	.09	34	..	strong		snow
	10	29.90	38	..	..		rain
" 16..	6 a. m.	.32	45	SW	..		cloudy
	10	.40	44	..	..	SE / SW	fair—clouds at 12 SW / NW
	2 p. m	.48	42	..	fresh	SW	.. —violent squall, with snow
	6	.60	38	..	..	..	..
	10	.88	30	..	..	..	..
" 17..	6 a. m.	30.12	25	NW	..	W	..
	10	.30	22	SW	..	SW	..
	2 p. m	.33	24	..	..	..	..
	6	.31	22	..	..	..	..
	10	.33	21	..	..	..	..
" 18	6 a. m.	.19	23	W	moderate	..	..
	10	.10	31	..	..	WSW	..
	2 p. m.	.07	33	SW	..	..	..
	6	.10	32	..	..	..	..
	10	.20	32	..	..	..	..
" 19	6 a. m.	.49	18	N by E	light	SSW	..
	10	.51	19	NE	..	..	..
	2 p. m.	.50	19	..	..	NW	..
	6	.50	21	..	..		cloudy
	10	.46	24	..	..		..
" 20..	6 a. m.	.34	31	..	..		..
	10	.25	40	S	..	ESE	..
	2 p. m.	.21	43	..	moderate	SE	..
	6	.10	40	..	..	..	fair
	10	.10	37	..	..	..	..
" 21..	6 a. m.	29.99	35	..	calm		foggy
	10	.95	37	..	..		..
	2 p. m.	.88	40		..		cloudy
	6	.87	38		..		..
	10	.85	37		..		thick mist

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—By the *John Jay*, from Liverpool, we have our London files to the 7th, and Liverpool to the 8th, both inclusive. Our previous accounts from London were to the 4th.

There is nothing that can be properly called news by this arrival. The firing upon the citadel of Antwerp by the French, was warmly urged, and not as warmly returned by the Dutch. As yet, the city of Antwerp had been spared by Gen. Chassé, whose course seems to savor of indecision. The loss of life on either side was thus far inconsiderable.

From Portugal there is nothing additional.

In Paris the address of the Chamber to the King's speech was carried, by a majority of 114—the minority protesting numbered only 119—the minority that made the revolution of the three days was 221. The *Courrier Francais* considers the constitutional era as closed by this vote, and that the Charter had received its death blow.

In general, tranquility appears to prevail, and confidence in the maintenance of peace.

The Temps has a report that simultaneous applications had been addressed to the French Cabinet by the Courts of Naples, Turin, and Rome, on behalf of the Duchess de Berri. It will be seen, (says the London Courier, of December 7th,) that our private correspondent alludes to the difficulties which stand in the way of the Government with regard to disposing, in some way or other, of this Princess, respecting whom nothing has yet been propounded to the Chambers.

The debate in the Chamber of Deputies on the 3d ult., shews that one amendment respecting Poland was made to the answer as drafted to the King's speech. The reply of the King does not allude even to that paragraph—although, according to letter writers, *M. Dupin*, the President of the Chamber, read it to the King with marked emphasis.

A violent eruption of Mount Etna on the 17th and 18th ult., is stated to have destroyed Bronte, a town situated nine leagues from Catania, and containing a population of 10,000 persons.

An article from Venice of the 20th ult., in the Piedmont Gazette, quotes accounts from Alexandria of the 16th October, stating that Ibrahim Pacha had, with from 1,500 to 2,000 Bedouin cavalry, obtained a new victory over Hussein Pacha between Adanah and Koniah, and had taken two pieces of cannon. It is added that Ibrahim was about to establish his winter quarters in Mesopotamia, where he intended to fortify some positions.

[*From the London Times, of Dec.* 7.]

ANTWERP, WEDNESDAY, DEC. 5.—The cannonading has continued since yesterday briskly enough, yet not with the force which some persons expected. Some of the batteries on the French side have distinguished themselves by the accuracy of their fire; others are said to have pointed too high, so that some shells and balls passed over the citadel, and fell into the Scheldt. It was hence imagined that those shots were directed to sink the gun-boats in the river, but none of them have taken effect.

Fort Montebello, which is an advanced work of the town, and which is in the hands of the French what those of St. Laurent and Kiel were in the hands of the Dutch, has fired yesterday and this day against the bastion of the citadel called Paccdo.

The number of guns employed by the French are now officially stated to be 60 cannons, of various calibre, and 22 mortars and howitzers. Some of the latter are described as being let off last night, not in the curve usually formed, but triangularly, which mode of firing is said to have produced much execution in Fort St. Laurent. The chief fire of the citadel, as far as I could see from an elevated situation, has been latterly directed towards the batteries in front of Fort Kiel. Forts St. Laurent and Kiel have been silent since yesterday evening.

The citadel already shows external marks of the injuries it suffers. A fire broke out in one of the buildings at half past 3 o'clock, the smoke of which continues. I saw among many shells that fell in it one burst and break off a considerable portion of the corner of the gable of one of the large buildings. Its fire is rather slack, and the defence is imagined to be weak; hence some persons suppose that in two or three days General Chassé will threaten to burn the town unless he be permitted to retire, when the French will be compelled to allow him to withdraw with the honors. It is a strange notion of honor to threaten an unoffending neighbor.—The city has done nothing to attack him, but is prepared to resent his fire. The consternation of yesterday has in a great measure subsided; there have been some country people allowed to enter with provisions. Last evening some respectable persons wishing to re enter, dressed themselves with blouzes, and pushed wheel-barrows with vegetables, &c. and got in with ease. I have not heard that any shot has been directed at or fallen in the city.

The French works in the third parallel are stated to be advancing. The weather is fine for the season—sharp, yet hazy, which prevents persons from distinguishing the effect of the different shells on the batteries or citadel. There was a slight frost last night, which the French hope is a prelude of a strong ice, so as to enable them to attack the Tete de Flandres.

A steam-boat came up the river yesterday with despatches, as it would seem, to the Comet, on this side of Calloo; on which the latter made signals to the citadel. A reply having been received, the steam-boat went down the river again. The Comet has also gone down to-day.

Some Englishmen have amused themselves as a hoax that General Chassé had been dead for a fortnight; one of the newspapers mentions the rumor, which otherwise does not require a contradiction. He is stated to have been confined for a long time to his chamber, if not to his bed, in consequence of hydrocele.

Some friends of the Dutch have entered into calculations of the probability of the French taking the citadel, and they maintain there is but little chance; for, as they say, since the revolution, the French troops have not taken by a breach any fortress. I have not the means of examining the truth of the observation, yet it seems remarkable that they, notwithstanding, did take by capitulation or otherwise, the fortresses they attacked. Girona, in Catalonia, is instanced by some Frenchman of whom I inquired, as having been stormed.

1 *o'clock.*—The firing has been brisk on both sides during the last hour. I have no means of learning the loss of the French since yesterday, but up to Monday I have been assured that the killed and wounded did not exceed 25 men.

Some persons who appeared to apprehend that this siege would become a long business now think differently, as Forts St. Laurent and Kiel continue totally silent. The forts in the city are preparing more and more to repel any attack on it. The citadel suffers considerably.

The weather is clouded anew, and the guns, which were not heard distinctly during the night or morning, are now distinguished as strongly as ever.

In the river there is nothing new; the French soldiers occupy the dike from Calloo towards Fort Austreweel.

Two o'clock.—The frigates Comet and Eurydice and the corvette Proserpine are now stated to attack Fort St. Marie, which defends itself with vigor.

FRENCH FUNDS, Dec. 4.—Five per Cents, 97f.; Three per Cents, 68fr. 65c.

FIVE DAYS LATER FROM FRANCE.—Our regular files have come to hand to the 11th inclusive, by the Havre, Capt. Depeyster.

We gather from a glance at the French papers, that Antwerp holds out with unabated spirit. A letter from Gen. Chassé, published in the Moniteur of December 11th, declares that he will fire upon the town, if the Fort of Montebello directed again its fire upon him. The siege begins to be conducted with more vigor. The French, however, seem to be somewhat checked in their advances, by several sallies of the besieged, made with much daring, and attended with the loss of five or six French officers.

The Dutch vessels remain in the same position.

The following is from the Gazette de France of the 11th:—"It is the general opinion, founded upon letters from Holland, that after the taking of the citadel the French army must immediately repass the frontier. Both parties are told, "when put in possession of their respective territory, agreeably to the treaty of the 15th Nov., the mission of the Conference, if it continues, will be entirely pacific; and that if the two parties cannot agree with each other upon questions in reserve, war will be prevented between Holland and Belgium." The advice of the ministers of King William has been to confine himself to the defence of the Citadel; but as soon as the French army shall have passed the frontier, the Prince of Orange will take the offensive against the Belgian army.

☞ Since the above was in type, the captain of the Havre, of the 12th, reports that the Citadel of Antwerp had SURRENDERED to the French Army, but we have no further particulars.

SUMMARY.

The North River is again open as far up as Kingston. The weather is mild, and it is not unlikely that we may get a Steam Boat from New-York before the idea of January.—[Alb. Eve. Jour.]

HUDSON.—*The Oil Trade.*—The Hudson Republican last received says—"The fine ship James Monroe, of 425 tons burthen, was purchased last week by Captain Alexander Jenkins, in behalf of himself and Mess. Butts & McArthur, and several other gentlemen of this city, and came to at the wharf in this city on Friday last. She is the tenth ship now owned in this city, either engaged in or destined for the whale fishery. The Edward, alluded to in our last as having been purchased by one of our enterprizing ship owners, (Capt. S. G. Macy,) is fitting out in New-York, and will depart in the course of a few days for the Pacific. The Beaver and James Monroe, now lying at our wharves, will be fitted out during the winter, and sail early in the spring. We are progressing finely. Long may our enterprise and industry continue to meet a return from the prolific deep commensurate with its merits.

Mr. Orr, of Washington, has a stove of common size in his room, which he has found, by actual experiment, will keep a fire burning day and night, the whole year round, with one cent's worth of wood a day, at $6 the cord! The fire will require touching but twice in twenty-four hours.

Bill of Mortality for Baltimore.—The number of deaths during the year 1832 was 3,572; of which by cholera 853, consumption 403, cholera infantum 322, small pox 79, intemperance 40, suicide 5, bite of spider 1, drowned 23, bilious fever 89, typhus 52, hydrophobia 1. Over the age of 100, eight; of whom two were colored women—one 104, the other 110.

The Augusta Courier says:—The South Carolina Railroad is open 72 miles from Charleston, for public travelling. A locomotive will start from each extremity at 6 1-2 A. M.

Extensive Sale of Real Estate.—Messrs. James Bleecker & Sons were engaged on Monday and yesterday, in disposing of the Real Estate of the late William W. Gilbert, of this city. The property of the deceased had been advertised in the principal papers of this city for several weeks previous to the sale, and attracted the attention of speculators and others who were desirous of making investments in real estate. Such part of this property as was sold produced the large sum of about *four hundred and thirty three thousand dollars.* The balance of the estate which remains unsold on account of leases, amounts, as we are credibly informed, to upwards of one hundred thousand dollars, making the whole amount of his property about five hundred and fifty thousand dollars. One fact is worthy of mention, which is that a portion of the estate which was purchased about twenty years since for forty thousand dollars, yielded at the present sale two hundred and and thirty five thousand two hundred and fifty dollars.—[Gazette.]

Peter Wager, Esq. has been appointed by the President, a Director of the Bank of the United States, in the place of Hartman Kuhn, Esq. resigned.

The United States' ship Natchez, from Norfolk, arrived at Fort Sullivan (Charleston) on the 10th inst. The Charleston Mercury says, that the United States' troops stationed at that post amount to about six or seven hundred, which occupy the forts. The U. S. cutter Dexter, Captain Gould, sailed from Charleston for Beaufort 15th instant. The Alert, Capt. Jackson, and McLane, Capt. Poult, were still at Charleston.

The Norfolk Beacon of January 17, says—"The U. S. steamboat Franklin, Lt. Com. Boyle, dropped down from the Navy Yard to Hampton Roads, yesterday afternoon, bound to Charleston."

An attempt was made to rob the Bank of the Metropolis at Washington, on Wednesday night. The villains had succeeded, by means of false keys, in unlocking the outer door, and were, it is supposed, engaged in taking impressions of the keys of the several locks leading to the vault, when they were discovered by the watch. No loss was sustained.

The following persons have been admitted as *Counsellors of the Supreme Court*, at the present January term: William F. Allen, Samuel J. Bayard, Jerome J. Briggs, Platt H. Crosby, Henry Z. Hayner, Nicholas Hill, Lorenzo Janes, Lovewell Johnson, Allen Jordan, Levinus J. Lansing, Thomas J. Marvin, Mavinus W. Matthews, Michael S. Myers, Rufus W. Peckham, Cyrus Stephens, Henry G. Wheaton.

Attorneys admitted at the same time—William Cockburn jr. John L. Curtenius, J. Addison Eastman, Chauncey J. Fox, Daniel Gould, Jos. Holmes, William Howell, Henry A. Lambert, Wm. Minott Mitchell, Henry R. Mygatt, Edward C. Matthews, Henry B. Northrup, Gerritt L. Oothout, Stephen H. Preston, Lorenzo Sherwood, Augustus Sherrill, James Storm, Asher S. Thompson, Pythagoras Wetmore.—[Alb. Eve. Jour.]

We understand that the Convention of indemnity with the King of Naples was ratified by the Senate on Saturday last.—[Nat. Intell.]

It is rumored, and we believe it, that another Government Express left this city on Friday last, for Charleston, South Carolina. Of its object, we are of course ignorant.—[Ib.]

The President of the United States has officially recognized Martin François Armand Saillard as Consul of France, at New Orleans, and Peter Amedee Hargons as Consul General of Rome, during the absence of G. B, Sartori.

LEGISLATURE OF NEW YORK.

Tuesday, Jan. 15.

John A. Dix was appointed Secretary of State.

In Assembly—Mr. Stilwell, from the Committee on Canals and Internal Improvements, made a very long report, and concluded by asking leave to introduce a bill for the construction of the Chenango Canal.

The bill relative to the Troy and Sand Lake Turnpike Company was unanimously passed. [Relates to the calling in of payments, and to altering the road so as to make it mhre substantial, &c.]

IN ASSEMBLY.—*January* 17.

Bills introduced.

By Mr. Curtis, to amend the charter of the New York and Erie Railroad company.

By Mr. M'Keon, relative to the State Library. [To keep open throughout the year.]

IN SENATE—*Saturday.*

Bills passed in committee of the whole.

To incorporate the Mechanics' Benefit Society in New York.

For the relief of the High School Society in N. York. Adjourned.

CONGRESS.

Tuesday, Jan. 15.—IN SENATE,

Mr. Miller presented resolutions of the Legislature of South Carolina, calling for a Convention of the States, to amend the Constitution; which were ordered to be laid on the table and printed.

The Senate then proceeded to consider the Special Order of the Day, being the bill to appropriate for a limited time the proceedings of the sales of the Public Lands, &c.

HOUSE OF REPRESENTATIVES.

Mr. Hubbard, from the Committee on Revolutionary Pensions, to which the subject was referred on the 8th inst. reported the following resolution, viz:

Resolved, That it is not expedient to provide, by law, for the restoration of all those to the pension list, who were suspended under the act of May, 1820.

The said resolution was read and agreed to by the House.

Wednesday, Jan. 16.

In Congress, on Wednesday, the President's Message absorbed all the interest. After it was read in the Senate, Mr. Calhoun rose, apparently, says the Globe, as quoted by the Journal of Commerce, under deep excitement, and in a short and vehement speech, contested some of its statements. The Message in each House was referred to the Judiciary Committee: 3000 copies were ordered by the Senate to be printed, and 25,000 by the House of Representatives.

Thursday, January 17.—IN SENATE.

Mr. Chambers presented a memorial of certain merchants of Baltimore, praying for a reduction of the duty on salt; which was referred to the Committee on Commerce.

The Senate then proceeded to consider the bill to appropriate, for a limited time, the proceeds of the sales of the public lands, &c.

HOUSE OF REPRESENTATIVES.

Mr. Hogan of New York, submitted a series of resolutions, prohibiting naval officers from taking any interest in supplies procured for their ships, &c.

Mr. McKennan, of Pennsylvania, addressed the Committee at length in opposition to the bill.

Mr. Root, of New-York, followed, and held the floor until half past 3 o'clock, when the Committee rose, and The House adjourned.

Saturday, January 19.—In Senate,

The joint resolution authorizing the Secretary of State to deliver to the Commissioners under the French Treaty any evidence which may have been filed in the Department by the Commissioners under the Treaty with Spain, was read a second time and considered in Committee of the Whole.

A short discussion ensued, in which Messrs. Forsyth, Smith, Sprague, Kane, Silsbee and Foot took part.

Mr. Foot moved an amendment, requiring that the papers to be delivered to the Commissioners under the French Treaty, should be returned to the State Department, when the business before the Commissioners should be completed; which was agreed to.

The resolution was then reported to the Senate, the amendment concurred in, and it was ordered to be engrossed for a third reading.

HOUSE OF REPRESENTATIVES.

The resolution heretofore offered by Mr. Adams, calling on the President and Secretary of the Treasury for information relative to the tariff were then taken up.

Monday, Jan. 21.

IN SENATE, Mr. Silsbee presented the credentials of Hon. Daniel Webster, as Senator re-elected from the State of Massachusetts.

Mr. Dallas presented a resolution of the Legislature of Pennsylvania, unfavorable to the new tariff now pending in the House of Representatives; laid on the table, and ordered to be printed.

Mr. Dallas presented the memorial of merchants in Philadelphia, praying that New Castle, in Delaware, be made a port of entry. Referred to the Committee on Commerce.

Mr. Dallas presented the memorial of citizens of Philadelphia, praying indemnification for French spoliations, prior to 1800. Laid on the table, and ordered to be printed.

Mr. Robbins, from the Committee on the Library, to whom had been referred the proposals of Duff Green, for printing a stereotype edition of the Laws and Treaties of the United States, reported a bill, together with a resolution. The bill was ordered to its second reading, and the resolution was adopted.

Mr. Robbins, from the same committee, to whom had been referred the petition of M. St. Clair Clark and Peter Force, relative to a Documentary History of the United States, reported a bill contracting for a number of copies of said History; read, and ordered to a second reading.

Mr. Wilkins, from the Committee on the Judiciary, to whom was referred the message of the President of the United States of the 15th inst., relative to the proceedings of South Carolina, reported a bill vesting the President with the necessary power to carry the revenue laws into execution, &c.

A Message was received from the President of the United States, covering a report of the Treasury Department, exhibiting the operations of the Mint for 1832.

The President presented a communication from the Treasury Department, in compliance with a resolution of the 18th inst. relative to the affairs of the Bank of the United States; and

On motion of Mr. Benton, the report and documents were ordered to be printed.

The joint resolution authorizing the delivery by the Secretary of State to the Commissioners under the French Treaty, was read a third time, and passed.

HOUSE OF REPRESENTATIVES.

Petitions and memorials were presented by Messrs. Cambreleng and Verplanck, of New York.

Mr. Burges presented certain resolutions of the Legislature of Rhode Island, on the subject of the Tariff, which were read, and referred to the Committee of the Whole on the State of the Union.

Mr. Cambreleng, from the Committee on Commerce, reported a bill authorizing the reimbursement of certain discriminating duties levied upon foreign vessels and their cargoes, which was read twice and committed.

The House then resolved itself into a Committee of the Whole on the state of the Union, Mr. Wayne in the Chair, and took up the bill to reduce and otherwise alter the duties on imports.

PRESIDENT'S MESSAGE.

[*From the Washington Telegraph of* 17.]

Yesterday the President of the United States communicated to both Houses of Congress the following Message:

Gentlemen of the Senate and House of Representatives:

In my annual Message at the commencement of your present session, I adverted to the opposition to the revenue laws in a particular quarter of the United States, which threatened, not merely to thwart their execution, but to endanger the integrity of the Union. And, altho' I then expressed my reliance that it might be overcome by the prudence of the officers of the United States, and the patriotism of the people, I stated that should the emergency arise, rendering the execution of the existing laws impracticable, from any cause whatever, prompt notice should be given to Congress, with the suggestion of such views and measures as might be necessary to meet it.

Events which have occurred in the quarter then alluded to, or which have come to my knowledge subsequently, present this emergency.

Although unknown to me at the date of the annual Message, the Convention which assembled at Columbia, in the state of South Carolina, passed, on the 24th of November last, an ordinance declaring certain acts of Congress therein mentioned, within the limits of that state to be absolutely null and void, and making it the duty of the Legislature to pass such laws as would be necessary to carry the same into effect, from and after the 1st of February next. A copy of that Ordinance has been officially transmitted to me by the Governor of South Carolina, and is now communicated to Congress.

The consequences to which this extraordinary defiance of the just authority of the Government might too surely lead were clearly foreseen, and it was impossible for me to hesitate as to my own duty in such an emergency. The Ordinance had been passed, however, without any certain knowledge of the recommendation, which, from a view of the interests of the nation at large, the Executive had determined to submit to Congress, and a hope was indulged that by frankly explaining his sentiments and the nature of those duties which the crisis would devolve upon him, the authorities of South Carolina might be induced to retrace their steps. In this hope I determined to issue my Proclamation of the 10th of December last, a copy of which I now lay before Congress.

I regret to inform you that these reasonable expectations have not been realized, and that the several acts of the Legislature of S. Carolina, which I now lay before you, and which have all and each of them finally passed after a knowledge of the desire of the administration to modify the laws complained of, are too well calculated, both in their positive enactments and in the spirit of opposition which they obviously encourage, wholly to obstruct the collection of the revenue within the limits of that State.

Up to this period, neither the recommendation of the executive, in regard to our financial policy and impost system, nor the disposition manifested by Congress promptly to act upon that subject, nor the unequivocal expression of the public will in all parts of the Union, appears to have produced any relaxation in the measures of opposition adopted by the State of South Carolina, nor is there any reason to hope that the Ordinance and laws will be abandoned. I have no knowledge that an attempt has been made, or that it is in contemplation to reassemble either the Convention or the Legislature; and it will be perceived that the interval before the first of February is too short to admit of the preliminary steps necessary for that purpose. It appears, moreover, that the State authorities are actively organizing their military resources, and providing the means, and giving the most solemn assurances of protection and support to all who shall enlist in opposition to the revenue laws. A recent Proclamation of the present Governor of South Carolina has openly defied the authority of the Executive of the Union, and general orders from the headquarters of the State have announced his determination to accept the services of volunteers, and his belief, that should their country need their services they will be found at the post of honor and duty, ready to lay down their lives in her defence. Under these orders, the forces referred to are directed to "hold themselves in readiness to take the field at a moment's warning;" and in the city of Charleston—within a collection district, and a port of entry—a rendezvous has been opened for the purpose of enlisting men for the magazine and municipal guard. Thus South Carolina presents herself in the attitude of hostile preparation, and ready even for military violence, if need be, to enforce her laws for preventing the collection of the duties within her limits.

Proceedings thus announced and matured must be distinguished from menaces of unlawful resistance by irregular bodies of people, who, acting under temporary delusion, may be restrained by reflection and the influence of public opinion from the commission of actual outrage. In the present instance, aggression may be regarded as committed when it is officially authorized, and the means of enforcing it fully provided.

Under these circumstances, there can be no doubt that it is the determination of the authorities of South Carolina fully to carry into effect their Ordinance and Laws, after the first of February. It therefore becomes my duty to bring the subject to the serious consideration of Congress, in order that such measures, as they in their wisdom may deem fit, shall be seasonably provided, and that it may be thereby understood, that while the Government is disposed to remove all just cause of complaint, as far as may be practicable, consistently with a proper regard to the interests of the community at large, it is nevertheless determined that the supremacy of the laws shall be maintained.

In making this communication, it appears to me to be proper, not only that I should lay before you the acts and proceedings of South Carolina, but that I should also fully acquaint you with those steps which I have already caused to be taken for the due collection of the revenue, and with my views of the subject generally, that the suggestions which the Constitution requires me to make in regard to your future legislation, may be better understood.

This subject having early attracted the anxious attention of the Executive, as soon as it was probable that the authorities of South Carolina seriously meditated resistance to the faithful execution of the revenue laws, it was deemed advisable that the Secretary of the Treasury should particularly instruct the officers of the United States in that part of the Union, as to the nature of the duties prescribed by the existing laws.

Instructions were accordingly issued on the 6th of November, to the collectors in that State, pointing out their respective duties, and enjoining upon each a firm and vigilant, but discreet performance of them in the emergency then apprehended. I herewith transmit copies of these instructions and of the letter addressed to the District Attorney, requesting his co-operation.

These instructions were dictated in the hope that as the opposition to the laws by the anomalous proceeding of nullification was represented to be of a pacific nature, to be pursued substantially according to the forms of the Constitution, and without resorting, in any event, to force or violence, the measures of its advocates would be taken in conformity with that profession; and, on such supposition, the means afforded by the existing laws would have been adequate to meet any emergency likely to arise.

It was not, however, possible altogether to suppress apprehension of the excesses to which the excitement prevailing in that quarter might lead; but it certainly was not foreseen that the meditated obstruction to the laws would so soon openly assume its present character.

Subsequently to the date of those instructions, however, the Ordinance of the Convention was passed, which if complied with by the people of that State, must effectually render inoperative the present revenue laws within her limits. That Ordinance declares and ordains "that the several acts and parts of acts of the Congress of the United States, purporting to be laws for the imposing of duties and imposts on the importation of foreign commodities, and now having operation and effect within the United States, and more especially 'an act in alteration of the several acts imposing duties on imports,' approved on the 19th of May, 1828, and also an act entitled 'an act to alter and amend the several acts imposing duties on imports,' approved on the 14th July, 1832, are unauthorized by the Constitution of the United States, and violate the true intent and meaning thereof, and are null and void, and no law, nor binding upon the state of South Carolina, its officers and citizens; and all promises, contracts, and obligations, made or entered into, or to be made or entered into, with purpose to secure the duties imposed by the said acts, and all judicial proceedings which shall be hereafter had in affirmance thereof, are and shall be held utterly null and void."

It also ordains, "that it shall not be lawful for any of the constituted authorities, whether of the state of South Carolina or of the United States, to enforce the payment of duties imposed by the said acts within the limits of the State, but that it shall be the duty of the Legislature to adopt such measures and pass such acts as may be necessary to give full effect to this Ordinance, and to prevent the enforcement and arrest the operation of the said acts, and parts of acts, of the Congress of the United States, within the limits of the State, from and after the 1st of February next; and that it shall be the duty of all other constituted authorities, and of all persons residing or being within the limits of the State, and they are hereby required and enjoined, to obey and give effect to this ordinance, and such acts and measures of the Legislature as may be passed or adopted in obedience thereto.' It further ordains, 'that in no case of law or equity, decided in the Courts of the State, wherein shall be drawn in question the authority of this ordinance or the validity of such act or acts of the Legislatures as may be passed for the purpose of giving effect thereto, or the validity of the aforesaid acts of Congress, imposing duties, shall any appeal be taken or allowed to the Supreme Court of the United States, nor shall any copy of the record be permitted or allowed for that purpose; and the person or persons attempting to take such appeal, may be dealt with as for a contempt of Court." It likewise ordains, "that all persons holding any office of honor, profit, or trust, civil or military, under the State, shall, within such time, and in such manner as the Legislature shall prescribe, take an oath well and truly to obey, execute and enforce this Ordinance, and such acts or acts of the Legislature as may be passed in pursuance thereof, according to the true intent and meaning of the same; and on the neglect or omission of any such persons or persons so to do, his or their office or offices shall be forthwith vacated, and shall be filled up as if such person or persons were dead or had resigned; and no person hereafter elected to any office of honor, profit or trust, civil or military, shall, until the Legislature shall otherwise provide and direct, enter on the execution of his office, or be in any respect competent to discharge the duties thereof, until he shall, in like manner, have taken a similar oath; and no juror shall be empanelled in any of the Courts of the State, in any cause in which shall be in question this ordinance, or any act of the Legislature passed in pursuance thereof, unless he shall first, in addition to the usual oath, have taken an oath that he will well and truly obey, execute and enforce this ordinance, & such act or acts of the Legislature as may be passed to carry the same into operation and effect, according to the true intent and meaning thereof. The Ordinance concludes, "And we, the people of South Carolina, to the end that it may be fully understood by the Government of the United States and the people of the co-States, that we are determined to

maintain this Ordinance and declaration at every hazard, do further declare that we will not submit to the application of force on the part of the Federal Government to reduce this State to obedience; but that we will consider the passage, by Congress, of any act authorizing the employment of a military or naval force against the State of South Carolina, her constituted authorities or citizens; or any act abolishing or closing the ports of this State, or any of them, or otherwise obstructing the free ingress and egress of vessels, to and from the said ports; or any other act on the part of the Federal Government to coerce the State, shut up her ports, destroy or harrass her commerce; or to enforce the acts hereby declared to be null and void, otherwise than through the civil tribunals of the country, as inconsistent with the longer continuance of South Carolina in the Union; and that the people of this state will thenceforth hold themselves absolved from all further obligation to maintain or preserve their political connection with the people of the other States, and will forthwith proceed to organize a separate Government, and do all other acts and things which sovereign and independent States may of right do."

This solemn denunciation of the laws and authority of the United States has been followed up by a series of acts on the part of the authorities of that State which manifest a determination to render inevitable a resort to those measures of self defence which the paramount duty of the Federal Government requires, but upon the adoption of which that State will proceed to execute the purpose it has avowed in this ordinance of withdrawing from the Union.

On the 27th of November the Legislature assembled at Columbia, and, on their meeting, the Governor laid before them the Ordinance of the Convention. In his Message on that occasion, he acquaints them that "this Ordinance has thus become a part of the fundamental law of South Carolina;" that the die has been at last cast, and South Carolina has at length appealed to her ulterior sovereignty as a member of this Confederacy, and has planted herself on her reserved rights. The rightful exercise of this power is not a question which we shall any longer argue. It is sufficient that she has willed it, and that the act is done: nor is its strict compatibility with our constitutional obligation to all laws passed by the General Government within he authorized grants of power to be drawn in question, when this interposition is exerted in a case in which the compact has been palpably, deliberately, and dangerously violated. That it brings up a conjuncture of deep and momentous interest is neither to be concealed or denied. This crisis presents a class of duties which is referable to yourselves.—You have been commanded by the People, in their highest sovereignty, to take care that within the limits of this State their will shall be obeyed."—"The measures of legislation," he says, "which you have to employ at this crisis, is the precise amount of such enactments as may be necessary to render it utterly impossible to collect within our limits the duties imposed by the protective tariffs thus nullified." He proceeds—"That you should arm every citizen with a civil process, by which he may claim, if he pleases, a restitution of his goods, seized under the existing imposts, on his giving security to abide the issue, on a suit at law, and at the same time define what shall constitute treason against the State, and, by a bill of pains and penalties compel obedience, and punish disobedience to your own laws, are points too obvious to requre any discussion. In one word, you must survey its whole ground. You must look to and provide for all possible contingennies. In your own limits your own Courts of Judicature must not only be supreme, but you must look to the ultimate issue of any conflict of jurisdiction and power between them and the Courts of the United States." The Governor also asks for power to grant clearances,—in violation of the laws of the Union. And, to prepare for the alternative, which must happen unless the United States shall passively surrender their authority, and the Executive, disregarding his oath, refrain from executing the laws of the Union, he recommends a thorough revision of the militia system, and that the Governor be authorized to accept, for the defence of Charleston, and its dependencies, the services of two thousand volunteers, either by companies or files," and that they be formed into a legionary brigade, consisting of infantry, riflemen, cavalry, field and heavy artillery; and that they be "armed and equipped from the public arsenals completely for the field, and that appropriations be made for supplying all deficiencies in our munitions of war." In addition to these volunteer drafts, he recommends that the Governor be authorized "to accept the services of ten thousand volunteers from the other divisions of the State, to be organized and arranged in regiments and brigades,—the officers to be selected by the Commander in Chief, and that this whole force be called the State Guard."

A request has been regularly made of the Secretary of State of South Carolina, for authentic copies of the acts which have been passed for the purpose of enforcing the Ordinance, but up to the date of the latest advices that request had not been complied with; and on the present occasion, therefore, reference can only be made to those acts as published in the newspapers of the State. The acts to which it is deemed proper to invite the particular attention of Congress, are

1. "An act to carry into effect in part an Ordinance to nullify certain acts of Congress of the United States, purporting to be laws laying duties on the importation of foreign commodities, passed in Convention of this State, at Columbia, on the 24th of November, 1832."

This act provides that any goods seized or detained under pretence of securing the duties or for the non-payment of duties, or under any process, order, or decree, or other pretext contrary to the intent and meaning of the Ordinance may be recovered by the owner or consignee by an act of replevin; that in case of refusing to deliver them or removing them, so that the replevin cannot be executed, the Sheriff may seize the personal estate of the offender to double the amount of the goods; and if any attempt shall be made to retake or seize them, it is the duty of the Sheriff to recapture them; and that any person who shall disobey the process, or remove the goods, and any one who shall attempt to retake or seize the goods under pretence of securing the duties, or for non-payment of duties, or under any process or decree contrary to the intent of the Ordinance, shall be fined and imprisoned, besides being liable for any other offence involved in the act.

It also provides that any person arrested or imprisoned, on any judgment or decree obtained in any Federal Court for duties, shall be entitled to the benefit, secured by the habeas corpus act of the State in cases of unlawful arrest, and may maintain an action for damages; and that if any estate shall be sold under such judgment or decree, the sale shall be held illegal.

It also provides that any jailor who receives a person committed on any process or other judicial proceedings to enforce the payment of duties, and any one who hires his house as a jail to receive such person, shall be fined and imprisoned; and, finally, it provides that persons paying duties may recover them back with interest.

The next is called "An act to provide for the security and protection of the people of the State of South Carolina."

This act provides that if the government of the United States, or any officer thereof, shall, by the employment of naval or military force, attempt to coerce the State of South Carolina into submission to the acts of Congress declared by the Ordinance null and void, or to resist the enforcement of the Ordinance, or of the laws passed in pursuance thereof, or in case of any armed or forcible resistance thereto, the Governor is authorized to resist the same, and to order into service the whole or so much of the military force of the State as he may deem necessary; and that in case of any overt act of coercion, or intention to commit the same, manifested by an unusual assemblage of naval or military forces in or near the State, or the occurrence of any circumstances indicating that armed force is about to be employed against the State or in resistance to its laws, the Governor is authorized to accept the services of such volunteers, and call into service such portions of the militia as may be required to meet the emergency.

The act also provides for accepting the service of the volunteers, and organizing the militia, embracing all free white males between the ages of 16 and 60; and for the purchase of arms, ordinance, and ammunition. It also declares that the power conferred on the Government shall be applicable to all cases of insurrection or invasion or imminent danger thereof, and to cases where the laws of the State shall be opposed, and the execution thereof forcibly resisted by combinations too powerful to be suppressed by the power vested in the Sheriffs and other civil officers; and declares it to be the duty of the Governor in every such case to call forth such portions of militia and volunteers as may be necessary promptly to suppress such combinations, and cause the laws of the State to be executed.

3d. Is "an act concerning the oath required by the Ordinance, passed in Convention at Columbia, the 24th of Nov. 1832."

This acts prescribes the form of the oath,—which is to obey and execute the Ordinance and all acts passed by the Legisleture in pursuance thereof;—and directs the time and manner of taking it by the officers of the State, civil, judiciary and military.

It is believed that other acts have been passed embracing provisions for enforcing the Ordinance, but I have not yet been able to procure them.

I transmit, however, a copy of Governor Hamilton's Message to the Legislature of South Carolina of Governor Hayne's Inaugural Address to the Legislature, as also of his Proclamation, and a general Order of the Governor and Commander-in-Chief, dated 20th December, giving public notice that the services of volunteers will be accepted, under the act already referred to.

If these measures cannot be defeated and overcome by the powers conferred by the Constitution on the Federal Government, the Constitution must be considered as incompetent to its own defence, the supremacy of the laws is at an end, and the rights and liberties of the citizens can no longer receive protection from the Government of the Union. They not only abrogate the acts of Congress commonly called the tariff acts of 1828 and 1832, but they prostrate and sweep away, at once, and without exception, every act and every part of every act imposing any amount whatever of duty on any foreign merchandize, and, virtually, every existing act which has ever been passed authorizing the collection of the revenue, including the act of 1816, and also the collection law of 1799, the constitutionality of which has never been questioned. It is not only those duties which are charged to have been imposed for the protection of manufactures that are thereby repealed, but all others, though laid for the purpose of revenue merely, and upon articles in no degree suspected of being objects of protection. The whole revenue system of the United States in South Carolina is obstructed and overthrown; and the government is absolutely prohibited from collecting any part of the public revenue within the limits of that State. Henceforth not only the citizens of South Carolina and of the United States, but the subjects of foreign States may import any description or quantity of merchandize into the ports of South Carolina, without the payment of any duty whatsoever. That State is thus relieved from the payment of any part of the public burthens; and duties and imposts are not only rendered not uniform throughout the United States, but a direct and ruinous preference is given to the ports of that State over those of all the other States of the Union, in manifest violation of the positive provisions of the Constitution.

In point of duration, also, those aggressions upon the authority of Congress, which, by the Ordinance, are made part of the fundamental law of S. Carolina, are obsolute, indefinite, and without limitation—They neither prescribe the period when they shall cease, nor indicate any conditions upon which those who have thus undertaken to arrest the operation of the laws, are to retrace their steps and rescind their measures. They offer to the United States no alternative but unconditional submission. If the scope of the Ordinance is to be received as the scale of concession, their demands can be satisfied only by a repeal of the whole system of revenue laws, and by abstaining from the collection of any duties and imposts whatsoever.

It is true, that in the address to the people of the United States, by the Convention of South Carolina, after announcing the fixed and final determination of the State, in relation to the protecting system, they say, that "it remains for us to submit a plan of taxation in which we would be willing to acquiesce, in a liberal spirit of concession, provided we are met in due time and in a becoming spirit by the States interested in manufactures." In the opinion of the Convention, an equitable plan would be, that "the whole list of protected articles should be imported free of all duty, and that the revenue derived from import duties should be raised exclusively from the unprotected articles, or that whenever a duty is imposed upon protected articles imported, an excise duty of the same rate shall be imposed upon all similar articles manufactured in the United States." The address proceeds to state, however, that they "are willing to make a large offering to preserve the Union, and with a distinct declaration that as concession on our part, we will consent that the same rate of duty may be imposed upon the protected articles that shall be imposed upon the unprotected, provided that no more revenue be raised than is necessary to meet the demands of Government for constitutional purposes, and provided also, that a duty

substantially uniform be imposed upon all foreign imports."

It is also true that in his Message to the Legislature, when urging the necessity of providing "means of secureing their safety by ample resources for repelling force by force," the Governor of South Carolina observes that he "cannot but think that on a calm and dispassionate review by Congress and the functionaries of the General Government of the true merits of this controversy, the arbitration by a call of a Convention of all the States, which we sincerely and anxiously seek and desire, will be accorded to us."

From the diversity of the terms indicated in these two important documents, taken in connection with the progress of recent events in that quarter, there is too much reason to apprehend, without in any manner doubting the intentions of those public functionaries, that neither the terms proposed in the address of the Convention, nor those alluded to in the Message of the Governor, would appease the excitement which has led to the present excesses. It is obvious, however, that should the latter be insisted on, they present an alternative which the General Government, of itself, can by no possibility grant; since, by an express provision of the Constitution; Congress can call a Convention for the purpose of proposing amendments only "on the application of the Legislatures of two-thirds of the States." And it is not perceived that the terms presented in the Address are more practicable than those referred to in the Message.

It will not escape attention that the conditions on which it is said in the Address of the Convention they "would be willing to acquiesce," form no part of the Ordinance. While this Ordinance bears all the solemnity of a fundamental law, is to be authoritative upon all within the limits of South Carolina, and is absolute and unconditional in its terms, the Address conveys only the sentiments of the Convention, in no binding or practical form. One is the act of the State, the other only the expression of the opinions of the members of the Convention. To limit the effect of that solemn act, by any terms or conditions whatever, they should have been embodied in it, and made of import no less authoritative than the act itself. By the positive enactments of the Ordinance, the execution of the laws of the Union is absolutely prohibited, and the Address offers no other prospect of their being again restored, even in the modified form proposed, than what depends upon the improbable contingency that amid changing events and increasing excitement, the sentiments of the present members of the Convention and of their successors will remain the same.

It is to be regretted, however, that these conditions, even if they had been offered in the same binding form, are so undefined, depend upon so many contingencies, are so directly opposed to the known opinions and interests of the great body of the American people, as to be almost hopeless of attainment. The majority of the States and of the people will certainly not consent that the protecting duties shall be wholly abrogated, never to be re-enacted at any future time or in any possible contingency. As little practicable is it to provide that the "same rate of duty shall be imposed upon the protected articles that shall be imposed upon the unprotected;" which, moreover, would be severely oppressive to the poor, and in time of war, would add greatly to its rigors. And, though there can be no objection to the principle, properly understood, that no more revenue shall be raised than is necessary for the constitutional purposes of the Government,—which principle has been already recommended by the Executive as the true basis of taxation,—yet it is very certain that South Carolina alone cannot be permitted to decide what those constitutional purposes are.

The period which constitutes the due time in which the terms proposed in the address are to be accepted, would seem to present scarcely less difficulty than the terms themselves. Though the revenue laws are already declared to be void in South Carolina, as well as the bonds taken under them, and the judicial proceedings for carrying them into effect, yet as the full action and operation of the Ordinance are to be suspended until the 1st of February, the interval may be assumed as the time within which it is expected that the most complicated portion of the national legislation, a system of long standing and affecting great interests in the community is to be rescinded and abolished. If this be required, it is clear that a compliance is impossible.

In the uncertainty, then, which exists as to the duration of the Ordinance and of the enactments for enforcing it, it becomes imperiously the duty of the Executive of the United States, acting with a proper regard to all the great interests committed to his care, to treat those acts as absolute and unlimited. They are so, so far as his agency is concerned. He cannot either embrace, or lead to the performance of, the conditions. He has already discharged the only part in his power, by the recommendations in his annual message. The rest is with Congress and the people. And, until they have acted, his duty will require him to look to the existing state of things, and act under them according to his high obligations.

By these various proceedings, therefore, the State of South Carolina has forced the General Government, unavoidably, to decide the new and dangerous alternative of permitting a State to obstruct the execution of the laws within its limits, or seeing it attempt to execute a threat of withdrawing from the Union. That portion of the people at present exercising the authority of the State solemnly assert their right to do either, and as solemnly announce their determination to do one or the other.

In my opinion both purposes are to be regarded as revolutionary in their character and tendency, and subversive of the supremacy of the laws and of the integrity of the Union. The result of each is the same; since a State, in which, by an usurpation of power, the constitutional authority of the Federal Government is openly defied and set aside, wants only the form to be independent of the Union.

The right of the people of a single State to absolve themselves at will, and without the consent of the other States, from their most solemn obligations, and hazard the liberties and happiness of the millions composing this Union, cannot be acknowledged. Such authority is believed to be utterly repugnant both to the principles upon which the General Government is constituted and to the objects which it was expressly formed to attain.

Against all acts which may be alledged to transcend the constitutional power of Government, or which may be inconvenient or oppressive in their operation, the Constitution itself has prescribed the modes of redress. It is the acknowledged attribute of free institutions, that, under them, the empire of reason and law is substituted for the power of the sword. To no other source can appeals for supposed wrongs be made consistently with the obligations of South Carolina; to no other can such appeals be made with safety at any time; and to their decisions, when constitutionally pronounced, it becomes the duty no less of the public authorities than of the people, in every case, to yield a patriotic submission.

That a State, or any other great portion of the people, suffering under long and intolerable oppression, and having tried all constitutional remedies without the hope of redress, may have a natural right, when their happiness can be no other way secured, and when they can do so without greater injury to others, to absolve themselves from their obligation to the Government and appeal to the last resort, needs not on the present occasion be denied.

The existence of this right, however, must depend upon the causes which may justify its exercise. It is the *ultima ratio;* which presupposes that the proper appeals to all other means of redress have been made in good faith, and which can never be rightfully resorted to unless it be unavoidable. It is not the right of the State, but of the individual, and of all the individuals in the State. It is the right of mankind, generally, to secure by all means in their power, the blessings of liberty and happiness; but when for these purposes any body of men have voluntarily associated themselves under a particular form of government, no portion of them can dissolve the association without acknowledging the correlative right in the remainder to decide whether that dissolution can be permitted, consistently with the general happiness. In this view, it is a right dependent upon the power to enforce it. Such a right, though it may be admitted to pre-exist, and cannot be wholly surrendered, is necessarily subjected to limitations in all free governments, and in compacts of all kinds freely and voluntarily entered into, and in which the interest and welfare of the individual become identified with those of the community of which he is a member. In compacts between individuals, however deeply they may affect their relations, these principles are acknowledged to create a sacred obligation; and in compacts of civil governments, involving the liberties and happiness of millions of mankind, the obligation cannot be less.

Without adverting to the particular theories to which the Federal compact has given rise—both as to its formation and the parties to it—and without inquiring whether it be merely federal, or social, or national, it is sufficient that it must be admitted to be a compact, and to possess the obligations incident to a compact; to be a compact by which power is created on the one hand and obedience exacted on the other; a compact freely, voluntarily, and solemnly entered into by the several States, and ratified by the people thereof respectively; a compact by which the several States and the people thereof respectively have bound themselves to each other and to the Federal Government, and by which the Federal Government is bound to the several States, and to every citizen of the United States. To this compact—in whatever mode it may have been done—the people of South Carolina have freely and voluntarily given their assent, and to the whole and every part of it they are, upon every principle of good faith, inviolably bound. Under this obligation, they are bound, and should be required, to contribute their portion of the public expense, and to submit to all laws made by the common consent, in pursuance of the Constitution, for the common defence and general welfare, until they can be changed in the mode which the compact has provided for the attainment of those great ends of the Government and of the Union. Nothing less than causes which would justify revolutionary remedy can absolve the people from this obligation; and for nothing less can the government permit it to be done without violating its own obligation, by which, under the compact, it is bound to the other States and to every citizen of the United States.

These deductions plainly flow from the nature of the federal compact, which is one of limitations not only upon the powers originally possessed by the parties thereto, but also upon those conferred on the Government and every department thereof. It will be freely conceded that, by the principles of our system, all power is vested in the people, but to be exercised in the mode and subject to the checks which the people themselves have prescribed. These checks are, undoubtedly, only different modifications of the same great popular principle which lies at the foundation of the whole, but are not on that account to be less regarded or less obligatory.

Upon the power of Congress, the veto of the Executive, and the authority of the Judiciary, which is "to extend to all cases in law and equity arising under the Constitution and laws of the United States, made in pursuance thereof," are the obvious checks; and the sound action of public opinion, with the ultimate power of amendment, are the salutary and only limitations upon the powers of the whole.

However it may be alleged that a violation of the compact by the measures of the government can affect the obligations of the parties, it cannot even be pretended that such violation can be predicated of those measures, until all the constitutional remedies shall have been fully tried. If the Federal Government exercise powers not warranted by the constitution, and immediately affecting individuals, it will scarcely be denied that the proper remedy is a recourse to the Judiciary. Such undoubtedly is the remedy for those who deem the acts of Congress laying duties on imports and providing for their collection, to be unconstitutional. The whole operation of such laws is upon the individuals importing the merchandise; a state is absolutely prohibited from laying imposts or duties on imports or exports, without the consent of Congress, and cannot become a party under those laws without importing in her own name, or wrongfully interposing her authority against them. By thus

interposing, however, she cannot rightfully obstruct the operation of the laws upon individuals. For their disobedience to or violation of the laws, the ordinary remedies through the judicial tribunals would remain. And, in a case where an individual should be prosecuted for any offence against the laws, he could not set up, in justification of the act, a law of a state, which being unconstitutional, would therefore be regarded as null and void. The law of a state cannot authorize the commission of a crime against the United States, or any other act which according to the supreme law of the Union would be otherwise unlawful. And it is equally clear, that if there be any case in which a state, as such, is affected by the law beyond the scope of judicial power, the remedy consists in appeals to the people either to effect a change in the representation, or to procure relief by an amendment of the constitution. But the measures of the Government are to be recognized as valid, and consequently supreme, until these remedies shall have been effectually tried; and any attempt to subvert those measures or to render the laws subordinate to state authority, and afterwards to resort to constitutional redress is worse than evasive. It would not be a proper resistance to "a government of unlimited powers"—as has been sometimes pretended—but unlawful opposition to the very limitations on which the harmonious action of the Government and all its parts absolutely depends. South Carolina has appealed to none of these remedies, but, in effect, has defied them all. While threatening to separate from the Union if any attempt be made to enforce the revenue laws, otherwise than through the civil tribunals of the country, she has not only appealed in her own name to those tribunals which the Constitution has provided for all cases in law or equity arising under the Constitution and laws of the United States, but has endeavoured to frustrate their proper action on her citizens by drawing the cognizance of cases under the revenue laws to her own tribunals, specially prepared and fitted for the purpose of enforcing the acts passed by the State to obstruct those laws, and both judges and jurors of which will be bound by the import of oaths previously taken to treat the constitution and laws of the United States in this respect as a nullity Nor has the state made the proper appeal to public opinion, and to the remedy of amendment. For, without waiting to learn whether the other states will consent to a Convention, or if they do, will construe or amend the Constitution to suit her views, she has of her own authority altered the import of that instrument, and given immediate effect to the change. In fine, she has set her own will and authority above the laws, has made herself arbiter in her own case, and has passed at once over all intermediate steps to measures of avowed resistance, which, unless they be submitted to, can be enforced only by the sword.

In deciding upon the course which a high sense of duty to all the people of the United States imposes upon the authorities of the Union in this emergency, it cannot be overlooked that there is no sufficient cause for the acts of South Carolina, or for her thus placing in jeopardy the happiness of so many millions of people. Misrule and oppression, to warrant the disruption of the free institutions of the union of these states, should be great and lasting, defying all other remedy. For causes of minor character, the Government could not submit to such a catastrophe, without a violation of its most sacred obligations to the other states of the Union,who have committed their destiny to its hands.

There is, in the present instance, no such cause either in the degree of misrule or oppression complained of, or in the hopelessness of redress by constitutional means. The long sanction they have received from the proper authorities and from the people, not less than the unexampled growth and increasing prosperity of so many millions of freemen, attest that no such oppression as would justify or even palliate such a resort can be justly imputed either to the present policy or past measures of the Federal Government. The same mode of collecting duties, and for the same general objects, which began with the foundation of the Government, and which has conducted the country thro' its subsequent steps to its present enviable condition of happiness and renown, has not been changed. Taxation and representation—the great principles of the American Revolution—have continually gone hand in hand; and at all times and in every instance, no tax of any kind has been imposed without the participation—and in some instances which have been complained of, with the express assent—of a part of the Representatives of South Carolina, in the councils of the Government. Up to the present period, no revenue has been raisod beyond the necessary wants of the country, and the authorized expenditures of the Government. And as soon as the burthen of the public debt is removed, those charged with the administration have promptly recommended a corresponding reduction of revenue.

That this system, thus pursued, has resulted in no such oppression upon South Carolina, needs no other proof than the solemn and official declaration of the late Chief Magistrate of the State, in his address to the Legislature. In that he says, that " the occurrences of the past year, in connexion with our domestic concerns, are to be reviewed with a sentiment of fervent gratitude to the great disposer of human events; that tributes of grateful acknowledgements are due for the various and multiplied blessings he has been pleased to bestow on our people: that abundant harvests in every quarter of the State have crowned the exertions of agricultural labor; that health, almost beyond former precedent, has blessed our homes; and that there is not less reason for thankfulness in surveying our social condition." It would, indeed, be difficult to immagine oppression, where, in the social condition of a people, there was equal cause of thankfulness as for abundant harvests and various and multiplied blessings with which a kind Providence had favored them.

Independently of these considerations, it will not escape observation, that South Carolina still claims to be a component part of the Union, and to participate in the national councils, and to share in the public benefits without contributing to the public burthens; thus asserting the dangerous anomally of continuing in an association without acknowledgeing any other odligation to its laws than what depends upon her own will.

In this posture of affairs, the duty of the Government seems to be plain,—it inculcates a recognition of the State as a member of the Union and subject to its authority, a vindication of the just power of the Constitution, the preservation of the integrity of the Union. and the execution of the laws by all constitutional means-

The Constitution, which his oath of office obliges him to support, declares that the Executive " shall take care that the laws be faithfully executed," and in providing that he shall, from time to time, give to Congress information of the state of the Union and recommend to their consideration such measures as he shall judge necessary and expedient, imposes that additional obligation of recommending to the Congress such more efficient provision for executing the laws as may from time to time be found requisite.

The same instrument confers on Congress the power not merely to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common dfence and general welfare, but "to make all laws which shall be necessary and proper for carrying into effect the foregoing powers, and all other powers vested by the Constitution in the Government of the U. States, or in any department or officer thereof," and also to provide for calling forth the militia for executing the laws of the Union. In all cases similar to the present, the duties of Government become the measure of its power; and whenever it fails to exert a power necessary and proper to the discharge of the duty prescribed by the Constitution, it violates the public trust not less than it would in transcending its proper limits. To refrain, therefore, from the high and solemn duties thus enjoined—however painful the performance may be—and thereby tacitly permit the rightful authority of the Government to be contemned, and its laws obstructed by a single state, would neither comport with its own safety nor the rights of a great body of the American people.

It being thus shown to be the duty of the Executive to execute the laws by all constitutional means, it remains to consider the extent of those already at his disposal, and what it may be proper further to provide.

In the instructions of the Secretary of the Treasury to the Collectors in South Carolina, the provisions and regulations made by the act of 1799, and also the fines, penalties and forfeitures for their enforcement, are particularly detailed and explained. It may be well apprehended, however, that these provisions may prove inadequate to meet such an open, powerful, organized opposition, as is to be commenced after the 1st of February next.

Subsequently to the date of these instructions and to the passage of the Ordinance, information has been received from sources entitled to be relied on, that owing to the popular excitement in the State, and the effect of the Ordinance, declaring the execution of the revenue laws unlawful, a sufficient number of persons in whom confidence might be placed, could not be induced to accept the office of Inspectors, to oppose with any probability of success, the force which will no doubt be used when an attempt is made to remove vessels and cargoes from the custody of the officers of the Customs, and indeed that it would be impracticable for the Collector with the aid of any number of Inspectors whom he may be authorized to employ, to preserve the custody against such an attempt.

The removal of the Custom House from Charleston to Castle Pinckney, was deemed a measure of necessary precaution; and though the authority to give that direction is not questioned, it is nevertheless, apparent, that a similar precaution cannot be observed, in regard to the ports of Georgetown and Beaufort, each of which, under the present laws, remains a port of entry, and exposed to the obstructions meditated in that quarter.

In considering the best means of avoiding or of preventing the apprehended obstruction to the collection of the revenue and the consequences which may ensue, it would appear to be proper and necessary to enable the officers of the customs to preserve the custody of vessels and their cargoes, which, by the existing laws they are required to take, until the duties to which they are liable, shall be paid or secured. The mode by which it is contemplated to deprive them of that custody is the process of replevin and that of *capias in withernam*, in the nature of a distress from the State tribunals, organized by the Ordinance.

Against the proceeding in the nature of a distress it is not perceived that the Collector can interpose any resistance whatever; and against the process of replevin authorized by the law of the State, he, having no common law power, can only oppose such inspectors as he is by statute authorized, and may find it practicable to employ; and these, from the information already adverted to, are shewn to be wholly inadequate. The respect which that process deserves must therefore be considered.

If the authorities of South Carolina had not obstructed the legitimate action of the Courts of the United States, or if they had permitted the State tribunals to administer the law according to their oath under the Constitution, and the regulations of the laws of the Union, the General Government might have been content to look to them for maintaining the custody, and to encounter the other inconveniences arising out of the recent proceedings. Even in that case, however, the process of replevin from the Courts of the State would be irregular and unauthorized. It has been decided by the Supreme Court of the United States, that the Courts of the United States have exclusive jurisdiction of all seizures made on land or water for a breach of the laws of the United States; and any intervention of a State authority, which, by taking the thing seized out of the hands of the United States officer, might obstruct the exercise of this jurisdiction is unlawful: that in such case the Court of the United States having cognizance of the seizure may enforce a redelivery of the thing by attachment or other summary process; that the question under such a seizure whether a forfeiture has been actually incurred belongs exclusively to the Courts of the United States, and it depends on the final decree whether the seizure is to be deemed rightful or tortious; and that not until the seizure be finally judged wrongful and without probable cause by the Courts of the United States, can the party proceed at common law for damages in the State Courts.

But by making it "unlawful for any of the constituted authorities, whether of the United States or of the State, to enforce the laws for the payment of duties, and declaring that all judicial proceedings which shall be hereafter had in affirmance of contracts made with purpose to secure the duties imposed by the said acts, are and shall be held utterly null and void," she has in effect abrogated the judicial tribunals within her limits in this respect—has virtually denied the United States access to the Courts established by their own laws, and declared it unlawful for the Judges to discharge those duties which they are sworn to perform. In lieu of these, she has substituted those State tribunals already adverted to,—the Judges whereof are not merely forbidden to allow an appeal or permit a copy of their record, but are previously sworn to disregard the laws of the Union, and enforce those only of South Carolina; and, thus deprived of the function essential to the judicial character, of inquiring into the validity of the law and the right of the matter, become merely ministerial instruments in aid of the concerted obstruction of the laws of the Union.

Neither the process nor authority of these tribunals thus constituted, can be respected consistently with the supremacy of the laws or the rights and security of the citizen. If they be submitted to, the protection due from the Government to its officers and citizens is withheld, and there is at once an end not only to the laws but to the Union itself.

Against such a force as the Sheriff may, and which, by the replevin act of South Carolina, it is his duty to, exercise, it cannot be expected that a collector can retain his custody with the aid of the inspectors. In such case, it is true, it would be

competent to institute suits in the United States Courts against those engaged in the unlawful proceeding; or the property might be seized for a violation of the revenue laws, and being libelled in the proper courts, an order might be made for its redelivery, which would be committed to the Marshal for execution. But in that case the 4th section of the act, in broad and unqualified terms, makes it the duty of the Sheriff "to prevent such recapture or seizure, or to re-deliver the goods, as the case may be," even "under any process, order or decrees, or other pretext contrary to the true intent and meaning of the Ordinance aforesaid." It is thus made the duty of the Sheriff to oppose the process of the Courts of the United States, and for that purpose, if need be, to employ the whole power, of the country: and the act expressly reserves to him all power, which independently of its provisions, he could have used. In this reservation it obviously contemplates a resort to other means than those particularly mentioned.

It is not to be disguised that the power which it is thus enjoined upon the Sheriff to employ is nothing less than the *posse comitatus* in all the rigor of the ancient common law. This power, though it may be used against unlawful resistance to judicial process, is in its character forcible, and analagous to that conferred upon the Marshals, by the act of 1795. It is in fact the embodying of the whole mass of the population under the command of a single individual, to accomplish by their forcible aid what could not be effected peaceably and by the ordinary means. It may properly be said to be a relict of those ages in which the laws could be defended rather by physical than moral force, and, in its origin, was conferred upon the Sheriffs of England to enable them to defend their country against any of the King's enemies when they came into the land, as well as for the purpose of executing process. In early and less civilized times, it was intended to include "the aid and attendance of all knights and others who were bound to have harness." It includes, the right of going with arms and military equipments, and embraces larger classes and greater masses of population than can be compelled by the laws of most of the States to perform militia duty.—If the principles of the common law are recognized in South Carolina, (and from this act it would seem they are) the powers of summoning the *posse comitatus* will compel, under the penalty of fine and imprisonment, every man over the age of fifteen and able to travel, to turn out at the call of the Sheriff, and with such weapons as shall be necessary; and it may justify beating and even killing such as may resist. The use of the *posse comitatus* is therefore a direct application of force, and cannot be otherwise regarded than as the employment of the whole militia force of the county, and in an equally efficient form, under a different name. No proceeding which resorts to this power, to the extent contemplated by the act, can be properly denominated peaceable.

The act of South Carolina, however, does not rely altogether upon this forcible remedy. For even attempting to resist or disobey,—though by the aid only of the ordinary officers of the customs,—the process of replevin, the collector and all concerned are subjected to a further proceeding in the nature of a distress of their personal effects, and are moreover made guilty of a misdemeanor and liable to be punished by fine of not less than one thousand nor more than five thousand dollars, and to imprisonment not exceeding two years nor less than six months; and for even attempting to execute the orders of the court for retaking the property, the marshal and all assisting would be guilty of a misdemeanor and be liable to a fine of not less than three thousand dollars, and not more than ten thousand, and to imprisonment not exceeding two years nor less than one; and in case the goods should be retaken under such process it is made the absolute duty of the Sheriff to retake them.

It is not to be supposed, that in the face of these penalties aided by the powerful force of the country, which would doubtless be brought to sustain the State officers, either that the collector could retain the custody in the first instance, or that the marshal could summon sufficient aid to retake the property pursuant to the order or other process of the court.

It is moreover obvious that in this conflict between the powers of the officers of the United States and of the State (unless the latter be passively submitted to) the destruction to which the property of the officers of the customs would be exposed, the commission of actual violence, and the loss of lives, would be scarcely avoidable.

Under these circumstances, and the provisions of the acts of South Carolina, the execution of the laws is rendered impracticable, even through the ordinary judicial tribunals of the United States. There would certainly be fewer difficulties and less opportunity of actual collision between the officers of the U. States and of the State, and the collection of the revenue would be more effectually secured—if indeed it can be done in any other way—by placing the custom-house beyond the immediate power of the country.

For this purpose it might be proper to provide, that whenever, by any unlawful combination or obstruction in any State, or in any port, it should become impracticable faithfully to collect the duties, the President of the United States should be authorized to alter and abolish such of the districts and ports of entry as should be necessary, and to establish the custom-house at some secure place within the same port or harbor of such State; and in such cases, it should be the duty of the collector to reside at such place, and to detain all vessels and cargoes until the duties imposed by law be properly secured or paid in cash—deducting interest; that in such cases it should be unlawful to take the vessel and cargo from the custody of the proper officer of the customs, unless by process from the ordinary judicial tribunals of the United States; and that in case of an attempt otherwise to take the property by a force too great to be overcome by the officers of the customs, it should be lawful to protect the possession of the officers by the employment of the land and naval forces and militia, under provisions similar to those authorized by the 11th section of the act of the 9th of January, 1809.

This provision, however, will not shield the officers and citizens of the United States acting under the laws from suits and prosecutions in the tribunals of the State which might thereafter be brought against them; nor would it protect their property from the proceeding by distress: and it may well be apprehended that it would be inefficient to insure a proper respect to the process of the constitutional tribunals in prosecutions for offences against the United States, and to protect the authorities of the United States, whether judicial or ministerial, in the performance of their duty. It would, moreover, be inadequate to extend the protection due from the government to that portion of the people of South Carolina against outrage and oppression of any kind, who may manifest their attachment and yield obedience to the laws of the Union.

It may therefore be desirable to revive, with some modifications better adapted to the occasion, the 6th section of the Act of the 3d of March, 1815, which expired on the 4th of March, 1817, by the limitation of that of 25th of April, 1816, and to provide that in any case where suit shall be brought against any individual in the courts of the State, for any act done under the laws of the United States, he should be authorized to remove the said cause by petition into the Circuit Court of the United States, without any copy of the record, and that that Court should proceed to hear and determine the same as if it had been originally instituted therein; and that in all cases of injuries to the persons or property of individuals acting under the laws of the United States for disobedience to the ordinance and laws of South Carolina in performance thereof, redress may be sought in the Courts of the United States.

It may be expedient, also, by modifying the resolution of the 3d March, 1791, to authorize the Marshals to make the necessary provisions for the safe keeping of prisoners committed under the authority of the United States.

Provisions less than these, consisting as they do for the most part, rather of a revival of the policy of former acts called for by the existing emergency, than of the introduction of any unusual or rigorous enactments, would not cause the laws of the Union to be properly respected and enforced. It is believed these would prove adequate, unless the military forces of the State of South Carolina authorized by the late act of the Legislature, should be actually embodied and called out in aid of their proceedings, and of the provisions of the Ordinance generally. Even in that case, however, it is believed that no more will be necessary than a few modifications of its terms to adapt the act of 1795 to the present emergency, as by that act the provisions of the law of 1792 were accommodated to the crisis then existing; and by conferring authority upon the President to give it operation during the session of Congress, and without the ceremony of a Proclamation, whenever it shall be officially made known to him by the authority of any State, or by the Courts of the United States, that within the limits of such State the laws of the United States will be openly opposed and their execution obstructed by the actual employment of military force or by any unlawful means whatsoever, too great to be otherwise overcome.

In closing this communication I should do injustice to my own feelings not to express my confident reliance upon the disposition of each Department of the Government to perform its duty, and to co-operate in all measures necessary in the present emergency.

The crisis undoubtedly invokes the fidelity of the patriot and the sagacity of the statesman; not more in removing such portion of the public burthen as may be unnecessary, than in preserving the good order of society, and in the maintenance of well regulated liberty.

While a forbearing spirit may, and I trust, will be exercised towards the errors of our brethren in a particular quarter, duty to the rest of the Union demands that open and organized resistance to the laws should not be executed with impunity.

The rich inheritance bequeathed by our fathers has devolved upon us the sacred obligation of preserving it by the same virtues which conducted them through the eventful scenes of the Revolution, and ultimately crowned their struggle with the noblest model of civil institutions. They bequeathed to us a Government of laws, and a Federal Union, founded upon the great principle of popular representation. After a successful experiment of forty-four years, at a moment when the Government and the Union are the objects of the hopes of the friends of civil liberty throughout the World and in the midst of public and individual prosperity unexampled in history, we are called upon to decide whether these laws possess any force and that Union the means of self-preservation. The decision of this question by an enlightened and patriotic people cannot be doubtful. For myself, fellow citizens, devoutly relying upon that kind Providence, which has hitherto watched over our destinies, and actuated by a profound reverence for those institutions I have so much cause to love, and for the American People, whose partiality honored me with their highest trust, I have determined to spare no effort to discharge the duty which in this conjuncture is devolved upon me. That a similar spirit will actuate the representatives of the American People is not to be questioned: and I fervently pray that the Great Ruler of Nations may so guide your deliberations and our joint measures as that they may prove salutary examples, not only to the present, but to future times, and solemnly proclaim that the Constitution and the Laws are supreme and the *Union indissoluble*.

ANDREW JACKSON.

Washington, January 16th, 1833.

MASSACHUSETTS MILITIA.—The returns of the Militia of this commonwealth, and of the ordnance, ordnance stores, muskets, and military equipments in the Quarter master General's department, were communicated yesterday to the Legislature by the Governor. It appears that the total number of the militia for the year 1832 was 46,796, and exclusive of the commissioned officers, of 44,472; of which last number, the cavalry are 726, artillery, 2694, infantry, 32,074, and light infantry and grenadiers, 8978. Of the ordnance belonging to the State, there are 92 pieces of brass, 2 of iron. There are also, 15,277 muskets and 2383 rifles.

NEW-YORK AMERICAN.

JANUARY 19, 21, 22, 23, 24, 25—1833.

LITERARY NOTICES.

CASPAR HAUSER,—*an instance of crime against the life of the Soul of Man*,—1 vol. 12mo.: Boston, Allen & Ticknor.—Most readers of newspapers will remember that some four years ago marvellous accounts were transferred from the European journals into those of this country concerning a supposed wild youth, a child of the woods, or at any rate a human being of many years of age, who had no use of the intellectual faculties of his nature. In the interesting little volume which we have now to notice, an authentic account is given of all hitherto discovered respecting this youth. It is a translation from a German original, published by M. *Feuerbach*, President of a Court of Appeals in Bavaria, and eminent as a philosophical jurist. The American translation is introduced by a prefatory notice from the pen of Mr. Lieber, whom this country may now proudly claim as the Editor of the *Encyclopœdia Americana*, in which he refers to the known character and station of M. *Feuerbach* as a guarantee that nothing false or doubtful is stated in the volume published by him. In this view, and with the confidence inspired by it in the authenticity of the details related in its attractive pages, we think this volume of the Memoirs of *Caspar Hauser*, while it will be studied by men of science for the light it is calculated to throw on psychology, will be sought with eagerness by readers of all classes. We will not spoil this interest by telling the story, but simply premise that the individual in question, Caspar Hauser, after being from his earliest years, to the age of seventeen, shut up in a sitting posture, without being able to stand up or lie down, in a dungeon—fed upon bread and water alone—without light—without the sight of a human being—without the sound of a human voice, and without any means whatever of communication with the external world, and consequently without the slightest knowledge of its existence, was found on the 26th of May, 1828, standing alone in a public street of Nuremberg, a town of Franconia, formerly a free city of the Empire, but now subject to Bavaria.—With this explanation we intended to subjoin some extracts, but are prevented by the message.

The mystery of the crime so truly, though with somewhat of German mysticism, denominated a "crime against the life of the soul," is yet undeveloped; meanwhile Earl Stanhope, to whom President Von Feuerbach has dedicated this little volume, has adopted the unknown *Caspar* as his foster son, and was about to remove him to England, to await the clearing up of the mystery.

THE SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE, No. I. *Boston*, CHARLES BOWEN.—We are well pleased to have the opportunity of welcoming such a publication as this, issued forth under such auspices. It supplies a want beginning to be more and more felt daily, and will, we are persuaded, be appreciated accordingly. The names of the editors, Messrs. *Andrews Norton* and *Charles Folsom*, of Cambridge, (Mass.) both, we believe, Professors of Harvard College, will serve to assure the public, that the selections, which it is one of the main objects of the undertaking to make, from the best periodicals of Europe, will be judicious; and that, through the medium of careful and accurate translations, the American reader will be furnished quarterly with whatever of superior merit, the French, or German, or Italian periodical press may have put forth; while the best, or such portions as may be thought desirable, of the best articles from the Edinburgh, Quarterly, Eclectic, and other British Reviews and Magazines, will find a like place in this Journal.

The difference between it and such a publication

—so good of its kind—as the Museum of Foreign Literature, Science, and the Arts, printed in Philadelphia, is—first, in the range of its subjects, which embraces the Continent as well as Great Britain—and, secondly, in the general nature of its selections, which will be of higher reach. Lighter articles, however, are not to be excluded; for, in the No. before us, we have poetry, by Mrs. Hemans, and Sir John Malcolm; while in the portion devoted to critical notices, there is much to amuse in instructing the general reader. A portion of the Journal is also devoted to notices of eminent individuals recently dead—and another to intelligence of any remarkable occurrences or inventions.

We cannot take leave of the work, without commending warmly the excellence and beauty of the typography, and of the paper on which it is printed.

The New-England Magazine, for January.—We are glad to see this periodical, in spite of the fate that generally attends the class of works to which it belongs, continue to hold its way as steadily as it does. Almost every number, in addition to the proper variety of light articles, contains some leading paper of more solid interest, while the paper and typography, in their unassuming neatness, might well be imitated by other publications of the kind. Among the original papers, there is one upon the late Dr. *Spurzheim*, which the recent death of that lamented individual renders particularly interesting. Of the anecdotes embodied in it as illustrating the practical operation of the science he professed to teach, the following is quoted of him as told in a distinguished British review, by Mr. *Chevenix*, of London, a Fellow of the Royal Society.

"In a school of fifty-eight boys, not one of whom he had ever beheld to that moment, he ran his hand rapidly over every head; touched some which appeared to possess eminently any defect or quality; and in less than an hour delivered his opinion upon the most remarkable subjects for good or bad, without committing a single mistake; for all his opinions coincided most accurately with the testimony of the masters to whom the scholars were well known.—The same trial was made the same day in a school of thirty four girls, and gave miraculous evidence of the truth [of Phrenology.]" Similar instances are known to have occurred in Boston, about which there could be no mistake or delusion. Some of these, if not ascribed to the deductions of the science, must appear altogether wonderful and unaccountable.

The writer of the article dwells warmly upon the results of Dr. Spurzheim's dissections, and says that he heard Mr. Abernethy speak to his class of the facts demonstrated in them as *original and brilliant* discoveries. The personal character and companionable qualities, of the great Phrenologist are summed up as follows: *

In speaking of the present standing of Phrenology in Europe, we may mention that Mr. Combe has very recently delivered lectures with great success in Dublin, and that large phrenological collections exist and are increasing in that city as well as in London and Edinburgh. Here, we suppose, phrenologists would not be displeased if we were to say, that it is somewhat singular, if they are the brainsick enthusiasts, or contemptible hypocrites some people represent, that they should recommend and promote appeals to nature which must destroy their hypothesis; large phrenological collections being the proper methods of accomplishing that object. They would point to Gall, Spurzheim' Combe, De Ville, Elliotson, Wardrop, Dr. Combe, (brother of the writer on Phrenology, and a man of great originality,) as men not likely to be deceived, or to deceive others. They would point also to the periodical press, and say, "See how Phrenology is looking up there." The Encyclopedia of London spoke with contempt of *Craniology*, but out comes an article, years afterwards, favorable to *Phrenology*. Look at the article in the "Foreign Quarterly," written by a Fellow of the Royal Society, (and a very clever fellow too,) which scarcely conceals, under the assumed partiality of the reviewer, his inclination for the obnoxious doctrines. All this, if admitted, is to be ascribed to the labors and abilities of the subject of our memoir.

Museum of Foreign Literature, Science and Art, for January. E. Littell, Philadelphia.—The judgment with which this republication of the best things in the British Magazines is conducted, always makes it an acceptable visitor; and, though works of the kind, when entirely original, are always hailed by us with more interest, yet we must confess that much is due to the Museum for giving us the spirit of foreign Magazines without thrusting them bodily upon the public. This publication, with the recent one started in Boston for republishing select papers from the larger reviews, contain, together, all that is desirable should be disseminated through the country, of the various works whose excellencies they cull. They both, in different departments, represent the whole circle of foreign periodical literature. And though they are really the most serious rivals our native Magazines can have, we hope they have sufficient vigor to overshadow and put down all attempts to flood the country with wholesale republications of works to which, whatever may be the spirit and ability with which they are edited, it is not desirable if we are ever to have any independence of opinion in matters of literature and taste, we should continue still indebted for all our views upon such subjects; especially, when the same works—though properly culled they afford the most valuable materials for a publication like that which suggests these observations, do—for the most part, uphold political principles, and disseminate national prejudices, that should make them the aversion of every liberal minded man.

The most interesting article in this number of the Museum, is an account of the storming of Cuidad Rodrigo, which, after vainly endeavoring to compress sufficiently to come in here, we are compelled to omit. *

The Western Monthly Magazine, No. I.—Here is a new adventurer in the field of periodical literature. It would really seem as if all the world were taking to magazine writing, they sprout up so like mushrooms around us. We will hope, however, that while they present themselves in so fair a shape as this, there will be readers enough left to do them justice. The Western Monthly Magazine is a neat octavo pamphlet of 48 pages, well printed; and when we say that James Hall, the well known author of many beautiful Western sketches, is the Editor, we need hardly add, well conducted. Mr. Hall, who has already had some editorial experience from his connection with the Illinois Magazine, (the basis of this, by the bye) gets over that very awkward thing, an "introductory," with better success than most of those who have ever been driven to attempt it. We should suppose it a most embarrassing task thus to introduce one's-self to the public, who, as we all know, is a queer, whimsical personage to have to do with; and, whether you approach it in a frank, manly style, or with courtier-like grimaces, is likely to flout you either way. The best method of dealing with it, after all, is probably the half mystifying, half bullying style, which Blackwood has so successfully adopted and sustained. Diffidence sits as ungracefully on an Editor, as a Spanish cloak upon an Alderman, the mantle of Omphale on the shoulders of Hercules, or the cupola upon the City Hall. It is something separate from, and alien to, his nature, incongruous, and totally out of place.

What is an editor? He is, or rather we should say it is, an abstract entity—it is a supposed impersonation of a number of qualities, for the possession of which, as they never did, and never can, really exist, and unite in any one person, no one should be particularly scrutinized. How many natural gifts, what extensive acquirements, and what finished accomplishments are included in the editorial *we!* There must be, if not fancy and humor, at least the taste and perception, to discover and appreciate both; there must be acuteness and discrimination, a general knowledge of the surface of things, and sufficient skill in subjects of greater importance to detect quackery and pretension in others: there must be, too, a great adaptability, not only of mind, but of humor,—the power of applying the faculties to an immense variety of subjects, and the facility of doing it with the interest and zeal to render the results worth communicating. For the same end there must be too a calm temper and a clear head; there must be judgment to adopt a course, and courage to pursue it. But above all, there must be that confidence in one's powers, without which, all attempts to grapple with a subject at a moment's warning, and hand it over to others, firmly and decidedly, cannot exist. Now here is a string of perfections which only unite in the hero of a novel or of a school girl's imagination, and therefore as no one man can be supposed actually to possess these, it only remains for those who are obliged professionally to assume their possession, to do it in as cool a matter of course way as other people conduct their business operations.—There is nothing that, with the general mind, gives more weight to opinion, than its being pronounced *ex cathedra*—and we all know that the bray of many an ass is, in print, mistaken for the roar of a lion.

And now to return from this parenthetical dissertation, we must, in the teeth of much that we have been advancing, say, that the modest tone of Judge Hall's leading editorial, will introduce him favorably to many of his readers, while the lively sketch (entitled Politics) we copied a day or two since, will, with the other articles of this number, induce them to cultivate a further acquaintance. *

POETRY.

[*From the Knickerbacker for January.*]

THE ARCTIC LOVER TO HIS MISTRESS.

[*By William C. Bryant.*]

Gone is the long long winter night,
Look, my beloved one!
How glorious, through his depths of light,
Rolls the majestic sun.
The willows, waked from winter's death,
Give out a fragrance like thy breath—
The summer is begun!

Aye, 'tis the long bright summer day:
Hark, to that mighty crash!
The loosened ice-ridge breaks away—
The smitten waters flash.
Seaward the glittering mountain rides,
While, down its green translucent sides,
The foamy torrents dash.

See, love, my boat is moored for thee,
By ocean's weedy floor—
The petrel does not skim the sea
More swiftly than my oar.
We'll go where, on the rocky isles,
Her eggs the screaming sea-fowl piles
Beside the pebbly shore.

Or, bide thee where the poppy blows,
With wind-flowers frail and fair,
While I, upon his isle of snows,
Seek and defy the bear.
Fierce though he be, and huge of frame,
This arm his savage strength shall tame,
And drag him from his lair.

When crimson sky and flamy cloud
Bespeak the summer fled,
And snows that melt no more, enshroud
The vallies white and dead.
I'll build of ice thy winter home,
With glistening walls and lucid dome,
And floor with skins bespread.

The white fox by thy couch shall play;
And, from the frozen skies,
The meteors of a mimic day
Shall flash upon thine eyes.
And I—for such thy vow—meanwhile,
Shall hear thy voice and see thy smile,
Till that long midnight flies.

Thoughts on Twilight.

Retire we now from field and hill,
As closes in the evening hour,
And with a soft yet boding thrill,
The soul awakes its holier power—
And each inordinate desire,
And each intemerate impulse dies,
As Charity's rekindling fire
And God's own love revive and rise.

[For the New-York American.]

TO R. N. F.

Why seek her heart to understand
If but enough thou knowest
To prove that all thy love, like sand,
Upon the wind thou throwest?
The ill thou makest out at last
Does but reflect the bitter past,
While all the good thou learnest yet
But makes her harder to forget.

What matters all the nobleness
Which in her breast resideth,
And what the warmth and tenderness
Her mien of coldness hideth,
If but ungenerous thoughts prevail
When thou her bosom would'st assail,
While tenderness and warmth doth ne'er,
By any chance, toward thee appear.

Sum up each token thou hast won
Of kindred feeling there—
How few for Hope, to build upon,
How many for Despair!
And if e'er word or look declareth
Love or aversion, which she beareth,
While of the first no proof thou hast,
How many are there of the last!

Then strive no more to understand
Her of whom thou knowest
Enough to prove thy love like sand
Upon the wind thou throwest:
The ill thou makest out at last
Does but reflect the bitter past,
While all the good thou learnest yet
But makes her harder to forget. CLARA.

SALES AT AUCTION OF REAL ESTATE.

By James Bleecker & Sons—January 15

The farm at Throg's Neck, belonging to the estate of the late George Lorillard, Esq. containing about 226 acres,				$23,650
House and lot No. 9 Ann street, 20 feet front, 48 feet deep,				7,000
House and lot No. 521 Broadway, lot 26 feet 6 inches in front, and 110 feet deep,				16,150
Two story house and lot No. 50 Laight street, 25 by 70 feet,				6,900
House and four lots on Grove street, 25 by 120 each, and one on Christopher street, 21 by 60,				15,500
Jan. 16.—Store and lot No. 130 Water street, 20 feet 6 inches by 57 feet,				15,600
Do.	do.	No. 4 Fletcher st 25ft. 5in. by 72ft. 3in.		20,050
Do.	do.	No. 20 John st. 22 ft 5 in by 79 ft.		9,050
Do.	do.	No. 18 do. do		8,550
Do.	do.	No. 15 do. 22 ft. 4½ in by 81 ft.		11,500
Do.	do.	No. 17 do. 23 ft. by 83 ft. 7 in.		11,550
Do.	do.	No. 14 do. 25 ft. 1½ in. by 78 ft.		13,000
Two houses and lots, No. 11 & 13 James st. 25 by 134 ft.				14,400
Vacant lot on Hall street, opposite the Market,				1,650
Do.	do.	do.		1 650
Do.	do. on Sixth, near Hall street, 23½ by 91			2,075
Do.	do.	do.	do.	2,075
Do.	do.	do.	do.	2,075
Do.	do.	do.	do.	2,075
Do.	do.	do.	do.	2,075

Under the direction of F. De Peyster, jr. Esq. Master in Chancery—The store and lot No. 160 Pearl st. 22 feet 3 inches by 60 feet. 33,500

MARRIAGES.

On Thursday evening, 17th inst, by the Rev. Dr. McElrey, Joseph Tucker, Esqr. to Miss Isabella Wiley, both of this city.

On 17th inst., by the Rev. Dr. McCartee, Mr. Wm. A. Watson, of Newport, R. I. to Miss Mary Ann Muckle, of this city.

In St John's Chapel, on Wednesday evening last, by the Rev. Dr. Berrian Mr. Frederick Moser, of Germany, to Miss Mary Ann Hoffman, adopted daughter of Albert Wunnenberg, of this city.

On Thursday evening, 17th inst. by the Rev. Mr. Mason, Mr. John M. eely, of Dutchess county, to Miss Ann, daughter of Capt. Josiah Ingersoll, of this city.

Last evening, by the Rev. S. H Cone, Mr. Silas Ludlam to Miss Elizabeth F., daughter of Mr. John Clem, all of this city.

On the 16th Jan., by the Rev. George Foot, Mr. James S. Roger to Miss Susan Maria, eldest daughter of Mr. Ward Walton, all of this place—Lenox, Madison Co., N. Y.

At Smithtown, L. I. on the 16th instant, by the Rev. Zachariah Greene, Mr. Caleb Smith to Miss Harriet A., youngest daughter of Samuel Bailey, Esq.

At Pittsfield, Mass, on the 1st inst., Orrin Wright, M. D., to Mrs. Pease, of Washington, D. C.

DEATHS.

On Wednesday evening, the 23d inst. Laurent Salles, Esq. in the 62d year of his age.

On morning Jan. 19th, of a lingering illness, Miss Caroline S. Halstead, daughter of John Halstead.

On the evening of the 16th inst. of a lingering illness, Capt John W. Patterson, in the 37th year of his age.

Last evening William Cargill, infant son of John T. B. Ketchum, aged 15 months.

On evening, 20th inst., in the 33d year of his age, Mr. John Craig, of Wilmington, Del.

On Sunday morning, 20th inst., Whitney, son of J. Phillips Phœnix, aged 2 years 4 months

On Sunday afternoon, Mrs Susan Bayley, relict of the late Joseph Bayley, and daughter of the late Dr. William Adams of Mount Pleasant, aged 54 years.

On Wednesday morning, 23d inst., Mrs. Mary Ann Olssen, in the 52d year of her age.

On Wednesday morning, 23d instant, Mrs. Margaret, wife of Matthew McClaughry, in the 27th year of her age.

On Wednesday morning, 23d inst., of dropsy, Lorain L. Woodward, daughter of the late Robert W. Woodward, of Newport, R. I., in the 18th year of her age.

At Madison C. H., Va., on the 16th instant, Mrs. Ann Swift, aged 65 years, relic of the late Jonathan Swift, Esqr. of Alexandria, D. C.

On Monday evening, Laura Woolsey, infant daughter of William Samuel Johnson Esq., aged 17 months.

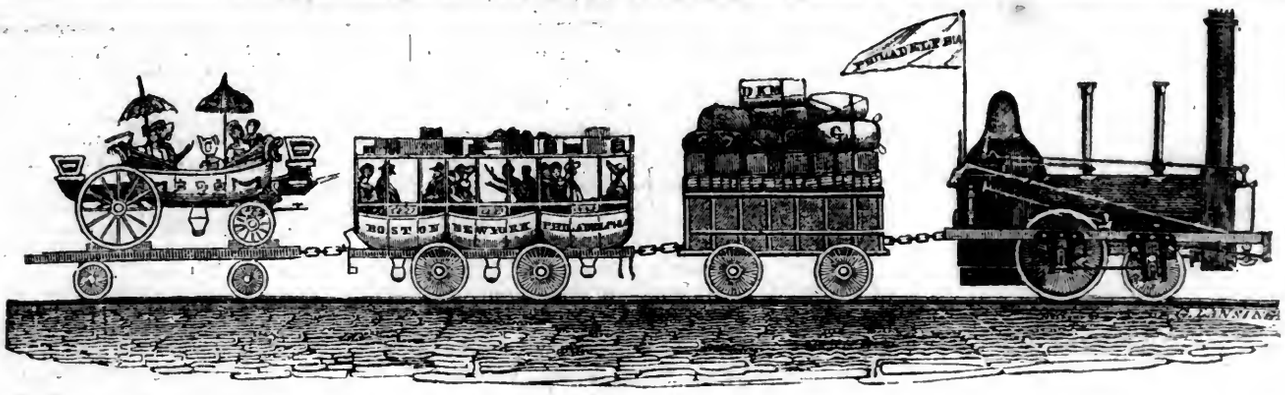
At Huntington, (L. I.) on the twelfth instant, in the eighty-third year of his age, CHRISTOPHER MENG, a native of Pennsylvania. Mr. Meng took an active part in the Revolutionary War; and soon after its termination settled at Huntington, where he remained with little interruption until his death. He has left behind him a reputation entirely spotless, and a large circle of friends and acquaintance, who, to an individual, honor and bless his memory.

WEEKLY REPORT OF DEATHS.

The City Inspector reports the death of 109 persons during the week ending on Saturday last, Jan. 19th, viz.:—21 men, 31 women, 34 boys, and 23 girls—of whom 33 were of the age of 1 year and under, 8 between 1 and 2, 11 between 2 and 5, 2 between 5 and 10, 3 between 10 and 20, 13 between 20 and 30, 15 between 30 and 40, 16 between 40 and 50, 4 between 50 and 60, 7 between 60 and 70, 1 between 70 and 80, 1 beteween 80 and 90, and 1 of 100 and upwards.

Diseases: Apoplexy 7, burned or scalded 4, casualty 2, catarrh 1, consumption 27, convulsions 12, diarrhœa 1, dropsy 2, dropsy in the chest 1, dropsy in the head 4, dysentery 1. fever, remittent 1, fever, scarlet 1, hives or croup 7, hydrophobia 1, jaundice 1, inflammation of the bowels 5, inflammation of the chest 2, inflammation of the stomach 1, intemperance 1, marasmus 4, old age 2, palsy 1, peripneumony 6, pleurisy 1, pneumonia typodes 1, rheumatism 1, sore throat 1, sprue 1, stillborn 3, suicide 1, syphilis 2, unknown 2, whooping cough 1.

ABRAHAM D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, FEBRUARY 2, 1833. [VOLUME II.—No. 5.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 2, 1833.

In this number will be found an account, with *engravings*, of Mr. Braithwaite's new Steam Engine.

We shall in our next give a very able and valuable communication from the Baltimore Gazette upon Railroads and Steam Carriages on common roads. It is from a source entitled to great respect, and we hope it will be extensively circulated and read.

City Improvements.—Perhaps there never was a period when the spirit of *improvement* more generally pervaded the citizens of New-York than the present. Better evidence need not be desired of the general prosperity of our favored country than is to be found in the rapid increase of population and improvements of this city. The relics of "olden time" are fast giving place, in the lower part of the city, to edifices more in accordance with the spirit of the age; whilst in the upper part, or what was, a few years since, a long way out of town, the very *hills* and *vallies* are fading from our view. It is but a few years since one could, without fatigue, become, in a single day, familiar with the principal parts of the city; but at this time it is no small task to visit the different sections, to witness the changes which are constantly being made. We are led to these remarks by a recent visit to the scene of operations, in the 15th ward, of a gentleman whose enterprise and success, in making the rough smooth and the crooked straight, is unequalled by any other on the island. That section of the island lying between Fourteenth and Twentieth streets, and between Broadway and the Third Avenue, commonly known as "*Bowery-Hill*," has been so completely changed in its appearance that an old inhabitant of the neighborhood, having been absent for two or three years, would scarcely be able to identify the place. The elevation which, but a few months since, was covered with dwellings and trees, and shrubbery, is now mostly removed into the vallies beyond. This operation is now carried on with great facility, by means of a railway, which enables a single horse to do the work of *twelve* or *fifteen* horses used in the ordinary way. A train of four cars, which we saw moved by one horse, contained eight cubic yards of earth—which is at least equal to sixteen common cart-loads. Most of the distance the cars pass on the line of the Harlæm Railroad, but, at each extremity of the line temporary rails of wood, with flat wrought iron bars are laid with wooden sleepers upon the newly formed surface, which are moved as the embankment is extended, so that each successive train of cars deposits its load in the proper place. When the arrangements for this operation shall have been completed the work will progress with great rapidity.

To effect the improvements undertaken by this gentleman required the removal of about 1,400,000 cart loads of earth, *two-thirds* of which has been already removed and the remainder will probably be completed early the ensuing spring, when the streets (which are not already completed) will then be regulated. By this improvement a large number of lots in the most convenient and accessible part of the city unoccupied, (being intersected by the Railroad, which will probably be continued down to Wall-street, the ensuing summer,) will be brought into use. Our object in referring to this subject was to call attention to the importance of Railroads to this city, for the purpose of filling in and regulating that large portion of the city called *Stuyvesant's Meadows*, a great part of the material for which must be transported at least two miles. So rapid are the improvements, and so few the number of lots unoccupied by buildings within a convenient distance from the *business* part of the city, that it becomes a matter of much importance to business men, that some mode of filling them in should be adopted less expensive than any heretofore in use.

We shall again refer to this subject, and give an interesting statement now in our possession of the number of vacant lots below 21st street, together with some interesting statistical facts which tend forcibly to show the almost unparalleled rapidity of the increase of population and improvements in the city of New-York.

The Chicago Road.—This is one of the most important roads in the Territory; being, as it is, the longest and passing through the most populous and interesting portion of the county. As it was constructed by the General Government for the purpose of connecting two important military posts, and to facilitate the transportation of the mail across the peninsula, it was doubtless intended to be a good and permanent road. The General Government have liberally appropriated, from year to year, such sums as were required for its construction. But, owing to the system of letting out contracts to the lowest bidder,—which so enlists the spirit of rivalry and competition that contracts are, for the most part, sold out at prices so reduced as generally to prove ruinous to contractors—and, in some instances, to the culpable negligence or ignorance of the superintendants, this road, which should have been the best, is among the worst, if not the very worst in the Territory. As regards that portion of it between Detroit and Ypsilanti, it might be difficult to conceive of a worse road. It has become in such a state that, during a portion of the fall and spring months, it is almost literally impassable. We would inquire whether the ten per centum which is required to be retained, in order to be expended on such parts of the roads as have been defectively or unfaithfully constructed, has ever been paid over or expended. And, if neither is the case, we would further inquire whether it is not competent for the present superintendant to apply it, so soon as the weather is favorable for the object, to the repair of the road. The great defect of this road, as it strikes us, is—that it is not properly drained. It is worse than useless to construct a clay turnpike unless it is thoroughly drained. It were certainly better to leave the land in its natural state than to plough it and throw up the clay, if the water is permitted to lie in the ditches and thus saturate the clay till it is rendered a perfect mortar bed. To make a good road over the level tract between Detroit and Ypsilanti, in addition to the ditches on each side of the road, there should be lateral ditches, of greater depth, some eight or ten rods from the road, on each side, and these let out at suitable places. In this way, if the upper earth is thrown off and the ground well cleared of stumps and roots, the clay has a chance to become compact and hard, and thus turn off the rains so as to cut but little. Thus, with trifling repairs in filling up the ruts, frequently, it might be kept comparatively a good road.—[Detroit Journal.]

To the Editor of the American Railroad Journal:

Dear Sir,—I have read with great satisfaction your excellent paper, in which you endeavor to promote the cause of internal improvements generally, and I hail with delight your prospect of introducing a mechanics' department. Nothing can tend more to increase the knowledge of the general reader than mechanics, where the principles of them are properly treated. I wish you entire success in this, and hope I shall not be lacking in the necessary exertions to enable you. What you are doing on the subject of M'Adamized roads has been, and will continue to be, useful. I hope you will publish all the information on the subject that shall fall under your eye, and if any thing can supply the place of a treatise on the subject, it would be a regular series of essays in a periodical like yours. But here the subject would be buried so deep among other matters, that a person wishing to pursue the art regularly or make a hasty reference, would find great difficulty, amounting almost to impracticability.

The tyro in road-making needs a regular treatise of reference, not only to teach him what is right, and keep him so, but to assist him in getting right when he is wrong;—not only to keep him out of difficulties, but to enable him to extricate himself out of those he may fall into. This is wherein all that has come to my knowledge on the subject is materially deficient. Mr. M'Adam has given us the perfection of his system without its defects; and he tells us more plainly what a good road is, than how to make one; and he is more explicit in reference to the excellence of his system, than the difficulties to be encountered in putting it in practice, and his principles are more clearly exhibited than the practical mode of arriving at them

In regard to my efforts to supply this deficiency in the knowledge of my country, it may be observed that, in the judgment of many, and from my own observation, it appears that something of the kind is much needed. The opportunities that fell to my share seemed to point me out as the proper person to undertake the task and perform the duty. Whether those opportunities have been improved to the best advantage, or whether, if they have, that I possess the necessary tact to serve the public as an author, are questions not to be decided, save by the work itself.

Whether we contemplated the subject of good roads as a cement to the bonds of our Union—as connected with our national wealth or individual prosperity—as promoting the march of mind—as tending to better the morals of the community, or to ameliorate the condition of our animals,—it is important in each and every point of view. The mutual intercourse and exchange of views and sentiments, which is the consequence of them, connects and binds us together in a sameness of interest and a sameness of feeling, tends to close alliances between people distantly situated, and removes or greatly lessens sectional jealousies and animosities, so baneful to our republican government. They would be the means of greatly facilitating the exchange of our products among ourselves or with other nations, either for the luxuries or conveniences of life, at a cheaper rate, and more fair competition, and thereby increase the happiness and wealth of our citizens. They would be the medium through which the light of intelligence might shine into the darkest corners of our land. To be without good, or at least passable roads, is to be in the state of a savage, and the better our road system shall be, the higher in the scale of civilization we shall rank. Good roads tend to promote the good morals of the community, not only by the increased light of intelligence, but by removing from the carrier and traveller the vexatious source of impatience and crime which bad roads constantly present, and which produces a treatment of animals inconsistent with our christian character. Bad roads excite in our breast feelings the very opposite of those which should be fostered there, and weaken those with which we should always enter the temple of our God. In fine, patriotism, economy, morality, philanthropy, religion, and the whole train of benevolent virtues, invite us to pursue the subject and influence us to advance it.

The study of the railroad and canal systems is excellent, and all exertions tending to promote the knowledge of their construction and use are praiseworthy. They are the large "veins and arteries of the country." But he who attends to them without feeling or acknowledging the importance of good roads, is like the anatomist, who, in attending to the large vessels of the body, overlooks or disregards those minute ramifications which convey life and vigor to the bone and sinew of the system.

Yours, respectfully,

Jno. S. Williams.

Cincinnati, Jan. 14, 1833.

Lexington and Ohio Railroad.—We publish among the legislative proceedings the Report of the Committee of Internal Improvements, on the proposition of the President and Directors of the Lexington and Ohio Railroad Company to obtain a loan of $300,000, on the credit of the Commonwealth. The bill accompanying the Report provides, that the President and Directors of the Company may borrow that amount on the credit of the State, and that certificates of stock to the amount shall be issued by the President of the Railroad Company, countersigned by the Treasurer that the amount of the stock thus authorized to be issued shall not, at any time, exceed the amount of the capital stock actually paid in by the stockholders of the Railroad Company;—that for the complete security of the Commonwealth, previous to the endorsement of the said stock by the State Auditor, he shall be required to obtain from the President and Directors of the Railroad Company an assignment, by way of mortgage, of all its lands, tenements, machinery, or other property, of whatsoever description; and in case the interest of the said stock is not punctually paid by the Railroad Company, and the principal redeemed when it becomes due, then the Auditor of public accounts may proceed, after giving due notice thereof, to sell to the highest bidder, all, or such portion of such premises as he may deem necessary;—And in consideration of this favor granted, the Railroad Company is required to subscribe $15,000 to the stock of any company which may be chartered to construct a McAdamized turnpike from Lexington through Nicholasville, in Jessamine county, to some point on the Kentucky river, suitable for an extension to Danville, in Mercer county, or Lancaster, in Garrard county; also, $15,000 to the stock of any company which may be chartered, to construct a McAdamized turnpike from Lexington to Richmond, in Madison county; and the further sum of $15,000 to any company which may be chartered to construct a McAdamized turnpike from Lexington through Winchester, in Clark county, to Mount Sterling, in Montgomery county. The said several sums to be paid by the President and Directors of the Railroad Company, provided the above roads shall be commenced within three years after the passing of this bill.—[Lexington Observer.]

Internal Improvements in Pennsylvania.—The late Report of the Canal Commissioners of Pennsylvania gives an interesting view of the progress of the great system of improvement, in the means of inland communication in that state. This immense work is yet in an unfinished state, and the benefits which are to be anticipated from it are but imperfectly felt, in consequence of a want of connexion between the parts which are completed. The extent of canals and railroads built at the sole expense of the state, now finished for use in detached portions, measures five hundred and one miles and one hundred and forty-one rods in length. The extent which remains to be finished, to complete the plan which is begun, is a little over two hundred miles. The whole scheme embraces an extent of artificial navigation and railroad of seven hundred and two miles, besides nine miles of navigable feeders. The principal works are a communication by railroad, canal and slack water navigation, from Philadelphia to Pittsburg; a canal from Bristol to Easton on the Delaware; a communication from Philadelphia to the head of the Wyoming valley, passing through the anthracite coal region, on the North Branch of the Susquehanna river, and to the vicinity of the bituminous coal beds in the Alleghany Mountains in Lycoming county; and a canal and slack water navigation from Newcastle, Mercer county, to steamboat navigation on the Ohio river, at Beaver, and from the Alleghany river, at the mouth of French Creek, to a point near Meadville, and also to Conneaut Lake, in Crawford county.

Of the railroad from Philadelphia to Columbia, 81 miles in length, 22 at the Philadelphia termination, with the exception of the Schuylkill viaduct, are nearly completed. The canal and slack water navigation from Columbia to Hollidaysburg, at the Eastern base of the Alleghany Mountain, a distance of 171 miles, is completed. The canal from the Western base of the Alleghany Mountain, at Johnstown, to Pittsburgh, is also completed. The Portage railroad, of 37 miles in length, destined to unite these two last named lines of canals, by crossing the Alleghany Mountain, is yet unfinished. This is one of the most important and most difficult portions of the whole work. To give our readers some idea of the nature of this undertaking, we copy from the Report of the Commissioners that part which describes the progress which has been made on this section of the work.—[Boston Daily Adv.]

The following extract from the Report of the Pennsylvania Canal Commissioners, is from the Village Record. We should be much obliged to any gentleman who will forward us the Report entire. Such documents are of great value to us, to *circulate* again: we would, therefore, respectfully request gentlemen who may have a spare copy to forward us one.

Alleghany Portage Railroad.—Since the work upon this road has been placed under contract, it has been prosecuted with energy, and has progressed with but little interruption, except by the inclemency of the last winter, and those difficulties which are inseparably connected with the operations upon such work in the depth of a wilderness. Many of the original contractors took their jobs at inadequate prices, and much of the work had to be re-let.

The road-bed formation was divided into 46 sections, of which number 13 are completed, 16

more will be finished by the first of next month, and the remaining 17 are in such progress as to insure their completion in March and April next. Much of the mechanical work is done, and finally estimated, and the rest of it approximates completion.

There are 4 viaducts of cut stone upon this road, with spans varying from 40 to 80 feet, and 68 culverts, the spans varying from 3 to 25 feet. These works are all of good stone masonry, and constructed in the very best manner. There are also 85 drains or square culverts, from 2 to 3 feet wide, built of stone, making altogether 157 passages for water under the railroad.

The viaduct over the Beaver dam branch of the Juniata river, at Hollidaysburg, is of cut stone, and has two oblique arches. The spans measured on the skew face are each 40 feet 3½ inches, and 33 feet measured at right angles to the axis of the vault. The height of the walls, from the foundation to the top of the parapets, is 20 feet; it may be finished about the middle of this month.

The viaduct over the mountain branch of the Conemaugh has a single span of 40 feet; the height of the walls, from the foundation to the top of the parapets, is 23½ feet; it may be completed in a few days.

The viaduct over the Ebensburg branch has also a single span of 40 feet; the height from the foundation to the top of the parapet walls is 31½ feet; it may likewise be finished in a few days.

The viaduct over the Little Conemaugh river, at the Horse Shoe bend, has a semi-circular arch of 80 feet span, and will be 78½ feet high from the foundation to the top of the parapet walls; about two-thirds of the masonry is laid, and the arch will probably be closed before setting in of the winter, but the whole work cannot be completed before the first of May next.

Section number seven, about nineteen miles west of the crest of the mountain, comprises an inclined plane, requiring a heavy embankment, and also a tunnel about 900 feet long, at the head of the plane: the ends of the tunnel will be arched with cut stone; the rock through which it is made, is so solid as to render arching the whole distance unnecessary. About two-thirds of the whole work on the section is done, and the residue, including about one-fourth of the tunnel, can be finished in next April.

There are 10 inclined planes, varying in length from 89 to 185 rods, and in inclination from 4 degrees, 8 minutes and 48 seconds, to 5 degrees, 51 minutes, and 9 seconds, from horizontal plane. The deepest plane is about equal to the grade of many of our turnpike roads on hill sides.

The estimate of Mr. Welch, the engineer for grading and mechanical work, was last year 617,505 dollars 98 cents, it is now found that it will cost but about 585,107 dollars 28 cents, being 22,398 dollars 70 cents less than his original estimate.

Contracts have been made for procuring from England malleable iron nails, pins, and wedges, and a portion of the cast iron chairs for one track, with sidings, &c. the whole length of the road, and for double tracks on the inclined planes; a part of this iron has arrived at Philadelphia, and a large portion of it is expected before the navigation of the Delaware closes. About 300 tons of cast iron chairs will be manufactured in Frankstown and Blairsville. A double track on the inclined planes, and a single track on the rest of the road, will require about 3,100 tons of iron, and it will cost 70 dollars a ton delivered on the mountain.

Contracts have also been made, and are in progress, for carrying the iron rails, &c. from Philadelphia to the portage; for the balance of the chairs, for stone blocks, broken stone, wooden sills, and cross ties, and for completing all the work necessary for a continuous track over the whole road.

The length of a single track of railway on each section, in addition to the length of second track on the inclined planes, and on such other places on the line as is necessary for the passage of cars moving in opposite directions, is forty-three and ninety-one one-hundredths miles, leaving twenty-nine and forty-one one-hundredths miles of the second track to be contracted for hereafter.

Flat iron bars on wooden rails will be placed on the inclined planes, but on the rest of the road edge rails will be used. These rails will rest in iron chairs, on wooden sills and cross ties, over high embankments, and on stone blocks where the ground is solid. Each stone block measures about 3½ cubic feet.

If the rails reach Philadelphia in time to be conveyed to Huntingdon before the closing of the canal, a single track of the road can be finished for public use in July next. And the second track may be laid, and all the work completed, early in the summer of 1834.

It is now ascertained by estimates founded on experience that the whole road, including road-bed formation, double tracks with sidings and turnouts, steam engines, with ropes, &c. at the planes, and all other things necessary to render it fit for public use, will cost $1,495,789 50.

When the estimate was made last year, it was contemplated to use rails weighing 28 pounds to the yard, but since then the size of the rails has been increased to thirty-nine and one half pounds to the yard, because in England experience has demonstrated that a lighter rail is insufficient for locomotive engines and a heavy trade—much of the other work has also been proportionally strengthened; hence the estimate of the present year for road tracks exceeds that of the last year.

All the work that has been done, and is now doing, is of the most substantial character, except the wooden sills on high embankments, for which stone blocks will be substituted at some future period.

The progress which has been made in the Philadelphia and Columbia railroad is thus described:

A single track, with sidings, has been finished (except the viaduct over the river Schuylkill,) from Philadelphia to the junction with the Westchester railroad. It was first used on the 20th of September, and on the 18th of October the road was so far completed as to be partially opened for public use, from which time to the first of November, inst. 1832, passengers have been carried along it in stages.

The second track of 22 miles is in rapid progress, and may be completed by the first of next January. The south track for the whole distance of 22 miles will be formed with edge rails and stone blocks, and the north track will be partly stone sills and partly wooden rails, both plated with flat bars of iron.

The road-bed, formation, and mechanical work on twenty miles more of the division have been ready for the rails for nearly two years; and the work on the other forty miles is so near being completed, that by the first of next February the viaducts over Schuylkill, Valley Creek, and West Brandywine, and the deep cut at Henderson's, will be the only unfinished jobs of any consequence, to prevent a continuous track of rails from being laid along the whole road.

The viaduct over the river Schuylkill has not progressed as fast as was expected; but the work is well done. It will be a good substantial structure, one thousand and eight feet long, supported by six piers and two abutments. The superstructure is to have four distinct trusses, admitting of three distinct passages, one in the middle with a clear width of four feet for foot passengers, and one on each side with a clear width of eighteen feet six inches, for a carriage or roadway, and for a track of rails, making together a clear width of forty-one feet.

There will be about nineteen thousand three hundred perches of solid masonry in the piers and abutments of this viaduct. The foundation of one of the piers is sunk thirty feet below, and the superstructure will be thirty-three feet above, top water in the river; one foot below water line the thickness of the piers is nineteen feet six and one quarter inches, and their length, exclusive of the angular head, is fifty-nine feet three and one half inches.

Hopes are entertained that the viaduct may be rendered passable by July, and finished by September, 1833.

The viaduct across Valley creek, two miles east of Downingtown, has four spans, and is five hundred and eighty-nine feet long; the piers are fifty-eight feet high: it may be finished by the first of July next.

The viaduct over West Brandywine at Coatesville will be eight hundred and fifty feet long, with six spans. The piers will be seventy-three feet high, and with the abutments will contain fourteen thousand perches of masonry. This work has been thrice let, and will probably be the last job on the road formation in being completed. With proper exertions on the part of the contractors, it may be finished by November, 1833.

The deep cut through the gap in the Mine Ridge, at Henderson's, is the last heavy unfinished job. The cut is at one place thirty-seven feet deep; the most difficult part of the excavation is in Henderson's meadow. The soil is full of springs, and when excavated exhibits a quicksand for a considerable depth, upon the removal of which the adjacent slopes cave in; the whole extent of this difficulty is about two hundred and thirty yards in the line of the road. A part of this section has been twice re-let, and is divided into jobs to hasten its completion. Expectations are entertained that it will be prepared for the rails by the first of May next.

In conformity with a resolution of the Legislature, dated the twenty-fourth of April, 1832, the sum of sixty thousand dollars of the sum appropriated to the Columbia and Philadelphia Railroad has been set apart for the purpose of assisting the city of Lancaster to construct a railroad between the little and big Conestoga bridges, so as to pass through the business parts of the city.

By a subsequent resolution of the Legislature passed on the ninth of June last, the canal commissioners are directed to pay of the monthly estimates during the progress of the work *pro rata* of the amount necessary to complete that part of the road.

Major Wilson, the engineer upon the railroad, has estimated the whole work required between the said bridges to cost eighty-seven thousand seven hundred and nineteen dollars and fifty-seven cents, therefore the superintendant of the division has been directed to pay two-thirds of the monthly estimates, upon the production of legal vouchers by the city of Lancaster, for the payment of her proportion as required by law. The whole amount paid by the superintendant for work done to the 31st of October, is $5,003 18.

With a view to the completion of a line between Philadelphia, the Susquehanna and the West, it is contemplated to lay one track from the western termination of the 22 miles to Columbia upon wooden sills. A single track, with sidings and turn-outs, and under proper regulations for using it, may accommodate the trade until the second track can be laid in a more durable manner with stone blocks and edge rails.

It appears that the average cost of the railway superstructure on 22 miles is—for laying a single track of rails, with granite sills and flat iron bars, including the cost of iron, $11,118 33 per mile; for laying a single track of rails, with stone blocks and edge rails, including cost of iron, $10,331 63 per mile; and for laying a single track of rails with transverse sills, and rails of wood and flat iron bars, $5,579 25 per mile.

The following is a Statement of the Funds appropriated to the Columbia and Philadelphia

Railroad, and disbursements made, from the 21st March, 1831:

Amount appropriated by the act of the 21st of March, 1831,		$600,000 00
Dec. 1831.—Pro ratad deductions at the treasury, for old work, &c.	$108,324 36	
Do. under the act of the 30th of January, 1832,	11,534 06	
		119,858 42
Actual available amount of the appropriation of 1831,		480,141 58
Amount appropriated by the act of the 30th of March, 1832,	$810,000 00	
Pro rata deduction at the treasury, under the act of the 11th of June last,	51,710 44	
Actual available amount of the appropriation of 1832,		758,289 56
Whole available amount of the appropriation of 1831 and '32,		1,238,431 14
Whole amount disbursed in 1831 including superintendence, engineering and contingencies	$210,704 23	
Whole amount disbursed in 1832,	764,887 49	
Whole amount of disbursements,		975,591 72
Balance on 31st October, 1832, of the appropriations of 1831 and 1832,		262,839 42
There is due for per centage retained on work done,		$51,015 67
The estimated cost of the work yet to be done, to complete the superintendence upon 22 miles, and the grading of the whole road,		341,838 13
Amount yet to pay,		392,853 80
Deduct above balance of the appropriations,		262,839 42
		130,014 38
Add the sum set apart to the work at Lancaster,		60,000 00
		$190,014 38

The sum of $190,014 38 is required to complete the grading and bridging of the whole road, and to finish the railway superstructure upon 22 miles, from Philadelphia westwardly, with double tracks, including the cost of the engine, &c. at the inclined plane, and all other means useful for transportation.

The estimated cost of laying a single track upon wooden sills, from the western termination of the 22 miles to Columbia, being 59¼ miles, including the cost of the engine at the Columbia plane, sidings, &c. is		$346,026 41
Add seven per cent. for superintendence, engineering and contingencies,		24,221 84
		370,248 25
The estimated cost of laying a second track, from the western termination of the 22 miles to Columbia, on stone blocks and edge rails, including sidings, &c.		633,787 72
Add seven per cent. for superintendence, engineering and contingencies,		44,365 14
		678,152 86
Whole amount disbursed upon the road, of appropriations prior to 1831,		337,863 04
Whole amount of disbursements in 1831–2,		975,591 72
Per centage due and estimated cost of completing the work in progress,		452,853 80
Estimated cost of a single track, with wooden rails, to Columbia,	370,248 25	
Estimated cost of a second track, with stone sills and edge rails,	678,152 86	
		1,048,401 11
Whole cost of the road as estimated,		$2 814,709 67

Length—81¼ miles

[*From the London Mechanics' Magazine.*]

ERICSSON'S STEAM ENGINE AND WATER-MILL.—Perhaps the most interesting problem in mechanical science is, how to simplify the steam engine, so that its bulk and weight, which are at present somewhat enormous, may be reduced within more convenient limits without any corresponding loss of power. Owing to a variety of causes, all well ascertained by long practice, a reciprocating engine cannot be made to work to advantage at more than a moderate rate of speed; it becomes therefore necessary to expose the piston to a great force, (for that force multiplied by the speed constitutes the power,) and, as a necessary consequence, all the parts that have to communicate this great force, as well as the frame work that carries those various moving parts, must be made strong in proportion. Hence it follows as a general rule, that the bulk and weight of any engine of a given power, worked by steam of given force, must depend on the speed of the piston, that is, the speed of that surface which the steam is made to propel. This truth forms the basis of the construction of the very remarkable engine which we have now to bring under the notice of our readers.

Fig. 1.

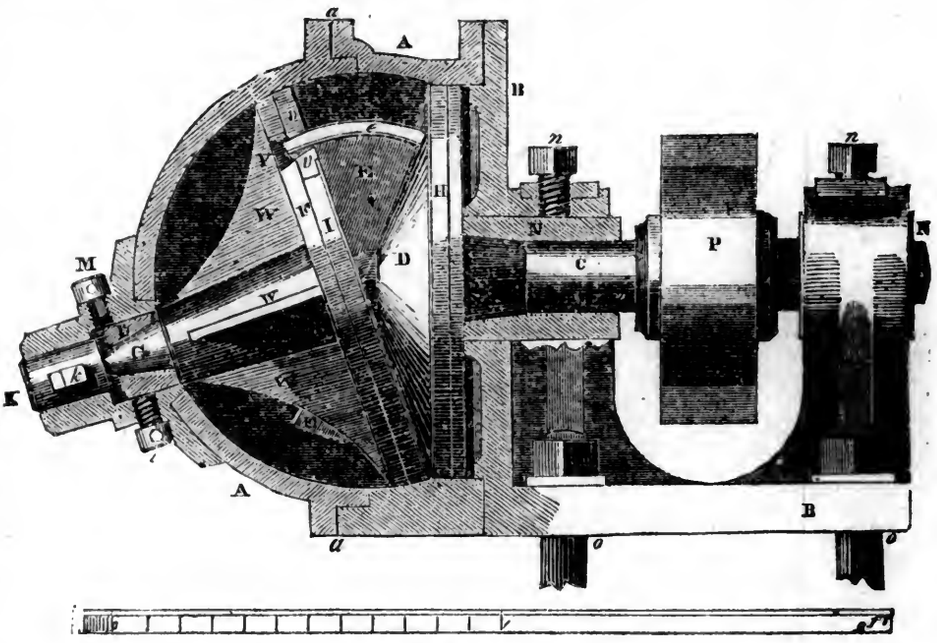


Fig. 2.

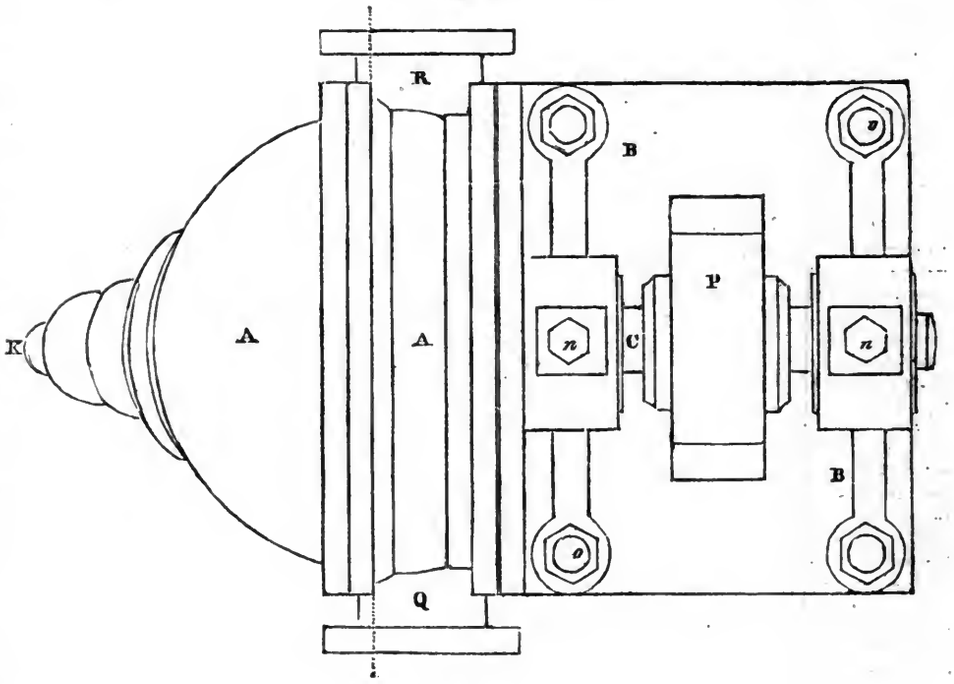


Fig. 3.

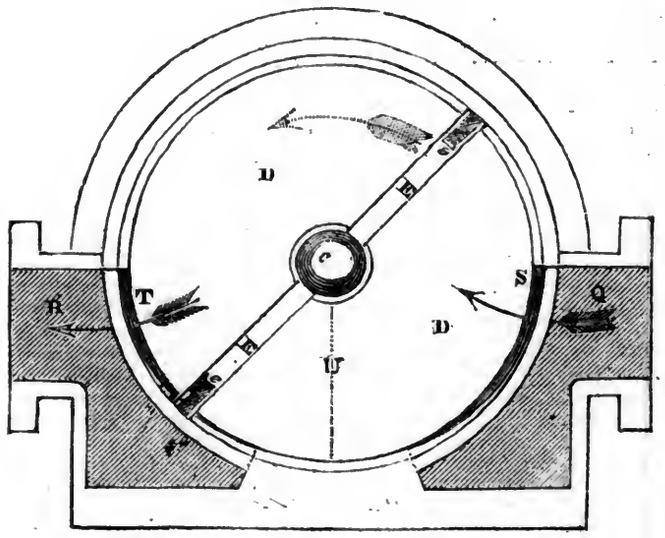
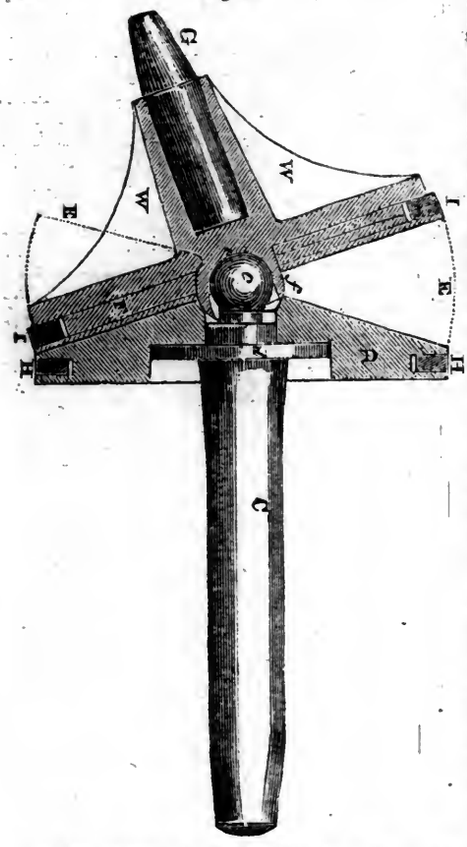


Fig. 4.



In the patent which Mr. Ericsson has taken out for this invention, he designates it as "an improved engine for communicating power for mechanical purposes;" and this generality was, perhaps, necessary, since, though it promises to be of most importance in connection with steam, it may be worked by any other gaseous or fluid power, as air, water, &c. The specification describes it more particularly as consisting of a "circular chamber, in which a cone is made to revolve on a shaft or axis by means of leaves or wings, alternately exposed to the pressure of steam; these wings or leaves being made to work through slits or openings of a circular plane, which revolves obliquely to, and is thereby kept in contact with, the side of the cone." But when the reader has read this description of the engine, we are afaid he will not be much the wiser for it; indeed, we never before met with an engine of which it was so difficult to convey, *in words*, a clear and distinct notion, and which was at the same time so little complex in its construction. We shall, therefore, be obliged to depend more than usual on the assistance of our engraver, to make the following description plain to our readers.

Fig. 1 represents a longitudinal section of the engine, the circular chamber being supposed to be cut through the centre line. A A is a circular chamber made in two parts, joined at *a a*, and fixed to a frame B B; this frame also supports the axis or main shaft C, to which is fixed the cone D. E E are two wings or leaves fixed to the cone; and *e* is a metallic segment, fitted into a groove made in the curved edge of the leaf, and pressed towards the chamber by springs in order to prevent the escape of steam. F is a circular plane, revolving on a shaft or pivot G, and supported by the main-shaft (as shown in fig. 4.) The oblique position of this circular plane, it will be seen, is so adjusted that its surface shall be parallel to, and in contact with, the side of the cone. H is a metallic ring fitted into a groove round the cone, and divided into segments, which are pressed towards the chamber by springs, to answer the purpose of packing. I is a metallic ring for the same purpose, fitted round the circular plane. K is a cylindrical brass for the pivot G to work against *e*, regulated by a key *k*. L is a conical brass guide, kept in its place by a set-screw *l*. M is a screw-pin for giving oil to the pivot. N N are conical brasses for the main-shaft to work in, and kept in their places by set-screws *n n*. *o o* are screw-bolts for securing the engine frame. P is a pinion or small wheel, for the purpose of communicating the power of the engine to machinery which may require a different speed. V is one of the slits or openings, in the obliquely revolving circular plane, through which the leaves work; this slit is of equal length with the leaf, and widening outwards from the surface of the plane, to accommodate the change of the angular position of the leaf, which takes place during each revolution. *v v* are metallic rods, kept tight against the leaf by springs, to prevent the escape of steam. WWW are thin flat arms for supporting the circular plane.

Fig. 2 represents the plan or top view of the engine, showing the exterior of the circular chamber, the frame work, main shaft, pinion, &c. (It may be as well here to state, that similar letters are used to denote similar parts in all the figures.) Q is the pipe through which the steam enters the engine, and R the pipe through which it escapes.

Fig. 3 is an end view or cross section of the engine, taken through the dotted line marked in fig. 2. The steam passes from the pipe Q into the circular chamber through an opening S, cut through its side; this opening is of a triangular shape, and made as wide at the top as the circular plane is there distant from the base of the cone, and gradually tapering off downwards. T is the opening through which the steam escapes, and in every respect similar in construction. The dotted line U shows where the cone and the circular plane come in contact. *e e* are the metallic segments already described.

Fig. 4 is a detached view of the cone in the circular plane, representing a section through their centres. It will only be necessary to observe, that *d* is a collar on the main shaft, to which the cone is fixed thereto; that *c* is a socket-ball, working in the socket *f* of the circular plane; and that the dotted lines E E show the precise shape of the leaves or wings fixed to the cone.

Having thus described the nature and construction of Mr. Ericsson's engine, we shall now proceed to explain the manner in which it is set to work. Steam being admitted into the pipe Q (see fig. 3) it passes through the opening S into the circular chamber, and being there prevented from passing the line U, where the cone and plane come in contact, it presses against the upper leaf, which, together with the cone, then revolves in the direction of the dotted arrow. Now, as soon as the said leaf gets below the top of the opening T, the steam that has been acting escapes through that opening into the pipe R, and thence into the atmosphere or into a condenser. The opposite leaf then operates in a similar manner, and so on as long as steam is admitted.

Many as have been the engines contrived for the production of rotary motion, we recollect none in which that result has been obtained by such a perfect harmony of operation among the different parts. Not only the general action of this engine, but the action of every part of it is rotary. The consequence is that it is wholly free from those serious drawbacks which make the attainment of a very quick motion, by means of a reciprocating-engine, a matter of so much practical difficulty. A vast increase of power is obtained, while the bulk and weight of the materials employed for the purpose are reduced beyond all former example. We shall endeavor to make this clearer by a few calculations.

The engine represented by the drawings (made to 2½ inch scale) presents to the action of the steam 12 square inches within the leaf, and is in a vertical position; but that being the maximum of surface exposed, a mean must be taken, which by the assistance of fluxions will be found to be ten square inches within a fraction.

By referring to the scale, it will be seen that the globular chamber of this engine is 13 inches in diameter. An engine of three times the size, that is, with a chamber of 39 inches in diameter, would, therefore, expose 90 square inches to the action of the steam; and the average distance performed by the leaf would be 7.35 feet for each revolution, and if the engine made 180 revolutions in the minute, 1,323 feet would be the distance passed in that time. If, now, steam of 45 lbs. pressure to the square inch were used, 4,050 lbs. would be the constant force in operation, which multiplied by 1,323 shows that 5,358,150 pounds would be raised 1 foot high per minute; and this sum divided by the established number, 33,000, gives for the general result 162 horses' power. Now, if we deduct one quarter for friction, &c. which, considering the harmonious action of the engine, is amply sufficient, the available power will be 120 horses!

That so great a power should be produced by a globular vessel of only three feet three inches diameter, is a result so extraordinary that the attention is naturally and anxiously drawn towards any probabilities by which it may be defeated. The probability of the action becoming affected by leakages first presses itself on our consideration. On this head it may suffice to observe, that as none of the packings require any other play than to be moved gradually against their respective surfaces as they wear away, all that is required to ensure tightness will be good workmanship. The next contingency which suggests itself is the ordinary one, of liability to derangement. On this score, however, there is but little to be feared, for the engine is of so few parts, and the mutual action and reaction of these parts is so simple and natural, that unless wantonly injured or obstructed, it can scarcely go wrong. We apprehend that the only real danger to be guarded against is the heat which may be generated by the rubbing parts, when the engine is put to its speed; between the bearings and gudgeons in particular, as they will have to withstand a great force. Experience can on this point be the only guide to a correct conclusion; but we incline to think, that as no inconvenience is found in cotton mills by giving shafts of a large size, and communicating great power, a velocity of 180 revolutions per minute, any deduction to be made on this account from the utility of the engine will be but trifling. As to the packing rings, the pressure on them will be but slight; indeed, their centrifugal force will be nearly sufficient to give them always an outword bias; the danger of their heating must therefore be extremely small.

It may not be amiss to observe, that the principle of the engine is such that the steam may be admitted from either side with equal effect. The motion can therefore be reversed, by merely reversing the inlets and outlets of the steam by means of a common slide valve or four-way cock—a feature of this engine, which, to say nothing of its speed, must render it particularly applicable to all locomotive purposes.

The branch of steam service, however, in which this engine is likely to be adopted with greatest benefit, is the marine. In steam vessels, lightness, compactness, simplicity, are all properties of the utmost importance; and doubly so, when they can be obtained, as in this instance, without any sacrifice whatever of power.

When water is employed to work this engine, the operation will be precisely the same as in the case of steam; with this exception, that the packing rings may be dispensed with. The exception, however, is of a nature which shows that, as a hydraulic engine it will work even better than as a steam engine; of this, however, more hereafter. At present, we trust we have said enough to satisfy our readers that the great space which we have devoted to this latest wonder of the mechanical world has been not unworthily occupied.

AGRICULTURE, &c.

Agricultural Schools and Societies. By ORANGE COUNTY. To the editor of the New-York Farmer and American Gardener's Magazine.

I have read with intense interest the communications in your last number by B. on the important subject of agricultural schools. The views and positions taken by that writer cannot, in my estimation, fail to meet the approbation of every true American farmer who wishes to advance the happiness and prosperity of his country. The listnessness and apathy that have long hung about our agricultural population, it is happy to observe, are fast clearing away, and they are rapidly awaking to a sense of the important station they can and should hold in this free and enlightened country. It is but necessary to rouse the feelings of our yeomanry on this highly interesting subject, to have them enter upon it with the same zeal that characterizes their movements in other respects. Let them cast their eyes around them, and view the rapid strides in the arts, and the magnificent acquisitions that are daily making. Spread before them, as an example, the immense advantages that are daily resulting from the application of steam to locomotion, connecting the most distant corners of the earth. Let them reflect upon the brilliant discoveries of Davy, or the untiring zeal and result of a Linnæus, or Cuvier, and then ask them if, in the face of the thousands of improvements both to elevate the mind and render life agreeable, they can content themselves to plod on in the old way, "unknowing and unknown!" If, in a country where they should occupy a proud station, they can content themselves with the possession of the least possible degree of knowledge and information! That when a combination of science and agriculture, of theory and practice, would not be an imaginary but a real and durable benefit to themselves and their posterity, they will willingly sneer at it, condemn it, and jealously guard against any infringements on the opinions and prejudices of their ancestors, merely because they are such! Can an *American* farmer answer these questions in the affirmative! No, he cannot—he will not. Let then the enlightened agriculturist of this "empire state" set the example. Let the farmers of New-York be the first to step forward and lay the foundation of a great system of instruction, that shall elevate them to their proper rank, and enable them to introduce improvements which shall be a benefit to themselves and a source of increased prosperity to their country.

It is hoped and expected that the State Agricultural Society will, at its next session, devise a liberal and efficient plan for a State Agricultural School, when it is earnestly hoped that the agricultural portion of the community will zealously step forward and put it in operation. To point out the advantages individually seems needless, after reading the lucid suggestions of "B." If any one can oppose it or offer any objections to such an institution, it will be a matter of much surprise to me. That it may succeed, and that our state and our farmers may have the honor and benefits of successfully introducing it, is the earnest hope of an inhabitant of

ORANGE COUNTY.

Directions for Forcing and Forwarding Vegetables. By THOMAS BRIDGEMAN, Seedsman, and Author of the "Young Gardener's Assistant." To the Editor of the New-York Farmer and American Gardener's Magazine.

MR. EDITOR:—It cannot be expected that the weather in the coming month, February, will be suitable for gardening operations in general; but it behoves those who may be desirous of procuring a tolerable share of the luxuries of the garden, to "work while it is called to-day," for there are many sorts of culinary vegetables which may be forwarded in the winter, that cannot be raised to advantage in extreme warm weather. The celebrated Mr. CORBETT very justly observes, that "Hot-beds, as things of real use, are more necessary in America than in England; because in the former country, the winter will not suffer to exist in the open air many plants which are wanted to start with the warm sun, and which plants the winter will suffer to exist in the open air in England. The American spring bears no resemblance to that of England, which comes on by degrees from the end of February to the beginning of June; while the American spring cannot be said to be of a fortnight's duration." It must appear evident to those who have duly considered the subject, that although a hot summer sun is beneficial to the maturing of some kind of garden products, it is unpropitious to the cultivation of some of the most valuable sorts of culinary vegetables. It should therefore be the object of those who may wish to become pre-eminent in the art of gardening, to use artificial means in the winter and early part of the spring in order to have such kinds of vegetables early in the season. Perhaps the most important business in the month of February is to collect plenty of heating materials;—in doing this, great care should be taken that the dung be fresh from the horses. Those who may live near extensive stables should engage it before hand, and order it to be kept secure from the weather. Well preparing the dung is of the utmost importance in forcing, and if it be not done before it is made into a bed, it cannot be done after, as it requires turning and managing to cause it to ferment freely and sweetly; and care should be taken that it do not become soddened with water.

The next consideration is to select a situation for the beds to be made on, which should be well protected by a close fence or wall, and not in any way connected with any building calculated to harbor rats, mice, moles, &c., which are very apt to take up their abode in warm dung, to the great injury and sometimes destruction of the beds. It is necessary that the foundation of the beds be drily situated, and not liable to be inundated with water from melted snow, &c. The frames and sashes should be got ready for the beds to be made in succession from the middle of February to the middle of March. My limits will not allow me to enter into particulars relative to the making of beds for all the different purposes: suffice it to state, that the depth of heating materials should be regulated by the season of the year at which the work is commenced, and also to the purposes for which the hot-bed are intended. Beds made for the purpose of raising half-hardy plants, or for procuring seedling plants late in the spring, may be made in the same manner as a common hot-bed, but where substantial heat is required to be kept up, the beds must be so contrived as to admit of linings as the heat decreases.

After the seeds are sown great precaution must be used, lest the plants should be injured by cold cutting winds, or destroyed by heat for want of air. To prevent the former accident, warm dung should be placed around the frames, and the sashes should be covered with mats and boards every night. If full air cannot be admitted in the day time, the sashes must be slidden down to let off the steam, at the same time the mats may be laid over the aperture, to prevent the cold air entering to the plants.

If the bottom heat in the bed be too violent, which is sometimes the case, means must be used to decrease it. This is generally effected by making holes in the bed with a stake sharpened at the end, or with a crow-bar, which holes should be filled up when the heat is sufficiently reduced. In lining hot-beds, if the heat is reduced in the body of the beds, holes may be carefully made to admit heat from the fresh linings, so as to enliven the heat of the bed.

A Fahrenheit Thermometer should be always at hand, at the time of forcing, to be used when necessary to regulate the heat in the beds; and the water that is used in cultivating plants in frames should be warmed to the temperature of the air, or according to the heat required for the various kinds of plants, which will be shown in the different articles as we proceed.

FORCING ASPARAGUS IN HOT-BEDS—Asparagus may be procured at an early season with comparatively little risk. A bed may be prepared in a deep hot-bed frame with well prepared dung, or a mixture of dung and leaves; the depth of heating materials may be about two feet, and a foot of old hot-bed dung, tan, or any light compost that will admit of the heat passing through it, should be laid on. Provide plants from two to four, or even six years old, trim their roots and place them in rows on the beds; when one row is laid, strew a little mould among the roots, then proceed in the same way with one row after another, keeping them on a level, as the surface of the bed at first lay, till you have finished planting them; then lay among the buds and roots some fine vegetable or other rich mould, working it in amongst them with your fingers, and cover the beds over about one inch thick, and above that lay three inches in depth of vegetable mould not very rotten, old tan, or any other light compost that will admit the water to run quickly through. If there be strong heat in the bed, slide down the sashes till it begins to decline. The temperature at night should never be under 50, and it may rise to 65 without injury; as the buds begin to appear, as much air must be daily admitted as the weather will permit. In two or three days after the buds are planted, the heat will begin to rise; the beds should then have a moderate supply of water applied from a watering pot, with the rose on; repeat such waterings every three or four days. By the time the buds have come up three inches above the surface, they are fit to gather for use, as they will then be six or seven inches in length. In gathering them, draw aside a little of the mould, slip down the finger and thumb, twist them off from the crown; this is a better method than to cut them—at least, it is less dangerous to the rising buds, which come up thick in succession. An ordinary sized frame calculated for three sashes will hold from three hundred to five hundred plants, according to the age and size, and will if properly managed yield a dish every day for about three weeks. On the above estimate, if a constant succession of Asparagus be required, it will be necessary to plant a bed every eighteen or twenty days, as it will be about six weeks from the time of planting before it is fit for use. Rhubarb and Sea Kale may be, and sometimes are, forced in the same manner as Asparagus.

FORWARDING BROAD BEANS, OR ENGLISH DWARFS; *vicia faba.*—As the several varieties of the English Broad Beans cannot be raised in perfection under a hot summer sun, they should be planted as early in the year as possible. Those intended for early crops are generally planted in England from October to April, but, as our winters are more severe, it is seldom that any can be planted in the open ground here before the middle of March; and some are apt to drive it off until the approach of warm weather, consequently the crops are poor and scanty. To obviate this difficulty, some of the best kinds should be planted in boxes, and placed in a moderate hot-bed in February, or early in March. If the plants thus raised be not nursed too tender, they may be transplanted into the open ground in the latter end of March: this will enable them to produce their fruit early in June. Or, if a heap of manure be spread thick on a piece of ground late in the autumn, it will keep the earth from freezing; and if said manure be removed in February, and a frame placed over, and protected from extreme cold, the seedlings may be raised therein. Those that may not choose to take this trouble should plant some of each sort as soon as the frost is out of the ground. A strong clayey soil is the most suitable, but they often do well in moderately light low ground, provided it is well trodden, or rolled, after the beans are planted. It may be necessary here to observe, that these

beans will need a careful hoeing when about three or four inches high; and if some earth be drawn up to their stems, three or four times in the course of their growth, it will greatly refresh and strengthen them. When they are arrived at full bloom, and the lower pods begin to set, the tops may be broken off. If this be done at the proper time, it will greatly promote the swelling of the pods, as well as their early maturity, for having no advancing tops to nourish, the whole effort of the root will go to the support of the fruit.

FORCING KIDNEY BEANS.—The most dwarfish kinds of Kidney Beans may be raised in hot-beds, but they require a substantial heat to mature them. The temperature within the frame should be kept up to 60, and may rise to 70 or 75 degrees, provided the steam is let off. In order to insure sufficient heat to bring them into a bearing state, the plants may be first raised in small pots plunged into a hot bed; or a small bed may be prepared, earthed over with light rich compost six inches deep, and the beans planted therein, and covered one inch. The second hot-bed should be earthed over to the depth of eight or nine inches, and the beans transplanted as soon as they are two or three inches high, in cross rows, twelve or fifteen inches apart by three or four inches in the rows, or in clumps a foot apart. When the season is so far advanced that one bed, with the help of linings, will bring the plants well into fruit, the seed may be planted at once to remain for podding; or if the gardener should choose to mature his crop in the open ground, he may raise his plants in boxes or pots in the month of April, and plant them out in a warm border early in May. Beans raised in hot-beds will require considerable attention: cover the glasses every night with mats and boards, admit fresh air every mild day, give occasional gentle waterings, and earth them up carefully as they progress in growth, to strengthen them.

FORWARDING EARLY CABBAGE, AND OTHER PLANTS.—It often happens that cabbage plants raised in the fall perish in the course of the winter, and of those which survive, many will run to seed on the approach of warm weather: it is, therefore, safest to commence raising plants in the spring. Those who may wish to have good strong hardy plants, should secure a piece of ground from the winter frost by a heap of fresh stable dung; or by putting down their frames before the approach of severe weather, and keeping them covered until the latter end of January, or early in February, at which time the seeds may be sown. The plants thus raised will be far better than those raised in the fall, as they will not run to seed; and they will be more hardy than those raised in hot-beds. The Gardeners about New-York sow their seed on hot-beds, covered with glass sashes, the last week in February or early in March: the plants will be fit to transplant about the middle of April, and should be set out in good ground, from sixteen inches to two feet apart, according to the size and kind. These, by being hoed often, will produce good cabbages in June.

Lettuce plants may be raised in the same manner, but they are much hardier if raised in cold beds. Capsicum, Egg Plant, and Tomatoe seeds should be sown in hot-beds the latter end of February, or early in March, to produce early plants for transplanting as the summer approaches.

FORWARDING CAULIFLOWER.—Those who may wish to secure a good supply of Early Cauliflower, should take great care of their plants through the winter: these should be transplanted into good ground in the month of March, and be protected by hand glasses. This would insure their heading before the approach of *extreme warm weather*, which is very injurious to Cauliflower. The fall plants are generally allowed to succeed best, but good Cauliflowers are sometimes raised from seed sown in a hot-bed towards the end of January, or early in February. When the plants thus raised are three or four inches high, they must be pricked out three or four inches apart into another bed, and by the month of April they will be fit to transplant into the open ground. These plants, if well managed, will succeed very well, and those that do not flower by June may make good heads in fall.

Having directed the attention of your readers to those articles which are of primary importance, I shall reserve the remainder for my next.

I remain, sir, yours, most respectfully,

T. BRIDGEMAN.

Bowery Road, January 21, 1833.

Hints and Suggestions to Farmers. By B

To the Editor of the New-York Farmer.

PRELIMINARY.—Now that the bustle of election, and the shouts of the victors, have somewhat subsided; our crops secured, and the bleak winds of December have driven the husbandman from his fields to his fireside; I propose, Mr. Editor, to devote an occasional evening to the entertainment, and I would fain hope to the improvement, of your agricultural readers, provided you are disposed to second my efforts by publishing what I may *chance* to write: For as yet I feel the wish, without being conscious of the ability, either to instruct or entertain them.

My essays shall never be tediously long. They may sometimes be practical, sometimes theoretical, and, perchance, sometimes political; but partaking neither of personal or party politics.

You have now my proposition, sir; and I shall consider you as according to it when you publish these preliminary remarks, and shall proceed without delay to fulfil my task. B.

December 12, 1832.

No. I.

The adapting Crops to the soil and market, are among the first considerations which present themselves to the discreet farmer. The same soil that will produce a profitable crop of one kind, may not repay the labor of cultivating another. The hills and mountains that make the richest pastures, may be ill adapted to the production of grain. And the same farm product that is profitable to the farmer in the vicinity of towns or navigable waters, may be wholly unprofitable in a district remote from them. In newly settled districts, where the opportunities of interchange and marketing are precarious, it becomes in a measure necessary that the farmer should adapt his husbandry to the immediate wants of his family, and produce his own bread, meat and clothing. Like causes often render it necessary that he should also be his own mechanic—as carpenter, shoemaker, &c. Distance, bad roads, and the want of means, leave him no other alternative. But in old settled districts, where the facilities of intercourse and trade are abundant, considerations of economy suggest a wiser course—that the farmer should apply his labors to such objects as will ensure him the best profit.

If we look to our fields and woods, we shall see that the natural products vary in different soils; that many trees and plants which spring up spontaneously in clayey grounds, are not to be found in those which are sandy, and *vice versa*; that some are peculiar to wet and others to dry grounds; and yet that there is a constant tendency to alternate or change—new species of trees and plants taking the place of other species which have been felled or have died. This is not the result of chance; but it is in accordance with a law of nature, which has endued plants with different habits and wants, and provided in different soils the food best suited to those habits and wants respectively. It is analogous to what we see in animals—almost every class of which, as the ox, the dog, the hog, &c. has its peculiar food.—Those who would profit from the works of infinite wisdom, therefore, will do well to study the aptness of their soils for particular crops, and to select those for staple culture which promise the best reward.

Heavy and cold grounds are found to be most congenial to wheat, oats, timothy, peas, &c.; light and warm soils to corn, barley, rye, and turnips; moist grounds to potatoes and more shallow rooted grasses; dry grounds to clovers, lucern, turnips and other tap-rooted plants. Yet all these crops fail, or are comparatively worthless, on lands habitually wet. Hence it is of the first importance, in order to obtain good tillage crops, or the fine nutritious grasses, upon wet lands, first thoroughly to drain, and, if flat, to ridge them. The farmer who undertakes to raise all kinds of crops upon one kind of soil, misapplies his labor. He had better confine himself to those which make the best return, sell the surplus, and buy with a part of the proceeds that for which his neighbor's soil is better adapted than his own. If his land will yield per acre 25 bushels of wheat, and only 25 of corn, he had better raise more wheat and buy his corn: for his corn costs him double what his wheat crop does, and is, withal, but a little more than half as valuable. If it will not produce good barley, let him forego the culture of that grain, and if his situation is near market, he should raise more grain, vegetables, and fruit, and less stock.

The expense of transporting his surplus produce to market, is an important consideration to the farmer. A bushel of wheat is worth to the grower in Chenango less than to the grower in Albany, by the expense of its transportation to market, which may be two shillings, or twenty-five per cent. A bullock, on the contrary, may be as profitably fattened by a farmer in Otsego as one in Westchester, the expense of driving him from Otsego to New-York being counterbalanced by the enhanced value of his feed, and of the land which produces it, in Westchester. Upon the banks of the Hudson, a bushel of potatoes is worth from two to four shillings; while their value, for market, in the interior, is scarcely half this; because they will not bear distant transportation, and find a precarious market at home. While, again, the wool, cheese, butter, cattle, horses, hogs and sheep, from the hills of Delaware or Lewis, from the cheapness of conveyance or transportation of these articles, and the relative cheapness of lands, are able to compete successfully in the market, with like products from the counties of Dutchess and Orange.

From this view of the subject it would seem to result, as a general rule, that farmers contiguous to markets or navigable waters will best consult their interests, by confining their labors so far as regards their marketable products to tillage crops, hay and fruits; and that it would comport with the policy of those more remote, to rely upon cattle and sheep husbandry as the main source of wealth. These suggestions derive force from the wise provisions of Providence, in adapting the valleys to grain, and the hills and mountains to the subsistence of flocks and herds. B.

LEVEL ROADS.—Agricultural writers say that a road perfectly level is not always the best for the horses. Slight and short alternations of rising and falling in the road are serviceable to the horses, provided the drivers are skilful. By these variations the lungs and muscles of the horses are relieved. This is explained on the principle that constant exercise of any of the muscular powers tends to exhaust. Consequently, on a road perfectly level, the same set of muscles are unremittedly exercised; but if there are some descents and ascents, these are either entirely or partially relieved and others brought into action.

PROGRESS OF AGRICULTURE IN GREAT BRITAIN.—Only a few centuries ago most of the lands of Great Britain lay in an unenclosed state, and a very considerable portion in commons. Now there is afforded a striking and pleasing contrast. What may we not expect even in the United States, in the course of fifty years.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, JANUARY 28, 1833.

[Communicated for the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of wind.	Clouds from what direction.	Weather and Remarks.
January 22..	6 a. m.	29.85	34	WNW	light		rainy and foggy
	10	.89	37	NE	..		foggy*
	2 p. m.	.93	38	..	..		
	6	.94	39	..	..	NE	fair—cloudy and mist
	10	.97	38	calm			cloudy—
" 23..	6 a. m.	30.03	37	NE	..		..
	10	.05	39	..	..		..
	2 p. m.	.05	41	..	..		..
	6	.03	40	..	..		
	10	.03	40	..	..		..
" 24..	6 a. m.	.00	36	..	moderate		..
	10	29.90	39	E	..		rainy
	2 p. m.	.82	40	NE	..		..
	6	.67	38	..	fresh		..
	10	.59	38	N by W	..		..
" 25..	6 a. m.	.26	36	W	..		—snow
	10	.25	37	..	moderate		sleet
	2 p. m.	.32	36	..	..		..
	6	.38	37	..	..		rain
	10	.41	37	..	fresh		fair—gale towards morning†
" 26..	6 a. m.	.74	28	WSW	strong	WSW	..
	10	.88	29	WNW	..	NW	..
	2 p. m.	.91	32	W	..	SW / W	.. —bank of clouds at SW
	6	.98	32	W by S	fresh	SW	.. —cirrus haze—cloudy
	10	30.05	31	..	moderate	..	cloudy
" 27..	6 a. m.	.20	30	..	..	WSW	..
	10	.19	32	W by S—SSW	light	WSW—brisk	.. —light fleecy haze
	2 p. m.	.10	36	S—SSE	..	..	fair
	6	.05	34	S by E	..	..	..
	10	.01	33	..	..	..	..
" 28..	6 a. m.	29.94	33	WSW	fresh	W	cloudy—fair
	10	30.02	36	W by S to NW	..	NW	fair—thick scuds from NW
	2 p. m.	.08	37	NW	..	WNW	..
	6	.19	31	..	..	..	..
	10	.25	26	..	moderate		..

* Weather clear in the northern part of Litchfield county, Ct.—wind southerly. Became cloudy at 3 p. m. at Farmington, Ct.——† Thick and hazy at New-Haven at 11 p. m. Became fair before morning.

FOREIGN INTELLIGENCE.

[*From the Baltimore American.*]

LATEST FROM THE PACIFIC.—The U. S. schooner Dolphin, Lieut. Commandant Long, sailed from Valparaiso for this, about the 1st inst. to touch at the intermediate ports. The U. S. sloop of war Falmouth, Capt. Gregory, sailed hence for Guayaquil, on the 11th inst., in consequence of advices that the troops had revolted near Quito, assassinated their officers, and were expected to march to Guayaquil, which which it was feared they would sack! So that it is probable another mushroom "Republic" has been numbered among those things that were, but are now "no more forever!" The Falmouth will touch at the intermediate ports on her return, and is expected to reach here by the middle of November.

The ship Ulysses is probably at this time in Valparaiso, direct from Guayaquil, and will leave the coast for home about the time the Lady Adams does; the Pagoda is still on the coast; the schooner Dash on her way hence for Valparaiso, and the brig Anawan, I believe, is sealing.

P. S.—25th, afternoon, intelligence has just been received, per mail, from Guayaquil, that the insurgent troops were near the city, and expected soon to enter it. The Baltimore ship Ulysses, as well as all other vessels in port, were embargoed, and foreigners were moving their families and effects on board. It is thought by many, however, that the city will be able to defend itself

LATER FROM EUROPE BY THE FLORIDA.—The Citadel has fallen! On the evening of Sunday the 23d ult., it capitulated, and the garrison marched from amidst its ruins on the following day to the glacis, and laid down their arms. How ineffectual and hopeless longer defence would have been, may be judged from the annexed account of the condition of the works. The picture of old Chassé seated in a vault, perhaps on a pile of shot, and signing, peradventure on a dismounted gun, the articles of capitulation, is one that his countrymen need not blush at. He has done all that man could do.

The deplorable condition in which Major de la Fontaine found the citadel, beggars all description. Not a house was left which could shelter the garrison; their ammunition or provisions were either destroyed, burnt, or blown up, and only sufficient food was left for one day's rations. The casemates or vaulted passages, were all knocked down; and Chassé himself was seated in a vault at a table, with every thing around him destroyed by the bombs. The garrison bore their misfortunes with great bravery and devotedness, and until Friday night not a murmur escaped their lips. On that night a deputation of the garrison waited on Chassé, and urged him to make a desperate sortie; and either to succeed in spiking the guns of the besiegers, or fall in the attempt. They complained that the fire of the enemy prevented them from standing to their guns, and that they preferred risking their lives on the field of battle, to being murdered by bombs coming from an enemy out of their sight, and against whom they could take no sure aim. Chassé felt the force of this remonstrance—termed a mutiny by the French and Belgians—and from that moment he seriously thought of a capitulation. To attempt a sortie he knew was worse than madness—to continue to depend on the citadel in its dilapidated state was impossible—and, having proved to the world the bravery of his men, and satisfied the honor of his country, he considered it no degradation to succumb to superior force.

The first interview the French parlementary had with Chassé, he was introduced with his eyes covered. The veteran, the instant he saw him, ordered the bandage to be removed. "We have no more secrets," said he, "admire the glorious works of your bombs—tell Marshal Gerard the exact situation of the Citadel."

On the other hand the French attack has been obviously conducted with consummate skill, and the object been effected with what—notwithstanding the lamentations of the cockney letter writers for the London press about the inglorious preference of showering bombs and springing mines to "gallantly mounting the breach,"—must be deemed a praiseworthy regard for human life.

We do not perceive that the surrender of the citadel—even though that of the Forts *Lillo* and *Liefkenshock*, below the city, and which command the navigation of the Scheldt, be included therein,—will advance the settlement of the question between Holland and Belgium. That must still be a subject of protocols, and possibly, when the Spring opens, and the season is more favorable for the movement of armies, of general war.

On this head, the following extracts from two Paris opposition papers, show how much yet remains to be done.

"As for the political results of the capitulation, observe the *Temps*, "the matter is already judged, We are to return to the reign of protocols. The Scheldt is not free, and the King of Holland has nothing to fear for his territory, which is protected by the *veto* of Europe. The taking of the Citadel will not shorten the negotiations—that event leaves the question in the same state. William will exchange a few forts for a territory advantageously situated—he has kept us at bay for a month—he has exalted the courage of Holland—his situation is as favorable as ever. If negotiations should be less protracted, it will be in consequence of the late disposition of Prussia, which has sacrificed a political to a commercial interest. In the theme presented by the Cabinet of Berlin, and adopted by Holland, there are the means of an arrangement which M. de Talleyrand is too adroit to neglect. All must henceforth depend upon the consent of William. Will the merchants of Amsterdam allow him to subscribe to the prosperity of Antwerp? We hope so, for we should have peace; but men do not usually act against their own interests. If Holland submits, it will be because she has no longer any means of resistance."

The Courrier Français contains the following remarks:—

"Chassé has surrendered the Citadel, the Tête de Flandre, and the forts dependent on it—that is to say, those of Lacoste, of Burghout, and of Saint Hilaire, or Isabelle. This is a great deal for the security of the town of Antwerp; it is nothing for the liberty of the Scheldt. The forts of Lillo and of Liefkenshoek, not being under the command of General Chassé, cannot be comprehended in the capitulation. Whilst they remain in the possession of the Dutch the navigation of the Scheldt will be at the mercy of the latter. Are the forts to be attacked, or is the army to return to France immediately? As it is in the nature of the Dutch and Belgian question to give rise to a new difficulty as soon as one has been removed, the question of the reciprocal evacuation of the territories presents itself to view at the present moment. Whilst the Dutch remain masters of the forts on the Scheldt, is the Convention of London executed? or is there reason for yielding the portion of Limburg and Luxemburg which is to be conceded to Holland? Will Prussia, as the Gazette of Augsburgh asserts, demand for herself and the German Confederation the possession of those territories as a guarantee for Holland? Now that the cannon has done its office, diplomacy will no doubt resume its influence, and will undertake to decide the question of the navigation of the Scheldt. It will soon be seen whether the taking of the Citadel has rendered the task more easy—whether William, frustrated of his hopes, dejected by the failure he has sustained, will be more tractable; or whether, in his wounded pride, he will assume more obstinacy in his pretensions, in order that it may be fully evident that hostilities have not advanced the affair, and in order that there may be grounds for saying to the French Government, 'What benefit have you derived from the blood which has been shed?'"

The free navigation of the Scheldt—the apportionment of the public debt—the use by Belgium of the interior waters of Holland—the partition of Limburg and Luxemburg—all these points are as much unsettled, however strictly laid down and decreed by the London protocols—as though the citadel had never been assailed. What the expectation of Belgium is may be gathered from the annexed paragraphs from a Brussels paper of 26th. An army, as proposed, of 110,000 men, out of a population of about four millions, does not favor the notion of a peaceful issue of the question, and if it be left to the arbitrament of Belgium and Holland alone, King William, we hazard little in saying, will soon again be in *his* good city of Brussels:

BRUSSELS, Dec. 25.—Project of a law relative to the amount of the army of 1833:—By the law of Dec. 30, 1831, the army for 1832 was to be 80,000 men on the war establishment, besides the moveable Civil Guard.

A reserve of 30,000 men was decreed on the 4th June last, making the whole effective force 110,000.

This is the amount proposed by the Governmet for 1833, besides the moveable Civic Guard. We cannot propose a reduction at a time when Holland, with half a population, has an army nearly as large as ours, and is making new levies.

Our troops are perfectly well organized, trained and disciplined, and the iment govenand the nation have only to prove the excellent spirit that animates them, and their desire soon to give proofs of their courage and attachment to the cause of their country. The prolonged state of war rendered fresh burdens necessary; but Belgium will make any sacrifice till we obtain what existing treaties assure to us. We shall keep our army on the war establishment till our political affairs are settled.

If the Government should have to repel any aggression, and require a further development of force,

it will find in the Chambers and in the nation means to increase our army as much as may be required for the maintenance of our independence. The budget on the new establishment is 73 millions of francs, being 48 millions (or four millions a month) more than on the peace establishment. To prevent the inconveniences of delay, the minister proposes a provisional vote of credit for 18,860,000 francs for the first quarter of 1833.—[Brussels papers, Dec. 26.]

Copy of General Chasse's Letter.

CITADEL OF ANTWERP, DEC. 23.

"*Marshal*—Believing that I have satisfied military honor in the defence of the place, the command of which was entrusted to me, I am desirous of putting an end to the further effusion of blood. In consequence, Marshal, I have the honor to inform you that I am disposed to evacuate the citadel with the forces under my command, and to treat with you for the surrender of this place, as well as for that of the Tête de Flandres, and the dependent Forts. To accomplish this end, I propose to you, Marshal, that the firing shall cease on both sides, during the course of this negociation. I have charged two superior officers to deliver this letter to your excellency. They are furnished with the instructions necessary to treat for the aforesaid evacuation. Accept, Marshal, the assurance of my high consideration.

"BARON CHASSE."

The crews of the different gunships were all saved, and the greater part landed at Zandflat. A captain and about 10 men were taken prisoners, and this afternoon brought into Berchem.

The city of Antwerp presents an aspect very different to what it did a few days since. The shops are open again, the gay merchandize is once more at the windows, and rolling into the town with its emigrant inhabitants.

Marshal Gerard, the Dukes of Orleans and Nemours, accompanied by a brilliant staff, paid a visit this morning to the prisoner Chassé, in his hovel, in the vault in the citadel. I think it would have been better taste had Gerard visited his prison with less ostentation.

The French have now only a few sentinels in the trenches who strictly prevent all but military men from inspecting the works.

An inventory is now being taken of all the materials in the citadel—under the direction of Generals Haxo and Niegre.

The following is from an Antwerp paper, the Journal du Commerce :—When the news of the capitulation was known, general joy prevailed in Antwerp. People met and congratulated each other without distinction of rank or party. The Dutch saved nothing from the citadel or its neighborhood. Early in the evening the gun boat No. 8, which it is said has on board things of value, as well as important decuments was obliged to surrender to the French garrison at Fort Philippe.

Towards 9 o'olock the Dutch set fire to 6 other gunboats moored under the Citadel ; they all became a prey to the flames ; 5 others were also sunk by them during the night ; the steamer Chassé was also blown up.

The Citadel offers a picture of extreme desolation —no building remains entire—all are totally destroyed or crippled by the projectiles of the besiegers—not a foot of ground but what is ploughed up by the balls and shells. One important building was destroyed, with all its content. It would appear that this loss determined the besieged to capitulate. It is clear they held out to the last extremity.

Gen. Chassé and his garrison are still in the Citadel, the approaches to which are forbidden to the curious by the French, who are in possession of the posts mentioned in the capitulation.

Marshal Gerard and the two Princes are in the town since the morning.

The inhabitants are returning in crowds. On every side the water destined to arrest the flames, in case of a bombardment, is thrown from the garret windows ; the apertures to the cellars are being uncovered ; in short, the town has acquired an activity to which it has lately been unaccustomed.

The Regency will meet this evening, to frame an address to the King, expressive of their wishes that the ramparts of the citadel on the side of the city may be demolished.

We are impatient to know the answer of William ; for, in case of refusal, the result of the stipulations is, that the garrison of the citadel shall be sent prisoners to France ; on the contrary, if he accept, they will be conducted to the frontiers, with all the honors of war.

PARIS, Dec. 25.—The capitulation of Gen. Chassé has excited much satisfaction here, it being felt on all sides that the losses of France were already sufficiently severe in an expedition as vain as it was groundless.

LONDON, Dec. 27—(Evening.)—The accounts from Antwerp contain some highly interesting details of the terms of the capitulation, and of the occurrences which took place up to one o'clock on Tuesday afternoon.

The garrison marched out to the quay of the Citadel on Monday afternoun, under the command of General Favango (Chassé himself being unable to move, from an attack of rheumatism,) and laid down their arms according to the terms agreed on They were then escorted back to their quarters where they will remain until the answer to the communication made to the Hague is received. If the King of Holland should refuse to surrender the other forts on the Scheldt, (of which the fullest expectation is entertained at Antwerp,) these gallant men are to be subjected to the treatment of prisoners of war, and confined at Menin and Ypres.

But the conduct of the French and Belgians with regard to the gun-boats stationed between the citadel and the Tete de Flandres deserves to be designated as atrocious. The gun-boats were in no degree dependent upon the citadel, nor were they under the orders of Gen. Chasse ; their Commander, Capt. Koopman, acted under instructions direct from his Sovereign. They were not, therefore, included in the capitulation of the Citadel, and actually kept from it. Nevorthelcss, in defiance of this distinct understanding, and in violation of Belgic neutrality, when Capt. Koopman, on the cessation of hostilities, thought proper to drop down the river with his little fleet, the Belgians, from some of the works on the banks, with the assistance of French artillery men, opened a heavy fire upon the gun-boats, and their gallant Commander, finding that it was next to impossible to effect a passage by the opposing batteries, blew up and sunk his vessels (with the exception of one which escaped,) rather than allow them to fall into the hands of either French or Belgians, by whom they might have been subsequently used against Forts Lillo and Liefkenshoek. This spirited conduct of the Dutch Commander provoked the disappointed feelings of the Belgians, who were base enough to pelt and hoot at him and his gallant comrades as they passed through the streets as prisoners of war. No doubt many of these valiant assailants of disarmed prisoners were the same pitiful scoundrels who threw down their arms and ran away when armed Dutchmen appeared before them. No wonder the French should put their feet on the necks of such wretches. The people who are capable of such conduct are surely unworthy to be raised to the station of an independent nation.

King Leopold, who arrived at Antwerp a short time after this disgraceful scene, was received with coolness by his ignoble people.

The French papers of Tuesday contain no articles of impertance beyond those relating to the fall of the Citadel of Antwerp.

The Funds did not advance materially on Tuesday ; notwithstanding the Antwerp news and the pacific character of the intelligence from Prussia, the effect which would have been produced being somewhat checked by the accounts from Vienna mentioning the intention of the Austrian Government to raise 32,000 men to complete the Hungarian regiments.

According to the London Globe of 25th ult. the majority of the reformers elected in England alone will be 257, which those elected from Scotland will, it is estimated, swell to 300.

Mr. Hume had been elected for Middlesex.

Sir John Dalrymple has been returned for the County of Edinburgh. This, says the Globe, is by far the greatest victory the Reformers of Scotland have obtained. The Dundases have at last been beaten, although the Duke of Buccleuch was at their head. They had been masters of the representation of the County for above sixty years—quite long enough for one family.

LONDON, Dec. 27, 2 o'clock.—A vessel is said to have arrived from Lisbon, which left on the 21st instant.

Consols have been done as high this morning as 85 7 8, buyers ; at present they are 85 3-4. In the foreign market the Dutch funds have improved to 4 1-4 1-2, a half per cent. higher than yesterday. In other securities nothing doing.

The following items were, among others, in type, before the preceding intelligence was received, but are nevertheless of interest :

The elections in England, according to the Courier and Enquirer, have mainly resulted in favor of the Grey ministry. We copy from that paper the following paragraphs on the subject :

A London ministerial paper thus estimates the complexion of the new House of Commons :

Reformers . .	255
Conservatives . .	77
Radicals . . .	9

At Birmingham, Mr. Thomas Attweed and Joshua Scholefield have been elected. There were five candidates, and Cobbett was the lowest on the poll. He is, however, returned, with another radical, for the new borough of Oldham. At Manchester, Mark Phillipps, Esq., and the Hon. C. Poulett Thomson, President of the Board of Trade, have been elected. At Preston, Hunt has been beaten—he struck his colors and left the place before the election closed ; the Stanley family appear to have regained their influence there, the Hon. H. Stanley being one of the members returned. Newark has again returned a nominee of the Duke of Newcastle ; and Sergeant Wilde has been again defeated in that place. Southampton, Bristol, Norwich, Hertford and Liverpool have elected Tory members ; the vote at the last mentioned place w —Ewart, 4858 ; Lord Sandon, 4154 ; Thorneley, 4013 ; Sir Howard Douglas, 3192 ; the two former are conservatives. Their opponents accuse them of bribery and threaten to contest the return.

In many places, serious riots took place whilst the elections were pending. At Sheffield, five men were shot by the military. At Walsall, near Birmingham, the military were called in, but did not act.

Mr. O'Connell and Mr. E. S. Ruthven have been elected by the City of Dublin. Clonmel, Cashel and and Tralee have all returned "Repealers." From the latter place Maurice O'Connell is returned.

A popular election at Edinburgh is entirely a novel spectacle. There Mr. Jeffrey and Mr. Abercromby are the successful candidates.

The Courier is in error as to the character of the Liverpool representatives. Mr. *Ewart* is a stanch Reformer, and *Lord Sandon* also voted for the Reform Bill, though not for the resolutions of *Lord Ebrington*, which, it may be remembered, were those which, by declaring the continued confidence of the House of Commons in the *Grey* Ministry after they had tendered their resignations, reinstated them in power. Mr. *Thornly*, it should also be stated, is a Reformer. He was opposed, we observe in the Liverpool papers, on account of his connection with the American trade.

King Leopold had resumed his old ministry.

Nothing new from Portugal.

The declaration of Prussia indicates the decision of that Court to confine hostilities to the capture of the citadel.

DECLARATION OF PRUSSIA,

MADE TO THE GERMAN DIET THE SIXTH OF DECEMBER 1832.

It is known to the Most Serene Diet that Great Britain and France have projected coercive measures against Holland, in order to put into execution the Twenty-four articles of the treaty of London, dated 12th Nov. 1831, in conformity to the modifications which have been made by ulterior negociations.

Although these coercive measures, according to the terms of a convention concluded between the two said powers, are limited to the capture of the citadel of Antwerp, it is impossible, in case of resistance on the part of Holland, to conceive such a state of things without war, and to look upon this war between Holland and the two Powers as, in the course of events, without extreme danger to the general peace of Europe.

Austria, Prussia, and Russia have not failed to take steps to oppose those measures of constraint against an independent State like Holland, at the same time that those three powers have refused to take part in or to approve of them.

However, as Great Britain and France, in their own position, and their relations with Belgium, think they have motives to persevere in their resolutions when once taken, the undersigned Representative of Prussia, as a consequence of the confidential communication made some time since to the Federal Legations has been authorized to be caused to be entered in the Protocol of the Diet that orders have been given by the King his master, that the 7th *corps d'armee*, which until now has been stationed in Westphalia, shall pass the Rhine, and take position betweeen Aix-la-Chapelle and Gueldres, in order to cover the frontiers on the right bank of the Meuse, opposite to Belgium and Holland; and at the same time that the 8th corps stationed on the Rhine shall serve as a *corps de reserve* in support of this force.

Information of the meaning of this measure of precaution has already been given to Great Britain and France by Prussia, to the effect that the Meuse shall not be passed, or the right bank of that river compromised in any way whatever, by the French, Dutch, or Belgian troops who may be at war on the subject of the citadel of Antwerp.

By virtue of superior orders the undersigned communicates the preceding for the information of the Diet.

(Signed) NAGLER.

Frankfort, December 6, 1832.

THE HAGUE, Dec. 18.—We have received the melancholy intelligence of the taking of Fort St. Laurent, by the French, after a brave defence of 15 days. While we regret this misfortune, we are happy to record a considerable advantage gained by our fleet in the Scheldt on the 13th. It silenced the batteries of Kruysschans (Fort Croix), after a heavy fire from both sides. Seven gun-boats have entered the breach in the dike at Lillo, to hinder the enemy from making themselves masters of the battery of Frederick Hendrick.

In the Second Chamber of the States General the Minister for Foreign Affairs communicated the continuation of the negotiations at London and Paris. Our Government had declared itself ready to accept the treaty proposed by Prussia with the modifications indicated, but that Lord Grey said the consideration of the treaty would only cause delay, and the citadel of Antwerp must be evacuated before any further negotiations could take place. A similar answer was given at Paris.

The Minister declared that the Netherlands desired peace as much as the other Powers, but such a peace as was consistent with its honor and interests. If we cannot obtain it, we must follow the glorious example of our ancestors, by defending our rights, freedom, and independence, and trust to the aid of Providence in the defence of our just cause. The Minister concluded by declaring that the Government was always ready to resume the negotiations in such a manner as became an independent state.

The President replied that the Chamber received the communication with respect, and requested him to assure His Majesty of the sentiments of the Chamber.

"AMSTERDAM, December 18.

"Accounts from Lillo of the 16th say, that on the 15th four merchantmen came down the river, but were ordered by the fleet to put back. The captain of one of them gave a melancholy account of the state of Antwerp. On the same day, the two eldest sons of the Prince of Orange had visited Lillo, accompanied by Gen. Constant, Col. Lucas, and another staff officer: the eldest was in uniform of a Colonel of Infantry, and the youngest in Naval uniform.

BRUSSELS, Dec. 18.—Yesterday the Deputies from the Chamber of Representatives with the Address had the honor of being received by his Majesty.—The Belgic Monarch, on his throne, gave the following answer to his loving Deputies:—

"Gentlemen,—I regret that circumstances which are known to you have placed it out of my power to receive earlier the expression of the sentiments of the Chamber of Representatives.

Time will, I hope, prove that in the negotiations to which we owe the important events which are passing, the true interest of the country have not ceased to be defended with zeal and firmness.

The Chamber may rely on my resolution to insure to the people, whose lot it is to be separated from ours, the guarantees which the treaty of the 15th of November has stipulated in favor of persons and property.

"Never, Gentlemen, has the union of the citizens, never has harmony between the powers of the State, been so necessary as at the present moment. My Government must find strength to surmount those obstacles which it is still destined to meet in its road. Such is the object which the interest of the country assigns to them."

LONDON, DEC. 23.—*City 2 o'clock.*—The latest private letters from Antwerp, bring news thence down to the afternoon of the 20th, when the batteries directed against bastion Toledo were nearly ready, and were expected to be opened at day break the next morning. The killed and wounded on the side of the French had been more since the 17th, than during the previous 8 or 10 days.

The city is without continental news of interest. The latest Paris letters, are of the 20th. The Money Market continued firm; and speculators awaited news of the fall of the citadel of Antwerp, for an advance of stock. Money in Paris was moderately abundant.

The stock market tends upwards. The speculators are sanguine of a continued improvement. The great Jew capitalists, however, appear not to be prominent in the speculative transactions, and the monied interest out of the stock market are the principal *Bulls*.

HOME AFFAIRS.

[*From the Vandalia Whig, Jan. 2.*]

The following *talk* was sent us by a gentleman at Rock Island, with a request that it might be inserted in the Whig. The accompanying letter states, that it was brought by a runner from Ke-o-kuck's camp on Racoon River, and is given as nearly as possible in the words of the chief himself. Its object seems to be to *correct* the stories of the *village criers* (editors) in Illinois. We are not informed to which of them the chief of the Sac nation refers; nor are we aware that *stories* have been told by any of them implicating the peaceful disposition of the *remnant* of this nation.

Racoon Fork of Desmoines River, Nov. 30, 1832.

TO THE GREAT CHIEF OF ILLINOIS.—My Father: I have been told by a trader that several of your village criers, (editors) have been circulating bad news, informing the whites that the Indians are preparing for war, and that we are dissatisfied.

My father, you was present when the tomahawk was buried, and assisted me to place it so deep, that it will never again be raised against your white children of Illinois.

My father, very few of that misguided band that entered Rock River last summer remain; you have humbled them by war, and have made them friendly by your generous conduct to them after they were defeated.

Myself and the greater part of the Sacs and Foxes, have firmly held you by the hand; we followed your advice, and did as you told us. My father, I take pity on those of my nation that you forgave, and never mention the disastors of last summer; I wish it to be forgotten.

I do not permit the criers of our village or camps to proclaim any bad news against the whites, not even the truth. Last fall, an old man, a Fox Indian, was hunting on an island a short distance below Rock River for turkeys, to carry to Fort Armstrong; he was killed by a white man.

My father, we passed it over: we have only spoken of it in whispers; our agent has not heard of it. We wish to live in friendship with the whites; if a white man comes to our camp or village, we give him a share of what we have to eat, a lodging if he wants it, and put him on the trail if he has lost it.

My father, advise the criers of your villages to tell the truth, respecting us, and assist in strengthening the chain of friendship, that your children may treat us friendly when they meet us; and be assured that we are friends, and have feelings as well as they have.

My father, this is all I have to say at present.

KE-O-KUCK, Chief of the Sac Nation.

APPOINTMENTS BY THE PRESIDENT,

By and with the advice and consent of the Senate.

Elbert Herring, of New York, to be Commissioner of Indian Affairs.

Henry L Ellsworth and John F. Schermerhorn, to be Commissioners to treat with Indians and for other purposes.

U. S. SENATOR.—We learn from Annapolis, that the Hon. Joseph Kent, formerly Governor of Maryland, was, on Thursday, elected Senator in Congress by the Legislature, for six years from the 4th of March next, at which time Gen. Smith's term of service expires.

CONGRESS—*Tuesday, January* 22.

In Senate, Mr. Grundy, from the Committee on the Post Office and Post Roads, to whom had been referrod the resolution of the second instant, on the subject of the reduction of the postage on letters, and particularly on that of abolishing the postage on newspapers, made an unfavorable report thereon.

On motion of Mr. Wilkins, the bill reported yesterday by the Committee on the Judiciary, entitled, an act further to provide for the collection of the revenue, be taken up on its second reading. Mr. Clay's motion to make it the special order of the day for Monday next, was carried without a division.

Mr. Calhoun then, after some eloquent remarks, submitted the following resolutions, which lie on the table one day, which were ordered to be priated for the use of the Senate.

Resolved, That the people of the several States composing these United States, are united as parties to a constitutional compact, to which the people of each State acceded as a separate and sovereign community, each binding itself by its own particular ratification; and that the Union, of which the said compact is the bond, is an Union *between the States* ratifying the same.

Resolved, That the people of the several States thus united by the constitutional compact, in forming that instrument, and in creating a General Government to carry into effect the objects for which it was formed, delegated to that Government, for that purpose, certain definite powers, to be exercised jointly, reserving at the same time, each State to itself, the residuary mass of powers to be exercised by its own separate Government; and that whenever the General Government assumes the exercise of powers not delegated by the compact, its acts are unauthorized, void, and of no effect; and that the said Government is not made the final judge of the powers delegated to it, since that would make its discretion, and not the constitution, the measure of its powers, but that, as in all other cases of compact among sovereign parties, without any common judge, each has a right to judge for itself, as well of the infraction, as of the mode and measure of redress.

Resolved, That the assertions, that the people of these United States, taken collectively, as individuals, are now, or ever have been, united on the principle of the social compact, and as such, are now formed into one nation, or people, or that they have ever been so united, in any one stage of their political existence; that the people of the several States, composing the Union, have not, as members thereof, retained their sovereignty; that the allegiance of their citizens has been transferred to the General Government; that they have parted with the right of punishing treason, through their respective State Governments; and that they have not the right of judging in the last resort, as to the extent of powers reserved, and of consequence, of those delegated; are not only without foundation in truth, but are contrary to the most certain and plain historical facts, and the clearest deductions of reason, and that all exercise of power on the part of the General Government, or any of its departments, deriving authority from such erroneous assumptions, must of necessity be unconstutional; must tend directly and inevitably to subvert the sovereignty of the States; to destroy the federal character of the Union; and to rear on its ruins a consolidated government, without coustitutional check, or limitation, and which must necessarily terminate in the loss of liberty itself.

On motion of Mr. Smith, the Senate then adjourned.

HOUSE OF REPRESENTATIVES.

Mr. Edward Everett, from the Committee on the Library, reported a bill to provide for the publication of the Documentary History of the American Revolution: which bill was read twice and committed.

The House then resumed the consideration of the resolutions submitted by Mr. Adams.

The House then resolved itself into a Committee of the Whole on the state of the Union, Mr. Wayne in the Chair, and took up the bill to reduce and otherwise alter the duties on imports.

Mr. Reed, of Massachusetts, who had possession of the floor, addressed the committee in opposition to the bill.

After Mr. Reed had concluded, Mr. Appleton rose and addressed the committee in opposition to the bill. After speaking some time, Mr. A. gave way to a motion to rise, which was negatived; the motion was subsequently resumed and carried, and the committee rose.

Mr. Speight moved that the House should again resolve itself into a Committee of the Whole on the state of the Union. He urged the necessity of proceeding with the bill, as the session was so far advanced.

Mr. Verplanck expressed the wish of the Committee of ways and Means, that the question now before the committee of the House should be no longer delayed. The eyes of the country were upon the House, and he hoped, with his colleague, that gentlemen would come prepared to go through with the

details of the bill. He moved that the House do now adjourn.

Mr. Burges said, anxious as the nation was for a decision upon the question he hoped that every gentleman would be afforded an oppertunity of being heard on the subject. He for one hoped to be heard upon it; and he hoped they were not to be urged on to a precipitate decision upon the question to-morrow, which might prevent himself, as well as others, from delivering their sentiments to the House.

Mr. Wilde expressed his anxiety, that a speedy decision should be come to on this important subject. He, as well as the gentleman from R. Island, wished to be heard upon it. If the member from Massachusetts would yield the floor, and the House consent to go into committee, he (Mr. W) would, late as it was, go into the subject,

Mr. Polk expressed his earnest wish that this subject should not be delayed; the eyes of the nation were upon them; if they did not act upon this measure at once, they would be prevented from doing so at all, at the present session. He was not anxious to precipitate this bill; he wished gentlemen to have an oppertunity of stating their objections to any or all of its details, and offer such amendments as they thought proper. But it must be evident that a protracted debate, of the general nature of that now carrying on, would defeat the bill. He hoped the committee would come to a determination to sit to-morrow, until they had arrived at some decision upon the bill.

Mr. Everett said, he had not made his motion for the rising of the committee, with any view of delaying the proceedings of the House upon the bill then before it. But his colleague was making a most important speech, and showing, by a statistical statement, that the bill brought down the revenue to an amount less than was generally supposed, by a million of dollars. Such was the state of the House, that although he was sitting within three feet of him, he could not hear the words as they dropped from his mouth, so as to form connected sentences. When the interests of one of the greatest cities in the Union were discussed, and the statements could not be heard a yard from the speaker, he thought it was proper to drop the discussion for the time. The House was not then in a fit temper for a prolonged discussion, and it was important that the question should be gone into with calmness and attention. A gentleman (Mr. Polk) had made a speech yesterday—a powerful and an important speech—such as, to use his own words, made gentlemen flutter; and the speeches of other gentlemen, which required calm and deliberate replies. Such a time as that he did not think proper to go into a consideration of a question of the deepest interest.

Mr. Carson rose, and after a few remarks, moved that the House do now adjourn.

Adjourned at half past four.

IN SENATE—*Wednesday, Jan.* 23.

The resolutions offered yesterday by Mr. Calhoun, were then taken up for consideration. The resolutions having been read, Mr. Mangum moved to postpone their further consideration till Monday.

Mr. Mangum withdrew his motion.

Mr. Grundy then moved the following as a substitute for the original resolutions:

Resolved, That by the Coustitution of the United States certain powers are delegated to the General Government, and those not delegated nor prohibited to the States, are reserved to the States respectively, or to the People.

2. Resolved, That one of the powers expressly granted by the Constitution to the General Government, and prohibited to the States, is that of laying duties on imports.

3. Resolved, That the power to lay imposts is by the Constitution wholly transferred from the State authorities to the General Government, without any reservation of power or right on the part of the State.

4. Resolved, That the Tariff Laws of 1828, and 1832, are exercises of the constitutional power possessed by the Congress of the United States, whatever various opinions may exist as to their policy and justice.

"5. Resolved, That an attempt on the part of a State to annul an act of Congress passed upon any subject exclusively confided by the Constitution to Congress, is an encroachment on the rights of the General Government.

"Resolved, That attempts to obstruct or prevent the execution of the several acts of Congress imposing duties on imports whether by Ordinances of Conventions, or Legislative enactments, are not warranted by the Constitution, and are dangerous to the political institutions of the country.

Mr. Grundy moved that the resolutions he had offered be printed.

Mr. Webster suggested that the motion, to be correct in point of form, should be, to postpone the whole subject till Monday, and, in the mean time, to print the amendment.

Mr. Mangum then varied his motion to embrace the two objects, and the motion for postponement was then agreed to.

The Senate then resumed the consideration of the bill to distribute, for a limited time, the proceeds of the public lands.

IN THE HOUSE OF REPRESENTATIVES several private bills were reported by the Standing Committees.—The resolutions heretofore offered by Mr. Adams for calling on the President and Secretary of the Treasury for information explanatory of their views relative to the reduction of duties expressed in the message and report; was taken up. Mr. Hoffman addressed the House upon the resolutions until the hour appropriated to morning business had nearly expired, when Mr. Kennon obtained the floor, but gave way to the order of the day. The House went into Committee of the Whole on the State of the Union, Mr. Wayne in the chair, upon the Tariff bill.—Mr. Appleton resumed his speech against the bill, which he concluded after speaking three hours.—Mr. H. Everett then addressed the Committee about two hours against the bill, when he gave way to a motion by Mr. W. B. Sheppard that the Committee rise, which was negatived—ayes 70, noes 77. Mr. E. then proceeded, and after speaking half an hour, concluded his remarks. Mr. Wilde then obtained the floor, and when our paper was made up, he was proceeding in his remarks in favor of the bill.

Thursday, Jan. 24.

The Senate proceedeed to the consideration of the bill to appropriate, for a limited time, the proceeds of the public lands, &c.

After various motions, the bill was reported as amended, and the amendments concurred in.

The bill was then ordered to be engrossed, and read a third time.

HOUSE OF REPRESENTATIVES.

The President communicated the Treaty with Naples, duly ratified.

The House resumed the consideration of the Resolutions submitted by Mr. John Quincy Adams, and after a debate thereon, a motion was made by Mr. Clay that the said resolutions do lie on the table; which was decided in the affirmative.

Friday, January 25—IN SENATE.

Mr. King, from the Committee on Commerce, reported the bill to explain the 8th section of the act to explain and amend the various acts imposing duties on imports, with an amendment.

Mr. Prentiss presented the resolutions passed by the Legislature of Vermont, in favor of the protective System, Internal Improvements, the Bank, &c., which were laid on the table, and ordered to be printed.

Mr. Hill presented resolutions passed by the Legislature of New Hampshire, of an opposite character, which were laid on the table and ordered to be printed.

Mr. Clayton rose for the purpose of submitting a resolution for the consideration of the Senate. The gentleman from South Carolina near him (Mr. Calhoun) had on Tuesday offered resolutions declaratory of the powers of the Government and the States, which had been made the order of the day for Monday next. To these resolutions, the gentleman from Tennessee (Mr. Grundy) had proposed amendments, which were printed, and were to be moved again whenever the original resolutions should be considered. These amendments, while they declare the several acts of Congress laying duties on imports to be constitutional, and deny the power of a single state to annul them, or *any other constitutional law*, tacitly yielded the whole doctrine of nullification, by the implied admission that any unconstitutional law may be judged of by the State in the last resort, and annulled by the same authority. He dissented from this doctrine—and if he had rightly considered the proposed amendments, it became his duty to place on record his own sentiments and that of the State he in part represented, on this most important subject, affirming the just powers of the Government, and repudiating the whole doctrine contended for and asserted in the resolutions of the gentleman from S. Carolina.—Differing on this subject, as he formerly had in debate here, from the gentleman from Tennessee, he knew no middle ground on which they could meet, no point of concession to which he should be willing to go, short of a full recognition of the true principles of the Constitution, as asserted in the resolution he was about to offer. He then submitted the following resolution, which was read, laid on the table, and ordered to be printed for the use of the Senate.

Resolved, That the power to amend the several acts of Congress imposing duties on imports or any other law of the United States, when assumed by a single State, is "incompatible with the existence of the Union, contradicted expressly by the letter of the Constitution, unauthorized by its spirit, inconsistent with every principle on which it was founded, and destructive of the great object for which it was formed;" that the people of these United States are for the purposes enumerated in the Constitution ONE PEOPLE AND A SINGLE NATION, having delegated full power to their common agents to preserve and defend their national interests for the purpose of attaining the great end of all government, the safety and happiness of the governed; that while the Constitution does provide for the interest and safety of all the States, it does not secure all the rights of independent sovereignty to any; that the allegiance of the people is rightfully due as it has been freely given to the General Government, to the extent of all the sovereign power expressly ceded to that Government by the Constitution; that the Supreme Court of the United States is the proper and only tribunal in the last resort for the decision of all cases in law and equity arising under the Constitution, the laws of the United States, and treaties made under their authority; that resistance to the laws founded on the inherent and inalienable right of all men to resist oppression is in its nature revolutionary and extra-constitutional—and that entertaining these views, the Senate of the United States, while willing to concede every thing to any honest difference of opinion which can be yielded consistently with the honor and interest of the nation, will not fail in the faithful discharge of its most solemn duty to support the Executive in the just administration of the Government, and clothe it with all constitutional power necessary to the faithful execution of the laws and the preservation of the Union.

Mr. C. gave notice that, whenever the gentleman from Tennessee should move his resolution, by way of amendment, the above would be moved as a substitute for a part of the proposed amendment.

The joint resolution passed by the House, in relation to the execution of the act for the relief of Invalid Pensioners, was read twice, and referred to the Committee on Pensions.

The bill appropriating, for a limited time, the proceeds of the public lands, &c., was read a third time. After some discussion—

The yeas and nays being ordered, on the passage of the bill, the question was then taken and decided as follows:

Yeas—Messrs. Bell, Chambers, Clay, Clayton, Dallas, Dickerson, Dudley, Ewing, Frelinghuysen, Foot, Hendricks, Holmes, Johnston, Knight, Poindexter, Prentiss, Robbins, Ruggles, Seymour, Silsbee, Sprague, Tomlinson, Waggaman, Wilkins—24.

Nays—Messrs. Benton, Black, Brown, Buckner, Calhoun, Forsyth, Grundy, Hill, Kane, King, Mangum, Miller, Moore, Rives, Robinson, Smith, Tipton, White, Wright—20.

So the bill was *passed*, and ordered to be sent to the House of Representatives for concurrence.

Mr. Kane moved that when the Senate adjourns, it adjourn to meet on Monday. Which was agreed to.

The Senate then adjourned.

HOUSE OF REPRESENTATIVES.

On motion of Mr. Pierson, it was

Resolved, That the Committee on Commerce be instructed to inquire into the expediency of establishing a port of entry at the city of Troy, on the river Hudson, in the State of New York, and that the memorial of the Corporation of said City herewith presented, be referred to the same Committee.

The said resolution was read, and on motion of Mr. Elisha Whittlesey, was laid on the table.

The following Message, in writing, was received from the President of the United States, by Mr. Donelson his Private Secretary, viz:—

WASHINGTON, Jan. 25. 1833.

To the Speaker of the House of Representatives.

I transmit herewith for the information of Congress, the report of the officer to whom was entrusted the inspection of the works for the improvement of the navigation of the Ohio and Mississippi Rivers.

ANDREW JACKSON.

It was ordered that the said message be referred to the Committee on Roads and Canals.

The House then again resolved itself into a Committee of the Whole on the state of the Union, Mr. Wayne in the Chair—and resumed the Tariff bill.

Correspondence of the Journal of Commerce.

WASHINGTON, SATURDAY, JAN. 26.

The *Senate* is not in session to day. They have taken a recess that they may be the better able to encounter the excitement and labor of next week.—The debate on Monday will attract more interest than any which ever took place in this country, since the formation of the Government. The bill reported from the Committee on the Judiciary, that is, the bill to provide for carrying into effect the revenue laws, is considered, on one side, as a bill to repeal the Constitution of the United States, and on the other, as a bill for securing and perpetuating that Constitution. Strangers are daily arriving in the city from a distance, and from the neighboring States, to witness these stirring proceedings.

In the *House of Representatives*, on motion of Mr. Thomas, of Louisiana, the privilege was given to the members of the House of admitting their friends upon the floor, during the remainder of the session. This is usual towards the close of every session.—The presence of a brilliant assemblage of ladies will not only serve to relieve the weariness and monotony of the long sittings, but to keep honorable members in good humor, and put them on their good behavior.

After some little business of no general interest, the House went into Committee of the Whole on the Tariff Bill—the question being on the amendment offered by Mr. Verplanck to Mr. Huntington's amendment.

Mr. Burges of Rhode Island took the floor, and spoke about two hours and a half in earnest and eloquent opposition to the details and principles of the bill, when being much exhausted, he gave way to a motion that the Committee rise, which motion was carried—59 to 49. A motion to adjourn was then carried—ayes 74, noes 62. One motive for the early adjournment was, to have the Hall ventilated and cleansed for the Sabbath. A week ago, I fixed upon this day, the 26th of January, as the day in which the Committee would probably report the Bill; but they are not nearer to the question now, than they were a week ago. The ardor for speaking is undiminished. There are a dozen members who are waiting an opportunity to take part in the discussion.

LEGISLATURE OF NEW YORK.

IN SENATE—*January* 23.

The Committee of the Whole passed the bill to amend the act incorporating the Rochester Canal and Rail-Road Company; and rose and reported on the bill to incorporate the Orleans County Bank.

IN ASSEMBLY.

Bills reported—By Mr. Downing, to incorporate the New-York Journeymen Shipwright and Caulker's Benevolent Society.

Notices of bills to be introduced:—

By Mr. Van Duzer, to extend the elective franchise to all persons performing military duty, who are not now entitled to vote.

By Mr. S. Stevens, to reduce the rate of interest to 6 per cent.

By Mr. W. Mills, making all judgments over five dollars a lien on real estate. [It is now confined to twenty-five dollars.]

The Committee of the Whole again took up the bill to construct the Chenango Canal.

Mr. Spencer suggested to the Chairman of the Canal Committee, (Mr. Stillwell) an alteration in phraseology.

Mr. Stilwell accepted the amendment.

Mr. Spencer moved to strike out the 7th section, which is as follows:—

"§ 7. If the funds appropriated in the preceding section shall not prove sufficient to pay the costs and expenses of the Chenango canal, at the time when the certificates of stock shall become due, then it shall be the duty of the commissioners of the canal fund to pay the same out of any moneys which may be on hand, belonging to the canal fund, which may not be pledged by the Constitution of this State."

Mr. Spencer spoke for a considerable time in support of his motion.

Mr. Stilwell replied to his arguments at some length.

Mr. Van Duzer also spoke, for nearly an hour, in answer to Mr. Spencer. He came to the conclusion that the said 7th section should not be erased.

The committee rose, and the House adjourned.

IN SENATE—*January* 24.

On motion of Mr. Van Schaick,

Resolved, That the petition of Augustus Porter and others be referred to the Canal Commissioners, to examine and report whether the proposed canal between Niagara Falls and the Erie canal, can be granted with perfect safety to the interests of the State.

IN ASSEMBLY.

The following message was received from the Governor:

To the Assembly: Gentlemen—I have received resolutions passed by the Legislatures of several of the States, containing requests to have them laid before the legislature of this State.

In compliance with such requests, I herewith transmit to you:

First, several resolutions of the Legislature of Pennsylvania, "Relative to the Union of the States, and the Constitution of the United States."

Second. Resolutions of the State of Georgia, approving of an opinion expressed by the General Assembly of the State of Tennessee, against the exercise of the power assumed by Congress, to appropriate money from the Treasury of the U. States, to be expended on works of internal improvements, and also denying that the General Government is possessed of such power.

Third. A Resolution of the legislature of Georgia, making application to Congress for calling a Convention of the people, to amend the Constitution of the United States in certain particulars, specifiee in the proceedings accompanying the said resolutions.

Fourrh. Resolutions of the State of South Carolina, recommending a Convention to consider and determine questions of disputed powers, which have arisent between the States of the Confederacy and the General Government. W. L. MARCY.

The message and documents were ordered printed, and refered to the committee on that part of the Governor's annual message relating to South Carolina affairs.

The Chenango Canal occupied the rest of the day.

IN ASSEMBLY.—*January* 25.

The Committee of the whole again took up the Chenango Canal bill, and after speaking some time, on various proposed amendments, the bill passed in Committee.

IN SENATE—*Saturday, Jan.* 26.

A report from the Canal Commissioners, on the petition of Augustus Porter, relative to a canal from Niagara Falls to the Erie Canal, was received, and referred to the Committee on Canals.

The bill to incorporate the Lake Ontario and St. Lawrence Steamboat Company, was read a third time and passed.

On motion of Mr. Tracy, the final question was taken on the bill to amend the act, incorporating the Rochester Canal and Railroad Company, and the bill was passed.

IN ASSEMBLY.

The question on agreeing with the report of the committee of the whole of yesterday, on the Chenango Canal bill, came up.

There were long debates, and several amendments were offered but no decision was had on them and of course not on the bill itself.

Monday, Jan. 28.—IN SENATE.

A report was received from the Attorney General in obedience to a resolution of the Senate relating to the exemption of certain corporations from taxation. The report concludes with the opinion, that the existing law does not exempt the real estate of companies from taxation.

ASSEMBLY.

Mr. Stilwell called for the consideration of the question, on agreeing with the report of the Committee on the Chenango Canal bill.

The question was on Mr. Spencer's amendment accepted by Mr. Van Duzer, in place of his amendment, viz. the 10th and 11th sections from the Crooked Lake Canal bill.

The motion to amend was lost, 54 to 54.

The Speaker decided that the motion was lost, inasmuch as a rule says, that, where there shall be a tie, the question shall be pronounced lost.

Mr. Livingston offered an amendment, that the loans for making this canal shall be payable at the discretion of the commissioners of the canal fund after 1845, or sooner, if the debt now charged on the canal revenues shall have been paid.

Mr. Livingston sustained the amendment, and Messrs. Stilwell, Spencer and Wager made some remarks.

The amendment of Mr. Livingston prevailed, 53 to 42.

The question then came up, on Mr. Spencer's substitute to the 7th section. He made some observations, but the House adjourned before a question was taken.

THE SENATE OF NEW YORK ON NULLIFICATION.—The Argus of yesterday morning says—

The joint committee of the Senate and Assembly, to whom the S. Carolina Ordinance and proceedings were referred, had their final meeting in the Senate chamber yesterday afternoon, and adopted a report, which we are informed is an able and very interesting document, and in all respects worthy of the character of the State and pertinent to the existing condition of our national affairs. The report will be made to the Senate this morning by Mr. Tallmadge, of the joint committee.

SOUTH CAROLINA.—The proceedings of the State Rights Party, at their great public meeting in Charleston on the 21st instant, are given at length in another column. They vapor as much as ever; but yet conclude to suspend, *for the present*, "*going to the death with Gen. Hamilton for his sugar!*" The passage of the bill reported in the Senate by the Judiciary Committee will, we apprehend, postpone the matter finally.

[*From the National Intelligencer of Tuesday.*]

MARYLAND SENATOR.—On *Friday* last, in joint meeting of the two Houses of the Legislature of Maryland, *Joseph Kent* was elected Senator of the United States, (not on *Wednesday*, as first stated.) The vote was, we learn from a traveller, nearly, if not exactly, as follows: for Gov. Kent, 61; for Gen. Smith 25.

FROM VIRGINIA, we learn that on Friday last the Governor of that State communicated to the Legislature, in a Message teeming with accusations against the General Government, the proposition from South Carolina for a Convention of the States to revise the Constitution; a very different thing from her Ordinance and Replevin Laws (by the way) had it been resorted to at first, but too late when mingled up with and made part and parcel of that batch of legislation.

LATER FROM VIRGINIA.—Private letters from Richmond, written on Saturday evening, inform us generally, that the Resolutions concerning the proceedings of South Carolina, &c., which passed the House of Delegates of Virginia, had also passed the Senate, with an amendment, for appointing a Commissioner to proceed to South Carolina, to request of that State a suspension for a time of the execution of her Ordinance, &c.; that the House of Delegates had *concurred* in this amendment; and that B. Watkins Leigh, Esq., being appointed the Commissioner (or Delegate) under this Resolution, had forthwith proceeded on his mission.

SUMMARY.

THE HUDSON RIVER.—During the past week, the steamboat Hercules, Capt. Vanderbilt, arrived from Poughkeepsie with Albany passengers. The river is closed as low down as Poughkeepsie, and though the Hercules encountered considerable ice between the latter place and Newburg, she performed the passage in six hours and forty-eight minutes, including the time occupied in stopping at Newburg.

HENRY HOKE, Esq. of this city, has been appointed aid-de-camp to His Excellency Governor Marcy, to fill the vacancy in the staff, occasioned by the resignation of Col. James L. Graham.

It is said, and we believe it, that the Government Express, which left *this city* a few days ago for Charleston, returned to this city on Wednesday, having compassed the distance between Washington and Charleston in forty-eight hours. That distance is, by the Post Office book, five hundred and forty-four miles.—[Nat. Int.]

FROM CHARLESTON.—By the brig Courier, Captain Brown, arrived last evening from Charleston, we have received Charleston papers to the 19th inst.

Gov. Hayne had issued a Proclamation, giving notice that the 31st inst. was recommended to be observed as a day of solemn fasting, humiliation and prayer, for imploring "the blessings of the Almighty upon the people of this State," &c.

The Bank of South Carolina had recovered the whole of the money of which it had been robbed.—[Cour. & Enq.]

KNOXVILLE, JAN. 16.—*Awful Calamity.*—On Saturday morning last about breakfast time, Mr. James Bell's tavern and dwelling house at Campbell Station was entirely consumed by fire; and what is most shocking to relate, a traveller who had been there sick for several days perished in the flames. The unfortunate victim, it appears, was in a state of mental derangement; and from circumstances, there appears to be scarcely a doubt but that he himself was the cause of the catastrophe, which in so awful a manner hurried him into eternity. We have not learnt his name.—[Reporter.]

A family residing upon the banks of the Findhorn, being lately in want of a gardener, a young man wrote to them making offer of his services; and after extolling his system of raising crops (upon which he said he was then engaged in writing a treatise), concluded his epistle by assuring them, that a "*large Celery*" was not so great an object with him as getting into a "*Pease-able*" family!!—[Caledonian Mercury.]

The great Mr. Stultz, tailor, in Clifford street, who retired to France a few years ago, and was created Baron Stultz, died on the 17th of November, at his estate called Aires, in the South of France, after an illness of nine days. This estate cost him upwards of 100,000*l.* (we believe 103,000*l.*) He had another large estate near Baden on the Rhine.—About a year ago the Baron sent the Emperor of Austria a present of 40,000*l.* to do with what he pleased, for which present he receive in return the Order of Maria Theresa, and the patent as Count Gothemburg. The Baron had great wealth in the bank at Vienna (Rothchild's.) His property, besides hese estates, exceeded 400,000*l.*—[Globe.]

Chinese and Scotch Music.—The Chinese scale (observes Dr. Burney) take it which way you wills is certainly very Scottish. He tells us that he wa, assured by Dr. Lind, who resided several years in China, that all the melodies he heard there bore a strong resemblance to the old Scotch tunes, and he further says that he was favored with twelve Chinese airs that were brought from China by Dr. Alexander Russel, all of which confirm the strong affinity between them and those of Scotland, by the omission of the 4th and 7th of the key. Rumeaux also mentions an old Chinese scale of six notes including the octave, preserved in numbers (their mode of musical notation) and according to his interpretation, they produce the very identical Scottish scale.

Splendid Bridal Ceremonial.—On Tuesday the 27th November, the marriage of Lord Lincoln, son of the Duke of Newcastle, and Lady Susan Hamilton, daughter of the Duke of Hamilton, was celebrated at Hamilton palace. From 12 to 15,000 persons, mostly from the town of Hamilton, assembled on the occasion. The Duke of Hamilton presented himself to them from the balcony of the palace, and was loudly cheered. The Duke of Newcastle also came into the balcony, but was not recognized. At 12 o'clock the bridal pair entered a splendid equipage to take them to Wishaw-house, a seat of the Duke of Hamilton, where they are to spend some time.—The appearance of the bride at the door was hailed with rapturous cheering. She wore a dress of figured satin covered with blond lace. On entering the carriage she bowed to the assembled multitude: the carriage was accompanied to Wishaw by 1000 horsemen, of the Duke of Hamilton's tenants. At Wishaw-house the bridal pair appeared at the door, and drank to the thousands who were assembled. The wedding was conducted in a truly Scottish style.—Ten riders started from the palace to ride the "brouse," on some of the finest horses that could be procured in Scotland. The race was an exceedingly keen one. The bride and bridegroom were met about half way to Wishaw, and stopped to "taste the bride's bottle," as is common in all Scottish country wedding. The whole road from Hamilton palace to Wishaw-house, was filled with spectators of every description, in carriages, gigs, on horseback, and on foot, and presented a very animated scene. The bride-cake made on the occasion weighed 100lb. [Glasgow Chronicle.]

Fire.—We regret to learn that the large Tavern house owned and kept by Maj. Anthony Fly, a Lumberville, in this county, was entirely consumed by fire, on Saturday evening last. The house was of frame, and the flames made such progress, that it was found impossible to save but a small portion of the furniture. The loss to Mr. Fly will be very great, having but recently purchased the property. The fire is supposed to have originated from a girder running into the chimney. We believe there was no injury done to the surrounding buildings or board yards.

We learn Mr. Fly's loss amounts to between two and three thousand dollars. His clothing, books, papers and accounts were likewise lost. Mr. Fly was about half a mile off when the 0re broke out, and before he could reach home the principal part of the house was in flames. The presence of mind which he possessed on reaching the spot, was remarkable. Recollecting that he had a keg of powder in the cellar in keeping for the Canal Contractors, he broke the cellar door open and succeeded in getting it out and placing it beyond the reach of fire.—[Doylestown (Pa.) Democrat.]

MONTREAL, JAN. 19.—The cold this morning was extremely intense. The thermometers, not in the most exposed situations, sunk to 25 below zero of Farenheit, while others, more under the influence of the northern blast towards the mountain, were as low as 28 under 0.

[*From the Pennsylvanian.*]

Suicide.—A middle aged man, of respectable appearance, whose name is said to be J. Strange, yesterday afternoon committed suicide at Swan's Bath House. He came to the establishment about one o'clock, and retired into one of the bathing apartments, for the purpose, as he stated, of taking a warm bath. He remained in the room so long that the attendent became alarmed, and on opening the door found him lying in the water dead, with his femoral artery completely severed by a cut with a penknife. It was stated that he was in the bath house on Saturday, and it is supposed with the same intention, as there were gashes on each arm, apparently inflicted a day or two since; and it is remembered that he let the water from the tub himself, and appeared feeble when departing. We are informed that he was a widower, with four children and a mother dependent upon his exertions. No reason is given for the rash act, and from the circumstances it may be attributed to mental alienation.

[*From the Philadelphia Chronicle.*]

A man and his wife were burnt to death about one o'clock on Sunday morning last, in Say's alley, running from Schuylkill 7th to 8th street, between Race and Vine. They had retired to rest, and were probably asleep when the house caught fire.

Attempt at Assassination.—On Saturday, Mr. Wm. H. Orchard, teacher of music, living at 145 Fulton street, Brooklyn, received a note of the following purport:—"Sir, you are requested to call this evening at Mrs. Williams', 2d door beyond the toll-gate, Fulton street, on the subject of music." Between 8 and 9 o'clock in the evening being on the way thither, and nearly opposite the Black Horse, Mr. Orchard was violently assaulted and knocked down by some unknown person, with whom he had a desperate scuffle of some minutes before he could free himself. During the struggle the villain discharged a pistol at the breast of Mr. O. which fortunately however did no further injury than merely tearing off the front part of his coat. One hundred dollars is offered for the apprehension of the assassin.—[Gazette.]

Feathering an Arrow.—We shall give a piece of information, for which we are persuaded nine tenths of our Toxophilite friends will be grateful—viz., the art and mystery of feathering an arrow, but very imperfectly understood even by many professed bowmakers. Feathers being provided (those from the turkey or goose are best), the first thing necessar round in a half circle, and when the central poin of this is applied to the steel of the arrow it will cling very closely, and you may press down the rest with the fingers. Run your eye along the work to ascertain if it be set on straight, and rectify any irregularity. Proceed in the same way with the other feathers; and, finally, place the arrows thus finished moderately near the fire to dry, which will be effected in a couple of hours.—[Sporting Maz.]

Madagascar.—The Skide, or oracle of the Madagasses, which is daily interrogated by them, consists in a very fine sand, which they put in a fan used for cleansing the rice, and make prayers over it; afterwards, they boil it several times, and, having traced an indistinct sort of writing upon it, they pretend to discover the past, present, and future, by these ceremonies. If sick or uneasy, or if they desire to be informed of the health of their friends who are absent at war, they instantly consult this divinity, and give implicit credence to the answers thus obtained. They never eat anything which the Skide has prohibited; the royal family especially, and the nobility, will not so much as touch the presents commonly brought by their subjects, till they are assured by the oracle, that no harm or danger will result from the use of them.

Paganini.—The following anecdote of Paganini is related in an article in the Court Journal:—"I happened," said Paganini, "to be at Naples some years ago, where I met with a violoncello player whom I had previously known, and known as one of the worst conceivable performers on that instrument; insomuch that the pain of listening to him amounted to a torture. The name of this tormentor was Nicolo Cindrelli. I one day took it into my head to offer him the means of escape from this predicament, by telling him that I would teach him to make his fortune, if he would pledge me his word to keep the secret, as I was anxious it should not be communicated to any one else. He passed me his word accordingly, and I went to work with him, and in three days instilled into him a totally different mode of managing his bow, &c. These three days made him a new man,—so great was the advancement he made and so entirely had his awkward, vulgar and rasping style disappeared. Of all this I said nothing to any one, until, on the occasion of his being about to perform at a concert, I made a point of going there before his arrival, and addressed myself to the assembled professors and amateurs, saying, 'Gentlemen, you have here in Naples the first violoncello player in the world!' They were instantly all eager to know whom I could possibly mean; but when I named to them Signor Cindrelli, a *laughing* even those who had been most highly delighted by her acting and singing on Wednesday; though she had already been pronounced incomparably superior, as a dramantic vocalist, to any other lady ever heard at any of our theatres. We except neither Mrs. Austin nor Mde. Feron. Each of these can do, occasionally, what the Signor Pedrotti should perhaps avoid attempting; but she excels them both in "*il cantar che nell anima si sente.*" In her acting too, she displayed tragic talent of the first order; convicing us that—in such a piece as Metastasio's *Demofoonte*—she would rival Miss Kemble's *Constance.* The whole opera, though well executed at first, was better done last night and will probably be still more excellent this evening.

NEW-YORK AMERICAN.

JANUARY 26, 28, 29, 30, 31, FEBRUARY 1—1833.

LITERARY NOTICES.

BUONAPARTE'S VOYAGE TO ST. HELENA, *from the Diary of Admiral Sir George Cockburn*; Boston, *Lilly, Wait, Colman & Holden.*—We have just received from the agent here of the publishers, J. Wiley, 22 Nassau street, the above little volume. It purports to be from the original MS. in the handwriting of the Private Secretary of the Admiral, which was communicated to the publishers by Capt. J. F. Brookhouse, of Salem. By the death of this Private Secretary, his connexions are represented as having become possessed of the MS. and thro' them it is communicated to the public. Another copy was sent to England, but, as is said in the preface to this publication, was suppressed, and will continue to be suppressed there. We have, however, seen noticed in the late London papers, as about appearing, under the sanction of Admiral Cockburn himself, a work similar to this now under notice.

Of the authenticity of the MS. the respectable Boston publishers have, we take it for granted, satisfied themselves—and the Diary certainly bears internal evidence of its being genuine—but we have no room for extracts to-day.

BOYS AND GIRLS FAMILY LIBRARY, vol. VI., N. Y.—The Harpers have dedicated this volume of the amusing and instructive collection they are publishing under the above title, to Mrs. Hofland's well known and much read tale of "The Son of a Genius." It is one that will continue to be read, as new generations arise.

NORTHANGER ABBEY, by *Miss Austin.* In 2 vols. *Carey & Lea.*—Entertaining rather than interesting, and though equally well written, wanting much of the character and spirit which distinguish Miss Austin's other novels, Northanger Abbey still de-

serves to be a favorite. The moral of the story is, —for one must always wring a moral out of a story —to show how the warm affection of a simple minded and pure heart, aided by a face only tolerably pretty, can fix the attachment of a highly cultivated man with enough of the fastidious and the satirical in his disposition to make him apparently a most difficult conquest. The doctrine is a good one, and as, according to Miss Austin's showing, it seems to be founded upon nature, it is well it should be broadly disseminated among the rising generation. A belief that freedom from affectation and want of pretension of every kind, makes even an ordinary looking and ordinary-minded girl attractive to a man of sense and refinement, would have a prodigious effect in simplifying manners, and bringing them consequently to the true standard of elegance. We doubt, however, whether Miss Austin's book, though it has been written for twenty years, has done much towards reforming the world in these respects. Affectation, though not as distinguishing a characteristic of mankind as cooking—(*Man*—a cooking animal.—Philos. Dic.)—is still sufficiently part and parcel of human nature to cling to it, through all its improvements. Still there is such a total change for the better, between our days and those of our grandfathers, in manners, and those of the fair sex, especially, that we are surprized that a popular writer, who has enjoyed opportunities of observing the best society, should have fallen into such gross misrepresentations as those contained in the following extract from a late fashionable publication :—

Gaining the hearts of your sex is generally attempted by a particular manner of carrying themselves with familiarity. Fanny has a dancing walk, and keeps time in her ordinary gait. Sue, her sister, who is unwilling to interrupt her conquests, comes into the room before her with a familiar run. Rosa takes advantage of the approach of the winter, and has introduced a very pretty shiver; closing up her shoulders, and shrinking as she moves. All that are in this mode carry their fans between both hands before them. Rosa herself, who is author of this air, adds the pretty run to it; and has also, when she is in very good humor, a taking familiarity in throwing herself into the lowest ottoman in the room, and letting her corded petticoats fall with a lucky decency about her. If you have observed what pretty carcases are carried off at the end of a song at the Opera, it will give you a notion how Rosa plumps into a chair. Here's a little country girl that's very cunning, that makes her use of being young and unbred, and outdoes the ensnarers who are almost twice her age. The air that she takes is to come into company after a walk, and is very successfully out of breath upon occasion. Her mother is in the secret, and calls her romp, and then looks round to see what young men admire her.

Now, gentle reader, if you have never marked the "dancing walk" in Broadway, or witnessed this "very pretty shiver" round a stove at the Opera, or detected in short any of those "ensnaring" airs, among your fair acquaintance, which the writer of the above so rudely attributes to his— do not be angry with us for betraying you into attaching a moment's weight, to a criticism on manners, which was, in fact written by *Addison* more than century ago, and is here given from the Spectator, verbatim, with the single alteration of substituting the favorite names of modern Magazine writers for the Chloes and Sylvias which might else have betrayed the essayist of Queen Anne's time It is grievous to think, not only that there is nothing new in the world, but that old things, in their old shapes, are for ever coming up again, to deceive us with appearances of novelty. The queer little walk, which the Spectator hit off so inimitably a hundred years since, has been considered by many an invention belonging only to the present day: and in all chronological tables of the fashions, it is set down as originating in the same year when *tounures* came into vogue. The shiver of the shoulders again is made in the same authentic records to bear date about the time when gigots attained to their greatest perfection, and slipping from the shoulders began to occupy a neutral ground anywhere between the elbows and the neck. But the sophists and pretenders in these matters are now thrown completely out by the quotation we have given above; and we have but little doubt, but that, exploring the proper sources of information, it might be shown, that not only the Will Honeycombs of Queen Anne's day, and the Pelhams of ours, are exposed to the same artillery of charms, manœuvred by their fair enemies in precisely the same manner—but, that the bloods and gallants of Cæsar's time (who was himself, according to Cato, a great beau, and a dandy when young,) were circumvented and overcome with exactly the same weapons. And thus, while the world waxes and wanes, grows old, and is renewed, the empire of woman is the only one which not only survives every commotion, but is prolonged by the same means; and notwithstanding all the clever demonstrations of the judicious Miss Austin of the effect of simplicity of manners upon the hearts of our sex, the same little affected ways that, while they provoked the satire of Addison, won the world from Antony, will be used with success, and criticised unavailingly, by the Cleopatras and Spectators of a thousand years hence. *

Works of Lord Byron; complete in one volume; Geo. Dearborn, N. Y.—Though the 'aroma' imparted by age is not yet theirs, yet the writings of Byron have already come to us in so many editions, like wine which has been matured by repeated voyages, that they seem almost to have passed through the ordeal of time, and proved their body as well as flavor. The present edition, while it is the most complete, is one of the finest, if not the finest, that has ever appeared either in Europe or this country. It is arranged with judgment, is very elegantly stereotyped, and is "got up" altogether in a style of excellence, which, if not new in this country, has at least been hitherto confined to Boston. They, therefore, who would possess themselves of the complete works of the first poet of the age—or perhaps of any age except that which produced Shakspeare—can now secure a favorite author in a dress worthy of his name and his fame. The work is accompanied by an unpretending but well written memoir of the poet's life, a very fine engraving of West's portrait by Gimbre & Dick, and an exceedingly interesting autograph of the celebrated passage in Childe Harold—

> From peak to peak the rattling crags among,
> Leaps the live thunder;

—a stanza which is dashed off in a style so wild and singular as to bear out the assertion made by Moore that it was written in the midst of the storm it describes.

Popular as Byron is as a poet throughout the world—he is worshipped in Germany—we are inclined to believe that there must be some dash of poetry, some stray dripping of Castalia in one's composition, to appreciate him fully; a fact which will readily account for his being more idolized by the enthusiastic countrymen of Goëthe than by any other people. A relish for Milton, for instance, majestic and almost godlike as he is, may, and indeed is, only to be acquired by study; you dwell again and again upon his pages—we are speaking only of Paradise lost—till your soul catches something of his high intellectual spirit, and then a world of light opens upon you, the power of seeing and estimating which you have gained from long lingering upon its threshold.

And so of Pope, whose comprehensive wit, far-reaching thought, versality and delicacy of imagination is frequently overlooked in the terseness of expression and music of language that first delights us in his nicely balanced numbers; while a due estimation of all these excellences will come at last to him who dwells long enough upon his writings. But love of Byron is love at sight. It springs, if it springs at all, when the eye first meets his pages. You may analyze and regulate it afterwards, but you feel his influence before you can explain the causes of his power; and though the critic may tell you whence it springs, you need not *his* aid to point out his beauties, and confirm your admiration of them. The poet has struck some chord in your own heart, and while it does vibrate, you care not how or why, but you know that it does. Poetry, the language of passion, has a thousand dialects; and you understand as if intuitively the one he speaks, though perhaps ignorant of all the rest. But we do not consider this peculiar turn of mind or feeling—call it what you will—which leads us to so catch at once and delight in the characteristics of particular writings, as at all confined to Byron; and two poets who differ as much from him as he does from Pope and Milton might be adduced, to sustain the theory, if it be such, that we uphold. The English Wordsworth and our own Bryant are read with as different a spirit by different people as if they changed their natures in different hands. The first of these, with some of the most exquisite poetry in any language, has unfortunately indulged so much in what, by the reviewers of "the Lake poets," is termed "twaddle." that it may yet be difficult for years so to break the namby-pamby associations connected with his late writings, that full justice may be done to his earlier works. But the last, though he has as yet published too little to test the permanence of the chaste spirit which, in his present writings, never loses itself in delicacy refined to effeminacy, or simplicity softened into simpletonity, (as is the case in those of the English poet,) is perhaps the best instance that could be adduced of a writer, whose beauties are so spiritual, that in many of his pieces the chastened fire which pervades them is unseen and unfelt, except by minds of a delicate fibre; by those in which, if any strings are wanting, the ones which respond to the minutest touch of nature are not among the missing. Poetry, like music, may in some shape be enjoyed by all. Every heart seems to thrill naturally to the sound of drum and trumpet; and every one, by assiduously cultivating his ear, may have the faculty actually drilled into him, of receiving pleasure from the harmony of a well executed overture. But, while nature alone can impart that yielding up of one's soul to a simple melody which the rudest bosoms will frequently betray, there are few hearts which will waken alike to the cadence of a flute, or the peal of a clarion. And so with poetry and with poets—The national anthem, the martial ballad, and tale of bold adventure, the wild lays of Scott, or the war-songs of Körner, will stir up even the most sluggish natures. The thorough-wrought and finished poetic combinations of Milton and Pope will delight and still further refine those already cultivated: but the simple inspiration of Burns, and the native elegance of Campbell, though often united in Bryant, are thrown away upon half of those who have access to the works of either. You may create a taste for art, but you cannot kindle one for nature: and the modest poems of our countryman, while the range of their influence is narrower than that of the noble British Bard, will as often be called spiritless and inspid, as his are pronounced extravagant and unnatural, by those who have no gentle sympathies to be touched by the poetic soul of the one, and by those who have no ruined thoughts, no deserted channels of passion and feeling, to be warmed, filled, and quickened, by the overwhelming genius of the other. *

CONTINENTAL LITERATURE.—It has often been mat ter of surprize, as well as regret, to us, that some mode was not devised, by which persons, desirous of seeing, as they appear, the new publications of the Continental press, especially that of France and Germany, might associate and procure these books, in common, at a comparatively moderate expense—a sort of foreign book club, in short, and confined to books in foreign languages. We learn with pleasure that the prospectus of such a plan is now left at the Foreign Bookstore of *Charles De Behr*, in Broadway, where persons desirous of aiding it are asked to call.

The Floridian informs us "that a work will be shortly put to press, from the pen of Col. White, our Delegate in Congress, entitled, 'Sketches of East and West Florida and Louisiana,' containing a history of the discovery and settlement of the Provinces, and the correspondence between the British Ministry and the Governors of the Floridas, between the year 1753 and and 1781, together with various papers never before published, touching the history, condition and value of these Territories to the States; to which will be added an appendix, showing the extent and value of the agricultural productions of the West Indies, and especially of the Island of Cuba, showing what portion of these articles might be grown and manufactured in the territory of Florida." We shall look to the appearance of this work with much anxiety, believing that it will be a valuable acquisition to the historical literature of our country.—[Pensacola Gazette.]

POETRY.

There is a mingled simplicity and pathos in the annexed lines which will make their way to the heart:—

NEW YEAR'S EVE.—*By Alfred Tennyson.*

If you're waking call me early, call me early, mother dear,
For I would see the sun rise upon the glad New Year.
It is the last New Year that I shall ever see,
Then ye may lay me low i' the mould, and think no more of me.

To-night I saw the sun set: he set and left behind
The good old year, the dear old time, and all my peace of mind:
And the New Year's coming up, mother, but I shall never see
The may upon the blackthorn, the leaf upon the tree.

Last May we made a crown of flowers: we had a merry day,
Beneath the hawthorn on the green they made me Queen of May:
And we danced about the Maypole, and in the hazel-copse,
Till Charles's wain came out above the tall white chimney-tops.

There's not a flower on all the hills: the frost is on the pane:
I only wish to live till the snowdrops come again:
I wish the snow would melt and the sun come out on high—
I long to see a flower so before the day I die.

The building rook 'ill caw from the windy, tall elm tree,
And the tufted plover pipe along the fallow lea,
And the swallow 'ill come back again with summer o'er the wave.
But I shall lie alone, mother, within the mouldering grave.

Upon the chancel-casement, and upon that grave of mine
In the early early morning the summer sun 'ill shine,
Before the red cock crows from the farm upon the hill,
When you are warm asleep, mother, and all the world is still.

When the flowers come again, mother, beneath the waning light
Ye'll never see me more in the long gray fields at night;
When from the dry dark world the summer airs blow cool,
On the oatgrass and the swordgrass, and the bulrush in the pool.

Ye'll bury me, my mother, just beneath the hawthorn shade,
And ye'll come sometimes and see me where I am lowly laid.
I shall not forget ye, mother, I shall hear ye when ye pass,
With your feet above my head in the long and pleasant grass.

I have been wild and wayward, but ye'll forgive me now;
Ye'll kiss me, my own mother, upon my cheek and brow;
Nay—nay, ye must not weep, nor let your grief be wild,
Ye should not fret for me, mother, ye have another child.

If I can I'll come again, mother, from out my resting place;
Tho' ye'll not see me, mother, I shall look upon your face;
Tho' I cannot speak a word, I shall hearken what ye say;
And be often—often with you when ye think I'm far away.

Good night, good night, when I've said good night for evermore,
And ye see me carried out from the threshold of the door;
Don't let Effie come to see me till my grave be growing green:
She'll be a better child to you than ever I have been.

She'll find my garden tools upon the granary floor:
Let her take 'em: they are hers: I shall never garden more:
But tell her, when I'm gone, to train the rosebush that I set,
About the parlor window and the box of mignonette.

Good night, sweet mother: call me when it begins to dawn.
All night I lie awake, but I fall asleep at morn:
But I would see the sun rise upon the glad New Year,
So, if you're waking call me, call me early, mother dear.

[*From the Book of Beauty*]

THE LOVE LETTER.

She holds the letter in her eager hands,
'Tis from the absent one—most loved—most dear—
Yet statue-like and motionless she stands,
Nor dares to seek her fate—she looks in fear
On the mute herald ready to bestow
The tidings of her weal, or of her woe!

Perchance, that long-wished record may contain
The chilling courtesies of studied art,
Or speak in friendship's calm and tranquil strain,
Mocking the feelings of her fervent heart,
Perchance, O! thought of bliss! it may discover
The hopes—the fears—the wishes of a lover!

See, she unfolds the page, and trembling reads—
From her dark eye one tear of feeling gushes,
The sudden sun-beam of a smile succeeds,
And now a radiant hope of burning blushes
O'ershades her cheek and brow—her doubts are past,
Love crowns her truth and tenderness at last.

Fain would she silent sit, and meditate
O'er her new bliss through evening's placid hours,
But gay assembled guests her presence wait,
And she must braid her ebon hair with flowers,
And join the throng—with hurried step she flies,
Her soul's sweet triumph sparkling in her eyes.

Within the gathered folds of snowy gauze,
That veil her bosom, rests the magic scroll,
And those who greet her entrance with applause,
Guess not the talisman whose dear control
Teaches each look, each accent, to express
The trilling sense of new found happiness.

She wakes her lute's soft harmony, and sings—
Oh! once her very songs appeared a token
Of her deep grief, and she would touch the strings
To tales of hapless love, and fond hearts broken:
But now her lays are all of hope and youth,
Of joyous ecstacy, and changeless truth.

Her guests depart. The moon beams clear and bright,
O'er her still chamber cast their radiance even,
And kneeling in the pale and silvery light,
She breathes her grateful orisons to Heaven,
Then seeks her couch, O! may repose impart
Fair visions to her young and happy heart.

☞ AMERICAN RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS, VOLUME 2d.—This Journal was commenced on the 1st of January, 1832, with a *single* subscriber. It has now just commenced its second volume, with near *one thousand* subscribers, scattered in every state in the Union. It was at first devoted to the subject of *Railroads, Internal Improvements*, and news of the day; but it now embraces in addition to the above, a department for *Agriculture*, and another for the *Mechanic Arts*, wherein will be found an account of most new Inventions. Such, indeed, has been the encouragement held out, that the publisher is induced to extend its usefulness by making it, not only a journal of the progress of *Internal Improvements* by means of *Railroads, Canals, and Steam Carriages*, in our own country and in Europe, but also by making it a Journal of mechanical improvements and inventions, and thereby collecting a greater variety of useful information, relating to such subjects, into a smaller compass, and at a less cost, than can be found *in any other* publication now before the public. Arrangements have been made to give engravings or illustrations of such new inventions as may be deemed important to the community. *The American Railroad Journal and Advocate of Internal Improvements*, will also contain much interesting and useful *literary* and *news* reading, with such public documents as may be deemed worth recording for future reference. It will also contain *Meteorological* Tables, kept at Montreal, L. C., New-York city, Charleston, S. C. together with others kept at intermediate places. We have also the promise of one kept on Red River, in Louisiana; also, Prices of Stocks, Sales of Real Estate, Prices Current and Bank Note List, &c. &c.

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☞ NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE. *Whole number, Vol. 6.* NEW SERIES, VOLUME FIRST. No. 1, for January 1833, is just published. This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture, Horticulture*, &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to disseminate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

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35 Wall street, New-York.

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Palmyra, Wayne County, New-York,
1st mo. 22, 1833. J30 tf

☞ The following gentlemen have consented to act as Agents for this Journal; also, for the NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE—the MECHANICS' MAGAZINE—and the AMERICAN PLOUGH-BOY:

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Auburn, N. Y.—Edwin Reeve, Ass't. P. M.
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Seneca Falls, N. Y.—Chas. L. Hopkins, Es q.
Geneva, N. Y.—Col. Bogert.
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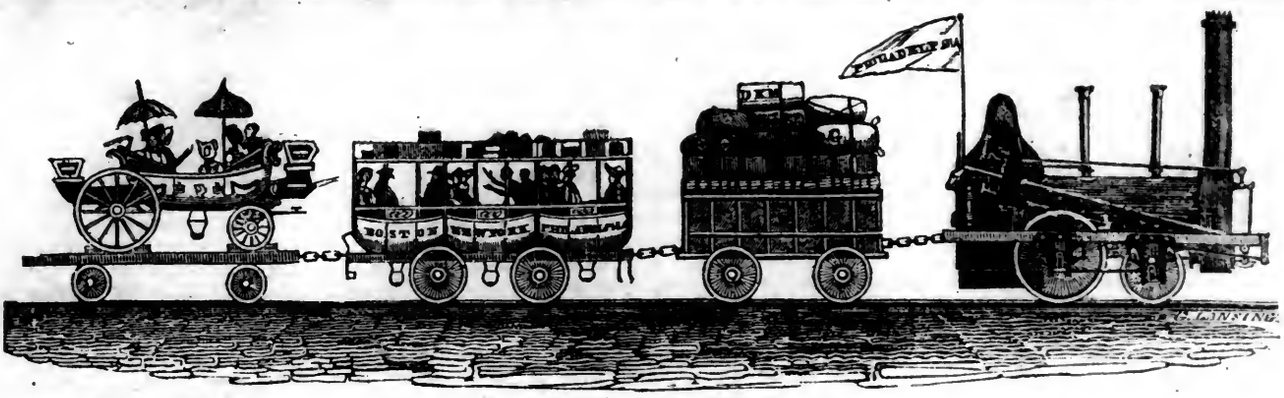
Burlington, Vt.—H. B. Stacy, Esq.
Keene, N. H.—J. W. Prentis.
Killingworth, Conn.—Friend Whittlesey.

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, January 30, 1833.

ASHES—			
Pot, 1st sort 1832. 100 lbs	—	a	4 40
Pearl.....do	4 60	a	4 70
BEES WAX—			
White.....lb	40	a	—
Yellow.....do	18	a	20
BREAD—			
Navy.....lb	—	a	2½
Pilot.....do	—	a	5
Crackers.....do	6½	a	6¾
BRISTLES—			
Russia, first sort ....lb	60	a	70
Do. common...do	20	a	40
American.....do	15	a	50
CANDLES—			
Mould, tallow .....lb	12	a	13
Dipped .....do	10½	a	11½
Sperm.....do	33	a	35
CLOVERSEED ..lb	10	a	11
COAL—			
Liverpool ....chaldron	—	a	9 50
Scotch .....do	8 00	a	—
Sidney & Bridgeport..do	9 00	a	—
Albion.....do	8 00	a	—
Virginia.....do	8 00	a	9 00
Anthracite .....ton	8 00	a	9 00
COCOA—			
Caraccas .....lb	—	a	—
Trinidad.....do	7	a	8
St. Domingo.....do	—	a	7
Para .....do	—	a	6
COFFEE—			
Cuba .....lb	11	a	13½
Brazil.....do	13	a	13½
Porto Rico.....do	13	a	14½
Laguira .....do	12	a	13
St. Domingo.....do	11½	a	12
Java .....do	12½	a	14
Jamaica.....do	12	a	13
COPPER—			
Sheathing .....lb	—	a	24
Pig .....do	—	a	17
Old .....do	17	a	18
Bolt .....do	24	a	—
CORDAGE—			
Foreign.....lb	9½	a	11½
American .....cwt	10½	a	11
CORKS—			
Velvet.....gross	40	a	50
Common .....do	20	a	30
Phial .....do	5	a	11
COTTON—			
New Orleans.....lb	11	a	13
Upland.....do	10	a	11½
Alabama .....do	10	a	12½
Tennessee.....do	10	a	11
COTTON BAGGING—			
Hemp.....yd	13	a	20
Flax .....do	11	a	15
Do. American .....do	19	a	21
DIAPERS—			
Russia, broad....piece	2 15	a	2 20
DUCK			
Russia, U. X. ... } bolt	13 00	a	19 00
Do. Bruisguins }			
Do. Zutoff & Konop'ff	17 00	a	—
Do. 3d quality ..do	15 50	a	16 00
Do. inferior.....do	12 50	a	15 00
German, Half .....do	11 00	a	12 00
Holland, A. A. .....do	24 00	a	25 00
Ravens .....do	8 50	a	9 75
Amer. Joy's, all flax.. No. 1 a 8.....do	15 50	a	12 00
Do. Phenix Mills, Paterson, flax, No. 1a3.	16 00	a	12 00
Do. cotton, Paterson, No. 1 a 10 .....yd	26	a	39
DYE WOODS—			
Braziletto .....ton	30 00	a	—
Camwood .....do	70 00	a	—
Fustic, Cuba.....do	21 00	a	25 00
Do. Tampico....do	23 00	a	24 00
Do. Maine.....do	21 00	a	21 00
Logwood, Camp'hy..do	27 00	a	28 00
Do. St. Dom...do	20 00	a	21 00
Do. Jamaica...do	—	a	17 00
Nicaragua, Bonaire..do	—	a	40 00
Do. Coro....do	—	a	45 00
Do. Hache ..do	—	a	70 00
FEATHERS—			
Live, Foreign .....lb	14	a	20
Do. American .....do	38	a	40
FISH—			
Dry Cod .....cwt	2 75	a	3 00
Scale .....do	2 00	a	—
Pickled Cod.....brl	4 25	a	—
Do. Salmon.....do	12 50	a	13 50
Smoked do. .....lb	14	a	15
Mackerel No. 1 ....brl	6 50	a	6 62½
Do. No. 2.....do	4 50	a	4 62½
Do. No. 3.....do	3 00	a	3 25
Shad, Conn. Mess....do	8 25	a	9 50
Do. Bucksport, do. .do	—	a	6 25
Herrings.....do	2 25	a	2 50
Do. Smoked...box	40	a	90
FLAX—			
Russia .....lb	—	a	—
American.....do	9	a	11
FLAXSEED—			
Clean.....cask	—	a	—
Rough.....do	14 00	a	14 52
FLOUR AND MEAL—			
New York superfine..brl	5 87½	a	—
Troy.....do	6 00	a	6 12½
Western Canal .....do	6 00	a	6 37½
Philadelphia .....do	5 87½	a	6 00
Baltimore Howard st.do	6 25	a	—
Richmond City Mills.do	—	a	6 75
Do. Country...do	5 87½	a	6 00
Alexandria & Georgetown.....do	6 00	a	6 37½
Fredericksburg .....do	—	a	5 87½
Petersburg .....do	5 87½	a	—
Scratched and fine..do	6 62½	a	—
Fine middlings.....do	5 50	a	—
Rye Flour .....brl	4 00	a	4 12½
Indian Meal .....do	3 75	a	—
Do. ..... hhd	17 00	a	—
FRUIT—			
Raisins, Malaga..cask	—	a	8 00
Do. bloom ....box	—	a	2 50
Do. muscatel ..do	—	a	2 76
Do. bunch .....do	—	a	3 00
Do. Smyrna....lb	7	a	—
Currants, Zante ....do	8½	a	9
Almonds, soft shell..do	14	a	15
Do. shelled....do	—	a	16
Figs, Smyrna .....do	4	a	7
Filberts .....do	3½	a	5
Prunes Bordeaux ..do	22	a	23
Tamarinds .....do	3½	a	4
GRAIN—			
Wheat, North riv..bshl	—	a	—
Do. Genesee ....do	—	a	—
Do. Virginia ....do	1 15	a	1 18
Do. N. Carolina..do	1 15	a	1 17
Rye, Northern .....do	85	a	87
Corn, Yellow, North..do	70	a	75
Do. White, L. I. & N. J..	07	a	—
Do. Southern.....do	65	a	70
Barley, North river..do	75	a	—
Oats, South & North..do	44	a	50
Peas, white dry..7 bshls	9 00	a	10 00
Do. black eyed....do	80	a	85
Beans.....do	9 00	a	11 00
HEMP—			
Russia.....ton	190 00	a	210 00
Manilla .....do	210 00	a	212 50
Sisal.....do	—	a	—
American dew-rot....do	130 00	a	150 00
Yarns, Kentucky ....lb	—	a	—
HIDES—			
La Plata & R. Grande..lb	14	a	14½
Brazil .....do	11	a	12
Do. wet salted ...do	7	a	6½
Oronoco .....do	12½	a	13
W. India & Southern..do	10	a	12
S. A. Horse.....piece	1 15	a	1 30
HOPS—			
First sort, 1832.....lb	33	a	35
Second sort, do.....do	—	a	—
HORNS—			
Ox.....100	5 00	a	20 00
INDIGO—			
Bengal .....lb	1 00	a	1 50
Manilla .....do	75	a	1 12½
Caraccas.....do	1 12½	a	1 30
Guatemala .....do	75	a	1 25
IRON—			
Pig, Engl. & Scotch..ton	40 00	a	45 00
Do. American .....do	30 00	a	40 00
Bar, do. .....do	80 00	a	100 00
Do. Russia, P. S. L..do	95 00	a	—
Do. new Sable..do	83 00	a	85 00
Do. Swedes.....do	82 00	a	83 00
Do. English ass'td..do	75 00	a	—
Sheet, English.....cwt	6 75	a	8 00
Peru I. Co. flat & sq..ton	—	a	—
Do. round....do	—	a	—
Hoop, American....cwt	5 50	a	7 00
Do. English.....do	6 62½	a	6 75
LEAD			
Pig .....lb	—	a	5½
Bar.....do	6	a	—
Sheet .....do	6½	a	6¾
Old .....do	—	a	4½
LEATHER—			
Sole, Oak tanned....lb	20	a	27
Do. Hemlock.....do	17	a	20
Do. damaged.....do	14	a	16
Upper, dressed.....side	75	a	2 75
Do. undressed...do	1 00	a	2 50
LUMBER—			
Boards, N. R.....M ft	—	a	15 00
Do. East'n Pine..do	16 00	a	17 00
Do. Albany do ..pce	16	a	17
Plank, Georgia do. M ft	25 00	a	35 00
Staves, W. O. pipe..do	60 00	a	62 00
Do. do hhd....do	45 00	a	47 00
Do. do brl.....do	30 00	a	31 00
Do. R. O. hhd....do	30 00	a	32 00
Heading W. O. .....do	45 00	a	47 00
Hoops.....do	25 00	a	—
Scantling, Pine .....do	15 00	a	16 00
Do. Oak .....do	20 00	a	25 00
Timber, Oak.....sq. ft	20	a	25
Do. Geo. Yell. Pine..do	25	a	30
Shingles, Cypress. M ft	4 25	a	4 50
Do. Pine..bundle	—	a	—
MOLASSES—			
Martinique & Guad. gal	—	a	27
English Islands.....do	28	a	—
Havana & Matanzas..do	25	a	21
Trinidad de Cuba....do	—	a	—
New Orleans.....do	29	a	30
NAILS—			
Cut, 4d to 40d.....lb	—	a	6
Cut, 3d.....do	6½	a	7½
Cut, 2d .....do	8	a	8½
Wrought .....do	10	a	16½
NAVAL STORES—			
Tar.....brl	—	a	2 00
Pitch.....do	1 50	a	1 62½
Rosin .....do	1 12½	a	1 62½
Turpentine Wilm. soft..	—	a	2 75
Do. North Co. do..do	—	a	2 37½
Spirits Turpentine..gall	40	a	42
OILS—			
Florence 30 flasks..box	5 00	a	—
French 12 bottles..bskt	3 00	a	4 00
Olive.....gallon	1 12½	a	—
Linseed, American..do	85	a	—
Do. Eng. & Dutch..do	87½	a	90
Whale.....do	21	a	—
Do. refined.....do	40	a	—
Sperm, Summer....do	90	a	92
Do. Winter.....do	1 05	a	—
Liver, Straits.....brl	15 00	a	15 50
Do. Shore & Bank..do	14 00	a	—
OSNABURGS...yd	9½	a	10
PROVISIONS—			
Beef, Mess.....brl	8 50	a	9 00
Do. Prime.....do	5 37½	a	5 75
Do. Cargo.....do	4 50	a	4 75
Butter, N. Y. Dairy..lb	14	a	18
Do. Shipping....do	12	a	13
Do. Philadelphia.do	—	a	12
Hog's Lard .....lb	8	a	9½
Pork, Mess.....do	12 50	a	14 00
Do. Prime.....do	11 00	a	11 75
Do. Cargo.....do	10 00	a	10 50
Cheese, American...lb	6½	a	8½
Hams, Virginia.....do	10	a	11
Do. Northern....do	9	a	10
RAGS—			
Foreign .....do	4	a	8½
Country .....do	3	a	6
RICE.....100 lb	3 00	a	3 50
SALT—			
Turk's Island.....bshl	40	a	42
Isle of May.....do	38	a	40
St. Ubes .....do	—	a	—
Cadiz .....do	—	a	35
Lisbon .....do	—	a	—
Liverpool ground ...do	35	a	36
Do. blown ....do	—	a	—
Do. sack do. ..sack	1 94	a	2 00
SALTPETRE—			
Refined.....lb	—	a	9
Crude E. I.....do	—	a	7½
SHEETINGS—			
Russia, white ....piece	10 50	a	11 00
Do. brown.....do	8 75	a	9 00
SOAP—			
New-York, Brown ..lb	5	a	6
Castile .....do	11	a	12
SPELTER .....lb	—	a	3½
SPICES—			
Cassia, in mats ..... lb	22	a	23
Cloves .....do	50	a	—
Ginger, race.....do	9	a	9½
Do. ground .....do	6	a	11
Nutmegs .....do	1 50	a	1 55
Pepper.....do	16	a	—
Pimento, Jam.....do	14	a	14½
SPIRITS—			
Brandy, Ot. D. & Co. gal	—	a	1 69
Do. Rochelle...do	1 50	a	1 56
Do. Bordeaux ..do	1 30	a	1 40
Rum, Jam. 4th proof..do	95	a	1 12
Do. St. Croix, 3d do..do	95	a	1 00
Do. Wind Isl. 3d do.do	85	a	—
Do. N. Orl'ns, 1st do..do	—	a	—
Do. N. Eng. 1st do..do	36	a	—
Gin, Holl'd, Meder Swan	1 20	a	1 25
Do. Hour Glass..do	—	a	1 15
Do. Pine Apple..do	—	a	1 19
Do. Imperial ...do	1 12½	a	1 15
Do. Country .....do	36	a	44
Whiskey, Rye.....do	31	a	32
Cider Brandy .....do	40	a	42
STEEL—			
German .....lb	10½	a	12½
English .....do	11	a	14
Trieste, in boxes....do	5	a	5½
American.....do	5½	a	6
SUGARS—			
British Island.....lb	7½	a	8½
St. Croix .....do	8	a	9½
New Orleans .....do	5	a	6½
Havana, White.....do	9	a	10½
Do. Brown.....do	7	a	8
Do. Muscovado.do	6½	a	7
Porto Rico .....do	7½	a	8
Brazil, White.....do	7	a	8½
Do. Brown .....do	6	a	7½
Manilla, Brown.....do	—	a	7
Lump.....do	12	a	13
Loaf .....do	14	a	17
SUMAC—			
Sicily.....ton	70 00	a	75 00
Trieste.....do	30 00	a	40 00
American .....do	27 00	a	30 00
TEAS—			
Imperial .....do	1 00	a	1 31
Gunpowder.....do	1 00	a	1 31
Hyson.....do	75	a	1 12
Young Hyson ....do	70	a	1 06
Hyson Skin.....do	50	a	75
Souchong .....do	36	a	62
Bohea .....do	21	a	24
TIMOTH. SEED .tce	—	a	17 00
TOBACCO—			
Richmond & Peterab.do	3	a	6
North Carolina .....do	3	a	4
Kentucky .....do	3	a	5½
Cuba.....do	9	a	18
St. Domingo.....do	9	a	15
Manufactured, No. 1..do	10	a	12
Do. No. 2..do	7	a	—
Do. No. 3..do	6	a	7
Ladies' Twist.....do	14	a	16
Cavendish.....do	8	a	30
WINES—			
Madeira.....gall	1 12½	a	2 25
Sherry .....do	80	a	2 00
Canary, Cogswell's..do	95	a	1 37½
Teneriffe L. P.....do	70	a	1 00
Do. Cargo.....do	60	a	65
Malaga, dry .....do	40	a	45
Do. sweet.....do	43	a	46
Claret.....cask	14 00	a	25 00
Do. in bottles ....doz	2 25	a	6 00
Port.....gall	70	a	1 87½
Lisbon .....do	80	a	1 25
Marseilles Madeira..do	40	a	48
Catalonia.....do	30	a	40
WOOL—			
Merino, Am. fleece...lb	40	a	55
Do. pulled..do	37	a	40
Common .....do	30	a	35
Pulled, spinning ....do	35	a	37½
Lambs, 1st quality ..do	40	a	42
Do. 2d quality...do	27	a	29
Do. 3d quality...do	20	a	23



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CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 9, 1833.

The following—to our Journal—very appropriate "Lay of the Locomotive," is taken from the second number of the KNICKERBACKER. We doubt not it was originally intended for this Journal, but by some unaccountable slip of the pen, (for poetical, as well as other pens, do slip sometimes,) it received another direction.

[*From the Knickerbacker for February.*]

THE LAY OF THE LOCOMOTIVE.

BY HENRY J. FINN.

"He tells you flatly what his mind is."—*Shakspeare.*

With the swiftness of the swallow, and the color of the crow,
I'am *train'd* up, like a child, in the way that I should go;
From the time that I had motion, from the first day to the *last* day,
Alas! I've been *consuming*, for each day has been a *fast*-day.

And rapidly I sail along, with full and flowing sheet
Of iron, like a fire-ship, though *single* I'am the *fleet*;
By physical, nor moral force, I navigate my gap-lane,
And, as I'am seldom half-seas-over, never have a *Chaplain*.

And through my *pipe*, as thus I glide, full many puffs I've whiff'd,
I'am never dull, for I've by heart the works complete of *Swift*.
To legal lore I'm partial, and it never ends in *smoke*,
I've oft run over *Black-stone*, while my head was full *Coke*.

In many matters *mercantile*, I often very *far* go,
For though I have not my *freight*, I always make a *car*-go.
An artist, too—my customers all *sit* without see-sawing,
And when I take their *likenesses*, they all approve my *drawing*.

No *bull*-y e'er could *cow* me, in a *gas*-conading caper,
Few characters, you must confess, are more inclined to *vapor*;
Each driver thinks, of every age more wonders do in *this* teem,
For all the folks are fast adopting *my* steam now for *his* team;
The lean and lankey cattle look as though they'd run their *races*,
They'ill quit mortality's last *stage*, and leave behind no *traces*,
Then sweat to follow in my *train*, and for that promise votive,
What *stronger* motive can you have, than one good *locomotive*.

HOT AIR BLAST.—It is stated that the weekly consumption of coals at the Clyde Iron Works has been reduced, by the adoption of the heated blast, from 1800 to 600 tons; while, at the same time, a greater quantity of iron has been manufactured.

[*From the Baltimore Gazette.*]

STEAM CARRIAGES ON TURNPIKES.—The many trials during the last few years, in England, to run steam carriages upon turnpike roads, having excited the public attention, and these trials, or experiments, (for as yet they are nothing more,) having induced in some persons a belief that steam can be advantageously introduced as a power of conveyance upon the turnpike roads of this country, it may be proper to give the subject some reflection.

Perhaps in no country in the world are turnpike roads better made, or kept in a higher state of repair, than in England: nor is there any other in which the steam engine and steam works are better understood or more easily and cheaply constructed and used: at the same time, animal power there is comparatively dear, population redundant, and mechanical talents extremely active. It is, consequently, in that country, if any where, that we should look for experiments of this kind; and especially since the full establishment of the success of the Locomotive Steam Engine upon railways. The application of the steam engine to conveyance upon land, as well as upon water, had been a favorite idea with men of mechanical genius, from the time that engine had first been successfully applied in the propulsion of machinery. Accordingly, near the commencement of the present century, experiments began to be made with steamboats and steam carriages simultaneously, or nearly so. Nearly 20 years from the commencement of the first trial served to bring the steamboat into full and profitable use—and a period of equal duration elapsed between the first attempt and the successful running of the Locomotive Engine upon railways. The complete success, however, of this Engine in the rapid conveyance of persons as well as of commodities, was not attained till about five years more had elapsed in the year 1828. Since that date the astonishing results with the Locomotive Engine, in its speed and effective power of traction, have been brilliant and demonstrative.

The principal difficulties that so long retarded the perfecting of steamboats were, in the first place, the enormous resistances to be overcome, especially at considerable velocities or in the stemming of currents, since the opposing force of the water to the progress of the boat was as the squares of the relative velocities, and even rather greater than in this proportion. In the second place, the then state of the steam engine was not only cumbrous, but it was such as to require a much greater quantity of fuel than at present. With these two difficulties to contend against, added to want of experience with regard to the best form for the boat, and the proper description and arrangement of the paddle-wheels, the boat was at first loaded down with the machinery, furnace and fixtures whilst her motion through the water was extremely slow. Through the efforts of science and great perseverance, however, these difficulties have been so far overcome, that the steamboat now ranks amongst the most splendid achievements of man.

It was at first perceived that the resistance to the motion of carriages upon an iron railway was very small, and that this resistance did not augment by an increase of velocity. It was the same in any given distance along the railway, let the movement be fast or slow; for this is the law of friction; and there was no fluid or other substance on the smooth, hard, even surface of the iron rail to be displaced by, and to lessen the momentum of the wheels. Here was an important principle, altogether unlike that which opposed the motion of a boat through the water, and to this principle, added to the smallness of the friction, or resistance attainable on railways, is owing the possibility and utility of the Locomotive Engine; and it will be to the full developement of this principle that we shall yet be indebted for a fleetness of locomotion hitherto unpractised, and of which, doubtless, if the facts could now be enunciated, they would be received with unbelief and startling dissent.

But whilst the buoyancy of the water and the spaciousness of the vessel allowed comparatively slight improvements in the arrangement and working of the steam engine, as sufficient to enable it soon to approach the point of practical efficiency in the steamboat, it was quite otherwise in the steam carriage, where, in comparison, the space to be occupied by the engine, water, and fuel, was necessarily of very limited extent, whilst in point of weight their limits were likewise narrowly described. It was not easy to reduce the steam engine to the requisite portability at the same time that it should be capable of generating and working off steam enough to make it sufficiently powerful and fleet.

Of all the different kinds of steam engines that had been invented and used, but one only

united the attributes applicable to locomotion upon land, viz: *The high-pressure non-condensing engine*, and this, for the greatest economy, to be worked *expansively*.

This kind of engine, from its simplicity, lightness, power, and lesser quantity of water and fuel, was soon found to be peculiarly well adapted to the purpose; nevertheless, it has been only within the last three or four years that the makers of Locomotive Engines have been enabled to combine in them the requisite qualities of lightness and efficiency, that have given eclat to this splendid application of steam, and the locomotive engine has now become as permanently established as any labor-saving machine. Yet it is believed that further improvements will be made, especially as to the generation of steam, which will probably be immediately followed by the rejection of the tender carriage as an appendage then no longer necessary. This step by enabling the engine to draw one or two additional cars, freighted with persons or goods, would alone increase its useful effects perhaps 12½ per cent.

Whilst the steam engine has proved eminently successful in its application to the propelling of boats upon the rivers, the bays, and the lakes, and of the Locomotive carriage and its train upon railways, still this potent prime mover has not yet been established as a motive power upon turnpike roads, notwithstanding that the unceasing anxiety of ingenious mechanics and inventors have been directed to this object for nearly half a century, or at least for more than thirty years. Very many carriages, perhaps some hundreds of them, have been contrived and constructed, and many of them for a time manœuvred on good roads, for limited distances, and with very little or no loads; at times performing feats of notoriety, and then disappearing with the evanescence of a meteor, whilst in one or two instances passengers have been for a short time conveyed by them on a very level good road, as between Cheltenham and Gloucester, and on some of the roads near London, but as yet it has been impracticable to continue them in operation any considerable length of time, *under the most favorable circumstances of road*, partly on account of the frequent failures in their machinery: so that, much as we may regret it, the fact appears to be, that after an unprofitable expenditure of perhaps more than £100,000 in the whole, *there is not yet a single line of Steam Carriages usefully and permanently established on any turnpike road in England.*

The failure in the success of steam carriages upon turnpike roads, however, is mainly attributable to the resistance which these roads offer to the progress of the wheels. Unlike railroads in this respect, turnpike roads oppose a resistance that increases as the velocity increases. Upon the latter the carriage wheels pass upon a yielding surface of more or less firmness and tenacity, but which nevertheless gives way to their action. Semi-fluid substances, dust, earth, sand, gravel, and broken stone, are wrought up and displaced with a greater force, and a greater quantity of motion is imparted to them by the wheels at each increase of velocity, and hence the higher the velocity the greater is the absolute loss of momentum in the carriage. But whatever may be our speculations as to the cause, or its intensity, the fact has been well established in a series of careful experiments made upon the Holyhead turnpike road in England. This is an excellent road, both in point of construction and repair, made under the direction and according to the plan of Thos. Telford, Engineer, and frequently styled the Telford road. A set of experiments were made under the direction of this Engineer, in order to ascertain the traction at different velocities with a stage coach weighing, exclusive of seven passengers, 18 cwt.—The trials were at the respective velocities of 6, 8, and 10 miles per hour, on each of five different pieces of road, ascending at the rate of 1 in 20, 1 in 26, 1 in 30, 1 in 40, 1 in 600, respectively, and the results of the traction at the different velocities in passing up these ascents are given as follows, viz:

Rate of ascent.	Force required in pounds at 6 miles.	at 8 miles.	at 10 miles.
1 in 20	268	296	318
1 in 26	213	219	225
1 in 30	165	196	200
1 in 40	160	166	172
1 in 600	111	120	128

Thus it is proved that the force of traction on a turnpike road varies with the velocity; that is to say, the force required to pass over one mile, or any given distance, at the rate of 10 miles per hour is greater than that required to pass with the same load an equal distance at 8 miles per hour, and the resistance on an equal space at 8 miles per hour is greater than it is at 6 miles per hour; so that the resistances upon turnpike roads are not as on railways directly as the spaces passed over, let the velocities be what they may; nor are they as the squares of the velocities, as is the case with boats moving in water. On the contrary, the resistance upon turnpike roads appears to have a ratio in a manner intermediate between those which occur upon railways and in navigation.

There appears a remarkable uniformity in the increase of resistance from 6 to 8, and from 8 to 10 miles per hour; so much so, that we infer the augmentation to be directly as the increase of velocity. The experiment on the ascent of 1 in 30, whilst it also shows an increase of resistance, appears to depart from the condition of uniformity observable in all the other instances, but this is readily accounted for on the probable supposition that at 6 miles per hour the wheels did not pursue the same track as in the trials at 8 and 10 miles.

Now the resistance to traction in these experiments, as well as in all cases where a carriage is made to pass up an ascending line of road, is the sum of three different and distinct forces, that is to say, 1st, The friction caused by attrition at the axles; 2d, The resistance at the peripheries of the wheels on the road; and 3d, The gravity overcome in the ascent. The 1st and 3d of these forces are as the distances passed over, and would be the same whether the velocity was 6, 8, or 10 miles per hour, or any other velocity. Therefore the augmentation at the increase of velocity was owing to the nature of the 2d source of resistance. The true reason why this element should so increase, we have probably already given.

Analising these results by separating the three forces, and adopting the clear indications of an increase of resistance at the road-surface in proportion directly as the increase of velocity, it will be found that the resistance from the 2d source will be twice as great at 12½ as at 2½ miles per hour. Now, as the road may be worse or better, the resistance at the road-surface in a velocity of 2½ miles per hour will be greater or less, and so likewise will the augmentation of this particular resistance at higher velocities be greater or less in the same ratio, the effect being proportionate to the cause; consequently, whatever may be the initial resistance at the road-surface, or its amount, say at 2½ miles per hour, it will duplicate at a velocity of 12½ miles per hour.

The resistance at any velocity on a level railway properly constructed may be set down at 10 lb. per ton, of which the friction at the axles is 8 lb. and the resistance at the rails to the rolling of the wheels is 2 lb. per ton of the incumbent weight.

The general average of the resistance to traction on a level M'Adam road may be considered equal to that found from experiment in dry weather on the Holyhead road, 77 lb. per ton, of which the friction at the axles may be 19 lb. and the resistance at the road-surface 58 lb. per ton, the velocity being 2½ miles per hour.

Hence the average resistance on a good M'Adam road in a velocity of 2½ miles per hour is nearly 8 times that on a railway.

At a velocity of 2½ miles per hour, however, on the turnpike, the resistance at the road-surface will be doubled, and the traction will become 135 lb. per ton, being 13½ times that on the railway.

Considering this immense disparity in the resistances on the two kinds of road, and that the steam carriage to make good an average of 10 miles per hour on the turnpike road must actually travel at the rate of 12 or 12½ miles per hour, is it surprising that the introduction of these carriages upon turnpike roads should not have been accomplished.

Moreover, we have just been calculating only with the *average* resistance upon the turnpike—whereas, instead of a resistance of only 77 lb. per ton at 7½ miles per hour, there will frequently be found portions of the same road, likewise horizontal, where the resistances will be as great as 107, 111, 114, 146, 171, and even of 228 lb. per ton at the same velocity of 2½ miles, as the experiments on the Holyhead road evinced. The highest of these is already, without being increased from a velocity exceeding 2½ miles per hour, more than 20 times the resistance on a railway.

Now when we add the force necessary to surmount ascents, we hesitate not to say, that there is no turnpike road of any considerable extent in this country upon which it is probable that steam carriages can ever be made to run; and it is the opinion of eminent English Engineers, amongst whom is the well known Engineer and author, John Farry, and who are fully conversant with the experiments of Gurney, Hancock, and others, that there is scarcely a road on that Island upon which these carriages can run without the aid of post horses at the ascents, on account of the mechanical difficulties attendant upon overcoming the gravity in addition to the very great retardation from friction and resistance at the road-surface, to be constantly encountered, even on the horizontal parts of the road. Such, indeed, is the amount of the resistances to be surmounted, that the adhesion to the road of the propelling wheel, for one only can be used as such in curved and angular parts of the road, will be inadequate to the traction in very many instances even with the maximum load of two tons on the wheel. In which case should the steam be sufficiently powerful, the wheel would continue to revolve without advancing the carriage. It is probably true that the adhesion upon a turnpike road on account of its roughness is greater than on an iron railway, and the amount of this force, available in traction, may be as 5 to 8 on the two respective kinds of road. It must, however, be recollected that upon railways there has never been less than two of the wheels of the locomotive employed as propellers, whilst it is entirely practicable at the same time so to use all the four wheels; whereas, upon turnpike roads, on account of the great and sudden changes in direction which have almost continually to be made, but a single wheel at a time can be generally in gear so as to act through its adhesion as a propeller; and that it will be only occasionally and on the straight parts of the road that two wheels at the same time can be used in this manner, nor can more than two be so employed at any one time. Upon turnpike roads, the wheels must be perfectly cylindrical, whereas upon railways the principle of the cone is admirably and efficiently available in effecting changes in the direction of motion. With these comparative advantages and disadvantages in the two systems, there can be no doubt, that though upon the turnpike the absolute adhesion is greater than that on an iron railway, yet relatively, as to the number of wheels that can be so employed at once, it will be less, and, regarding the resistances to be overcome, vastly less.

Taking into account the very slippery state of turnpike roads at times, from wet calcareous earthy matter, mud, frost, ice, and snow, it is to be expected that whatever success may, in favorable states of the weather and the roads, ultimately attend the employment of steam carriages, still their use upon turnpike roads will frequently be much circumscribed and at times discontinued; whilst, at all times, upon roads of a

horizontal grade, or nearly so, must be the only theatre upon which they can perform with useful effect. New lines of road must therefore be traced out, and new roads formed upon principles entirely adapted to this machine, at an expense beyond any thing we are accustomed to in this country, in relation to turnpike roads. This state of things, however, can never be justified, unless the practicability as well as the economy of this application of steam shall be fully and permanently ascertained, not in England only, but likewise in this country, where horse power for some ages to come will continue to be comparatively cheaper than in England.

Regarding the resistances to be met with even on level roads, it will be scarcely less practicable to simplify the engine and its appurtenances so that the carriage with the engine, water fuel, and attendants, shall not (without an accompanying tender carriage) exceed 6½ tons in weight, on four wheels, and when three-fifths of the whole weight bears upon the road through the two propelling wheels, this is the maximum weight, having respect to the necessary economy in relation to the wear of the road and the durability of the wheels. The adhesion from a less weight than two tons on a wheel will doubtless, in practice, be found to be inadequate to the high degree of traction required even on the nearly level parts of a good M'Adam road. Then supposing to have been ascertained what, if possible to be done, still remains unknown; that is, that such a steam carriage has been perfected in all its essential details, in England, and that its employment there is found to be economical; it would still be proper for us to inquire whether it could be economically used *here*, and whether the saving over horse-power would justify the making of the necessary new roads. And, finally, whether, if the cost of a new road upon very extensive principles had to be incurred to satisfy the ends of trade and intercourse, it would not be better to adopt the railway, upon which the power would be ten fold more efficient.

The utmost that such a steam carriage could perform under the most favorable circumstances: that is, in the summer season, on a good M'Adam road, nearly level, and not ascending at the rate of more than 1 in 60, or for short distances, not more than 1 in 30, and this ascending line, straight, would be the conveyance of a single stage coach of 18 passengers and their baggage, at a rate not exceeding 10 miles an hour. What it could do in the winter season cannot be foreseen, nor is the analogy to railways sufficiently great to enable us to draw a definite conclusion from thence touching the probable relative performance of such engines upon turnpike roads in winter. Upon this point every one can form his own opinion, knowing with what facility the tracks of railways can be cleared of snow.

Two modes of using steam carriages have been proposed and advocated by their respective projectors, viz: the one in which the steam carriage is to draw after it a separate carriage containing the passengers—the other where the passengers are to be carried on the steam carriage. Could the latter be effected, some mechanical advantage over the former would attend it: it would however form a very cumbrous machine to be large enough to contain the engine, fuel, water, attendants, and passengers, with the requisite accommodation for the latter and their baggage, *all on four wheels*—whilst the expense could not materially vary in either mode.

It is altogether probable that should this method of conveyance be successful, convenience will require a separate carriage to be adopted. An English Engineer of eminence has said, in relation to this subject, that "all the constructions that have yet been tried with one carriage subject the passengers to more or less occasional annoyance from heat and noise, smoke and dust, and there is still an apprehension of danger from the boiler: hence passengers will invariably prefer to go in a separate carriage to be drawn by the engine-carriage; that mode also offers a facility of changing the engine for another, or for post horses, in case it gets deranged, because the change may be made without unloading and discomposing the passengers. For common stage coaches there are strong motives to use a separate carriage, and if it can be brought to bear in comparison with horses, that mode will probably be most generally adopted by the influence of the passengers."

The expense attendant upon the running of a steam carriage on a turnpike road will be much greater at an equal velocity than that of a locomotive of equal weight upon a railway, the resistance upon the former will be great and varying, and the consumption of the fuel will be enhanced probably 50 per cent., whilst the rapidity with which the steam must be generated in a boiler of such limited dimensions as it is believed must be used, and the very high degree of the elasticity of the steam employed, will likewise add greatly to the expense from the frequent failure of the parts in contact with the fire and steam. It is in evidence that the steam usually worked in the late experiments on turnpike roads had a pressure of 250 to 300 lbs. to the square inch. The difficulty of working steam of this enormous pressure is very great, it being impossible to keep the joints of the boiler, pipes, &c. sufficiently tight but for a very limited time. From this cause the expenditure will also be much increased. Again, the breakage and wear and tear upon the turnpike road on account of its greater roughness and unevenness will exceed that upon the railway, and consequently a greater number of spare engines for contingencies must be kept on hand. When all these relations are weighed, it appears probable that the daily expense of maintaining a steam carriage in full operation on a turnpike road will very considerably exceed that of a locomotive engine upon a railway. We should not in our present state of imperfect knowledge in this matter, and having in view the pay of engineers and other agents, the cost of water and fuel stations, engine houses, engines, carriages, fuel, attendants, repairs, renewals, and contingencies, venture to place the daily outlay, per engine in motion, at less than from 40 to 50 dollars exclusive of any tolls.

The supposition allows the engine to be capable of drawing 18 passengers at one time, and no more. Then if it run 100 miles in the day of ten or twelve hours, and carry in each trip on an average two-thirds of a full load, or 12 passengers, which is, perhaps, a sufficient allowance, considering the fluctuations of travel, the cost per passenger at $40 per day will be $3,33 1-3, or per mile 3 1-3 cents each.

Upon a road equally good 4 horses would be made to draw a stage coach carrying 12 passengers 15 miles a day, also at 10 miles an hour: one extra horse, however, for every team of 4 must be reckoned for each 15 miles, or a horse for each three miles, (that is, in each direction of the road, as each team would travel 7½ miles forward and 7½ miles back per day,) say 34 hours for 100 miles in one direction, three drivers would be sufficient, and it might be done with only two. Fifty cents per day will cover all the expense consequent and attendant on each horse, and 100 cents will pay each driver. Daily charge for horses and drivers $20. Add two dollars for wear and tear of coaches, and for all expenses consequent upon them, $1 for agencies, and $1 for contingencies, and the expense with horses will be $24, which, if the average load be 8 persons, will be $3 each, or at the rate of 3 cents per mile.

Comparison with Railways.—A locomotive engine of the same weight as the Steam Carriage, to wit: 6¼ tons, with 4 tons on the driving wheels, would have an available adhesion of the ⅛ or 1120 lbs. over and above that necessary to propel on a level the engine and tender, weighing 11 tons.

The friction or resistance to the traction on a level railway, with suitable machinery, need not exceed 11 lbs. per ton in curvatures of 1000 feet radius, and it may be reduced to about eight pounds.

At 11 lbs. the engine would be competent to draw after it, on a level, a train of cars, the gross weight of which would be 100 tons, or a train of 28 cars, containing 70 tons of freight. Or, a train of 33 cars containing 600 passengers.

The performance up an ascent of 20 feet per mile, or 1 in 264, after deducting from 1120 lbs. adhesion, 104.5 lbs. the retardation of the engine and tender from curvature and gravity is found to be 52 tons gross, or a train of 15 cars containing 37½ tons of freight—or, a train of 17 cars and 300 passengers.

The average velocity with the freight could be 7½ to 10 miles per hour, and with the passengers 15 miles per hour, or even 20, if desirable.

At 15 miles per hour, the distance run in a day of 10 or 12 hours would be 150 miles. Now if we assume the daily expenses of the motive power and every thing connected with it, (adding also for the wear and tear of the train of passenger cars,) at the liberal sum of $50 for each Locomotive Engine in operation at this velocity, excepting tolls, and suppose the average load at two-thirds, equal 200 passengers, then it would appear that the cost of carrying 200 persons would be 25 cents each for 150 miles, or only 1-6th of a cent per mile each.

If, however, only 100 persons were conveyed each trip, the expenses would be reduced by a less wear and tear of cars, and a less consumption of fuel to, say, $44, and the expense per mile for each person would then be nearly ⅕ of a cent.

When only three cars with 54 persons made the load, the expense would be less than $40; and the cost per mile for each person would then be about ½ a cent.

From all which it appears that the actual cost of the conveyance of passengers on such a railway will be less than with horses, by at least 2½ cents per mile each, and less than by Steam Carriages on a M'Adam road by about 3 cents per mile, each.

Now if we assume a line of railway 250 miles in length, of such grade that a Locomotive Engine will convey with ease a train containing 50 to 160 passengers, and suppose the average number daily in each direction to be only 54, or in both directions 108 passengers, this would make, per annum, 39,420 passengers conveyed 350 miles; then as a less charge could be made on the railway than on the turnpike road, by 3 cents a mile per passenger, the saving on 350 miles would be $10.50 each person, or in the number that passed in a year $413,910, being 6 per cent. interest on about $700,000, or $2800 per mile for the entire distance. Consequently, admitting the moderate supposition, (at least with regard to the railway,) that the net profits on the transit of commodities should keep either road in repair, the railway would be preferable at an excess of cost in the construction beyond that of the turnpike road of $2800 per mile, when no more than 54 passengers should pass daily in each direction. Upon the railway, however, the passage would be made in 24 hours, whilst on the turnpike road it would require 36 hours; hence, upon the latter the passenger would consume the time and personal expenses of an additional day: both these could not be reckoned at less than $3, which, for 39,420 passengers, would involve a loss of $78,940 per annum, upon such a route, to the travelling community, nearly equal to the interest of an additional $1,500,000.

If it shall be alleged that the turnpike road could be made shorter between the same termini, it may be answered, that in general it would be necessary to pursue ground affording a profile very nearly as favorable as that for the railway, if indeed the routes should not in a mountainous country be identical, otherwise the performance on the turnpike would be less than the supposition.

Again, if we assume a line of railway 40 miles in length, and suppose 400 passengers daily, (or 200 in each direction,) the passage

will be equivalent to 16,000 persons 1 mile per day, and at a saving of 3 cents per mile each, it will yield daily $480, or annually $175,200, being the interest of a capital of about $3,000,000. Hence on such a route, with such an intercourse, the public could afford to spend a greater sum on a railway than on a M'Adam road by $3,000,000.

Again, if only 100 persons were to pass daily in each direction, equivalent to 200 passengers for 40 miles, the annual saving in the cost of transit on the railway beyond that on the turnpike road would be equal to the interest of about $1,500,000, and by this sum might the cost of the former exceed that of the latter.

If we should take into view the transit of commodities in addition to that of persons, the preference in favor of the railway would receive further confirmation, whilst in the conveyance of the mail the preference would, if possible, be still more decided.

In the case of the railway, the velocity being greater, there would, as we have shown, be a saving to the passenger in time and money, as his journey would be performed more quickly, with less expense, and at a less price, and for these reasons a great accession to the number of persons travelling by this mode would be realised, and the wealth and rational enjoyment of the community thereby increased.

[*For the American Railroad Journal, &c.*]

RIDAU CANAL.—The completion of the Ridau Canal, connecting Montreal with the lower extremity of Lake Ontario, is another signal mark of the advance of mechanical science on this continent; and, as forming an important link in the great chain of internal communication between Halifax and the Gulf of Mexico, is sufficiently an object of common interest to render a brief account of this magnificent undertaking not altogether unacceptable to the readers of your valuable Journal.

The difficulties which the British had to contend against during the late war with this country, in the transportation of stores, ammunition, and such articles as are requisite for carrying on an active campaign to advantage, first suggested the idea of a water communication between the provinces; and although at this early period the practicability of the undertaking bore rather a questionable aspect, its importance had been rendered so palpable as still to induce a number of distinguished individuals to direct their attention to the adoption of such measures as, with the aid of the mother country, would enable them to realize their wishes and place them on a more favorable footing in the event of a recurrence of hostile operations. That the project met with the consideration its importance merited from the British parliament, and that its political advantages were duly appreciated by that body, is mainly ascribable its happy and speedy termination:—indeed, without the pecuniary aid thence anticipated, the exertions of the Canadians, however enterprizing, in a work costing rising of six hundred thousand pounds, could have availed nothing, and must necessarily have been deferred to an indefinite period; and thus have left a vast tract of arable land in a wild state of uncultivation.

For, independent of the advantages resulting from this connexion in a political point of view, it claims additional interest for the facilities it holds forth both to the agricultural and commercial communities—by developing the natural resources of a large surface of country heretofore in a state of uncivilization—by promoting and giving a new spring to the trade of the provinces—and by affording means of employment to the thousands of emigrants that are almost daily arriving from the other side of the Atlantic. On this last account, it will indeed be an inestimable blessing to the mother country; not only in easing them of a large surplus population, but also in yielding a resource, from which, with ordinary exertion, the enterprise of the emigrant may extract its own reward and speedily place him on a comfortable and independent footing in the land of his adoption.

With these preliminary observations, and before following the line along its route, it will be necessary to delay a few moments to notice the works at Bytown and its vicinity, as far as the rapids on Ridau river, which are by far the most extensive and interesting on the whole line of the Canal. Its discharge into the Ottowa at this place, which is the lower extremity of the Canal, is marked by an extensive cove on the right bank of that river, in a gulley existing between the falls of the Chaudiere and Ridau. This point appears to have been reserved by nature for the purpose to which it is adapted; and, indeed, bears every characteristic, both as to its banks and valley, of having been formerly the bed of the Ridau. The elevation of the mouth of the Canal above the level of the sea is estimated at one hundred and ten feet, while it is considered two hundred and eighty-three below the summit level on "Ridau Lake," and one hundred and twenty-nine below the level of Lake Ontario, at Kingston. Its distance from Montreal is computed at one hundred and twenty miles, and from Kingston by water one hundred and sixty, and by land one hundred and thirty.

Directly above the mouth of the Canal, may be seen the beautiful and magnificent cataract of the Chaudiere. It consists of a series of falls, more or less extensive, and amounting in all to thirty-one and a half feet perpendicular. But that which stands most prominent to view, and gives an appearance of grandeur to the whole, is at the broadest channel of the river, and known by the name of the *Grande Chaudiere*, or *Big Kettle*, from the peculiar formation of the cauldron into which the waters fall. This formation consists of a hard laminated lime-stone, in horizontal strata, and worn into its present horse-shoe shape by the constant abrasion of the rolling water over its surface. The depth of the cauldron is said to be over three hundred feet—at least, a sounding line of that length could not be made to touch bottom.

Next in interest to these may be mentioned the Cataract of the Ridau. It is situated at the mouth of the river, where its dark green waters falling from an eminence of thirty-seven feet, in a single unbroken sheet, are not unlike the curtain from which the name is derived. They are neither so grand nor so extensive as those of the Chaudiere; but still are not wanting in natural beauties—indeed, the surrounding country is highly picturesque. The river finds its source in the Ridau Lake, eighty-five miles from the Ottowa, but is not occupied as the bed of the Canal till about six miles above its entrance, it having been found more expedient to make use of the natural valley and bay already alluded to.

At this point it became necessary, in consequence of the rugged and precipitate nature of the banks of the Ottowa, to overcome the difference of level between the river and canal, by the construction of a series of locks, eight in number, and each rising ten feet, giving an aggregate of eighty feet perpendicular rise; and to guard against the heavy floods, occasioned by the melting of the deep snows in the regions towards the northwest, a height of twenty-four feet, with a corresponding increase of thickness, was given to the wings and piers of the lowest one. At the head of the first four locks, which are contiguous, a basin is constructed of sufficient capacity to contain several boats, and intended at the same time to act as a reservoir to meet the constant and heavy expenditure of water necessarily attendant thereon. Directly succeeding this basin are the remaining four locks, likewise contiguous; and beyond a like basin is constructed for like purposes, over which a fine arch of cut stone is thrown to afford a medium of communication between Upper and Lower Bytown. These locks are one hundred and thirty-four feet in length and thirty-three feet in breadth, constructed in a liberal workmanlike manner, and present an elegant and commanding appearance. The estimated cost was £45,700.

The reason for the adoption of this large scale for the lock chambers was the necessity of opening a navigation for the admission of steamboats. About seventy miles of the route passes through either extensive lakes with bold and rocky shores, or soft swampy meadows, where good foundations were unattainable, save at great additional expense. Hence it became necessary to do away with the ordinary towing-path, and enlarge the Canal to a surface of forty-eight feet, with a depth of five throughout, to admit the passage of steamboats from one extremity to the other.

The towns of Upper and Lower By, so named after the commandant of engineers, Lieut. Col. John By, under whose superintendance the works were constructed, have already assumed a character and importance which, when their brief existence is taken in consideration, is truly marvellous. The towns already contain, in addition to their numerous dwelling-houses, two large store-houses for the use of the Ordnance and Commissariat Departments; three substantial buildings for the accommodation of the troops, erected on the highest eminence, so as to command both the river and canal; and at a short distance an excellent military hospital.

In the vicinity may also be seen, in the "Union Bridge," the execution of one of the most daring plans ever conceived. It connects Upper with Lower Canada, and is thrown directly over the falls of the Chaudiere, taking advantage of the numerous rocky islands embraced by the diverging branches of the river at this place; and forming altogether a most magnificent and imposing specimen of civil architecture. The bridge is composed of six distinct arches, two of stone and four of wood, stretching from island to island with various spans, as circumstances required; and forming an aggregate length of bridge-way of seven hundred and eighty-one feet. The arches across the *Grande Chaudiere* and the *Chanail Ecarte*, or *Suie-Carty* as the boatmen have it, in consequence of the number of rafts wrecked in the channel, are by far the most interesting. These are both wooden truss-bridges—the first with a span of two hundred and ten feet, and the second with one of a hundred and sixty. The manner in which these huge masses of timber were raised was to attach firmly to the rocks, on either side of the arch, strong and heavy chains; upon which chains, stretching across the stream, rested the string-pieces of the bridge; and at each point where the rest was effected, strong spars were lashed to hold all steady. From these spars proceeded strong ropes, placed on crabs, and which, when heaved, relieved the chains from bearing the extreme weight of the string pieces of the bridge between the abutments and spars, thus shortening the span and lessening the strain. In the centre of the stream a scow, securely anchored, contained a scaffolding, which was removed as soon as the three string-pieces were bolted and secured by a sufficient number of braces to prevent their sagging.

Now, taking leave of Bytown and its vicinity, and proceeding along the line until it strikes the river, little of interest occurs, saving a singular break in an interesting ridge of land, extending for several miles at an average depth of about thirty-five feet. It is known under the name of the "Notch in the Mountain," and affords an opportune passage for the canal, which would otherwise, in order to pass it, have had to encounter a heavy excavation.

At the point where the canal enters the channel of the river are found strong rapids, confined on one side by a high clay bank, and on the other by a rocky shore. To overcome the fall existing here, which is about thirty feet, it was necessary to drown the rapids by the erection of a large dam, and surmount the elevation by three ten-feet locks, raising the walls of the upper one three feet higher than those of

the other, so as to act as a guard against the freshets. This dam backs the water as far as the "Black Rapids"—to which point, and indeed thence all the way to its source in "Ridau Lake," the channel of the river continues to be used. The Ridau, like other rivers in Canada, is a combination of rapids and long sheets of still water, alternately intervening, and to overcome which it is ever necessary to have recourse to locks and dams. There are fourteen rapids between Bytown and Ridau Lake, which are destroyed by as many dams, and twenty locks of various lifts, amounting in all to two hundred and eighty-three feet, and all constructed in a handsome, permanent manner, doing credit alike to the skill of the architect and the liberality of his employers.

The "Ridau Lake," which is the proper summit of the canal, is a beautiful expanse of clear green water, thirty miles long and twelve broad, surrounded on all sides by bold, rocky, and precipitous banks. The only interruptions which the navigation encounters across this lake are at "Oliver's Ferry" and "Ridau Narrows," where considerable extra expense was incurred to overcome the currents there created by the contraction of the waters.

Continuing the use of the Ridau waters for the space of forty-five miles on the summit level of the route, its course finally bends towards the "Cataraqui River," which has an outlet in Lake Ontario near Kingston. An excavation of ten feet for the distance of a mile and a half across the isthmus, existing between "Ridau" and "Mud" lakes, was necessary to effect this object. The latter lake is three and a half feet below the level of the Ridau, and has a length of twelve miles, with an average breadth of ten, studded all over with innumerable small islands, which give it quite a picturesque appearance. It is intended eventually to raise the waters to the level of the summit lake.

Leaving this lake the canal enters the "Indian," and thence, instead of making the long detour of the river, encounters a cut of six feet, by which, in a more direct line, the distance is considerably shortened. Thence following the course of the "Cataraqui" to within fifty-five miles of Kingston, a dam is met with, backing the water as far as the last mentioned lake.—The rapids connecting this with "Davis' Lake," on the right side of the river, are surmounted by a dam stretching across just above the mill-dam now in use. This dam backs the water through a channel on the left side of a small island in the centre of the river, into the first lock, where the canal enters; and thence, at, say, eight hundred feet lower down the same rapids, a second dam on the right side of another island is erected, with a separate lock on the left channel, again, as before, discharging the canal into the river. By these works the rapids, which before were highly dangerous and difficult of accommodation, are entirely destroyed.

Again, following the course of the "Cataraqui River" for the further distance of eight miles, and successively passing "Davis" and "Opinicon" lakes, together with their intervening rapids, surmounted as usual by a dam and lock, you arrive at a point called "Jones' Falls," thirty-five miles from Kingston. These falls descend sixty-one feet within the mile, and connect "Opinicon Lake" with "Cranberry Marsh," where the river holds its course through a narrow rocky ravine. This fall is overcome by a dam and six locks. Thence, passing three more smaller rapids, with their customary works, the line at length reaches "Kingston Mills," where the Cataraqui empties itself into Kingston Bay, a part of Lake Ontario, and five miles distant from Kingston. This is the upper extremity of the canal on the Canada side, and is terminated at its junction with Lake Ontario by the erection of four locks of nine feet each. These locks are built in a permanent manner, and, like the others, are highly ornamental as well as creditable to the work.

This finishes a very general account of a work that, in its bearing, must have a highly important and beneficial effect on the future prosperity of our Canadian neighbors. It gives them access, through the medium of the lakes and the Welland Canal, to the whole trade of our western country; and, as a consequence in so doing, will afford to our enterprising fellow-citizens in that direction a wider field of action, and a new resource for the disposal of their agricultural productions. For although, as before observed, the end of this work is entirely political, and in another war would much facilitate the operations of our enemies in that quarter, yet such an event must necessarily be too remote, where every thing is to be lost and nothing gained on their part, to encourage for a moment a single idea of apprehension on ours. The work can, therefore, only be regarded by us in its most favorable light, as perfecting the longest line of internal communication in the world, that from the Gulf of St. Lawrence to the Gulf of Mexico; and as disseminating, in its progress over the thousands of miles of territory through which it courses, nothing save wealth, peace, and happiness. F.

New-York, February 2d, 1833.

Wilkesbarre and Lehigh Railroad.—A public meeting was held at the Court House in Wilkesbarre, on Monday last, with the object of taking into consideration the propriety of creating a railroad between Wilkesbarre and Lehigh. According to the Wilkesbarre Democrat, a numerous concourse of citizens attended, and an address and several resolutions were adopted, expressive of their feelings in relation to the projected improvement, and praying the legislature to grant an act of incorporation to a company.

That paper says:—"The facilites for constructing a Railroad from this place to the river Lehigh are great—the distance being but about twelve miles. The mouth of Wright's creek is the proposed point of junction with that river, to which place the Lehigh Company are bound by their charter to complete a slack water navigation. By conciliating the good feelings of that company, a direct and expeditious communication with Philadelphia would at once be laid open to this valley, which would enhance the prosperity of our people to an incalculable extent. We rejoice to see our citizens active in the promotion of an object so deservedly useful, and could this communication be effected, we hazard the assertion, that the inhabitants of this extensive coal and agricultural region would not be surpassed in enterprise and prosperity by any portion of Pennsylvania."

Baltimore and Susquehanna Railroad.—On Wednesday last, says the Baltimore Patriot, Mr. Findlay, of Westmoreland, presented to the House of Representatives of Pennsylvania a petition from the Baltimore and Susquehanna Railroad Company, for power to extend their railroad to the Susquehanna river, at or near York Haven, or to Harrisburg. Mr. F. moved its reference to a select committee. A debate of some length ensued, in which Messrs. Findlay, Durkee, of York, M'Culloh, of Franklin, and Lacock, of Beaver, supported the reference to a select committee. This reference was opposed by certain members, on the ground that the power asked by the company might interfere with the state improvements. The petition was finally referred to the committee on internal improvements.

Troy and Bennington M'Adam or Railroad.—We even rejoiced, says the Troy Press, to receive an account for publication in our paper to-day of a meeting of the persons who have the interests of this enterprise in charge, containing resolutions of an intention to prosecute the undertaking immediately. We are glad to be informed of this movement, and have no doubt the sentiment will be responded to by the entire community. The resolutions, which have been unavoidably crowded out of this paper, contemplate an application for the alteration of the charter so as to admit of two avenues to the city instead of one. It is intended in the first place to build on the plan of M'Adam.

The Railroad.—We do congratulate our friends, says the Winchester Virginian, upon the passage, by the House of Delegates, of the bill authorizing a subscription of $45,000 on the part of the State to the stock of the Winchester and Potomac Railroad Company. Late advices from Richmond speak of its passage in the Senate as a matter not at all to be doubted; and thus it is now no longer problematical whether the work will go on.

National Road.—The following, says the Zanesville Republican, is the Report of the Chief Engineer in relation to the National Road in Ohio:

Cumberland Road in Ohio.—The officer of engineers who, in accordance with your instructions, was assigned to the superintendance of the construction of this road commenced his duties on the 13th of August last. The operations on this road during the past year have been confined to that portion of it lying between Zanesville and Little Darby creek, which includes a distance of about sixty-six miles. From Zanesville west, to the point where the Ohio canal crosses the road at Hebron, all the bridges and culverts have been built, and, with the exception of a wooden superstructure of ninety-five feet span over the south fork of Licking, are constructed of sand stone of various kinds, united with mortar, for the most part, of inferior quality, excepting the culverts, which are of dry stone masonry. These structures, however, are all in a good state of preservation and require but slight repairs. The surface of the road for a distance of twenty miles west of Zanesville has received a covering of six inches of stone of various qualities, consisting principally of lime stone. From the 21 miles west of Zanesville to the Ohio canal the road has been graded, and is ready to receive the first stratum of metal. Between Hebron and Columbus, comprising twenty-seven miles, all the bridges and culverts have been contracted for, and, with the exception of the wooden structures for the canal feeder, Black Lick creek, Big Walnut creeks, and Alum creek, have been completed, in all probability, before this. The masonry on this section is also composed of different varieties of sand stone, and of a mortar of much better quality than that before mentioned.

Contracts were entered into last year for clearing and grubbing that portion for the road included between the twenty-seventh mile west of Zanesville and Columbus; but, in consequence of many parts of it *having been received from the contractors in an unfinished state*, and other parts having been abandoned by the contractors in the same condition, it will be necessary to place them again under contract before the operation of grading can be commenced. Measures having been taken to have the road graded between Hebron and Columbus, it is expected that a rough grade, sufficient for the passage of carriages, will be accomplished by the first of January, and that the full grade will be completed by the first of June next.

On that part of the road between Columbus and Little Darby, many of the bridges and culverts have been constructed, and the grade nearly completed. The interests of this portion of the road appear to have been almost entirely neglected. With the exception of the wooden bridges over the Big and Little Darby, which are represented as having been well built, *there is little on this section of the road that deserves commendation.* The stone masonry, which is of an inferior limestone, is of bad quality, and altogether *disreputable to the great national work of which it forms a part.* Gravel has been placed on some parts of it, but of such kind, and in such condition, as to be injurious rather than serviceable; and many of the culverts which have been constructed will require to be enlarged, having been made entirely too small to satisfy the wants of the road.

Railroad Surveys.—The Board of Internal Improvements has made its Report to the Legislature, covering the Reports of Mr. Rawle, of his Surveys of the Central and Yadkin Railroads, which we will take an opportunity hereafter of presenting to our readers. We confess ourselves disappointed at the result which Mr. R. has come to in his estimation of the expense of constructing a Railroad between this City and Beaufort. The Citizens of Raleigh have just completed an Experimental Railway from the city to a Stone Quarry in the vicinity, which will not cost more than $2,500 a mile, and we had believed that the country through which the Central Road would pass is fully as favorable for such a purpose as that between this city and the Stone Quarry, yet Mr R.'s estimate is upwards of $5,000 a mile. The expense of constructing the proposed Yadkin Railroad is estimated at between 8 and 9,000 a mile. And we presume, had Mr. R. continued his Survey of the Central Road westward, the estimate would have been still higher.

We fear that if the Central Railroad cannot be accomplished at a much less sum than Mr. Rawle's estimate, it will not, at present, be effected.

Would it not, in the mean time, be desirable, if a sufficient subscription can be obtained for the purpose, to continue our Experimental Railroad to some point on Neuse River, from whence good boat navigation could be had at most seasons of the year? The Road thus made might hereafter form a part of the Central Road.—*Raleigh, N. C. Jan.* 4, 1833.

St. Helen's and Runcorn Gap Railway.—On Wednesday last a train of coal wagons started from the Broad Oak Collieries, at the northern extremity of the St. Helen's and Runcorn Gap Railway, and passed along the line to the docks constructing at Runcorn Gap, and were there discharged into a vessel, which left the docks the following tide. Although the wagons travelled the extreme length of the line, it is not considered as a general opening, (which, however, will very shortly take place,) but resulted in a wager between a coal proprietor and the resident engineer of the Sankey Canal,—the former gentleman persisting, that it would be possible to convey a vessel load of coals to the Mersey by his railway before the 1st of December. It is needless to say, that this was accomplished. The train was accompanied by Peter Greenall, Esq. the chairman of the company, Thomas Kidd, Esq. of Widnes, and several other directors of the line, and performed the journey under the direction of Mr. George Thornton, the resident engineer of the railway and docks. These gentlemen were accompanied by the highly respectable contractors for the execution of the line, Messrs. Nowell, Thornton, and Seed, together with a number of the workmen and inhabitants of the neighborhood of the railway.—[Liverpool paper.]

Woodworth's Patent Planing Machine.—A Machine patented under this title is now in operation at the Furnace of Messrs. Stickney & Yerrington, in this village. It is designed for planing, tonguing, and grooving, floor-plank, ceiling, &c. It performs the labor in a workmanlike manner, and what is unquestionably of much importance, brings the plank to an equal thickness and width. It will finish 33 feet of plank per minute, thus accomplishing an amount of labor equal to 35 men, during ordinary working hours, at an expense of about one-sixth the usual rate. It is far from being complicated in its construction, and is consequently not liable to get out of repair. Three knives are placed upon a cylinder, which revolves about 2300 times per minute, by which the planing is effected, and tonguing and grooving by a process somewhat similar. Should the location of the machine make it necessary to propel it by steam power, the shavings would evidently furnish a large proportion of the necessary fuel. The invention seems to be one of practical utility, and cannot fail of being an important acquisition, wherever building to any considerable amount is in progress.—[Lockport Balance.]

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Suggestions relative to Farmers' Work for February. By the Editor.

Supposing the farmer to have, agreeably to our suggestions of last month, the general plan of his operations well digested and clearly marked out, it will now be important to give his attention to the particulars.

Zeal and Enthusiasm.—The first requisite, after having matured a system of management with great judgment and caution, is to enter upon its execution with a zeal bordering on enthusiasm. We see what zeal can accomplish in politics, religion, science, literature, and other matters. In farming its power is equally potent.

Perseverance.—Next to zeal, untiring perseverance is indispensable in accomplishing the objects of the farmer. The changes which he can produce on his farm require time—some of them successive series of years. He consequently should consider perseverance an important trait of his character.

Manure.—No attention should be spared in preserving from waste all the manure made on the premises. If the stable have inclined floors to carry off the urine, there should be a drain to convey it into a cistern, in some part of the yard where it will not be lost in percolating through a porous bottom. If the farmer would calculate the quantity of water that falls on the surface of a barn yard, and then take a bushel of fresh horse droppings, weigh them, put them in a tub of water for a few days, strain the contents of the tub through a coarse cloth, apply fresh water and repeat the operation a few times, and dry them to about the same state as before, and then measure and weigh them, he may form some estimate of the loss he sustains by letting all the washings of his yard be wasted. It is not sufficient to imagine this experiment to be done, but he must actually perform it.

Cattle kept Warm.—It cannot be expected that live stock, particularly horses and cattle, will thrive well while they are exposed to the extremes, and to the violent storms of winter. Milch cows, kept in dry, comfortable stables, will continue to give milk longer, and in greater quantities. When exposed, their spirits and constitutions are affected—predisposing them to disease. Should there be a late spring, and fodder become scarce, the horses are less fit for the hard labor of spring, and the cows have feeble calves, and afford them but scanty nourishment. It is not well to keep them in apartments very close. They must have pure air, and be comfortable.

Sheep and Lambs.—During this month the sheep will begin to drop their lambs. The utmost care and attention are requisite to preserve the lambs. It is said more than half of the human race die before they are two years old; and it is very probable that half of the sheep in the United States die before they see two weeks. This mortality, in both cases, is probably owing to defects in the constitution, produced by inattention to the dictates and requirements of nature, rather than as the results of physical laws. On this subject we refer our readers to page 8 of our preceding number.

Eggs.—A farmer's wife, who has leisure in the winter, could not, perhaps, turn her attention to a more profitable object than eggs. By feeding fifty hens with the best food to make them lay, fifty cents a day might be realized during the months of January, February, and March—amounting to the sum of $15. Eggs in the winter command one and a half to two cents each, in the vicinity of large towns or cities.

Cutting Timber.—We often hear great diversity of opinion expressed among farmers on the proper time of cutting trees, both for fuel and for building timber. There certainly is a very great difference, for instance, in oak. Some will burn much better than others, and some are far more durable than others, even when cut in the same season. The study of phytology will undoubtedly throw some light on the subject. It is very clear that open woods or single trees, freely exposed to sun, air, and winds, are very different in respect to the solidity of the particles and to the quantity of moisture or sap contained in the sap vessels or pores, from those growing in moist soils, and so close as to exclude the sun. If to these circumstances we add that of the difference in soils producing either a quick or a slow growth, the time of felling timber will not be considered as the only cause affecting the qualities of wood.

Ploughing.—Should the frost be out of the ground any time during this month, it would be well to break up some kinds of soils—well for those who apprehend being hurried in their spring ploughing.

Grass Lands.—Many farmers turn their cattle into their meadows while the ground is soft. Scarcely any day in winter is meadow land in a state not be injured by their feet. When the ground is thawed to some depth, they make deep tracks, and when only on the surface to an inch or two, the injury is equally as great by the slipping and sliding of the cattle.

Clover Seed.—Those who omit to sow their clover with their wheat or rye in the fall, would do well to attend to it about the last of this month, when the ground is soft or covered with snow. If a sufficient quantity was not sown at the time of sowing the grain, the deficiency can be made up. Old meadows that have but little or no clover, may have some seeds sown, particularly if they are to be scarified, and to receive a top dressing of manure.

Draining.—There are some situations where it is less tedious to cut drains when the ground is frozen than in any other season of the year. Where there is but little or no water unfrozen, the digging, or rather caking, is not as difficult as one would apprehend.

Bees.—It would be well to inspect the hives, and supply any deficiency of food that may exist.

Farming Implements.—These should be examined, the necessary repairs made, and what may be wanting supplied.

Fattening Cattle.—A practical, scientific farmer informs us that cattle fed on clean, raw potatoes and good English hay, will fatten with great rapidity if they are kept comfortable and warm. The potatoes and dry hay reciprocally and alternately sharpen the appetite for each other.

Mental Improvements.—The winter evenings and other leisure time should be diligently employed in mental exercises, particularly relating to rural matters.

Scuppernong Grape.—This grape is said not to succeed by cuttings, but by layers and graftings. Mr. Sidney Wells, of Brinkleyville, N. C. observes, in the American Farmer, that "about two years since, I visited Capt. Burlingham, near Louisburg, N. C. having understood he had cultivated the Scuppernong with great success. He showed me twelve vines, extending over a quarter of an acre, suspended on lath or scantling, over frames, supported by posts about eight feet high, from which the year preceding he had five hundred gallons of wine, (worth as many dollars,) besides having abundance of fruit from the same vines for himself and neighbors. Some barrels he had made with, and some without spirits. One barrel saved without brandy, made of first gleanings, took twenty-one pounds of sugar to make the must suspend an egg on its side. But a barrel made of later gleanings took but seven pounds of sugar. His method of gleaning the grapes

was simply this. A sheet was suspended underneath and the frame above was shaken with a forked stick, when all the ripe grapes descended—and so repeated the process as others ripened. He made the wine by mashing the grapes by hand or otherwise, putting them in a sack made of cotton bagging and then pressing as for cider. He mentioned he had safely sent the grapes to friends in Washington city, and other distant places, in boxes, after they were picked from the vines by hand. But I am becoming tedious."

Silk Worms.—The editor of the American Farmer, after stating that there is a first rate silk reeler in this country seeking employment at moderate wages, gives the following valuable information on the best mounting materials:

"The best material for the worms to mount upon that has ever yet been suggested is common broom corn. The tassel of the broom corn is to be cleared of the seeds by an iron comb or some similar apparatus; the stalk cut off just below the bottom or junction of the straws; so much of the tops of the straws cut off as will make them of proper length to set between the shelves with the top spread out and pressing against the upper shelf, and the bottom resting on the lower shelf, thus forming an object considerably resembling a small tree. As many of these may be put into each shelf, as will accommodate all the worms on it. This is *our* mode, and though we have resorted to all others suggested in the books as practised in Europe, we have found none to answer so good a purpose, to say nothing of the simplicity and economy of it."

Sisal Hemp.—Under date of Nov. 13, 1832, from Port Sisal, Yucatan, Dr. Perrine says:

"I am at this moment engaged in making confirmatory experiments with the Agave Sisalana. It is even much better than I stated in my paper on the Sisal hemp, There is a field of 5000 plants at only 2 yards apart, within three hundred yards of this table, in a very flourishing condition, although planted in the dry sand of the sea-shore, within two hundred yards of the water, which it is asserted will give at least three pounds each, annually, and need but one cutting; but as it makes very little difference *when*, a large plantation will supply work for dressing every day in the year. Heretofore it has been thought that the plant would not do well at less than 15 to 30 miles from the ocean, but this experiment shows that it will bear the sea air; and although its growth may be much slower, yet it produces sufficiently to stimulate cultivation in the worst places. Calculate for yourself 1210 plants to the acre of sandy sea shore, giving 3 pounds of Sisal hemp every year, after the first three or four, or we will even say 5 years, for ever and ever. Farewell at present, as I must see the Indian scrape six leaves of *Cheloin*, to compare their fibres with that of six leaves of the *Saoqui*.

H. Perrine.

Sisal Hemp—Letter to the Honorable the Chairman of the Committee on Agriculture of the House of Representatives in Congress assembled at Washington City. By H. Perrine, United States Consul at Campeachy.

Sir,—As unavoidable events have detained the subscriber in the United States, he yesterday evening had an opportunity of reading the printed report of your committee on Tropical Plants, dated April 26, 1832, and headed Report No. 454. The letter of H. M. Brackenridge, appended to that Report, and dated Pensacola, Dec. 29, 1831, contains the motives for the present communication. Although the general contents of that letter are highly gratifying to the subscriber, yet it is his duty to point out errors wherever they appear to exist. The first mistake made by Judge Brackenridge consists in confounding the Pita with the Sosquil Henequen, or Sisal hemp. The extract of the subscriber's letter published in the Telegraph of January 17, shows that they differ more widely than common flax and common hemp. According to Eaton's Manual of Botany, 5th edition, 1829, there is in the United States but *one* species of the Genus of Plants to which the Sisal hemp belongs, viz. the Agave Virginica. In England, according to Sweet's Hortus Britannicus, 2d edition, 1830, *thirteen* species of Agave were introduced between the years 1640 and 1826. In Eaton's Manual, *five* species of *Yucca* are noticed all of which are indigenous to our Southern States. In Sweet's Hortus, *twenty-three* species are mentioned as introduced into England between the years 1596 and 1829. It is highly probable that Judge Brackenridge alludes to that species which is called the Yucca filamentosa, of which I have seen plants, both in this city and Newark, which have grown in the open air during many years, and have passed unhurt the severe cold of our last winter, and which I am sanguine in the belief may be cultivated in various parts of even our Northern States. Having sent several leaves, some of which are partially dressed, to the Hon. J. M. White, the committee are respectfully referred to him for these specimens of a member of the great family of plants, which includes both the Sisal hemp and the Pita, and the Phormium Tenax, or New-Zealand Flax. They all belong to the same artificial class and order of Linnæus, viz. Hexandria Monogynia; and although botanists have arranged them under different natural orders, they should be all grouped in at least a natural class, to be called the Liliaceous plants. The Phormium is placed under the Asphodeleæ; the Agaves, under Bromeliaceæ; and the Yuccas, under Tulipacea; yet as the *leaves of each*, when presented to an unlearned citizen, would be compared to the Lilly, the adjective to embrace all analogous plants has been adopted by the subscriber.

All liliaceous plants, whose fresh leaves yield valuable fibres, are included in his enterprize, and constitute the prominent objects of his ambition; and he trusts that every member of the committee will live to see the day when, in consequence of the general cultivation of these plants, the common hemp and common flax will be no longer desirable objects of American agriculture. Judge Brackenridge will probably recognize the plant which he describes by one of the common synonymes of the Yuccas, viz. Adam's needle, Eve's thread, bear's grass, and silk grass. The subscriber is highly delighted at the encouraging opinions expressed by the Judge of the probable results of its cultivation on a large scale. The Yuccas, however, are but dwarfs to giants when compared with the Agaves. Even the tree-like species, the Y. Gloria, has leaves of less than one third of the length of the leaves of the Pitas. The seeds of the Yucca filamentosa and of the Agave haratto are enclosed for comparison by the committee. I have the honor to be, sir, very respectfully, your obedient servant,

H. Perrine, U. S. Consul for Campeachy.

Tammany Hall, May 15, 1832.

A Proposition—Pomological Society. By J. B. To the Editor of the New-York Farmer and American Gardener's Magazine.

I beg leave to propose, through the Farmer, Mr. Editor, the formation, in the Valley of the Hudson, of a Pomological Association, for the purpose of acquiring and disseminating information in regard to the culture and improvement of fruit. The association may consist of classes, embracing a county, or contiguous counties, which may meet at intervals during the fruit season, in the respective districts, at the dwellings of the members alternately—the members to bring with them, or to send to these meetings, specimens of choice or rare fruits which their grounds may afford—and to communicate any useful information they may possess in regard to this branch of culture. An annual meeting of the association would serve to concentrate this information from all the classes, when it might be collated and published, if deemed advisable. I would have neither premiums nor contributions, otherwise than the latter might be found necessary to defray incidental expenses. Numbers would be no object. Three in a county, or thirty in the whole, would perhaps effect more good than ten times these numbers.

We have probably more good varieties of indigenous apples than any other country, many of which are not known beyond the neighborhood where they first grew; and very little has been done to compare and ascertain the relative merits of different varieties, for the kitchen, the table and the press—distinct qualities seldom combined in the same fruits. The Pomologists of Europe have produced recently many new varieties of fruit, particularly of the pear, highly worthy of trial in our state. We are yet to learn how well they are adapted to our climate, and which are most deserving of culture. The culture of the grape, too, is becoming a subject of national interest, as a material for wine, and as a healthful and delicious fruit for the table. Our information as to its culture, the soils to which the varieties are adapted, and as to the varieties best suited to our climate, is yet very crude and imperfect. The experience and observation of our pomologists, if concentrated, arranged and published, would afford invaluable information upon these subjects. And perhaps, there is no portion of our country in which the culture of fruit may be turned to so certain profit as in the valley of the Hudson.

The pleasures of social intercourse, the opportunities of comparing fruits, the facilities of obtaining the choice varieties, and the information essential to their successful culture, and, above all, the high gratification which a benevolent mind ever feels in adding to the comforts and happiness of society, would, methinks, be an ample inducement for gentlemen of leisure and taste to become members of such an association.

To test the feasibility of the plan, and to bring it into active operation, if feasible, in the shortest time, I further propose, that as soon as thirty gentlemen shall signify their willingness to join such an association, by letter, to the Editor of the New-York Farmer, that he call a meeting, in order to organize and put it in operation. And I give him my name as one of the thirty, with a pledge, that a respectable class shall not be wanting for the county of Albany. In the mean time I solicit the views of Pomologists upon this, as I deem, interesting subject.

J. B.

Albany, Jan. 16, 1833.

Ergot or Spurred Rye.—We caution those who are in the habit of using rye for bread, to examine it well before it is ground, to ascertain whether it contains any ergot or spurred kernels; if so, they should be carefully separated, as they are very poisonous, and the smallest possible quantity has a deleterious effect upon the system. When the spurred kernels are separated, they may be reserved to kill flies with, as a sweetened decoction of them is the best preparation for that purpose that we have ever tried.—[Genesee Farmer.]

Property and Civilization.—Little or no progress is made in civilzation, until property in land is established and rendered secure. A savage has but slight incitements to any further industry than is sufficient to supply his present urgent wants. Laboring people in civilized countries, as long as they are destitute of property, are not as industrious nor as desirous of improving themselves as those who have laid up something. Farmers experience much inconvenience from the want of industrious and persevering laborers. To remedy this evil in a measure, let conditional bargains be made, by which a portion of their earnings shall be invested.

AGRICULTURAL SOCIETIES IN NEW-YORK.—It affords us no ordinary pleasure to have tidings, by almost every mail, of an increasing disposition in favor of these associations—associations that are, we trust, destined not only to sustain, but to advance the relative pre-eminence of this empire State. The following article we copy from the Syracuse Argus, of the 24th ult. The members of the General Committee of the State Society have acted their part well, and we hope they and the other members of the County Society will have the pleasure of beholding, as the fruit of their labor, the advancement of their fellow-citizens in wealth, refinement and happiness.

ONONDAGA COUNTY AGRICULTURAL SOCIETY.—Pursuant to public notice, a meeting was held yesterday in this village, by which a County Agricultural Society was instituted, and the following persons were elected officers of said Society:

President—Dan Bradley.
First Vice-President—T. M. Wood.
Second Vice-President—V. Birdseye.
Secretary—V. W. Smith.
Treasurer—O. R. Strong.
Auditor—I. De Blois Sherman.
Committee on Agriculture—John Sprague; Sylvanus Tousley; David Monro.
Committee on Horticulture.—James Bradley; Daniel Kellogg; Curtis Moses.
Committee on Domestic Manufactures and Household Arts—Azariah Smith; Nathan Monro; Otis Bigalo.

SAVING INJURED TREES.—Suppose one of our readers should have a valuable tree, which was a present from some endeared friend and it being seriously injured, he should save it and cause it to grow vigorously by reading the following article, would he not think himself abundantly compensated for the price he pays for our paper for a whole year?

"Mr. Knight, (florist and nurseryman, in the King's Road, Chelsea,) made the following successful experiment on a mulberry tree, which, except one very large branch, was either dead or decaying. When the sap had ascended, he barked the branch completely round near its junction with the trunk of the tree, and having filled three sacks with mold, he tied them round that part of the branch which had been barked, and by means of one or two old watering pots, which were kept filled with water, and placed over the sacks, from which the water gradually distilled, the mold in the sacks was sufficiently moistened for his purpose. Towards the end of the year, he examined the sacks, and found them filled with numerous small fibrous roots, which the sap, having no longer the bark for its conductor into the main roots of the tree, had thus expanded itself in throwing out. A hole having been prepared near the spot, the branch was sawn off below the sacks, and planted with them, the branch being propped securely. The next summer it flourished and bore fruit, and is still in a thriving state."—[Jesses' Gleanings in Natural History.]

PEACH TREES.—Timothy Matlock, esq. plants his Peach Pits two inches deep in good garden mould. When the plant rises high enough to shoot out side branches, he cuts them off, taking great care not to injure the leaf that stands at the base of each side shoot. The vigorous and uninterrupted growth of the tree depends on the preservation of these leaves. He recommends the trees to be washed with pure cool water by the aid of a brush or coarse cloth, and sand to be heaped up around the tree to keep off the worm.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, FEBRUARY 4, 1833.

[Communicated for the American Railroad Journal.]

Date.	*Hours.*	*Barometer.*	*Thermometer.*	*Winds.*	*Strength of wind.*	*Clouds from what direction*	*Weather and Remarks.*
Jan. 29..	6 a. m.	30.30	24	WSW	light	W by S	cloudy
	10	.32	26	WSW—W	faint	..	..
	2 p. m.	.21	33	W to N	..	WSW	.. —fair
	6	.16	32	N	..	..	cloudy
	10	.10	32	..	..	..	..
" 30..	6 a. m.	29.91	33	WSW	light—mod'te	..	..
	10	.88	35	..	moderate	..	..
	2 p. m.	.79	42	..	light—faint	..	..
	6	.74	43	..	faint—light	..	rain
	10	.64	41	ENE	mod.-f'h-gale	..	.. —gale during night
" 31..	6 a. m.	.40	34	NE by E	gale	ENE	rain and sleet—rain scuds from ENE
	10	.48	34	NE—NE by N	..		fine sleet—snow at 1 p. m.
	2 p. m	.54	26	NNE	..	NE	snow—lower scud from NE
	6	.69	24	..	strong	NNE	cloudy— .. NNE
	10	.78	22	N by E	..		..
Feb. 1..	6 a. m.	.96	14	N by W	moderate	NNW	fair
	10	30.04	14	N by W—NNW	fresh	..	..
	2 p. m.	.06	18	NNW	moderate	W	.. —light cirri from W at 4 p. m.
	6	.10	17	..	light	..	..
	10	.15	15	..	..		..
" 2..	6 a. m.	.20	14	N by W	moderate	..	cloudy
	10	.20	19	W—WNW	..	..	fair
	2 p. m.	.12	25	WNW	..	WNW	.. —low and light scuds from NW
	6	.08	23	NW	..	..	.. —bank of clouds at W at 5 p. m.
	10	.10	22	..	..	..	cloudy
" 3..	6 a. m.	.09	20	W	..	NNW	..
	10	.10	26	W—WNW	fresh	N by W—NNW	fair
	2 p. m.	.05	28	NW	..	NNW	..
	6	.09	25	..	moderate		clear
	10	.12	22	..	..		..
" 4..	6 a. m.	.20	18	NNW	..		..
	10	.20	20	..	fresh		..
	2 p. m.	.16	26	NW	..		..
	6	.16	27	..	moderate		..
	10	.17	26	..	light		.. —cloudy

Average temperature of the week, 25.7.

CABBAGES.—It is asserted in Dr. Rees' Encyclopædia, that "cabbages possess the property of fattening cattle not only more expeditiously, but in less proportion than turnips; an acre for the former having been found to fatten one in four more than the same extent of the latter crop."

BRIGHTON MARKET, FOR THE YEAR 1832.

ESTIMATED SALES.

First Quarter, ending March 26—		
5069 Beef Cattle - -	$190,087	50
453 Stores - -	10,193	50
6191 Sheep - -	18,573	00
515 Swine - -	2,575	00
	$221,429	00
Second Quarter, ending June 25—		
3247 Beef Cattle -	$126,374	00
349 Stores - -	8,725	00
4316 Sheep - -	9,711	00
3303 Swine - -	17,340	75
	$162,150	75
Third Quarter, ending September 24—		
6736 Beef Cattle -	$212,184	00
1972 Stores - -	29,570	00
38521 Sheep - -	73,960	32
1577 Swine - -	3,154	00
	$318,868	32
Fourth Quarter, ending December 31—		
25755 Beef Cattle -	$579,487	50
7112 Stores - -	92,456	00
51555 Sheep - -	103,110	00
9302 Swine - -	20,922	00
	$795,975	50

RECAPITULATION.

40,007 Beef Cattle -	$1,108,133	00
9,886 Stores - -	140,943	50
100,583 Sheep - -	205,354	33
14,697 Swine - -	43,998	75
	$1,498,429	58

1830.		1831.	
Beef Cattle	37,767	Beef Cattle	33,922
Stores	13,685	Stores	15,400
Sheep	132,607	Sheep	84,453
Swine	19,639	Swine	26,871

MISCELLANY.

[*From the London Court Journal.*]

FASHIONABLE TACTICS.

ONE'S COUNTRY NEIGHBORS.

Gladstone Hall. The Hon. Mrs. Gladstone and her three daughters at a work table. Enter Gen. G. from his ride.

Gen. G.—Helen, my dear, go and see whether there are any letters for me on my library table.

Helen G.—Yes, Papa. [*Exit.*]

Gen. G.—Mrs. Gladstone, I have invited the Brooke Park party to shoot and dine here to-morrow. Be sure to warn Helen, before they arrive, that young Achsley comes with them.

Mrs. G.—Then why ask them at all? You might have postponed it till next week? I suppose he is not going to pass the autumn with those people?

Gen. G.—Next week Sir Richard Brooke himself is off to shoot on his Yorkshire estates; and I thought Maria would be better satisfied the party should take place before his departure.—Eh! Maria?

Maria G.—Indeed, Pa, Sir Richard's movements are no concern of mine.

Gen. G.—I know it, my dear; and no fault of your's either. However, I have given you and Helen a last chance. I find that, in spite of Lady Brooke's manœuvres, Achsley is at present under no positive engagement to her daughter; and Sir Richard told me explicitly this morning as we were riding home together from Luistone, that he is looking out for a wife; which, to the father of three unmarried girls, is saying a great deal.

Mrs. G.—Maria,—Sophy,—my dears; the afternoon is very fine, go and take a turn in the shrubbery.

Sophy G.—Thank you, Mamma, I have a dreadful cold.

Maria.—And *my* uncle is still very weak after my sprain.

Gen. G.—Nonsense, nonsense, Mrs. Gladstone; let them stay and hear what I have to say. You don't fancy you can keep two overgrown girls, of two or three and twenty, in the dark on such points?

Mrs. G.—How often must I remind you, General, that Sophia is only *one* and twenty?

Sophy G.—Last birth-day, Mamma.

Gen. G.—I have kept Lankley Wood and Brickheath Farm (my two best preserves) for the Brook Park party. They will be over to breakfast. Take care that none of the girls make their appearance.—No sportsman can ever bear the sight of a woman till dinner time. Give them plenty of cold fowl, pigeon pie, and chocolate, but no young ladies.

Mrs. G.—I can only tell you, for a certainty, that

Lady Brooke and Marian preside at the tea table every morning throughout the shooting and hunting season; follow the gentlemen to the stable yard and kennel,—pat the horses,—pet the dogs;—see the refreshments packed, and pretend to enter, heart and soul, into the whole affair.

Gen. G.—Then rely on it that, with all *their* hearts and souls, the men wish them at the devil.

Mrs. G.—So you may fancy; but there are certain little attentions which men swear at the first week, endure the second, and begin to look for, as indispensable, on the third. Whatever you may have heard, General, Marian will catch young Achsley at last; and I shall always think that Lady Brooke has behaved a very shabby, unneighborly way about it. I told her myself, before Easter, that he was all but engaged to Helen.

Sophy.—Yes, Mamma! But you gave her at the same time such a flourishing description of his estates in Cheshire, and his chance of succeeding to the Granstone peerage, that any one might have predicted what would happen.

Maria.—Lady Brooke is such an artful woman. What right has she to quarter herself as she does at Brooke Park? Her living there amounts to forbidding the banns of any marriage her son might be inclined to form.

Sophy.—And she has such a cunning way of what she calls making the house 'pleasant to young people;' which consists of getting up charades where Marian plays the first parts; and concerts, where, after our thundering sonatas, Marian is brought forward to sing one of her beautiful English ballads.

Mrs. G.—I have my own opinion of women who make their daughters sing English ballads! It cannot be as an exercise of their skill, or to display their proficiency. But we all know that no sort of music tells half so well with young men. This was the secret of Miss Stephens's popularity, and Mrs. Waylett's; and Lady Brooke has been mean enough to turn it to account. The most provoking part of it is, that Helen's voice is too loud for ballads,—Sophy's too low; whilst poor Maria has none at all!

Gen. G.—And my little friend Marian the pipe of a blackbird!

Mrs. G.—Yes; you are always willing enough to disparage your own poor girls! I should not have been very much surprized, had you asked Miss Brooke and her mother to dinner to-morrow to meet the young men!

Gen. G.—Surprised? Why of course I did! How could I do otherwise? Invite away the whole party staying in her house, and leave her there to dine alone? Pshaw!

Sophy.—Marian and Lady Brooke are not sportsmen, Papa; they could not expect to be asked to shoot at Brickheath Farm.

Maria.—Sir Richard went to shoot at the Mincings, the other day; and I know Mrs. Mincing took care not to be bored with his mother and sister.

Gen. G.—Very likely, young ladies; but Lady Brooke is the widow of one of my oldest friends, and—pray where are you going Mrs. Gladstone?

Mrs G.—To write an excuse, and put them all off. You do not suppose I will tamely sit by, and see my daughters' interests sacrificed?

General G.—Nonsense!—absurd!—the girls will have an equal chance! They are three to one against poor Marian. Besides, Sir Richard can't marry his own sister; so Miss Maria will have a fair shot at the young Baronet.

Maria.—Really, Papa, you have no sort of delicacy!

Mrs. G.—It is quite out of the question that this dinner party should take place. We might have done very well for three or four young men, who, provided they get champaigne and claret enough, take no notice of the minutiæ of the table. But Lady Brooke's standing in the county entitles her to be treated with respect.—I cannot think of having Lady Brooke without white soup, a second course of creams and caramels, and all that sort of thing. It is now near six o'clock, and Tompkins always requires a day's notice. I shall certainly write and put them off.

Gen. G.—Did any one ever hear of anything half so ridiculous! As if it were not fifty times more ungratious to put off Lady Brooke, than to receive her without white soup!

Mrs G.—I dare say you think so, for it is quite indifferent to you how bad an opinion she may form of us all. But after her triumph over me respecting Harry Achsley, I shall take care not to put it in her power to say impertinent things of me. I shall tell her we have illness in the house, and cannot possibly receive her.

Gen. G.—You shall do no such thing. I have promised these young men a good day's sport,—and a good day's sport they shall have.

Mrs. G.—Let them have it, and welcome!—But a good dinner is quite another affair. Why, we literally should not have time to get down fish from town; and you know very well what young Mincing had the insolence to say about one muddy trout and cray-fish sauce!

Gen. G.—I never knew nor care. But on this point I am decided, that Brooke and his two cousins, and Harry Achsley breakfast and shoot here to-morrow; and that Marian and her mother join them at dinner.

Maria.—I will answer for it, Papa, Sir Richard does not care for turbot.

Sophy.—And I am sure, Mamma, Harry Achsley can dine without white soup.

Mrs. G.—Very well,—very well!—I see you are all leagued against me;—and you must take the consequence. Let them come!—You will find——

[*Enter Footman, with a letter.*]

Footman.—A note from Brooke Park, Ma'am—(*Exit.*)

Mrs. G. (*reading.*)—Ay! I might have guessed so!—I might have known she would take care that neither Achsley nor Sir Richard came within a mile of Gladstone!

'*Brooke Park, Tuesday.*

'My son requests me to assure you, my dear Mrs. Gladstone, that in accepting the General's kind invitation this afternoon, (*hypocrite!* he was quite unaware that *I* had already engaged the Mincings and a large party to dine here. We are, therefore, under the necessity of stating our very great regret at being unable to wait upon you—(*horrid woman!* With united kind regards from all here to the General and your dear girls, 'I am most faithfully yours, 'EDITHA BROOKE.'

Very well!—It's all mighty well!—But I will manage to pay her off for these manœuvres.—Sophy, Maria! I insist upon your going to take a walk!—Of all the hateful people on earth, commend me to one's COUNTRY NEIGHBORS.

[*From the London Court Journal.*]

REFORM AND REFORMATION.

'Why so dispirited, my dear Lady Manningham? cried her country neighbour, Mr. Losely, the other day.

'Sir Lionel won't go to Brighton.'

'He is very right—we want him sadly here in the country.'

'For what?—I am sure you are overrun with squires; this part of the country is quite a squirearchy!'

'But why are you so anxious for Brighton?—you will go to *town* for the meeting of Parliament.'

'Yes! and a pretty town and a pretty Parliament it will be! I would as soon stay in the country!—Brighton presents the last and only little plot of ground which the Radicals choose to leave us still unrooted up! The last place devoted to dandyism, fine ladyism, exclusivism,—what you will!—the last place where people are wise enough, and not too wise, to be amused;—the last place where ——!

'The Miss Manninghams can command their Mazurka, or Galoppe, or Charade, night after night, at a small expense, and with very little trouble to their lady chaperon. Perhaps you are right. The fancy fairs of modern society have their advantage; for people in search of solid wares or advantageous bargains are on their guard, and stay away.'

'True. And the absence of these "people" (the chaffering, higgling, calculating, political economists of pleasure) constitutes one great charm of the place."

'But what makes your Ladyship so inveterate just now against London? You amused yourself well enough there last season?'

'*Last* season indeed—the last of the seasons, you might have said. All that sort of thing is over now!'

'What sort of thing?'

'The gaieties of the town, in its May-day of the year.'

'And why, pray? I was in London the other day, on some election business. Almack's stands where it did; Howell and James's (the Pantheon of the divinities of the West) is more brilliant than ever; Hyde Park is not ploughed up; and——'

"*Wait!*—as Slade and his Musselmans say. Thank Heaven *I* have an eye to the progress of public events. The shock will not be so astounding to me as to many others.'

'My dear Lady Manningham, the Cassandrian tone of your denunciations alarms me. What *do* you mean—what *do* you anticipate?'

'Oh! nothing—nothing particular. Only a total subversion of social order,—the overthrow of all our sacred institutions—the triumph of anarchy—the downfall of the country.'

'And on what grounds, I beseech you?'

'On all the grounds that lie between the Land's End (where Praed was kicked out) and York, where Lowther was kicked out.'

'Your Ladyship is a Conservative, I perceive.'

'Of course. Conservatism is the Palladium of my sex.'

'Ay, ay! I'm afraid the Reformers are not so fortunate as to have the women on their side.'

'I really know nothing about *women* Mr. Losely. But with respect to the *ladies* of the land, I should like to know what the Whigs have done since they came into power, to merit our suffrage? My Lord Brougham, with his penny magazines, and Lord Palmerston, with his powder magazines, what are they to *us?*'

'Not much, I admit.'

'Now just look at these fine new broom Members, these Reformers,—these root-and-branch men, and their pledges.'

'I do look at them—with admiration!'

'And I with consternation!—You have very little notion of the light in which their proceedings are viewed by the butterfly moiety of humankind,—the Psyche half of the Androgynes. *You* hear them pledging themselves on the hustings to support free trade; in which *we* read a threat that our cook-maids shall rival us in caps of blonde and gowns of gros de Naples. *You* hear them declaim against Negro Slavery; in which *we* read a sentence against *bons bons* and *café au lait*. *You* find them promising to put down places, pensions, and pluralities, which *we* interpret into the extinction of fancy balls, decadence of the opera, loss of equipages, jewels, plate, and pictures.'

'You see a prodigious way into a millstone!'

'Ah! my dear Sir,—time will show. Needs must when the Radicals drive! I should like to know what sort of consistency there would be, or fitness of things, were Mr. Bulhead to get up in the House, and roar about the necessities of the people, the heaviness of taxation, and the sinfulness of luxury, while Mrs. and the Miss Bulheads were eating a sovereign a-day in cream ices, and squandering ten times as much in bargain shops on French silks and Belgic lace!'

'But why should they squander eleven pounds per diem for the—'

'There!—Just as I predicted!—"Eleven pounds per diem." A poor-house phrase already. The odious system is already beginning to work! Every little *agrément* and gratification of our lives will be submitted to these profit and loss calculations. Oh for the golden days of good King George!—the days of gimcrackery and——'

Gynecocracy!—Oh! indeed!—But do not alarm yourself my dear Lady Manningham. It will be some time before Reform penetrates into the gilded boudoir of the fine ladies. We have a great deal of work on hand.

'Perhaps so! But when once that work begins, the social system will vibrate through every nerve. On my honor, I tremble to think on it! No fashionable novels, no Court Journals, nothing but romances, stuffed with political economy, or chemistry, or natural history, in which the lovers, instead of making lover-like love, sit on two chairs, to talk about gases and semi-metals;—or take a stroll in the country, to moralize on the beard of a thistle.—Even the Annuals are beginning to be full of "useful knowledge,"—geographical, conchological, or zoological.'

'*Tant mieux!*'

'The world having grown into its second childhood, is putting itself to school, and preparing a pretty rod for its own back.'

'Better than the dunce's cap and feather it has worn so long.'

'Ay, ay!—when you have passed a year or two in the service of the people, and been cuffed and sworn at for your pains; when you have enjoyed those rational conversazioni, and gone to a few balls where calisthenic exercises usurp the place of quadrilles;—when you have seen the Fine Arts sentenced to hard labor as houseless poor, and the Useful Arts elevated into nine new muses;—when you see London Washingtonized, St. Stephen's conventionized,—the gentlemen of the press (as in Paris) Prime Ministers,—and the gentlemen of the bar (as in America) unwigged by the influence of the Whigs,—then you will admit, as I do, that it was nothing less than insanity on the part of the do-nothings, to join with the mobility in their outcry for REFORM and REFORMATION.'

SUMMARY FROM LATE ENGLISH PAPERS.

The Elections to the Reformed Parliament were still in progress at the last dates. There will be a strange gathering in St. Stephen's Chapel, this month, when the new House of Commons will meet. Where the son of the Duke of Wellington, Lord Douro, failed of obtaining a seat, GULLY, the retired boxer and successful horse-racer, is elected. Hunt is thrown out, and Cobbett is thrown in. Our readers will be amused with his address on being elected. It is thus given in the papers:

Cobbett on his return for Oldham, made to the Electors this speech.

"Gentleman of Oldham,: I trust that what you have now done will be attended with benefit to ourselves and to our countrymen at large. In giving me such a colleague as you have given me (Mr. Fielden,) you have added greatly to the honour conferred upon me: not, however, on account of his great possessions and magnificent establishments: but on account of his well-known, his proverbial, justice, and kindness towards all those, from whose labour his acquisitions have arizen. Every part of his character presents to the nation something which reflects honour upon the man whom you have chosen for his colleague; but, in my estimation, this point in his character exceeds in excellence all the rest. Gentlemen, for many years it appears to have been the study of the numerous hordes of men and women, who have unjustly lived upon the fruit of our labour, to speak of the working people as if they were an inferior race of beings. During all these years, I have been expressing, and you have been feeling, indignation at this insolence in the tax-fatted cormorants. You have now had an opportunity to give them the appropriate answer. You have taken one of the "lower orders," as they had the insolence to style us, and bidden him to go amongst them, to maintain your right to just government in the House of Commons. Many as are the years that have rolled over my head, I have not forgotten the time when, in my blue smock-frock and clumping nail shoes, I trudged along beside the plough-horses, each leg of which horses was pretty nearly as big as my body. I have not forgotten this; and, as the present Prime Minister said that he would stand by "HIS ORDER": the order of *ermine robes and coronets*, —so, be you assured, I will stand by "*my order*,"—the order of smock-frocks, nail shoes, and hard fingers. How often have the insolent wretches said, "*Let him—let Cobbett—come he can, and we will soon make him find his level.*" While they exclaimed, "*Let him come*," they lied and they bribed, and expended hundreds of thousands, *not to let him come*. You have now taken him into your hands; you have now given the answer to these insolent pretenders to superiority. You have taken up the SURREY PLOUGH-BOY; you have tossed him in amongst them, saying, "*There he is!* now make him *find his level!*" I feel gratitude towards you, on more accounts than I have now time or presence of mind to state,: but the feeling which predominates in my breast is that of delight: far beyond all expression: that you have now vindicated not only the rights, but the character of the working people of England. You have set an example to the whole country; and that example cannot fail to be attended with consequences of the greatest importance to us all."

Mr. Walter, long the editor, and one of the chief proprietors, of the London Times, goes in as one of the county members for Berkshire. He has ever been an unsparing castigator of old Cobbet's venality and versatility. It is to the honor of the constituency of Leeds that they elected MR. MACAULEY; though with a just perception of the true character of a representative, he refused to bind himself by pledges.

The Cabinet seem to have taken pains to allay the apprehension of many persons, that still further and unlimited measures of reform were in contemplation. MR STANLEY, at the poll in Lancashire, held this language:—

His Majesty's Goverment had known that the great body of the people was sound: and, knowing that, they would have been unworthy of holding the reins of Goverment had they refused to extend the franchise as it had been done, and granting to them the right of electing representatives, and thus sharing in the Goverment of their native land: and having now thus extended the franchise, he and the Goverment would be deceiving the people, and contradicting all the professions that they had come forward under, if they should not be strenuous in their resistance of any attempt to carry the extension further; The Gov't. had come forward with a complete measure of reform, which the people had adopted as the new charter of their liberties; it had been so extensive as to alarm many, who, however, consented to go the length of it upon the distinct pledge that it was to be taken as a final measure. *If, then, it should be attempted to bring forward any measure for shortening the duration of Parliament, or a still further extensive alteration, by the protection, as it was falsely called, of the vote by ballot, he now announced (and he spoke the sentiments of his honorable colleagues) that any such measure would meet with their most decided opposition.*

Lord Althorp in Northamptonshire spoke in equally decided terms on the same topics. But it may be well questioned whether they or any other ministry can control the impulse once given towards more popular institutions.

Serious riots occurred at several of the polls, and at Sheffield the military were called in and fired upon the people whereby five persons were killed.

After election news, returns and speeches, the next most prominent articles in these papers refer to the siege of the citadel of Antwerp, and very curious details are given. From among these we extract the annexed notice of the manner in which the outwork of St. Laurent, or rather one of its bastions, was carried. It is very curious to unprofessional readers.

When the sap was prepared for the descent into the fosse, three modes presented themselves to take the fort. One was to attack the gorge by a strong force, by which there was a probability of great loss. The opening of the breach by the artillery would be so much lost time; and the third mode, which was suggested by Gen. Haxo, and which was in unison with the principle on which the siege was conducted, was to place a mine in the flank of the lunette. This last was adopted, and executed with brilliant and fortunate results.

On the 10th. a raft was constructed under the blindage near the fosse. During the night, fourteen workmen of the engineers, led by an officer, crossed the fosse, and fastening themselves to the left flank of the fort near the *vaillant*, they remained there five hours, during which every means that art could suggest produced no other effect than that of removing but two bricks.

The difficulties were such, that in the day following it became a matter of deliberation, whether they should not resort to the more certain, though more tedious, process of opening the breach with artillery. Gen. Haxo persisted; and at six o'clock in the evening of the 11th, the engineers crossed the fosse a second time, still unobserved by the besieged in the fortress, who, by a lucky chance, could not enfilade this fosse, which is not under any guns but those of the city itself.

The firing of the besiegers against the Citadel was besides at this time extremely quick, in order to turn off the attention of the garrison. To give you an idea of its rapidity, I need only state, that on this night 77,000 cartridges were consumed. After a hard labor of several hours, and the employment of petards, the men at last succeeded in destroying a coating of brick, and a thick layer of cement, by which they attained their object. An excavation was soon made, into which the miners entered. Thus these resolute men remained lodged in the very flank of the lunette, from the 12th to the 13th; and during this time they had dug to the depth of thirty feet under the platform of the fort. The excavation was in the form of a T, in the upper part of which there were three magazines. Yesterday evening, each of these magazines was charged with 500 kilograms (1,000lbs. English) of powder. The remainder of the night was employed in filling up the excavations with a considerable number of sacks of earth.

It is now said, that at nine o'clock the officer commanding the lunette had a suspicion of what was going on, and communicated these suspicions to General Chassé, who sent him answer that he must be mistaken. Be that as it may, about four o'clock this morning, every thing being prepared, the train of the mine was fired. The soldiers then retired within the second parallel, and in half an hour after a violent explosion, followed by an eruption of stones, several of which fell at our side, announced that a practicable breach had been effected. The first detonation was followed by a second, occasioned by the explosion of a small magazine of shells and grenades, which had the appearance of a brilliant discharge of fireworks. The garrison of the lunette took the explosion as the effect of a bomb.

We have seen no statement in the French accounts of the operations of this siege, which enables us to judge at all of the loss on their part by which it was accomplished. The London Courier of the 22d Dec. the day previous to the surrender, says:—

With respect to the losses already incurred by the whole of the French army of coercion, we have seen accounts on which we can rely, which state them to amount to not less than seven thousand men in killed, wounded, and sick.

Now Gen. Chassé's whole garrison did not exceed at any time 4000 men, and as there were no bloody sorties, nor contests of any sort in the trenches, we can hardly believe the French loss so great as the Courier estimates.

The Paris correspondent of the Times, under date of 18th December from Paris, thus writes concerning the affairs of Belgium, and those of Spain:—

The rise of one-half per cent. which took place in the prices of the funds yesterday was entirely owing to the news of the taking of Fort St. Laurent, which the speculators at the Bourse look upon as the immediate forerunner of the surrender of the citadel itself. In other quarters, however, the resistance made by the garrison is still expected to last until the end of the present month. The state of the Belgic question will not, indeed, be greatly advanced by the fall of the citadel, but as it is quite evident that it will not promote the interests of the King of Holland, it may tend to render him more willing to listen to reason, especially as the critical state of the affairs of Turkey is beginning to engross the attention of the principal European Powers, and threatens the Dutch King with a serious diversion from his concerns, and the loss of the prospect he has till now entertained of ultimate interference on the part of Russia and Prussia in his favor.

There is every appearance that the winter will be spent in diplomatic negotiations of an active kind.

At Madrid things are assuming a rather doubtful complexion. The King's life once more begins to be despaired of, and intrigues among the members of the Royal Family, Carlists, and diplomatists, have again been set on foot. It is generally felt in that city that a change in the order of succession, and the introduction of a new order of things, ought to have a better foundation than mere Royal decrees to insure their stability. That foundation can only consist in the formal sanction of the Cortes, which should have been assembled for that purpose. But it seems a recourse to such a measure, though best calculated to counteract the intrigues of the Absolutists and set their power at defiance, is looked upon by the present rulers of Spain as a remedy which is worse than the evils which are threatened. The most perfect understaning appears to exist between this Government and yours in regard to Spanish affairs. Austria expresses a desire that a moderate course should be pursued in Spain, and that Power carefully abstains from affording any countenance to the Apostolicals.

The statement which lately appeared in the *Augsburg Gazette*, on the authority of letters from Constantinople, of an intention on the part of the Emperor Nicholas to espouse the cause of the Sultan against the Pacha of Egypt, appears to be founded in truth, and has, for the last two or three days, in a great degree diverted attention here from what is going on in Belgium. The offer of placing a corps of Russian troops and a Russian squadron at the Sultan's disposal has been made; but before the transmissal of definitive orders, the Emperor of Russia has deemed it necessary to inform the other principal Courts of Europe of his intentions, and to request their opinions thereon. The Court of Vienna, notwithstanding the sincerity and constancy of its good wishes for the safety and prosperity of Turkey, appears to have viewed, with no favorable eye, the prospect of an alliance between that state and its natural and most bitter enemy:—Prince Metternich is said to be by no means disposed to think that the Czar's true motives in pressing his alliance on the Sultan are quite disinterested, and that they will tend to the latter's ultimate advantage. This promises to lead to a greater *rapprochement* than has for some time existed between the Governments of Austria, France, and England. Already the agents of Austrian diplomacy talk without reserve of the "anti-social principles which Russia has for some time been endeavoring to introduce into Europe," and they make no scruple in declaring those principles to be "quite incompatible with the actual condition of the nations of Europe." Owing to the important turn that things are taking in Turkey, the departure of Admiral Roussin, lately appointed French Ambassador to the Porte, is to take place immediately. Independently of his full powers as a negotiator and resident Ambassador, Admiral Roussin will also have the chief command of the French naval forces in the Archipelago.

We conclude for to-day with the report of a trial involving a point in the law of insurance, which may be important to merchants.

Campbell vs. Richards and others—Mr. Pollok stated the case for the plaintiff, the substance of which is as follows:—

In the year of 1827, the plaintiff, who was a merchant at Sydney, New South Wales, consigned a quantity of goods to London, by the ship Cumberland, to the care of Mr. Emmett, who went passenger by her, and in the event of any accident to that gentleman, to the care of the defendants, who were merchants in Leadenhall-street. The plaintiff wrote by another ship, the Australia, to his friend Mr. Harris, a solicitor, requesting him to hand that letter to the defendants, but not until after 30 days from its receipt were expired, in order that the defendants might insure the cargo for £4000, and the freight for £700. As the Cumberland did not arrive within 30 days, Mr. Harris, at the expiration of 35 days, handed the letter to the defendants, who, on the following day effected the insurance at the ordinary amount of risk. The Cumberland, and her crew and passengers (Mr. Emmett and his two children), have never since been heard of, and at the expiration of twelve months the defendants applied on behalf of the plaintiff, his principal, to the underwriters for the amount of the policies, when they refused to pay, alleging that the defendants had withheld from them, when the insurance was effected, what appeared to them material, viz: that the insurance was not made until 30 days after the arrival of the letter of instruction, and declaring that the risk in consequence was greater than it had been represented to them. The defendants brought an action in this Court against the underwriters, but failed, because the Jury were of opinion that the information which had been withheld was material, and ought to have been communicated. The defendants applied for a new trial, and the judges decided that the information was material and the verdict correct. The plaintiff then brought the present action, to recover the £4700 from the defendants, on the ground that, through ignorance and negligence, they, the defendants, had not effected proper insurance.

A great deal of evidence was brought to show that the delay of 30 days should have been shown to the underwriters, for it made a material difference in the premium of insurance, inasmuch as it showed that, for 30 days after the arrival of the letter, the plaintiff undertook the risk himself, and that the insuring it after the time raised a presumption that the ship was out of time.

Sir James Scarlett made a most powerful defence. He contended that there was no case of great negligence or ignorance. That for a mere mistake the defendants could not be liable, and that it was clear that they had acted *bona fide*, and with the best intentions.

The Lord Chief Justice in summing up, said, that no imputation whatever rested on the characters of the defendants, for they had no doubt done what they conceived was the best. The chief question for the jury was, whether the custom of the trade was so notorious in making the communication adverted to, as a to charge the defendants with great ignorance in not knowing it, and acting upon it.

The jury found a verdict for the plaintiffs—£4,700, minus £560, being the extra risk, at the rate of 12 per cent. which the plaintiff would have had to pay if the cargo had been properly insured.

HOME AFFAIRS.

CONGRESS.

Tuesday, Jan. 29.

The Senate proceeded to the special order of the day, being the bill to make further provisions for the collection of the duties on imports.

Mr. Wilkins resumed his speech, occasionally interrupted by Messrs. Miller and Calhoun. We have not room to publish it, but in concluding he stated the following precedents, in support of the fifth section of the bill reported by the Judiciary Committee:

The fifth section authorizes the employment of military force under extraordinary circumstances too powerful to overcome without such agency, and to be preceded by the Proclamation of the President. What he had already said had reference also to this section of the bill. He would now merely refer the Senate to some precedents.

The first precedent which he would notice was to be found in the Act of May 2d, 1792, vol. 2, p. 284, repealing the Act of Feb. 28, 1795, renewing the power to call forth the militia, which Act was still in force. This law grew out the Western Insurrection in Pennsylvania. Like the present bill, altho' it was merely intended to meet that exigency, it was so framed as to continue in force. So the bill under consideration, tho' it had special reference to S. Carolina, pointed not to her alone. If the opposition to the laws should extend, and the spirit of disobedience should exhibit itself, whether in the South or North, the general principles of the bill would be equally applicable. It was an amendment of our code of laws to which the attention of Congress had now be called, and which was rendered immediately necessary by peculiarity of our situation.

The second precedent to which we would invite the attention of the Senate was the Act of the 3d of March, 1807, vol 4, p. 115, "to suppress insurrections and obstructions to the laws," and "to cause the laws to be duly executed." That act authorized the President to call out the land and naval force to suppress insurrections, &c. These were the objects for which then, as in the present bill, this extraordinary power had been conferred.

Another precedent would be found in the Act of January 9, 1809, sec. 11, vol. 4, p. 194, to enforce

the Embargo, and which gives the power to employ the land and naval forces, in general terms, to assist the custom house officers. There was at that moment a great excitement, although nothing like the solemn position in which South Carolina has now placed herself. Yet it was deemed expedient to confer on the President this power.

He would now refer to the last precedent with which he should trouble the Senate. It so happened in the History of Pennsylvania that that State took from Virginia a strip of land bordering on the Alleghany and Ohio rivers. On this strip of land where Virginia had been accustomed to exercise jurisdiction, for which she had opened the titles, and where she had held her courts, there arose an insurrection. This had been called the Western Insurrection, but it was a singular fact that it was confined to this narrow strip of land which Pennsylvania took from Virginia. The President was then authorized to call out the Militia of the State, because they were not committed against the United States, but were willing to obey the call. The man to whose name history has no parallel, put himself at the head of these troops to quell the insurrection. All power was placed in his hands by the act of Nov. 24, 1794, vol. 2, p. 451, and the President was authorized to place in West Pennsylvania a corps of 2,500 men, either drafted or enlisted.

The sixth section of the bill had reference to the replevin law of South Carolina, and was justified and rendered necessary by the 12th section of that act which prohibited any person from hiring or permitting to be used any building, to serve as a jail for the confinement of any person committed for a violation of the revenue laws, under penalty of being adjudged guilty of a misdemeanor and fined 1000 dollars and imprisoned for one year. The State law, therefore, closes all the gaols and buildings of South Carolina against prisoners held by process from the United States for a refusal to yield obedience to their laws. It was necessary, therefore, that something should be done.—The case might not be fully met by the resolution of 3d March, 1791, vol. 2, p. 235; and this section merely incorporates that provision, without the introduction of any novel principle.

The seventh and remaining section of the bill extends the writ of habeas corpus to a case not covered by existing laws. These laws do not extend to any other than cases of confinement under the authority of the United States, and when committed for trial before the United States Courts, or are necessary to testify. He referred the Senate to vol. 2, p. 63, to the 14th section of the judiciary act. The present section merely extended the privileges of that act, which was so essential to the protection of the liberties of our citizens. It extended the act to cases of imprisonment for executing the laws of the United States. There would be nothing objectionable in this section, it came in conflict with no code of law. If a citizen were confined under the provisions of the Ordinance of the 24th Nov. 1832, he could have no remedy under the laws as they now exist. As all such cases arose under the laws of the State of South Carolina, this section only extended the privileges of the writ of habeas corpus to meet those particular cases which had originated in the present state of things.

He had now done, having fully attempted to explain the reasons which had induced him to give his sanction to the bill. He should only say, in addition, that if it were the pleasure of Congress to enact this bill into a law, he should most fervently pray that no occasion might ever occur to require a resort to its provisions. It was his desire that the present bill, when it should become a law, might be rendered unnecessary by a return of the state of happy tranquility which would renew the cement of our Union, and might lie for ages to come, without the necessity of reference to its provisions, slumbering in the libraries of the lawyer and among the archives of legislation.

On motion of Mr. Poindexter, the Senate then proceeded to the consideration of Executive business.

After remaining some time in secret session, the Senate adjourned.

HOUSE OF REPRESENTATIVES.

Mr. W. B. Shepperd, of North Carolina, addressed the Committee till near 3 o'clock, in opposition to the *Tariff Bill.*

Mr. Slade next obtained the floor, and continued to occupy it in a speech on the same side of the question, until near 8 o'clock. At a quarter past 5, he gave way for a motion to rise, which was negatived—ayes 45—noes 72.

Mr. Bates, of Mass. obtained the floor, and after some remarks on his peculiar situation, in reference to the subject before the Committee, signified his willingness that the question should first be taken on a slight verbal amendment of the bill, offered by Mr. Verplanck, after which he should move to rise.

The question was taken, and the amendment was adopted.

Mr. Bates then moved that the Committee rise; which motion prevailed—ayes 64, noes 60.

The Committee thereupon rose, and the House adjourned.

Wednesday, January 30—IN. SENATE.

Mr. Smith, of Maryland, offered the following resolution:

Resolved, That the Secretary of the Treasury be directed to submit to the Senate a statement in regard to the domestic exchanges of the United States, showing—

1st. The amount of domestic bills purchased by the Bank of the United States and its branches during the year 1832, with the amount of premium of exchange thereon.

2d. The amount of domestic bills collected by the Bank and its branches, but not purchased.

3d. The amount of drafts drawn by the Bank and its branches on each other, or on State Banks out of the places in which the Bank and its branches respectively are situated, with the amount of premium charged thereon.

4th. The amount of notes of the Bank and several branches, received at the Bank and at other branches than those from which they were issued.

5th. The amount received by the Bank and its branches, of the notes of the State Banks established out of the place where such branches respectively are situated.

This resolution lies on the table.

HOUSE OF REPRESENTATIVES.

Mr. Adams presented to the House a memorial from the Legislature of Massachusetts, strongly expressive of its dissent to the passage of the bill before the House to reduce the tariff.

The memorial was read, and referred to a Committee of the Whole House on the state of the Union.

Mr. Adams inquired of the Speaker whether he had received a memorial addressed to the House by the Tariff Convention of New York, with a request to present it?

The reading having proceeded some time, the further reading was, on motion of Mr. Adams, dispensed with; and the memorial was referred to a Committee of the Whole on the State of the Union, and ordered to be printed.

The House then proceeded to the orders of the day, and resumed consideration of the *Tariff Bill.*

Thursday, January 31.

In the SENATE, Mr. Grundy submitted a resolution for the appointment of a Committee to join such Committee as may be appointed by the House of Representatives, to ascertain and report a mode of examining the votes for President and Vice President of the United States, and of notifying the persons elected of their election. At one o'clock, the Senate resumed the consideration of the bill further to provide for the collection of duties on imports. Mr. Bibb continued his argument in opposition to the bill. After speaking two hours, he gave way to a motion by Mr. Poindexter, that the Senate adjourn, which was negatived—ayes 11, noes 19. Mr. Bibb rose, but gave way to a motion by Mr. Buckner, that the bill be postponed to, and made the special order for to-morrow, for the purpose of proceeding to the consideration of Executive business. Mr. Poindexter renewed the motion to adjourn, and asked for the yeas any nays, which were ordered, and were—yeas 14, nays 20. Mr. Bibb then spoke about fifteen minutes, when he again gave way to a motion by Mr. Mangum, that the Senate adjourn, which carried—ayes 17, noes 14.

HOUSE OF REPRESENTATIVES.

On motion of Mr. WILDE of Georgia, to reconsider the vote of the House by which a Memorial from the Legislature of Massachusetts, on the subject of the Bill to alter the Tariff, had been referred to a Committee of the Whole on the state of the Union, and ordered to be printed—so far as related to a Report therein contained from a Committee of that Legislature was concerned—was brought up for consideration, and occasioned a debate,

When, the hour expiring, the House proceeded to the order of the day, and resumed the consideration of the

Tariff Bill.

The question being on Mr. Huntington's amendment to strike out the duties on tea and coffee,

Mr. Howard offered an amendment, to make the duty on coffee commence on the 3d September, 1833, which was agreed to.

The question then occurring on Mr. Huntington's amendment, which goes to strike out the 31st and 32d sections of the bill, containing the duties on coffee and tea,

After a few remarks from Mr. Burd, of Pa. in favor of the amendment,

The question was taken, and decided in the affirmative,—Yeas 69, Nays 64.

So the amendment was agreed to, and the duties on coffee and tea stricken out of the bill.

Mr. White now moved an amendment, the general effect of which is, to make the reduction of the duties on wool, on blankets, on carpets, flannels, &c. and on manufactures of cotton, more gradual than is proposed in the bill.

On his motion the Committee rose—yeas 77, nays 44. His amendment was ordered to be printed, and then the House adjourned by yeas and nays—yeas 81, nays 48.

IN SENATE—*Feb.* 1.

Mr. Wilkins presented a memorial of the permanent committee of the New York Tariff Convention, against any reduction of the duties on protected articles; which was referred to the committee on manufactures, and ordered to be printed.

On motion of Mr. Wilkins, seconded by Mr. Clay, 3000 additional copies were ordered to be printed—Ayes 20.

The Joint resolution offered yesterday by Mr. Grundy, was taken up and agreed to.

The following bills were read a third time and passed:

An act for the payment of horses and arms lost in the military service of the United States in the war against the Sacs and Foxes, &c.; and An act to explain and amend the several acts imposing duties on imports, approved July 24, 1832.

The Senate resumed the consideration of the bill reported by the Committee on the Judiciary, further to provide for the collection of duties on imports.

Mr. Bibb resumed and concluded his argument against the bill, after speaking an hour and a half.

Mr. Frelinghuysen (one of the members of the Judiciary Committee) next addressed the Senate in reply to Mr. Bibb, and in favor of the bill.

After speaking a short time, particularly in relation to the ratification by the States of the Constitution of the United States, he was interrupted by

Mr. Calhoun, who stated the grounds taken by himself and his friends on the point referred to.

Mr. Grundy remarked, that he hoped every man would be permitted to tell his own story, and that gentlemen would be allowed to answer arguments which had been advanced, as they understand them, without being subject to interruption for the purpose of varying or changing these arguments.

Mr. Calhoun.—Does the gentleman mean any thing personal?

Mr. Grundy.—Certainly not.

Mr. Calhoun.—Then I have nothing to say in reply.

Mr. Frelinghuysen continued his argument, and after speaking one hour, he gave way to a motion by Mr. Seymour, that the Senate adjourn. The Senate then adjourned.

HOUSE OF REPRESENTATIVES.

Mr. Watmough, by leave, presented a memorial of merchants of the city of Philadelphia, in relation to the unequal and oppressive operation of the 18th section of the Tariff act of 1832, and praying relief in the premises; which memorial was committed.

The debate on Mr. Wilde's motion to reconsider the vote of the House, by which certain resolutions of the Legislature of Massachusetts were referred to a Committee of the Whole House on the state of the Union, and ordered to be printed, was resumed.

The House then passed to the Order of the Day, and went into Committee of the Whole, Mr. Wayne in the chair, on

The Tariff Bill.

The question which came up from yesterday, was on the amendments proposed by Mr. White, of New York.

The first amendment offered by him, was in the first section of the bill.

Mr. White's amendment went to make the reduction of the duty on raw wool and on twist and yarn more gradual, so as to be as follows:

35	per cent. till	2d March,	1834
30	do.	do.	1835
25	do.	do.	1836
20	do.	thereafter (a permanent duty.)	

Mr. Root of New York thought the protection on wool not sufficiently high. And after a speech explanatory of his views, moved to amend Mr. White's amendment, so as to make the duty 40 per cent. till the 2d of March, 1833, intending afterwards to raise the rate for 1834, to 50 per cent. and then decrease the duty gradually.)

The question being put on this amendment, the votes were—ayes 61, noes 69. The chair voting in the negative produced a tie. So the amendment was lost.

The question recurring on Mr. White's amendment,

Mr. Root then moved another amendment, so as to insert 45 per cent. instead of 40, as he had before proposed for the year 1834.

After some further discussion, in which Messrs. Hoffman, Everett, of Vt. and Jenifer took part,

Mr. Root's amendment was negatived—Ayes 18, noes not counted.

Mr. Everett, of Vt. then moved to amend the amendment of Mr. White, so as to restore the pro-

tective duty of the act of last year on wool, viz: 4 cents per lb and 40 per cent ad valorem: which was agreed to—Ayes 87, Noes 67.

The question then recurring on Mr. White's amendment, as thus amended, by Mr. H. Everett,

Mr. Beardsley, of New-York, now moved to amend the amendment of Mr. Everett, so as to limit it to the first year, and then to decrease the duty successively by one cent each year, in the specific duty, and five per cent. in the ad valorem duty, as follows:

4 cts. specific, and 40 pr ct. ad val. till 2d March, 1834
3 cents, and 35 per cent. 1835
2 cents, and 30 per cent. 1836
1 cent, and 25 per cent. thereafter, as permanent duty.

This amendment was carried—ayes 86, noes 69.

The question being put on Mr. Everett's amendment, as amended by Mr. Beardsley, it was rejected, Ayes 72, Noes 73.

Mr. White's first amendment was then adopted without alteration. Leaving the duty on wool at
35 per cent. till 2d March, 1834
30 1835
25 1836
20 thereafter, permanent.

The question was next put on Mr. White's second amendment, which is to the third section of the bill.

Mr. White's amendment made the reduction more gradual, as follows:—
30 dollars till 2d March, 1834
25 1835
20 1836
And then 15 permanent.

The amendment was agreed to—ayes 66, noes 64.

The question next came up on the third amendment, which is in the fourth section of the bill.

The amendment makes this resolution more gradual, as follows:—
40 per cent. till 2d March, 1834
35 do 1835
30 do 1836
25 thereafter (permanent).

Mr. Stewart proposed to amend this amendment so as to restore the provisions of the act of last year—leaving the duty 50 per cent.

This was negatived—Yeas 75, Nays 89.

Mr. White's amendment was then agreed to—Yeas 76, Nays 73.

Mr. White's next amendment was in the eighth and ninth sections of the bill.

Mr. White proposed to strike out both of these sections, and insert a provision laying a duty on cotton goods of
30 per cent. till 2d March, 1834
25 do 1835
20 thereafter (permanent).

Mr. Semmes, of Md. moved to amend this amendment so as to leave the duty permanent at 30 per cent. After some remarks from the mover, this amendment was rejected without a count.

Mr. Pearce of R. I. then offered an amendment to the amendment of Mr. White so as to make the duty,

On undyed cottons 7 1-2 cents the square yard;

Dyed cottons 8 3-4 cents; except twist, yarn, and thread, [which were to be left as by the Tariff of 1824;]

On nankeens direct from China, 20 per cent. ad valorem;

Stamped floor cloth 43 cents the square yard;

Other floor cloth 12 1 2 cents;

Matting 5 per cent. ad valorem.

[The effect of this amendment would be to restore the above duties as by the act of last year.

On motion of Mr. Howard of Md. the amendment was divided—and the question taken first on the cottons.

The first part of Mr. Pearce's amendment was then rejected—yeas 68, nays 73.

The second part followed without a count.

Mr. Steware moved to amend Mr. White's amendment so as to leave the duty on cottons permanent at 30 per cents and to strike out "silk," as a material.

The motion was negatived—yeas 63, nays 78.

The Committee then rose, and

The House adjourned.

Saturday, Feb. 2

In the *Senate*, this morning, the Chair communicated a Report from the Secretary of War in relation to intercourse with the Indians.

Mr. King, from the Committee on Commerce, reported a bill making Camden, in New Jersey, a port of delivery, which was ordered to a second reading.

Some private bills were disposed of. Mr. Tipton introduced, on leave, a bill granting to actual settlers on the public lands a pre-emption of a quarter section, at $1,25 per acre. Mr. Grundy's resolution changing the hour of meeting from 12 to 11 o'clock, till otherwise ordered, was considered and adopted.

On motion of Mr. Poindexter, the bill to create new land offices in the Choctaw Purchase and for the more convenient organization of the Land Districts in the State of Mississippi, was taken up for consideration, and after some explanations in regard to it from Mr. P. and his colleague, Mr. P. remarked that he found it impossible to gain the attention of the Senate for this subject, and on his motion the bill was laid on the table. This small matter serves to shew the fact that the two great questions now before Congress absorb so much the thoughts of the members that it is useless, in the brief space allowed to other business, to name any other subject. If the bill explaining the 13th section of the Tariff of 1832 gets through, as I think it will, it will be because it has some connection with one of these exciting topics.

At 1 o'clock, the special order, the Revenue Collection Bill, was taken up, and Mr. Frelinghuysen spoke three hours in conclusion of his argument in support of the bill. He asked the attention of the Senate and the large auditory, and well did he reward it with a clear, dispassionate, well connected and considerate view of the powers and duties of the Government in regard to the South Carolina question. His sincere, unaffected, and impressive manner, not less than the cogency of his argument, served to rivet attention, and settle the conviction of all whose prejudices and passions had not closed every avenue to their understanding and their hearts.

I must do Mr. Calhoun the simple justice to say, that he did not, even once, interrupt the remarks of the speaker to-day.

The Senate, at the conclusion of the speech, proceeded to the consideration of executive business.—Correspondence of the Journal of Commerce.]

HOUSE OF REPRESENTATIVES.

The House resumed the consideration of the motion made by Mr. Wilde, on the 30th of January ultimo, that the House do reconsider so much of the vote of that day, by which the report of the joint Committee of the General Assembly of the State of Massachusetts, and sundry resolutions adopted by said Assembly were ordered to be printed and referred to the Committee of the Whole House, as relates to said report.

The House then passed to the orders of the day, and once more resolved itself into Committee of the Whole on the state of the Union, Mr. Wayne in the chair, and resumed the consideration of

The Tariff Bill.

Mr. Appleton, of Massachusetts, now moved to amend the amendment offered by Mr. White of New York, to the original bill in its eighth and ninth sections.

[The bill proposes on cottons costing 25 cents the square yard an ad valorem duty of 30 per cent. until March, 1834, and then a permanent duty of 20 per cent.; and on all other cottons 25 per cent. ad valorem until March, 1834, and then 20 per cent. permanent.

Mr. White's amendment proposed to make the reduction more gradual, as follows: 30 per cent. till March 1834, 25 per cent. till March 1835, and then 20 per cent. permanent.

Mr. Appleton's amendment put the duty at 20 per cent. permanent, and added a proviso that on plains there should be a square yard duty of 7 1-2 cents till March 1834, and then 6 cents permanent; and on Calicoes a square yard duty of 8 3-4 cents till March 1834, and then 8 cents permanent.]

The debate on this amendment was resumed and continued until the time of adjournment of the House (about sunset) without any question being taken thereon.

February 4.—IN SENATE.

Mr. Smith, from the Committee on Finance, reported a bill to remit duties on a locomotive engine, imported by the Susquehannah and Baltimore Railroad Company; which was read, and ordered to a second reading.

The Senate then proceeded to consider the bill to provide further for the collection of the duties on imports.

HOUSE OF REPRESENTATIVES.

Mr. Appleton presented a petition against the Tariff bill, and moved it be printed.

The House then, on motion of Mr. Verplanck, went into Committee of the whole on the state of the Union, Mr. Wayne in the chair.

LEGISLATURE OF NEW YORK.

IN SENATE—*Tuesday, Jan. 29.*

Bills Introduced.

By Mr. Stower, to increase the capital of the Jefferson co. Bank.

By Mr. Halsey, to incorporate the Rochester and Charlotte Railroad Company.

After the consideration of executive business, the Senate adjourned.

ASSEMBLY.

Mr. Stilwell called for the consideration of the question on agreeing with the Committee of the Whole, in the report on the Chenango Canal bill.

Mr. Van Duzer hoped the gentleman would let this subject lie on the table, as the gentleman from Ontario (Mr. Spencer) whose amendment was now under consideration, was absent.

The question was then taken, and the subject was laid on the table, ayes 69, noes 32.

Wednesday, Jan. 30.—IN SENATE.

A report was received from the commissioners of the Canal Fund in obedience to a resolution of the Senate, relative to the receipts and expenditures on the Erie and Champlain canals from 1826. Ordered printed.

ASSEMBLY.

Petition by Mr. Keon, for the preservation of trout in certain waters of Long Island; and also a bill to authorize a tax of $138 in School District No. 11, in Farmington, Ontario Co.

Mr. Stilwell gave notice of a bill to direct the publication of the laws in a newspaper in New-York, the same as they are published in the State paper.

The bill from the Senate to incorporate the Ontario and St. Lawrence Steamboat Company, and the bill for an additional term of Common Pleas in Oneida, were read a third time and passed.

Mr. Stilwell called for the consideration of the question on agreeing with the committee of the whole in their report on the Chenango canal bill.

The question was on the amendment of Mr. Spencer, in place of the 7th section.

The vote was taken on Mr. Spencer's amendment and lost, 78 to 34.

The question then came up on agreeing with the report of the committee of the whole.

Mr. Salisbury stated that from an expression which he had used the other day, relative to the 7th section, it might be supposed he would vote against the bill, but he said that such supposition was wrong, he should vote for it.

Mr. Van Duzer observed that from some of his remarks while this bill had been under consideration, it perhaps would be thought he would not sustain it; but examination and reflection had indeed him to vote for it. He called for the ayes and noes.

Mr. Spencer commenced to give his reasons why he should vote against the bill. He spoke for about half an hour, when it being two o'clock, he gave way for a motion of Mr. Russell to adjourn.

The motion to adjourn was carried, 49 to 47.

IN SENATE—*Thursday, January 31.*

Bill Introduced.

By Mr. Sherman, for the appointment of Commissioners in relation to supplying New-York with pure and wholesome water.

Bills passed in Committee of the Whole.

Relative to the acknowledgment of certificates of limited partnerships, Mr. Beardsley in the chair.

To incorporate the Rochester and Charlotte Railroad Company, Mr. Sudam in the chair.

Relative to the State Library, Mr. Dodge in the chair.

Providing for the appointment of an additional inspector of sole leather in New-York, Mr. M'Dowell in the chair. Adjourned.

ASSEMBLY.

The annual report of the bank commissioners was received, and four times the usual number ordered printed; and an additional one hundred for the use of the bank commissioners. The report is very long.

Mr. Stilwell called for the question on agreeing with the committee on the Chenango canal bill.

The question was then taken on agreeing with the committee of the whole in their report, and decided affirmatively, ayes 70, noes 38.

IN SENATE—*Feb. 2.*

Petitions: Mr. Armstrong, from the Committee on Manufactures, introduced a bill to extend the capital of the Matteawan Manufacturing Company.

The bill for the construction of the *Chenango Canal* was received from the Assembly, and referred to the Committee on Canals.

ASSEMBLY.

Petitions presented: Of I. C. Babcock, of N. Y. to change the name of his son to Arden; (the object is to enable him to take possession of an estate of $100,000, left him by his aunt.)

The bill introduced this morning, by Mr. Litchfield to change certain person's names, was called up for a third reading.

On motion of Mr. Downing, it was ordered that a Committee be appointed to inquire into and report some mode for enabling people to change their names without legislative enactment.

IN SENATE—*Monday, Feb.* 4.

Mr. Van Schaick, from the Committee on Canals, to whom was referred the bill from the Assembly, authorizing the construction of the Chenango Canal, made a favorable report on that subject. The bill and report were referred to a Committee of the Whole.

The bill to incorporate the Rochester and Charlotte Railroad Company was read a third time and passed—ayes 27.

ASSEMBLY.

Petitions presented: To incorporate the Long Island Firemen's Insurance Company; for a horse fair market, and a race course in the county of Albany, which was read; remonstrance from New York against amending the charter of the Harlem rail road company; Mr. Ostrander. a report and bill to authorize the establishment of a public square in the 11th Ward, in the city of New-York.

The bill to authorize certain persons therein named to change their names, was read a third time.

In Committee of the Whole, the committee entered upon the bill to incorporate the Bank of Herkimer.

Mr. Spencer offered an amendment, that no director of any other monied corporation be allowed to be a director in the corporation to be created by the bill, which was adopted; when the committee rose and reported, and the House adjourned.

SUMMARY.

GOOD DIVIDEND.—The Jefferson Fire Company have declared a nett dividend of *four per cent.* for the last six months.

A Bear.—St. Louis, (Missouri,) Jan. 8.—A Bear, weighing less than 200 pounds, slaughtered, was sold in the market in parcels, for 40 dollars.

Navigation of the Delaware.—Though the Delaware is free from ice and the steamers have commenced running to and from New-Castle, yet the Philadelphia Chronicle informs us, business has not opened. Arrangements have these few years past been made for a cessation of intercourse by vessels with other sea ports, and this unexpectedly moderate winter has exhibited the singular sight of the Delaware at once free from ice, and almost free from navigation. Business, as might be expected, is consequently dull; transactions in the different markets are so limited, that reports would be deemed unnecessary, but for the sake of regularity.

The weather, says the Cincinnati Daily Advertiser of the 26th ult., continued very mild, much more resembling May than January. The river is at a fine stage for boating, and the arrivals and departures are numerous. Business is dull, and money continues scarce, but the pressure is not so great as it has been. What are the Eastern capitalists about? They can let their money here on as good security as there is *anywhere*, and obtain an interest of from eight to ten per cent., while they are only getting four and five for it at home!

[*From the New-Orleans Courier, of Jan.* 16.]

LATEST FROM MEXICO.—The schr. Eliza Thomas, arrived here this morning from Tampico, bringing advices from the city of Mexico to the 28th of Dec. and from Tampico to the 7th inst. Peace has been re-established, and the differences between the belligerent parties submitted, by mutual agreement, to the adjustment of a Convention of the States. This Convention was provided for by the terms of the treaty between Bustamente and Santa Anna; but whether the Congress, now in session, will sanction their proceedings, remains to be seen.

We have already stated that by the new arrangement Pedraza is to be made President. The 1st of January is appointed for his inauguration, and he is to serve *until* the 1st of April, when a new election is to be made by Congress.

A letter dated the 28th, says—"Our revolution is ended—Pedraza is to come into power on the 1st *January*."

LOTTERIES.—A bill has passed the Senate of Pennsylvania to abolish lotteries.

GOLD MINE.—A gold mine has been discovered in Habersham county, Georgia, of the richest kind.

ACCIDENT.—We are informed by a gentleman from Plymouth, that a most distressing accident happened in that town last week. A man was cutting up meat, in his house, with a large knife, when it unfortunately glanced and struck one of his daughters, and instantly killed her. A large kettle filled with boiling soap was on the hearth at the time, and the mother, with an infant in her arms, was standing by the fireplace. She was so much agitated by the disaster, that she let the infant fall into the boiling soap, and it survived but a few moments after it was taken out. Thus in the short space of fifteen minutes, the parents were deprived of two beloved children.—[Barnstable Journal.]

COLOMBIA.—Important improvements are said to have been made in the moral and political condition of this country under the auspices of Gen. Santander. A vigilant enforcement of the laws for the emancipation of slaves, and for the establishment of primary schools, gives fair promise of lasting utility from his administration.

A native of Massachusetts, Mr. Augustus Leland, has been employed by the Governor of Velez to repair the road from Bogota to the river Carare, which will open a communication to navigable water from a rich and fertile country. The province of Rio Hache has been restored to tranquillity.

Fatal Accident.—A boy, by the name of Christian Brink, about 14 years of age, residing at Dundaff, Penn. unfortunately got himself entangled in the propelling machinery of a Grindstone, at a Smith shop in Carbondale, and was so much lacerated as to render it necessary to amputate his leg, and on the same evening he expired.

During the debate on South Carolina Affairs in the Senate on Monday, one of the thirteen gilt stars which support the festoons around the Chamber, dropped out, and could not be replaced during the day. This, in "Roman times," would have been considered ominous.—[Alexandria Phœnix.]

Among the Boston 8th of January toasts, is the following:—

WOMAN.—The morning star of infancy—the day star of manhood—the evening star of age. Bless our stars! May we always bask in their skiey influence till we are sky high.

Bishop Chase, of Michigan, has commenced his labors in that Territory. A notice appeared in the St. Joseph Beacon, January 22, that on the 27th, he would preach at White Pigeon; on the 29th, at Edwardsburg; on the 30th at Niles; at Edwardsburg again on the 1st of February, and at Cassopohs on the 2d and 3d.

[*From the National Intelligencer of Tuesday.*]

THE THREE PER CENT. STOCK.—The arrangement for the redemption of the portion of this Stock held in Europe, so advantageously to the People and to the Government, by the Bank of the United States, having been a subject of so much and gross misrepresentation in some quarters, we are glad to be able to state, on the authority of a letter received by a member of Congress (the authenticity of the source of which cannot be questioned) that advices of the certificates of much the greater portion of that Stock have been already received from England, leaving yet to be received Certificates to the amount of not quite a Million and a Quarter of Dollars. It is a subject of much satisfaction to those who have stood by that institution, to see how completely, pursuing the even tenor of its onward course, it discharges faithfully all its obligations to the People, and thus effectually refutes the charges trumped up against it.

We also copy the following from the same paper. We have noticed paragraphs in many other papers, but knowing the family yet entertained well grounded hopes that they were unfounded, have omitted to notice the subject until now;

"We are sorry to say that the death of our esteemed fellow citizen, Henry Eckford of the city of New York, is confirmed beyond doubt, by letters received in this city, from officers of the Navy in the Mediterranean, under date of 20th November. The news was communicated to our squadron through a letter from Commodore Porter, our Chargé d'Affaires at Constantinople, to Mr. Offley, our Consul at Smyrna. He died of a fever of about fifteen days' duration.

Early Asparagus.—We have seen some specimens of asparagus, (as green and nutritious as can be produced in its season,) from the garden of Alderman Stephen Van Rensselaer, Jr. We are not informed by what process of irrigation Gen. V. R. was able to cultivate this delicious vegetable in January. It would be well for our gardeners to make the inquiry.—[Albany Evening Journal.]

Melancholy Shipwreck.—The schooner Frederick, Sherwood, of Fairfield, Conn. sailed from this port on the 8th December, with a valuable cargo, for Havana. Early in the morning of the 17th, in lat. 28 40, long. 72 32, she was capsized in a sudden squall, when Mr. John H. Smith, passenger, supposed of Portland, and a seaman named John Griffith, were drowned. Captain Sherwood, with the remainder of the crew, whose names are William H. Rogers, mate, Henry Brooks, James Riley, John Keef, Aaron M. Sherwood, seaman; John Story, cook; and Mrs. Louisa Burdett, passenger, of New-York, took to the boat, destitute of provisions, and water, clothes, or compass; subsisting for 10 days upon such articles of food and drink as floated from the wreck. The weather, during most of the time, being stormy, with strong gales, added to the distress of their situation. They remained near the wreck. The weather, during most of the time, being stormy, with strong gales, added to the distress of their situation. They remained near the wreck till 26th ult. when they were taken off, by the Spanish schr. Tres Manulas, Capt. Marques, bound from Havana for the Coast of Africa; and on the 5th inst. were put on board the French Brig L'Aimable Celeste, Captain Jourdan, from Havre, and arrived at Wilmington, N. C. on the 23d ult.

[The above information is derived from a proof-sheet from the office of the Wilmington Adv.]

Charles G. Dewitt, of New York, has been appointed with the consent of the Senate, Chargé d'Affairs to the Government of Guatemala.—[Nat. Intel.]

There was a great snow storm in Portland on Thursday last.

General Blair has been sentenced by the Circuit Court at Washington, to pay a fine of $300, for his assault and battery on Gen. Duff Green.

THE POST MASTER GENERAL has established a line of Expresses on horseback between this city and Philadelphia—to carry letters and the *exchange papers* of the newspapers. This is a great accommodation, for which we are happy to award all credit.

A detachment of thirty-one U. S. recruits—fine, healthy looking young men—arrived here yesterday in wagons from Whitehall and Albany, and immediately proceeded to Bedlow's Island.

Fire.—A fire broke out at eight o'clock last evening in the pattern shop of Mr. James P. Allaire, in Monroe street, which was nearly destroyed. The building was insured.

Capt. Brownell came up yesterday in the Charles Rhind from the wreck of the brig Matilda, ashore at Long Branch. He brought up every thing that could be saved from the wreck. The brig will probably be lost.—[Gazette.]

Expedition.—The Albany mail arrived yesterday morning a quarter before six o'clock, and the Southern about seven.

Lower Canada.—Mr. Ogden, who has resigned his seat in the Assembly for the town of Three Rivers in consequence of his being appointed Attorney General, absolutely declines a re-election.

In the Legislature of Massachusetts on Friday, the question on the passage of the resolve proposing an amendment to the Constitution, was taken up in the House of Representatives, and decided in the negative, the majority of two-thirds required by the Constitution not being found in its favor. The Yeas were 287 in number, Nays 222.

Stage Coach Accident.—One of the stages passing between Harrisburg and Philadelphia, upset twice a few days ago, within a few miles of the city, owing to carelessness on the part of the driver. Several passengers were severely bruised, but no bones were broken.

BANK OF THE UNITED STATES.—According to the monthly statement for December, communicated to Congress,

The amount of bills discounted was	$43,626,870
Domestic Bills of Exchange	18,069,043
Amount of specie	8,951,847
The amt of notes in actual circulation	17,459,571
Government deposits	6,000,000
Private do.	7,500,000

[*From the Journal of Health.*]

SACCHARINE ALIMENT.—Dr. Prout considers the principal alimentary substances as reduceable to three great classes, the *Saccharine*, the *Oily*, and the *Albuminous*. The first of these, with certain exceptions, includes the substances in which according to Gay-Lussac and Thenard, the oxygen and hydrogen are in the same proportion as they are in water. They are principally derived from the vegetable kingdom, and being at the same time *alimentary*, Dr. Prout considers the terms *Saccharine principle* and *Vegetable aliment* as synonymous. The following, showing some of the results of Dr. Prout's experiments with various substances, great care being taken in every case to obtain these perfectly pure, will interest many of our readers, as showing the comparative nutritive properties of each.

SUGAR.	*Carbon.*	*Water.*
Pure Sugar Candy contains	42.85 pr. ct.	57.15
Impure Sugar Candy	41.15 to 42.15	58.50 to 57.50
East India Sugar Candy	41.90	58.10
English Refined Sugar	41.50 to 42.50	58.50 to 57.50
East India Refined Sugar	42.20	57.80
Maple Sugar	42.10	57.90
Beet-Root Sugar	42.10	57.90
East India moist Sugar	40.88	59.12
Sugar of Narbonne honey	36.36	63.63
Sugar from Starch	36.20	63.80
STARCH.		
Fine wheat Starch	37.50	62.50
The same dried	42.80	57.20
Do. do. highly dried	44.	56.
Arrow Root	36.40	63.60
The same dried	42.80	57.20
Do. do. highly dried	44.40	55.60

PORT WINE.—The eulogists of pure Port Wine may be a little startled at the following official statement of the entire amount of wine exported from Oporto:

In 1818, the Factory wine exported from Oporto amounted to 32,843 pipes; of this quantity 32,465 were consumed by Great Britain and her dependencies, leaving 378 pipes to supply all the rest of the world with pure port wine.

In 1819, the total quantity exported was 19,502 pipes, of which nearly the whole was for the supply of Great Britain.

In 1820, the quantity exported was 23,740 pipes; almost the whole went to supply Great Britain.

In 1821, 24,641 pipes; nearly the whole to Great Britain.

In 1822, 27,758 pipes; of which 27,470 were consumed by the English, leaving 288 pipes for the supply of all other nations.

In 1823, 23,578 pipes were exported; of which 23,208 were for the supply of England, leaving 370 for other nations.

In 1824, 19,164 pipes were the number exported, the same proportion being consumed by Great Britain.

In 1825, 40,524 pipes exported, of which 40,277 were for the supply of Great Britain, and 247 for other nations.

In 1826, 18,604 pipes exported; 18,310 to Great Britain, and the remaining 314 to other countries.

PORT WINE OF THE SHOPS—The following is stated on unquestionable authority to be the composition, detected by analysis, of a bottle of the ordinary port wine of the shops. Spirits of wine, three ounces; cider, fourteen ounces; sugar, one and a half ounce; alum, two scruples; tartaric acid, one scruple; strong decoction of logwood, four ounces.

CONSUMPTION OF WINE IN FRANCE.—In 1821, the quantity of French wines retailed in France, and of course chiefly consumed by the poorer classes, amounted to more than 335,000,000 gallons. In 1826, it exceeded 400,000,000 gallons. The quantity sold wholesale, and consequently consumed by the families of the opulent, or at least those in easy circumstances, amounted in 1826 only to 69,314,650 gallons; in 1828, to 133,869,438 gallons.

CONSUMPTION OF FRENCH WINES BY FOREIGN NATIONS.—According to M. Paguirre, England uses less of the French wines than almost any other nation, if we except Sweden. In five years, 6,681 tons of French wines were admitted into England. Hamburg alone takes about eight times, and Holland upon an average twelve times as much.

LOSS OF WEIGHT IN MEAT DURING COOKING.—Four pounds of beef lost by boiling one pound, the same quantity lost by roasting one pound five ounces; the same quantity lost in baking one pound three ounces. Four pounds of mutton lost in boiling fourteen ounces; the same quantity by roasting lost one pound six ounces; by baking the same quantity lost one pound four ounces.

CONSUMPTION OF BEEF IN FRANCE.—According to M. Lullin de Chateauvieux, it appears that the consumption of *Beef* in France, in proportion to the population, is only one-sixth of what it is in England, notwithstanding that during the year 1826 no fewer than 36,518 oxen and cows were imported from foreign countries. During the same period the importation of sheep and lambs amounted to 200,000. According to M. Dupin, there is consumed in England three times as much meat, milk and cheese, as in France.

[*From the Albany Argus.*]

RECEIPTS AND EXPENDITURES BY THE COMMISSIONERS OF THE CANAL FUND, FROM 1817 TO 1832.—A report was made to the Senate yesterday, by the Commissioners of the Canal Fund, in compliance with a resolution introduced by Mr. Van Schaick, giving a statement of all the moneys received and expended by them since the organization of the board in 1817. It appears by this statement that the sums received by the Commissioners on account of the Erie and Champlain Canals, are as follows, to wit:

Avails of loans, exclusive of premiums,	$7,672,7 2 24
Premium on loans,	223,368 76
Tolls,	6,966,698 55
Vendue duty,	2,843,456 34
Salt duty,	1,493,686 65
Steamboat tax,	73,509 90
Sales of canal fund lands,	67,206 69
Interest on investments of surplus funds,	213 359 98
Rent of surplus water,	7,275 68
Other receipts,	17,039 44
Total amount received by the commissioners of the canal fund from all sources, from 1817 to the 30th September, 1832,	$19,603,384 32
The sums paid out by the commissioners are as follows, to wit:	
To the canal commissioners,	$9,809,304 40
Interest paid on canal debt,	4,150,553 66
Paid to the stockholders of W. I. Lock Navigation Company,	152,718 52
Paid notes given to contractors by Myron Holley, as treasurer of the canal commissioners, and for which he obtained their receipts, and a credit on his account with the state, (see chapt. 25 and 213 of the session of 1825),	17,155 91
Miscellaneous payments,	84,767 29
Superintendents of repairs,	1,561,004 63
For extinguishment of canal debt,	750,535 13
Loaned and invested,	1,687,351 30
Total amount paid out by the commissioners of the canal fund, from 1817 to 30th September, 1832,	18,213,390 44
Deduct this from the receipts as stated above, and it leaves a balance in the hands of the commissioners, as stated in their annual report, p. 11, of	$1,389,993 88

This balance is the sum remaining in the two Albany banks, and in the banks in which the tolls are deposited by the collectors. The sum under the head of "loaned and invested," (excepting therefrom $22,097 53, being the premium paid upon stock purchased) when added to the balance before referred to, makes the total amount in the hands of the commissioners applicable to the payment of the canal debt, as stated at page 11, in the annual report, $3,055,247 65. When the annual report of the commissioners was made to the Legislature in 1826, embracing their transactions up to the close of December, 1825, the Erie and Champlain Canals were considered as finished; and the sums expended for these Canals embracing the amount paid to the canal commissioners for their construction; the interest paid on loans; the purchase of the stock of the Western Inland Lock Navigation company; the notes of Myron Holley, and about six thousand dollars for incidental expenses; made an aggregate expenditure for the completion of the Erie and Champlain canals, of

	$10,731,591 75
Since the close of the year 1825, there has been expended for repairs and improvements of the canals, interest on the debt, &c. &c.	8,871,793 57
	$19,603,384 32

[*From the Boston Sentinel of Saturday.*]

SHIPWRECK AND LOSS OF LIVES.—Yesterday forenoon, (31st) about 10 o'clock, the sch Mechanic, Charles Holland, from Baltimore, for Salem, went upon the rocks about a mile to the northward of Cohasset Rocks, near the salt works. It was blowing very fresh at the time from the NE. with a thick snow storm. Soon after the vessel struck, 5 of the persons on board took to the boat, intending to go on shore at Cohasset, but in consequnce of the very heavy sea running, she sunk shortly after leaving the vessel, and four were drowned. The fifth, a young man belonging to Baltimore, was washed ashore by the surf, nearly exhausted; he is however receiving every attention, and is doing well. In the course of the day the schr. got off the rocks and drifted into the cove, between Nichols's house and the salt works; and on going on board, another dead body was found in the cabin. The body of Captain Holland drifted ashore yesterday, but the others had not been seen. It was expected the cargo would be got out to-day.

Loss of brig Glory, of Baltimore.—By the arrival at brig Salem of Baltimore from Para, we have received the account of the loss of the above vessel, which sailed from Baltimore 20th October for Porto Rico. Captain Hutson, with John Lewy, mate, and Oliver Apply, seaman, (the only survivors) were taken from the wreck by schooner Resolution, of Alexandria, and carried to Coara, Brazil.

On the night of 23d Oct., a gale commenced from the eastward, during which most of her sails were blown away, many of them from the gaskets. They were compelled to lay her to under bare poles. On the 24th, at about 7 o'clock in the evening, she was tripped by a heavy sea and capsized, when seven in number were lost. The master, mate, and one man, who were below at the time of the disaster, were indebted to that circumstance for their lives. Having, with great difficulty, succeeded in extricating themselves from below, they got upon the vessels bottom, in which perilous situation they remained for about an hour, when the mainmast went a few feet above deck, and the vessel righted full of water. They then repaired to the fore top, it being the only part of the wreck unexposed to the violence of the sea, which made a clear breach over her. In this situation, exposed to the inclemency of the weather, almost without clothing, and without the slightest sustenance, they remained until the 28th, when the gale having abated, they obtained, by diving into the cabin, a ham, a cheese, and two bottles of porter.

On the morning of this day they saw several sail, one of which approaching the wreck they were cheered with a hope of speedy deliverance,—this hope however proved illusory, for on her coming within hail, and discovering their situation, they were told to swim off and they would be taken on board,—this their exhausted condition rendering impossible he bore away, apparently with the design of leaving them; on observing which they begged him to come again alongside, and they would make the desperate attempt; he made signal he would, but stood on his course to the Eastward, inhumanly abandoning them all the horrors of starvation and death.

Almost forsaken by hope, they still continued to struggle for existence, which by cold and privation, was nearly reduced to the last extremity, when on the 31st day of October, they were taken off by the schooner Resolution, on board which vessel they were treated with every attention which it was in the power of Captain Harper to afford.

It is to be regretted for the interest of humanity, that the name of the monster in human shape, who abandoned them on the wreck could not be known, and made public to be held up to the execration, his conduct merited. The following imperfect description seems however to furnish the only clue to his identification: she was an Eastern built sloop, with high quarter-deck, red bottom, and her jib stay appeared to be parted; her name on her stern, altho' not distinguishable, was observed to be a long one. Capt. Hutson takes passage in the brig Washington Barge, for New York.

NAVY DEPARTMENT.—*Constellation.*—Effectually to remove any remaining apprehensions of the public about the reported loss of the Frigate Constellation, we have the pleasure to state, that a letter has been received this day by the Secretary of the Navy, from an officer on board, dated Archipelago, Nov. 22d, 1832, stating that she was then on her way to Mahon—all well.

This is almost a month subsequent to the arrival of the merchant vessel at Trieste, reporting her loss. —[Globe.]

The ship Eagle, from Liverpool, was brought up by the Hercules steamer, on Saturday evening, without damage to ship or cargo.

CHOLERA IN NASHVILLE.—From the Nashville Banner, we learn that the cholera has re-appeared in that city. From the 12th to the 19th ult. there were 12 cases, 6 of which had terminated fatally. The Banner says "the disease is not considered epidemic, the few cases which have occurred being those of persons peculiarly exposed from habit or situation, and not sufficiectly prompt and cautious in attention to their health."

EXTRAORDINARY MALICE.—The Cincinnati Gazette, of 26th January, has this paragreph:

Louisville Canal.—A most incendiary act was committed at Louisville on Wednesday night last, 23d inst. The second lock on the Canal was blown up with powder. Kegs of powder were found under the other locks.

☞ The Stock Exchange Board last week voted donations to the following Societies, viz:—

Female Assistance Society, ...	$100
Respectable and Indigent aged Females, . .	100
Orphan Asylum, ...	100
Poor Widows, with small children, ...	100
Poor, Jewish Persuasion	100

Supreme Court January 30.—Charles A. Davis plaintiff in error, vs. Isaac Packard et al. Error from the Court of errors &c. of New York.—Mr. Justice Thompson delivered the opinion of this Court reversing the Judgment of the Court of Errors, and remanding the cause &c.

BOSTON Jan. 28.—In an act of trespass on the case brought by Mr. Edwards, a trader of respectability in the city of Boston, against Mr. Pray, a retail shoe dealor, for the alleged seduction of his daughter, Miss Abigail C. Edwards, a verdict of $2200 was found for the plaintiff.

The coldest that ever was.—The Northridgewoch Journal states that on Saturday morning, the 19th inst, at sunrise, the mercury in thermometers in that town was *thirty six degrees below zero.* We do not recollect any record of an equal degree of cold before in this State.

About half-past 6 o'clock yesterday morning, a fire broke out in a two story frame building in Mott street, between Grand and Hester streets, which was nearly destroyed. Mr. Richard Lewis, foreman of No. 2, was severely injured by being run over on his way to the fire.—[Com. Adv.]

APPOINTMENTS BY THE GOVERNOR AND SENATE.

Thomas A. Emmet, Benjamin Clark, David Codwise, Samuel Cowdrey, Frederick De Peyster, and Wm. Van Wyck, Masters in Chancery. Daniel J. Parker, and George Curtis, Commissioners of Deeds.

NEW-YORK AMERICAN.

FEBRUARY 2, 4, 5, 6, 7, 8—1833.

LITERARY NOTICES.

NORTH AMERICAN REVIEW. No. LXXVIII.—Boston. *Charles Bowen.*—After a *rapid* passage of about three weeks, this number of the North American Review, which appeared in Boston about the first week of January, has reached here. We are thus particular in mentioning the depatch with which this periodical travels, because we do not like to be behind hand with these notices; and having seen, a fortnight ago, in the Boston papers, quotations from, and references to, articles in this number, we desire to explain why we only now acknowledge its reception.

Of the nine papers it contains, we have only had time to look at three. The first, very cleverly done, runs a parallel between Prince *Puckler Muskau's* Views of English Society, and Mrs. *Trollope's* Views of American Society. Injustice however is done to the Prince by the parallel, for he is of quite a different calibre in education, talents, and habits of society, from the womankind who has kindly shewed us up. The next paper that attracted and fixed our attention, was that on *Popular Education*, which, with some positions that we are disposed to receive with caution, if not to dissent from, is conceived and written with a just and noble sense of the dignity of human nature, and of the educated mind and heart, independently of all factitious and conventional distinctions. It is only to education, as understood and urged by this writer, that the equality of which all talk, but which so few can bear, becomes, what Louis Philippe said of the Charter of the Three Days, *a truth.* The last article we can refer to, is on *Nullification*—that all absorbing topic; and we can only say, it is treated in the right spirit and with great ability: but we have no room for extracts. We differ from the writer in his opinion as to the parties ratifying the Constitution—we believe that the people, he that the States, as States, ratified that instrument. But his conclusions and reasoning against *Nullification* are not the less irresistible on that account.

BOOK OF THE CONSTITUTION; compiled by EDWIN WILLIAMS; N. Y., *Peter Hill.*—The circumstances of the times have called for this compilation, and the demand for such a manual of constitutional history will, we may hope, amply remunerate the compiler. We have here in a small volume all the debateable resolutions of the States respecting the construction of the powers of the General Government. We have the articles of confederation, the Constitution, a synoptical view of the Constitutions of the different States, Mr. Calhoun's Nullifying Address, the President's Proclamation, &c. &c. It is, in short, just such a manual as the occasion requires.

THE KNICKERBACKER, No. II.; N. York, *Peabody & Co.*—We can only announce the punctual appearance of this second number, and add a list of its contents:—Article 1, Original Memoir of Gen. Chassé; (with a fine portrait, engraved in a superior style expressly for this Magazine;) 2, The Albatross; 3, Horæ Germanicæ; 4, The Inkling of an Adventure; 5, Lodgings at Saragosa; 6, Waller to his Mistress; 7, Fanny; 8, The Outcast; 9, The Art of making Poetry; 10, Drinking Song; 11, Faces; 12, Editor's Table; 13, Kitchen Lyrics; 14, Lay of the Locomotive; 15, Literary Notices, &c.

AN APOLOGY FOR CONFORMING TO THE PROTESTANT EPISCOPAL CHURCH, by *Thomas S. Brittan.* New-York, Swords, Stanford & Co.—This is rather a remarkable book. It consists of a series of letters addressed to the Right Reverend Bishop of this Diocese, by Mr. *Brittan*, educated in England as a dissenting clergyman, in which he sets forth the process of reflection and reasoning by which his mind has arrived at the conclusion that the hierarchy of the Episcopal Church is of divine appointment. It does not fall within the scope of these notices to examine or even state the grounds of this conclusion—but belonging ourselves to the Episcopal Church, we may say that the matter and the argument of this little volume appear to us sound and well put, and we may pronounce with confidence that its tone and temper are worthy of all commendation. Mr. Brittan, in renouncing the communion in which he was educated, and of which he has been an officiating minister, does so in charity with those he leaves, while acting fully up to the maxim, so difficult for human pride to submit to—of openly acknowledging error. To the Laymen of the Episcopal Church, who would desire to see a brief and clear statement of the grounds upon which apostolic origin is asserted for Episcopacy, this little volume—it is only of about 140 pages 12mo.—will afford much light.

THE CABINET OF NATURAL HISTORY, No. IX, VOL. II. Philadelphia: JOHN DOUGHTY.—This publication sustains itself with unabated spirit; and we therefore infer, and certainly hope, with increasing profit. A skunk seizing a fowl, and Gannets pluming their feathers, are the subjects of the two colored plates of this number. An amusing paper on the manners and habits of the domestic cat, naturally enough follows the biography of the skunk, or, as he is sometimes called, the *polecat.*

AN ENGRAVING OF BISHOP WHITE, by Thomas B. Welch, of Philadelphia, from a portrait of Solly, has just been sent to us. It is faithfully done, and represents accurately the lineaments of the venerable patriarch of the Episcopal Church.

THE AMERICAN BUILDERS'S GENERAL PRICE BOOK AND ESTIMATOR, BY JAMES GALLIER, Architect, &c. N. Y. STANLEY & Co. New-York.—A useful book certainly, in this city of putting up and pulling down—if accurate; and accurate we presume it to be, from the professional pursuits and experience of the compiler.

POETRY.

[*From the Knickerbacker.*]

TO A MILD DAY IN MID-WINTER.

Why art thou come, bright day, so soon,
With thy balmy breath, like a breeze in June?
Thou hast journeyed far from a southern clime
Where the orange blooms and the tender lime;
Where buds and the full blown rose are seen,
In groves leaf-robed in their summer green;
Hast flown from the Indian land, where flowers
Perennial blush in the myrtle bowers,
To linger awhile mid snows that lie,
On cold bleak hills 'neath a wintry sky.

The herbs are hid in the trackless field,
The pebbly brooks and the springs are sealed;
No sparkling waves by the river's brink,
Go murmuring by where the fawn would drink;
No music bursts from the leafless grove,
Not even the red-breast's song of love;
Yet thou art here, like a wanderer come
To look once more on his ancient home;
To bide for an hour—a noon-day guest,
And hie him away ere the time of rest.

Thou wilt not stay till the wild flowers blush,
Till fountains forth to the sun-light gush;—
But when from the wood-crowned hills are heard
The streamlet's music, and the voice of bird,
Thou wilt come again with thy sunny smiles,
On wings of gold from the ocean isles.
Thou lingerest not—for the chilly blast
And cold white clouds are gathering fast;
But, oh! return in the early spring,
And with thee its green and its garlands bring.

SALES AT AUCTION OF REAL ESTATE.

By James Bleecker & Sons—January 28 and 30.

House and 14 years lease of lot 126 Madison street, ground rent $100, 25 by 100 feet	$4,000
Do. do. No. 69 ground rent $130	4,500
Do. do. No. 121, do 100	4,150
Lot on 5th Avenue, near 19th street, 25 by 100 ft.	1,645
Marble house and lot, No 7 B. Way, 49 by 95 feet	32,100
Two story house and lot 89 Mercer st. 21 by 100	4,100
House and lot 24 Market st. 24 by 86 feet	6,550
House and lot 119 Henry st. 25 by 108 feet	5,100
Small frame house and lot 638 Water st. 23 by 60	1,550
Small frame house and lot 640 Water st 22 by 80	1,600
Frame building and lot N. E. corner of Scammel and Cherry streets, 23 ft. 9 in. by 46 ft	2,100
House and lot 173 Mott st. 25 by 100	3,600
Two story brick house and lot 22 Rose st., 21 by 108	6,010
House and lot 385 Washington st., 20 by 65	3,050
House and lot 383 Washington st, 20 by 65	3,025
House and lot 35 Pearl st, 31 ft. 4 in. front, 30 ft. 4 in. rear, running through to Bridge st.	14,000
House and 19 years lease of lot 94 Chambers st., ground rent $150, lot 25 by 75	10,000
Frame house and lot 168 East Broadway, 25 by one half the block	2,900
One lot on Avenue D, near Dry Dock Bank	1,230
One do do do	1,225
One do do do	1,200
Two do do do each	1,100
House and lot 42 Courtlandt street, 25 by 123	12,500
House and 14 years lease of lot 393 Hudson st., ground rent $10	3,230
House and 14 years lease of lot 391 Hudson st., ground rent $10	2,225
House and 13 years lease of lot in Christopher, near Hudson st.	2,200
House and 13 years lease of lot in Greenwich, near Barrow st	2,875
House and lot 119 Mulberry st., 25 by 100	2,250
Two brick buildings on James st., 100 feet from Cherry st., 29 ft. front, 30 ft. rear, 21 ft. deep, with a strip of land 6 by 120 ft.	3,350
House and 21 years lease of lot 25 Madison st., ground rent $130	5 600
Four lots of ground on 40th st., near 4th Avenue, each	235
Four lots of ground on 41st st., between 7th & 8th Avenues, each	160
House and lot 254 Washington st., corner North Moore, 21 by 75	4,500
House and lot 252 Washington st, adjoining the above, 21 by 75	4,450
House and 18 years lease of lot 94 Chambers st., ground rent $150	7,500
Two story brick house & lot 415 Brown st., 25 by 113	11,300
Four buildings and 5 years lease of ground, 50 by 75, corner of Dominick & Clark st., ground rent $106	2,500
House and lot 21 Park Place, with 7 years lease of stable and lot on Barclay st.	25,400
Two story brick house and 15 years lease of lot 81 Madison st.	4,900

TREASURY DEPARTMENT,
Comptroller's Office, Jan. 29, 1833.

CIRCULAR TO COLLECTORS.

Sir: I have received a letter from the Secretary of the Treasury stating that information had been communicated to him by the Secretary of State, that the President having received satisfactory information that the Government of Mexico had abolished the discriminating or countervailing duties of tonnage upon ships or vessels of the United States in that country—he had, under the authority contained in the third section of the act of 13th July last, directed that the duty on the vessels of that nation should cease to be levied hereafter in the ports of the United States; therefore the Secretary of the Treasury has requested me to give the necessary instructions upon the subject to the officers of the Customs.

You will accordingly hereafter discontinue the exaction of tonnage on the vessels of said nation.

Respectfully, Jos. ANDERSON, *Comptroller.*

MARRIAGES.

By the Rev. A. Maclay, on the 18th April, 1832, Francis P. Vidal, to Esther B. Rose, all of this city.

Last evening, Jan. 31, by the Rev. C. Mason, J. Woodward Haven, to Cornelia W. daughter of George Griswold, Esq.

Last evening by the Rev. Dr Milnor, Edward F. Sanderson to Julia, daughter of Isaac Carow, Esq.

Last evening, by the Rev. Cyrus Mason, Barrillal Slosson to Margaret, daughter of Jonathan Lawrence, Esq.

On the 28th January, by the Rev. Mr. Somers, Mr. O. W. Valentine, to Miss Mary Anne Mingus, both of this city.

On the 24th Jan. at Harrison, Westchester county, by the Rev. Mr. Harris, Danier L. Westcott, to Sarah, daughter of John F. Randolph.

At Hartford, Vt., Jan. 1st, by the Rev. Mr. Campbell, Capt. Calvin Spalding, of Plainfield, N. H. to Miss Persis E. Stone, daughter of Enos Stone.

DEATHS.

This moring, after a lingering illness, Miss Jane C. Johnson.

Thursday morning, Feb. 7, George Clinton Tallmadge, in the 24th year of his age, son of the late Judge Tallmadge.

On Friday morning, Capt. White Matlock, aged 56 years.

On Monday evening, Jan. 28, aged 18 years, Winfield Scott Yates, only son of Dr. C. C. Yates, of this city.

This morning, Jan. 29th, Dr. John R. B. Rodgers, aged 75 years.

Suddenly, Tuesday morning, Jan. 29, William Ulshoeffer, aged 36 years.

Yesterday January 29th, Dr. John R. B. Rodgers, aged 75 years.

This morning, Jan. 30, after a lingering illness, Charles P. Thus, in the 37th year of his age.

On Tuesday evening, Jan. 29th, Burrall Hoffman, son of Ogden Hoffman, Esq. in the 12th year of his age.

Monday morning, Jan. 28, Mrs. Elsie W. Ackermand, aged 34 years.

Friday evening, 26th inst., at his residence at Kip's Bay, Mr Saml. Kip, Senr., aged 62 years.

On the afternoon of the 25th inst. of Typhus Fever, in the 43d year of his age, Effingham L. Embree.

This morning, of consumption, in the 40th year of her age, Mrs. Ann Gallagher, wife of John Gallagher.

Last night, Feb. 5th, James Jones, in the 47th year of his age.

Yesterday morning, after a lingering illness, Charles P. Titus, of the firm of Daniel Oakey & Co.

In Boston, on Sunday evening, January 13th, Mr. Joseph K Maine, merchant, formerly of Hartland, Vt.

At Milton, Mass., 26th January, Robert Hinckley, Esqr.

Obituary—Dr. P. F. GLENTWORTH, whose death at Trenton has been recently announced, was a native of Philadelphia, where he resided until he removed to Trenton—about fifteen years ago. In his youth, and through life, his habits were serious, studious, and exemplary, while at the same time he possessed, in a high degree, the most liberal and social feelings. He held a respectable rank in his profession, and was remarkable there, as in all his private transactions, for strict integrity and a high sense of honor. His duties as a man and a Christian have been well performed, and, we may trust, he has his reward. He died in the 65th year of his age.—[Nat. Gaz.]

WEEKLY REPORT OF DEATHS.

The City Inspector reports the death of 97 persons during the week ending on Saturday last, Feb 2d, viz.:—26 men, 20 women, 32 boys, and 19 girls—of whom 24 were of the age of 1 year and under, 12 between 1 and 2, 12 between 2 and 5, 1 between 5 and 10, 6 between 10 and 20, 10 between 20 and 30, 13 between 30 and 40, 6 between 40 and 50, 4 between 50 and 60, 8 between 60 and 70, and 1 between 70 and 80.

Diseases:—Apoplexy 4, asthma 1, burned or scalded 3, catarrh 1, consumption 18, convulsions 9, diarrhœa 1, dropsy 2, dropsy in the chest 1, dropsy in the head 11, dysentery 1, epilepsy 1, fever, typhus 1, hæmoptysis 1, hives or croup 5, jaundice 1, inflammation of the bowels 5, inflammation of the liver 1, inflammation of the stomach 1, intemperance 2, marasmus 2, old age 1, peripneumony 8, pneumonia typhodes 1, stillborn 7, syphilis 1, tabes mesenterica 1, teething 2, unknown 2, white swelling 1.

ABRAHAM D. STEPHENS, City Inspector.

☞ The following gentlemen have consented to act as Agents for this Journal; also, for the NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE—the MECHANICS' MAGAZINE—and the AMERICAN PLOUGH-BOY:

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Baltimore, Md.—Britain Chase, (at the Railroad Company's Office.)
Washington, D. C.—Benj. Homans.
Fredericksburg, Va.—W. Battail.
New-Baltimore, Va.—T. H. Hampton.
Dansville, Va.—Editors of the Reporter.

☞ AMERICAN RAILROAD JOURNAL AND ADVOCATE OF INTERNAL IMPROVEMENTS, VOLUME 2d.—This Journal was commenced un the 1st of January, 1832, with a *single* subscriber. It has now just commenced its second volume, with near *one thousand* subscribers, scattered in every state in the Union. It was at first devoted to the subject of *Railroads, Internal Improvements*, and news of the day; but it now embraces in addition to the above, a department for *Agriculture*, and another for the *Mechanic Arts*, wherein will be found an account of most new Inventions. Such, indeed, has been the encouragement held out, that the publisher is induced to extend its usefulness by making it, not only a journal of the progress of *Internal Improvements* by means of *Railroads, Canals, and Steam Carriages*, in our own country and in Europe, but also by making it a Journal of mechanical improvements and inventions, and thereby collecting a greater variety of useful information, relating to such subjects, into a smaller compass, and at a less cost, than can be found *in any other* publication now before the public. Arrangements have been made to give engravings or illustrations of such new inventions as may be deemed important to the community. *The American Railroad Journal and Advocate of Internal Improvements*, will also contain much interesting and useful *literary* and *news* reading, with such public documents as may be deemed worth recording for future reference. It will also contain *Meteorological* Tables, kept at Montreal, L. C., New-York city, Charleston, S. C. together with others kept at intermediate places. We have also the promise of one kept on Red River, in Louisiana; also, Prices of Stocks, Sales of Real Estate, Prices Current and Bank Note List, &c. &c.

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The *first* volume may be had either in sheets or bound; and the second volume will be forwarded by numbers, as they are issued, to any part of the United States. Price of binding, 50 cents, 75 cents, or $1, according to quality.

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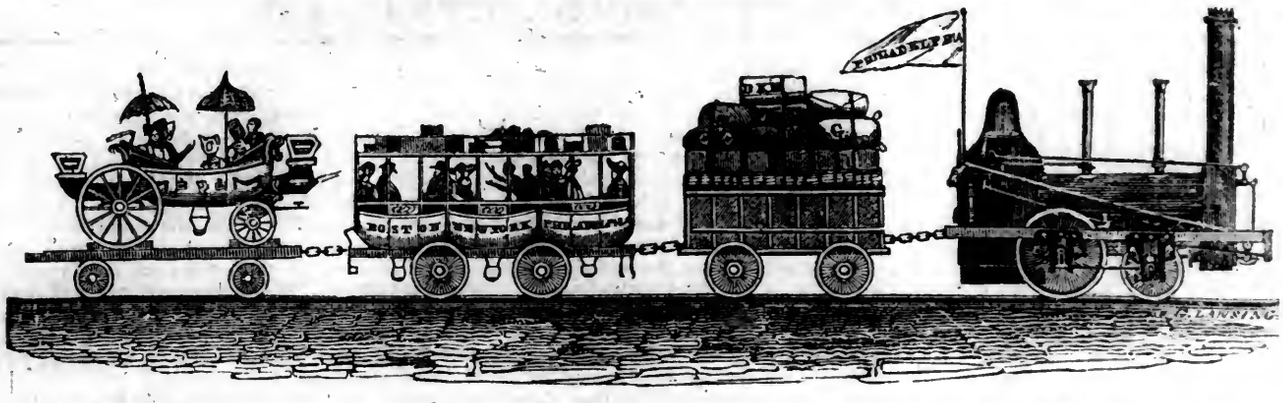
D. K. MINOR.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, FEBRUARY 16, 1833. [VOLUME II.—No. 7.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 16, 1833.

We have been politely favored with copies of the Report of the Pennsylvania Canal Commissioners, from which we shall give such further extracts as we may deem of interest to our readers.

We have also the Report of the *New-York* Canal Commissioners, a part of which we shall give in our next number.

Military Roads.—Quarter-Master General Th. Jessup, in his Report to the Secretary of War, states that the difficulties experienced in the late operations against the Indians, in the movement of the troops, and the transportation of supplies, prove the necessity of several good roads to intersect the extensive territory lying between the frontier settlements of Indiana, Illinois and Michigan, and the Fox and Wisconsin rivers; and he recommends, as a most important measure for the protection and defence of the north-western frontiers, that roads be authorized from Chicago to Galena; from Chicago to Fort Winnebago, and from the latter to Galena, as well as from some suitable points on the Illinois river to Chicago, and to intersect the road thence to Galena. The roads here proposed, if constructed, would be of very great importance to our northern inhabitants for other than military purposes.—[Sang. Jour.]

[*From the Detroit Courier, Jan. 9.*]

Michigan.—Extracts from the Report of the Chief Engineer :

Road from Detroit to Chicago, Michigan.—The contracts entered into last year for the construction of 27 miles of this road, beginning at the 105th, and terminating at the 132d mile from Detroit, including the erection of bridges over Cold Water River, Flag Creek, Swan Creek, and Prairie River, have, in most instances, been complied with; and the work provided for by the whole of the contracts would, in all probability, have been executed, had not many of the contractors been called upon, in the early part of the present year, to march towards the seat of the late Indian disturbances. These contractors are at present, however, actively engaged in fulfilling the terms of their contracts, and no doubts are entertained of the completion of their engagements within the present fall. An estimate of the funds necessary to complete this road as far as the northern boundary line of Indiana has been submitted.

Road from La Plaissance Bay to the Detroit and Chicago Road, Michigan.—The Commissioners appointed under the act of Congress of 4th July last, which provides for the location of this road, having accomplished the object of their commission, and furnished their report, accompanied by a plat, field notes, and an estimate of constructing this road, an officer has been directed to superintend its construction, with instructions to place that portion of it included between the bay and Tecumseh under contract, with as little loss of time as possible. The accounts rendered by the commissioners, as well as their report, show that the amount of expenditures on account of the location exceeds the sum appropriated for that object, by $608 76, which excess has been advanced by the commissioners under the expectation that Congress will relieve them by an additional appropriation of that amount. As an examination of the accounts shows that no unnecessary expenses were incurred, this amount is accordingly embraced in the estimate already furnished.

Road from Detroit to Saganaw, Michigan.—Contracts have been entered into for the construction of this road as far as the fifty-seventh mile from Detroit, including the erection of bridges over the Thread and the Flint rivers, the former on the fifty-eighth, and the latter on the sixtieth mile. An estimate for the continuation of this road has been submitted.

Road from Detroit to the mouth of Grand River.—The Commissioners appointed under the act of Congress of the 4th July last, in reference to this road, are now engaged in making its location.

Road from Detroit to Fort Gratiot, Michigan.—The location of this road having been changed by virtue of the authority granted in the act of Congress of 3d July last, arrangements have been made for continuing its construction, by contract, as far as Black river, which is just below Fort Gratiot. The funds available for this road are sufficient for its completion, which will be accomplished in the course of the coming year.

[*For the American Railroad Journal.*]

Foot Railroads, No. III.—There is enormous expense attending the repairs of our common roads. From some inquiries I have made I calculate that the cost of keeping roads in repair is about one dollar and a half to every inhabitant, or 3000 dollars to a town of 2000 inhabitants. In towns near to great markets the cost is still more; and after all the labor bestowed upon them, they are and must be in a bad state in the spring and fall. In most directions there is not business enough to sustain railroads for steam-carriages, or even for horse labor; but light and narrow railroads might be made, on which men might work, and do all the transportation that is needed. They could transport at least 600 tons a day, or 180 millions of feet of boards, or other lumber, a year. A railroad, then, for human power would answer all the purposes of such an establishment from most parts of the country to a market town. A few such routes into the country would collect all the travelling upon them, and would save the common roads; and the expense of erecting these railroads would be trifling compared with the cost of the heavy railroads formed for horses or steam engines. It would not be hazardous for some enterprising men of business to make an experiment on a limited scale. The experiment, however, should be scientifically made, for nice precision is here required. It belongs to those who have access to scientific and practical men—and who have some business to transact—and who have a favorable location near them, to make an experiment. And an experiment for a mile, or even a shorter distance, may determine the question for the whole country. It may show that a new mode of communication may be opened between cities and towns. And it may be that, instead of men being moved by cattle, cattle may be transported by men on railroads, even easier than they can be driven along a high-way. But experiment must decide this question. And yet it would seem that it is decided already. We know that a horse will move ten tons on a level railroad; and we know that a man has about the seventh part the strength of a horse—and we know that he can easily move at the rate of two miles an hour; and we might set it down as a decided point, that a man can move on a level railroad so great a load that it would be a public convenience to have railroads for the application of human strength for purposes of trade.

Publicola.

[*For the American Railroad Journal, &c.*]

BOSTON, February 1, 1833.

COMMON ROADS.—Many advantages present themselves in the original formation of a road, which, as they vary in every situation, cannot all be now enumerated. The judgment of the superintendent must be exercised during the formation in improving every little circumstance which may give permanence to the road, when finished; and in removing every trifling evil which may affect its future stability. It is better that the profile of the road never be level, when this can as well be avoided. I say not this in support of the assertion so often made, that a horse can travel easier on an undulating surface than on a level or one of a uniform inclination, but because the latter road may, with less trouble, be maintained in a dry and solid state, than where the same facilities are not afforded for the removal of the surface water. Again, it will be advisable, in forming the foundation of the road, to give it the same slight curve in the cross section that is proposed to be given to the finished surface, and from the extremities of this curve to have the ground free and clear to the respective drainages; and as much care ought to be observed in removing points of rock or large stone from the foundation as would have been necessary had they appeared at the surface of the finished road, they still exerting, though doubtless in a much less degree, the same unequal and deteriorating effect. Small springs will often occur in the formation; and these, when allowed to remain, become to the surveyor a perpetual nuisance: let them, if possible, be traced off the road, and opened there freely; but if, as sometimes happens, their descent be nearly perpendicular, a small drain must be especially formed to receive them, for no expense at this season can counterbalance the trouble they may afterwards occasion. When the formation of the road occurs in good common earth, no other process is necessary than to give to the metal bed or foundation the requisite forms, keeping it clear as formerly mentioned of all large stones or points of rock.—When the formation occurs in rock it will be proper to interpose a layer of at least a foot in thickness, of clay or earth, between the rock and the road material, experience having shown that the material wears very rapidly on such a hard surface, and that from the same unyielding cause the consolidation proceeds very slowly. When there is a slight degree of elasticity on the bed of the road, the material has been always found to wear best, and the reverse of this case renders all rock foundations bad in practice. A layer of earth interposed will be found a very great advantage. In crossing soft or marshy grounds, the principal object will be to raise the roadway above the influence of the highest flood-waters, and independent of this latter cause it is of consequence always to have it raised several feet above the ordinary level of the marsh, that it may be removed in some degree from the influence of that attractive force by which the damp rises as in a sponge among the particles of earth 12 or 18 inches above the ordinary level of the waters. If the marsh is very soft, side drains will be out of the question, and the only thing that can be done in this case is to give to the surface water every facility of escape by keeping the road round and smooth. The gravel, after having been prepared as mentioned in my last, had better be laid on in two courses, allowing the first in some measure to consolidate, though not entirely so, before the second course is spread, and choosing a convenient season for this purpose, when the weather is moist and damp. It will be of the utmost consequence at this stage of the work to have a set of men stationed at proper intervals along the whole range of road, for the purpose of raking it daily and adding new materials when necessary. Indeed, this should form as natural an item in the estimate of the first cost as any other necessary part of the formation. I see turnpikes abroad are, at the present moment, in a state of indescribability not to be surpassed by any Russian post-track and turnpikes, which, from the traffic on them, could be maintained in the best state of repair, with advantage to their proprietors: but this is out of order.

These remarks on gravel roads, are necessarily, in some degree, vague and general, but I consider the subject itself of much more importance to the country than its now dignified fellow, M'Adamization. The latter is not likely to come into extensive use for a considerable time, and in many of the states there is no probability of its being adopted during the present century. Independent of the high value of labor, which, however, seems continually on the decrease, there wants a proper example of a M'Adamized road of some extent, affording a fair return to its projectors; and though I have little doubt myself, that, on the greater thoroughfares, such a road formed after the best and most expensive model would be a sound and safe investment for capital, I am aware that gentlemen will not, in the mean time, risk their money on the mere assertion of any individual; the first and more common species of road must, therefore, for some time, even in those states where the material for the other exists in great plenty, continue to be the standing road of the country; in these, then, and still more so in the other states, when the material for M'Adamization is not within reach, its improvement must always be a subject of considerable importance. That this species of road is capable of great improvement every one admits, but, at the same time, it has somehow fallen into neglect as beneath the engineer's attention. Nothing can be more fallacious: its improvements are sources of economy to all within its influence—to the farmer in his waggons, his horses, and his cattle—to the public, in the economy of carriage dues, consequent, which in some instances at present form half the cost of many materials brought from the country—and in the saving of horses employed in stages, and every other species of carriage draught.

S. D.

[*From the Baltimore Gazette.*]

PRACTICABILITY OF STEAM CARRIAGES ON TURNPIKES.—I have been prevented by indisposition from noticing earlier a long article in your paper of the 23d inst. on Steam Carriages on Turnpikes. The delay, however, in exposing the errors of that article, is of little importance, as from its prolixity it has probably been read by very few of your readers, and from its nature it was not calculated to affect opinion on the subject to which it related.

You have also published lately two other short pieces on the same side; one, a letter from Liverpool to the New-York Evening Post, which, as it contained no one fact, needs no reply, and the only merit of which was its conformity to the leading principle in epistolary composition, it obviously having been written without premeditation or study: the other was a short extract from an article in the Foreign Quarterly Review. This article I propose hereafter to notice at length, and shall now merely state, that its drift is to show, not the impracticability of steam carriages on turnpikes, but that the means to obtain this important result, hitherto used in England, were not the proper ones.

As I do not wish to occupy much of your space, nor to fatigue your readers, I shall proceed to point out and comment upon, as briefly as possible, some of the prominent errors in the long communication of the 23d. The following is what the writer says of the weight of steam carriages for turnpikes:

"Regarding the resistances to be met with even on level roads, it will be scarcely less practicable to simplify the engine and its appurtenances so that the carriage with the engine, water, fuel and attendants, shall not (without an accompanying tender carriage) exceed 6½ tons in weight, on four wheels; and when three-fifths of the whole weight, bears upon the road through the two propelling wheels, this is the maximum weight, having respect to the necessary economy in relation to the wear of the road and the durability of the wheels. The adhesion from a less weight than two tons on a wheel will doubtless, in practice, be found to be inadequate to the high degree of traction required even on the nearly level parts of a good M'Adam road."

How easily a statement passes from the end of a pen to the paper under it; and where it is accompanied with a show of technical knowledge, doubtless, many believe that it has a higher origin than the brain of the writer. From a Report on Steam Carriages by a Select Committee of the British House of Commons, republished last year by order of the House of Representatives, I make the following extract from the minutes of evidence—Mr. Gurney being under examination, 3d of August, 1831:

"How far have you improved the formation of your working carriages as to weight?" The weight was a principal objection to the practical application of the carriage. The first carriage of a given power weighed four tons—this was objectionable on account of its weight, which was severely felt in consequence of its effect on the roads. I thought it would injure the roads, which injury would produce a toll that would perhaps injure the economy of it. No. 3 weighed four, No. 4 weighed three tons, with the same power; No. 5 two tons, with the same power; the present carriages building, will not weigh more than 35 cwt. with the same power.

"What does the carriage which runs between Cheltenham and Gloucester weigh?" By a letter from the Magistrate, now produced, it is stated to weigh nearly three tons—it ought to weigh only 45 cwt.; if it weighs three tons, there is extra weight of which I know nothing.

"When you state the weight of 35 cwt. you mean the weight of the travelling carriage alone, without the weight of passengers or the weight of fuel or water?"—Yes, just so; I think it possible to reduce the weight considerably as improvements go on. I have a carriage now building which I do not expect will weigh above 5 cwt. which I expected to do the work of 1 horse, and carry two or three people; speed is a particular object, and it is not intended to carry any thing more than light parcels.

"Into what stages would you divide your journeys most conveniently?" I think about seven miles.

"What weight of fuel and water would you lay in for such a stage?" The fuel and water will be in proportion to the size and power of the carriage.

"For a machine weighing 35 cwt. marked by you No. 6, what weight of fuel and water would you require?" Three bushels and a half of coke is the quantity we take to supply this distance, and the first charge two bushels; the first charge always remaining, it decreases of course down to the first charge; and taking the mean, it will be 3¾. The weight of the water at present, I think, is about 10 gallons a mile, which is consumed; that would be 70 gallons, a gallon weighing about 10 lbs. making 700 lbs.; the mean of this will be the quantity.

It may be safely asserted, that the weight of a steam carriage (capable of carrying 18 to 24 passengers) need not exceed, including water and fuel, three tons. The writer of this communication makes it six and a half. Upwards of a hundred per cent. is a difference of some moment in such matters.

The writer makes a calculation of the comparative expense of transportation by horse power and by steam. The result of which is, that on a good road 100 miles long the cost of carrying a passenger by steam carriages would be $3 33¼, and by horse power $3 00.

Mr. Farey, a distinguished engineer, who is very moderate in his views, and who, like the writer in the Foreign Quarterly Review, thinks that the experiments that have been already made in England were by no means so efficient as they might have been, on being asked by the Committee—"Do you suppose that Steam-Carriages will be able to run for half the charges of horse-carriages?" answered, "my own idea is that Steam-Coaches will, very soon after their establishment, be run for one-third of the cost of the present Stage-Coaches. "In England, too, a Stage-Coach with four horses carries nearly double as many passengers as one of our's does, viz. six inside, and twelve outside. Mr. Gurney on being asked the same question, answered, "that the comparative expense of running a Steam-Carriage, and running a coach with four horses, varies in different situations, according to the price of coke, and the price of labor. It is in all cases considerably less, at least one half less."

Suppose, Sir, that a Baltimorean in some remote part of the world, where the operation of railroads was unknown, in order to enlighten an ignorant community on this important subject, should publish a statement that on a railroad running out of Baltimore passengers were conveyed at the rate of four miles an hour, sixty miles for four dollars, would he more completely mislead the public, and more blankly contradict ascertained facts, than does the writer of the communication in regard to the two important particulars, the weight of steam carriages and their comparative expensiveness with horse power!

The writer enters likewise into a calculation of the comparative expensiveness of transportation by steam on a railroad and on a turnpike, wherein he proves nothing but his acquaintance with the elementary rules of arithmetic.

Permit me now, sir, to call your attention, and that of your readers, to opinions which are entitled to more consideration than that of the writer of the communication, as to the practicability of steam carriages on turnpikes. Mr. Farey, an engineer of high standing in England, and of the experience of 25 years, being asked by the committee—"Has the experience which has already been had of steam carriages been such as to enable us to say that it is not merely in theory we have calculated on these carriages?" answered—"Yes; what has been done by the above-mentioned inventors proves to my satisfaction the practicability of impelling stage coaches by steam on good common roads, in tolerable level parts of the country, without horses, at a speed of eight or ten miles an hour. The steam coaches I have tried have made very good progress along the road, but have been very deficient in strength, and consequently in permanency of keeping in repair, also in accommodation for passengers and luggage; for which reason they are none of them models to proceed upon to build coaches as a matter of business.—From the complexity of their structures and the multiplicity of pieces of which they are composed, it is impracticable to give them the requisite strength by mere addition of materials, because they would then be too heavy to carry profitable loads as stage coaches. I do not consider that it is now a question of theory, for the practicability I conceive to be proved; but many details of execution, which are necessary to a successful practice, are yet in a very imperfect state."

Mr. Gurney stated his opinion as follows:

"Imperfections will exist in the machinery; but I conceive that the main points of difficulty have been removed by the experiments I have made, and that all those now remaining are practicable difficulties, which will be removed by further experience; and if there is no cause opposed by the legislature, or at any other source, I will be bold to say, that in five years steam carriages will be generally employed throughout England. I have not hesitated, having these feelings, to devote all my time for the last six years to the subject, and am mentally recompensed by the present state of the subject. Private carriages will also be used. Under this opinion I have given directions for building a small one."

Mr. Nathaniel Ogle stated to the committee that his partner and himself, who had run a steam coach eight hundred miles with great success, "were about to establish a factory where these vehicles (steam carriages) will be made in numbers; and a great many are already required by coach proprietors, carriers of merchandise, and others, for their use on the public roads."

After hearing all the evidence, which fills one hundred and thirty large octavo pages, the committee of the House of Commons concluded their report as follows:

"Sufficient evidence has been adduced to convince your Committee—

1. That carriages can be propelled by steam on common roads at an average rate of ten miles per hour.

2. That at this rate they have conveyed upwards of fourteen passengers.

3. That their weight, including engine, water, fuel and attendants, may be under three tons.

4. That they can ascend and descend hills of considerable inclination with facility and safety.

5. That they are perfectly safe for passengers.

6. That they are not (or need not be, if properly constructed) nuisances to the public.

7. That they will become a speedier and cheaper mode of conveyance than carriages drawn by horses.

8. That as they admit of greater breadth of tire than other carriages and as the roads are not acted on so injuriously as by the feet of horses in common draught, such carriages will cause less wear of roads than coaches drawn by horses.

9. That rates of toll have been imposed on steam carriages which would prohibit their being used on several lines of road, were such charges permitted to remain unaltered."

It is, accordingly, the opinion of engineers and practical workmen, and of a select Committee of the House of Commons, who had before them most minute and various information, that the practicability of the application of steam to propelling vehicles on common roads is established. Now, sir, when it is recollected that this practicability has been established by experiments tried with imperfect engines and on roads not made for the purpose, what are we authorized to infer will be the result when successive experiments, guided by the great mechanical knowledge and skill of the age, shall have brought the steam apparatus appropriate for this object to a high degree of perfection, and when carriages with such improved apparatus shall be run on roads constructed purposely for their operation? One step only has been made—a most important one, to be sure. Possession has been obtained of a new field for the action of the prolific power of steam—the most extensive and the richest field that has been opened to its mighty labors. The enterprize and ingenuity of man will not fail to cultivate it successfully. The fruits of the cultivation will be immeasurable—its results incalculable.

M'ADAM.

[From the Alexandria Gazette.]

RAILROADS AND CANALS.—No subject can be more interesting to our readers than that of Internal Improvement, and the inventions which have recently been brought into use, to facilitate trade and commerce and inter-communication. Hence, we are always studious to collect and arrange facts having a bearing upon these matters for their use and information.

A few years only are passed since the wonders performed on Railroads were regarded as mere Travellers' Tales. Now, at our own doors nearly, we may see them realized. In point of velocity and burthen, the Locomotives have proved capable of more than was at first asserted. In our day, too, we have the wonders of increased and extraordinary velocity on Canals, which would not once have been believed, and against which the trials on the Delaware and Chesapeake Canal have been cited. On this subject, however, we have been favored with a pamphlet, published in England, which contains so much that is really important, and to us deeply interesting, that we will take the present opportunity to copy some of its pages, regretting that our limits only allow us to make extracts:

"The Liverpool and Manchester Railway Company, in their competition with the water-carriage, have obtained but a very trifling proportion of traffic from the canals. The profits (if any have actually been made by the carriage of goods on the Liverpool and Manchester Railway) are extremely small; yet the water distance between Manchester and Liverpool is nearly double the Railway distance; and instead of possessing the regularity of Canal conveyance, is, for eighteen miles of this additional length, subject to the winds and tides of the Mersey. Nevertheless, of an amount nearly fourteen hundred thousand tons annually, for the carriage of which the Directors of the Liverpool Railway were desirous to provide, before the Railway was opened, little more than an eighteenth part, including the entire road traffic, has been as yet obtained for the Railway; and the expenses of carrying this fraction of the trade have been so enormous, as to make it doubtful whether the Railway Company do not suffer a regular loss on their carrying trade, which is defrayed from their profits as coach masters."—[Note B. Appendix.]

"However incredible it may appear, it is certain that Canal passengers can be carried at a speed of ten miles an hour, with a degree of ease, comfort, and safety, such as no other conveyance can give, and at a charge—if required by competition—not much more than a tenth of the cost of Railway travelling.

"These facts, so different from general belief, have been completely ascertained during the course of the last two years. They are consequent on the detection, by practice and experience, of two fallacies which had been held out to the public, and received as undoubted truths.

"The first of these fallacies was, that it was impossible to propel a boat, carrying any considerable number of passengers, along a Canal at high speed, without incurring an enormous expenditure of money and power, and without occasioning a wave or surge which would wash down the Canal banks.—[Note C, Appendix.]

"The second fallacy was promulgated by certain engineers, connected with Railway projects, and is as follows, viz.: that in proportion as the speed on a Railway was increased, the expense of conveyance was diminished, as the engines by doubling their speed could in the same time do double work.—[Note C. Appendix.]

"Now, the first fallacy, viz. the alleged impossibility of moving at a great velocity through Canals, and the certainty of the destruction of the Canal banks by the swift passage of Canal vessels, have been proved to exist in imagination only. A speed of ten miles an hour has for the last two years been maintained, in the carriage of passengers on one of the narrowest Canals in Britain, without raising a ripple on the banks, even where the vessel carried upwards of one hundred passengers, or as many as are carried in a train of coaches on the Liverpool and Manchester Railway.

"The expenses or cost of obtaining this speed are so trifling, that the fares per mile are in these quick boats just one half and one third of the fares in the Liverpool Railway coaches, while at these low fares the profits are such as to have induced the boat proprietors to quadruple the number of boats on the Canal.

"On the other hand, and in respect of the second fallacy, although it be true that the extraordinary velocities obtained on the Liverpool Railway have fully come up to the expectations of the projectors, yet the expenses, instead of being diminished, (according to the dicta pro-

mulgated by engineers) have been enormously increased, and have gone so far beyond all previous calculation, as to make it doubtful whether the Railway Company will not ultimately find that, agreeably to an Irish phrase, they have gained a loss."

"As respects canals, the experiments of great velocity have been tried and proved on the narrowest, shallowest, and most curved Canal in Scotland, viz.: the Ardrossan or Paisley canal, connecting the city of Glasgow with the town of Paisley and village of Johnstone, a distance of twelve miles. The result has disproved every previous theory as to the difficulty and expense of attaining great velocities on canals; and as to the danger of damage to the banks of canals by great velocity in moving vessels along them.

"The ordinary speed for the conveyance of passengers on the Ardrossan Canal has for nearly two years been from nine to ten miles an hour, and although there are fourteen journies along the canal per day, at this rapid speed, the banks of the canal have sustained no injury, indeed injury is impossible, as there is no surge. The boats are formed seventy feet in length, about five feet six inches broad, and, but for the extreme narrowness of the canal, might be made broader; they carry easily from seventy to eighty passengers, and, when required, can, and have carried, upwards of 110 passengers. The entire cost of a boat and fittings up is about £125. The hulls are formed of light iron plates and ribs, and the covering is of wood and light oiled cloth. They are more airy, light and comfortable than any coach; they permit the passengers to move about from the outer to the inner cabin, and the fares per mile are one penny in the first, and three farthings in the second cabin. The passengers are all carried under cover, having the privilege also of an uncovered space. These boats are drawn by two horses—the prices of which may be from 50 to £60 per pair—in stages of four miles in length, which are done in from twenty-two to twenty-five minutes, including stoppages to let out and take in passengers: each set of horses doing three or four stages alternately each day. In fact, the boats are drawn through this narrow and shallow canal at a velocity which many celebrated engineers had demonstrated, and which the public believed, to be impossible.

"The entire amount of the whole expenses of attendants and horses, and of running one of these boats four trips of twelve miles each, (the length of the canal,) or forty-eight miles daily, including interest on the capital, and twenty per cent. laid aside annually for replacement of the boats, or loss on the capital therein invested, and a considerable sum laid aside for accidents, and replacement of the horses, is £700 some odd shillings, or taking the number of working days to be 312 annually, something under £2 4*s*. 3*d*. per day, or about eleven pence per mile. The actual cost of carrying from eighty to one hundred persons a distance of thirty miles (the length of the Liverpool Railway,) at a velocity of nearly ten miles an hour, on the Paisley Canal, one of the most curved, narrow, and shallow Canals in Britain, is therefore just £1 7*s*. 6*d*. sterling. Such are the facts, and incredible as they may appear, they are facts which no one who inquires can possibly doubt.

"As respects Railways, the experiment of high velocities has been made, and the result ascertained on the best finished and finest line of Railway in Britain, connecting the two great towns of Liverpool and Manchester, without a single curve, from end to end, and with only two short ascents.

"The result of this experiment on the Liverpool Railway has been somewhat different from that on the Ardrossan Canal. On the Railway, indeed, the expected velocities have been fully attained, and the calculations of the engineer, in this respect, satisfactorily demonstrated as possible and correct; but unluckily one very important matter had not been admitted into the calculation, or rather had not been supposed to exist, viz:—the probability, or rather certainty, of a great increase of expense consequent on increased speed. The geometrical ratio or increased resistance on increasing the speed on canals has been transferred to the increase of expense on increasing the speed on Railways, with this addition, that the increase of expense affects not merely the moving power, or locomotive engine, but the coaches, waggons and road-way. The ordinary speed of conveyance on the Liverpool Railway is from ten to twenty miles an hour, and depends much on the weather and the weight dragged. The Railway engine, with its tender for carrying coke and water, costs about £1000, and drags after it a train of eight coaches, the cost of each of which, if the same as in the estimate for the London and Birmingham Railway, should be £200, or a train of first-class coaches, with accompanying engine and tender, costs £2,600. The coaches accommodate 120 passengers. There are other coaches, and also uncovered waggons, which travel at an inferior speed, and which will cost less. The fares are various; seven shillings, or nearly three pence per mile, for each passenger, in the common coaches, of what is called the "first train," being just double and triple the boat fares; and four shillings in the coaches, and three shillings and six pence in the uncovered waggons, in what is called the "second train," which move at a lower velocity. The lowest Railway fare to the traveller is therefore three half-pence per mile, in an open, uncovered waggon, moving at an inferior speed, exposed to wind and rain, and the steam and smoke of the engine—or double the fare on the Paisley Canal, for being carried in a comfortable cabin under cover."

"The Paisley Canal boats have now been at work plying on that canal since the autumn of 1830, and it is found that they are as easily and safely drawn at the high velocities before mentioned, during the night as during the day. The accidents on the Liverpool Railway have been so frequent, and so serious, as to require the notice of the Directors in the Reports; whilst not even the semblance of an accident has happened with the Paisley boats."

"Although I have principally confined myself to the article of passengers, yet all I have stated applies equally to the light goods now sent by the road waggons and vans.

"With two horses, it has been shown that a weight equal to nearly eight tons in passengers may be conveyed along a narrow and shallow canal at a rate of nine or ten miles an hour, and at an expense of 11d a mile, including every outlay, with interest and replacement of capital, being less than one third of the bare cost for conveyance of a similar weight on a Railway."

(Note B, Appendix.)

The entire trade contemplated by the Directors, previous to the Railway being opened, and for which they wished to provide means of conveyance between Liverpool and Manchester, was 1,248,000 tons; but the entire amount obtained in the year 1831 was 88,099 tons, of which 52,224 tons was carried in the last six months of 1831. The expense of carriage of these 52,224 tons was £21,841 4*s* 10*d*, so that if the entire amount of anticipated trade on the Railway had been obtained, the actual annual outlay on the goods, trade alone, would have amounted to nearly £500,000 sterling, besides all the coaching disbursements, a sum far beyond the original estimated cost of the Railway itself.

(Note C, Appendix.)

The last scientific work I am aware of, in which these fallacies, propositions, or data, are demonstrated to be true, is Mr. Wood of Killingsworth's book on Railways. This book was re-pubished about six months after the Liverpool Railway was opened: and it is there demonstrated that it would take upwards of seventy horses to do on a Canal what is now actually done every day on the Paisley Canal, by two horses; while it is in like manner demonstrated that the conveyance on the Liverpool Railway was costing one ninth of the amount, which, at the end of the year, it was found to have done.

CHESAPEAKE AND OHIO CANAL.—On our fourth page, says the Williamsport Banner, will be found a brief exposition, by the President of the Canal Company, of the cheapest efficient plan for the extension of the Canal to a point nine miles above Cumberland, and into the neighborhood of the coal region. It will be seen that this object is proposed to be accomplished within two years, and at an additional expense to the company of 1,450,000 dollars, by the intervention of three more dams and three canals communicating with the main river at both extremities of each. The entire line of improved river navigation will then consist of 160 miles of canal and 35 miles of still water, making in all a distance of 195 miles from the mouth of Tiber creek, in Washington, to the point designated above Cumberland, and affording a sufficient depth of water at all seasons of the year for boats of 100 tons burden. It is ardently hoped that the great and multiplied interests at stake in this hitherto unparalleled work will not suffer it to languish, but will quickly place within the reach of the Directors the means necessary to complete and bring into speedy operation, at least, its entire *Eastern* section. In our neighborhood the work goes bravely on, and little doubt seems to be entertained of the completion of the whole line now under contract within, or about, the time required by the charter. The remarkably mild and open character of the weather during the winter has been favorable to the progress of the work, and the contractors have been faithfully and diligently engaged. Some of the dirt sections consequently are nearly finished, and many of the heaviest jobs are in a state of considerable forwardness. The aspect of the country, in the immediate vicinity of the river, for miles above and below the town, is indeed greatly changed, insomuch that it can scarcely be recognized by those who have not lately visited the line; while the impulse given to the business of this place by the construction of the Canal near us is very visible, and the prospects of Williamsport daily brighten.

[From the London Mechanics' Magazine.]

GRAND JUNCTION RAILWAY.—The sudden dissolution of Parliament last year arrested the proceedings of two different Companies, which had been formed for the purpose of effecting a railway communication between Liverpool and Birmingham. The undertaking has since been revived, under the title of the "Grand Junction Railway," and the two rival Companies have united their forces to carry it into effect. It is now proposed that the railway shall proceed from Birmingham, by way of Dudley, Tipton, and Wolverhampton, to the north of Staffordshire (whence branches will eventually be made into the Potteries,) and thence to Preston Brook, at four miles from which place it will be carried across a narrow part of the Mersey at Washington, and join the Liverpool and Manchester Railway about midway between its two extremities. By thus including some fifteen or sixteen miles of railway already formed, the line will not be executed at considerably less cost, but it will effect a communication with Manchester, as near and as direct as that with Liverpool. The engineers are Mr. Stephenson and Mr. Rastrick; and the Committee includes most of the gentlemen who took an active part in the formation of the Liverpool and Manchester line.

[From the same.]

NEW PATENTS.—George Frederick Muntz, of Birmingham, metal roller, for an improved manufacture of metal plates for sheathing the bottom of ships and other vessels. Six months; Oct. 22, 1832.

Henry Scrivener, of New Broad street, London, gentleman, for a certain improvement or improvements in the construction of iron railways. Two months; Nov. 3, 1832.

William Wilkinson Taylor, of Bow, Middlesex, felt manufacturer, for an improved cloth for the sails of ships and other vessels. Six months; Nov. 8, 1832.

Jacob Perkins, of Fleet street, London, engineer, for an improvement in preserving copper in certain cases from the oxidation caused by heat. Six months; Nov. 20, 1832.

NASHVILLE, Tenn. January 28, 1833.

To the Editor of the Ralroad Journal:

Sir—I have occasionally read your Journal, and wish a copy from the commencement, together with the current year, for W. H. B. Esq. J. M. Esq. and myself. The amount of subscription for the three sets will be paid you in a few days, by Mr. J. P. A. who will visit your city.—Annexed you have a communication for insertion, if you choose:

NAVIGATION OF THE OCEAN BY STEAM.—I am confident that in a short time the Atlantic will be subjected to safe, cheap, and regular steam navigation. The principal objections are, want of fuel for a long voyage, roughness of the waves, and obstruction of the boilers by salt water. These difficulties will be obviated by the plan I propose.

It has been ascertained from scientific measurement, that the waves of the Atlantic never rise in time of storms more than twenty-four feet high; and the breadth nearly double the elevation. To overcome waves 24 feet high by 48 wide, it is necessary to build a large vessel, near the size of our seventy-four gun ships, 300 feet long and 70 wide. The largest steamboat was lately built at Pittsburg, the Mediterranean, 196 feet long, and boiler of 400 horse power. A boat of 300 feet would ride across six waves, as on joists, equally sustained; and the width would fill the space between waves, and prevent rolling. The engines, one on each side, of 500 horse power, and 48 feet diameter of wheel, would have a slow stroke, suitable to take hold passing from wave to wave at twelve miles per hour; and cross the Atlantic, 3000 miles, in ten or eleven days. Built for passengers and not for freight, it would carry 1500 tons of coal; and consuming 100 tons a day, an ample supply for ten or fifteen days. It should also be provided with masts and sails to run with fair winds, and prevent accidents; and to obviate obstructions of the boilers by salt, might be provided with two engines on a side, to run alternately, while the salt was being removed.

This large vessel, suitably constructed, would run proportionably faster, from the increased elasticity in a greater extent of moving medium, as a large fish will outrun a small one; and the rule will hold from the smallest to the largest moving body. This size would conveniently carry one thousand cabin passengers, and reduce the price (in the present ship packets, $135) to $100 a passenger, would be $100,000 a trip; and crossing and recrossing in a month, would be $200,000; and in a year, $2,400,000. A seventy-four, manned with 1000 men and ready for a cruise, costs $1,000,000. This steamboat could not cost more than half as much; perhaps the cost and expense for a year's running would not exceed that sum—if so, the profit would be $1,400,000. But in these details I have by no means correct data, and only give a conjecture for the investigation of experimental men.

To test the plan, a voyage could be first made from New-York or some eastern city, touching at the Chesapeake, Charleston, Havana, and New-Orleans. If it succeeded, then Europe would be brought relatively three or four times nearer to us; and there would be no lack of passengers and competition. For who would not at such a cheap cost visit England, France and Germany; or even make a fashionable trip of a few days up the classic Mediterranean, to Italy, Greece, Egypt, and Palestine, where civilization, language, laws, and religion, had their origin.

The Pacific Ocean would be the most easy to navigate, even with our common steamboats, if they were large enough to carry fuel. From the mouth of Columbia river, by the Sandwich islands, (a coal deposit) to China, the voyage might be made over the calm unruffled Pacific, in twenty days or less. A steamboat ascended the Missouri last season, 2000 miles; and they can go within less than 200 miles of the navigation of the Columbia river. A railroad across, by this route, and Asia would be relatively nearer to us than Europe is at present. What a theatre this for the enterprize of our countrymen. The steam engine is the most important modern invention. As a stationary power it forms a new era in the arts. Its application to navigation and locomotion is making great progress in facilitating intercourse. The success of locomotive engines on common and M'Adam roads is now certain, and their rapid motion on railroads is wonderful. In navigation, in stemming the torrents of rivers, the steamboats, those immense moving hotels, excite our admiration.

This portable elastic power is now felt, or soon will be, throughout the land, on all the rivers, and lakes, and borders of the ocean, from the Atlantic to the Rocky Mountains and the Pacific, carrying in its train the blessings of civilization, intelligence, and science, till the lonely and remote savage wilderness will resound with the hum of population.

The ocean, which covers three fourths of the earth, and separates nations and continents by boisterous and dangerous waves, the sport of the capricious winds, will soon yield its listless force to the all-subduing power of steam, guided by science.

Intending, when I had more accurate information and leisure, to make a communication, my attention was called to the subject by the British journals. In the London Quarterly for March last, page 42, it is claimed as a most important point of national superiority of Britain over our country, that they navigate the ocean by steam; while our steam navigation, confined to the rivers, will not fit our *Steamermen*, as the reviewer says, to navigate the ocean. I am not sure that our tide-water steam navigation, in Long Island Sound, the Chesapeake, and the Lakes, and along the Atlantic from Maine to Florida, and in the Gulf of Mexico, is not at least three times the extent of their *Channels* of the same kind. I read a statement with much pleasure in a late eastern paper, that, on the first instant, the steamboat David Brown made the passage from New-York to Charleston, each way, in four days running. An extract from the United Service Journal in your journal of the 5th inst. on "steam vessels of war," shews what high importance is attached to that subject in England.

It should never be laid as a reproach to our country that any foreign nation outstrips us in a species of navigation which our country justly claims the honor of having originated; and which at no distant day is destined to change the mode of warfare on the ocean.

J. McC.

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, FEBRUARY 11, 1833.

[Communicated for the American Railroad Journal.]

Date.	*Hours.*	*Barometer.*	*Thermometer.*	*Winds.*	*Strength of wind.*	*Clouds from what direction*	*Weather and Remarks.*
Tuesday, Feb. 5..	6 a. m.	30.21	23	w by s	moderate		fair
	10	.21	28	NNW	..	w	.. —elevated hazy clouds
	2 p. m.	.12	34	WSW	..	WNW	cloudy—fair
	6	.08	31	.. .	light	w by N	fair
	10	.03	33	..	..	w	cloudy
Wednesday, " 6..	6 a. m.	29.85	33	s	moderate	sw	fall of wet snow—cloudy
	10	.78	35	s—sw—wsw	...	sw / sw / NNW	cloudy—fair at 12
	2 p. m.	.70	40	w—NNW	fresh	sw / wnw	fair—squally
	6	.80	32	NNW	..	WSW	..
	10	.90	28	..	strong—gale	NW	.. —gale with snow
Thursday, " 7..	6 a. m.	.90	17	NW by W	strong	..	fair—scuds from NW
	10	.91	19	..	gale	NNW	..
	2 p. m.	.89	24	..	..	..	..
	6	.94	22	..	strong	..	..
	10	30.05	21	NW	fresh		clear
Friday, " 8..	6 a. m.	.20	18	..	moderate		..
	10	.24	24	..	..		..
	2 p. m.	.21	27	NW to SW	..		fair
	6	.20	29	SW	..	WNW	.. —haze bank at NW
	10	.14	29	..	..	..	..
Saturday, " 9..	6 a. m.	29.93	31	SW by W	..	w by N	cloudy
	10	.91	34	WSW to NW	..	W	fair
	2 p. m.	.91	43	NNW—NW	fresh	NW	.. —scuds from NNW
	6	30.01	40	NW	moderate		.. —haze at W
	10	.10	40	..	light		.. —cloudy
Sunday, " 10..	6 a. m.	.08	33	ENE	..	WSW	cloudy
	10	.05	38	ENE—E—SW	faint	..	.. —fair
	2 p. m.	29.93	45	SW by W	..	..	fair—cloudy
	6	.90	45	.. —E—NE	faint—mod.	..	cloudy
	10	.96	42	NE	moderate	..	hazy
Monday, " 11..	6 a. m.	30.17	33	NNE	..	..	cloudy
	10	.24	31	..	fresh	..	..
	2 p. m.	.22	30	..—ENE—NE	moderate		snow—cloudy
	6	.21	28	NE	..		snow
	10	.18	29	..	..		..

Average temperature of the week, 31, nearly.

The observations of winds for the month of January give the following results, viz.: NE. including N. 32—SE. including E. 9—SE. including S. 59—NW. including W. 35.

The observations of clouds for the same month result as follows, viz.: from the NE. quarter, including N. 5—from the SE. 6—from the SW. 46½—and from the NW. 30½.

LOUISVILLE AND PORTAND CANAL.—The following extract of a letter, dated 15th January, from Shippingport, Ky. to a merchant in this city, will convey some idea of the importance and advantages derived from the completion of the Canal around the Falls of Ohio, at Louisville:—

"Statement of Steamb ats that passed through the Canal, between the 1st and 15th January inst. with their tonnage and sum of toll.

Steamboats.	Tonnage.	Toll.	Destination.
Huntsman	135 66	$54 00	Cincinnati
Dove	97 72	39 06	St. Louis
Tippecanoe	135 63	54 25	Louisville
Chester	214 68	85 87	New-Orleans
Transport	126 91	50 75	Pittsburgh
Paragon	89 90	35 62	Louisville
Mount Vernon	86 00	34 40	Louisville
Henry Clay	424 87	169 94	Louisville
Louisiana	306 00	122 40	Louisville
Highlander	87 10	34 84	Louisville
Envoy	91 85	35 72	St. Louis
Wyoming	105 20	42 12	New-Orleans
Black Hawk, No. 1	137 17	54 86	Louisville
Charleston	80 71	32 25	Louisville
Conveyance	90 37	36 12	Louisville
Henry Clay	424 87	169 95	New Orleans
Consort	113 77	45 50	New-Orleans
Black Hawk, No. 2	137 27	54 90	New-Orleans
Courier	114 63	45 75	New-Orleans
Tetamora	89 04	35 60	Louisville
Tippecanoe	135 63	54 25	New-Orleans
Black Hawk, No. 1	137 17	54 86	New-Orleans
High ander	87 10	34 84	St. Louis
Louisiana	306 00	122 40	New-Orleans
Conveyance	90 37	36 12	Florence
Mohican	371 00	148 40	Louisville
Wm. Parsons	116 63	46 50	Louisville
Highlander	118 77	47 50	Louisville
A Keel Boat	80 00	25 00	New-Orleans
Do.	80 00	25 00	New-Orleans
	Tons 4611 00	$1830 06	

"Making a total of 4611 tons, and $1830 tolls, within two weeks, at a season when little trade is doing, all the larger class of boats being laid up, expecting interruption by ice.

This great work is now completely finished, and in a manner that will render unnecessary any material expense for ages. A great anxiety is felt by the traders both above and below the Falls, to know what Congress will do with the numerous petitions made to them to possess this work. After what has been done by the National Legislature for improvement of navigation and the protection of commerce on the seaboard, they feel a reasonable hope that this important work will become a national improvement, and be made free."—[Philad. Chron.]

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Forest and Ornamental Native Trees Propagated by Seeds sown in the Spring. By the EDITOR.

Supposing that many of our readers would be disposed to procure and sow the seeds of valuable forest trees on having the subject suggested to them, we enumerate some of them.

ABIES.—This genus embraces the spruces and firs. The seeds should not be taken from the cones until they are sown, which is in March or April. They will flourish on moist sandy and even rocky and comparatively barren soils.

ACER, MAPLE.—If the seeds have been preserved in dry sand, they may be sown in March or April. A rich moist soil is suitable for most of the species.

ALNER, ALDER.—Sown in the spring, if properly preserved in the winter. Moist soil.

BETULA, BIRCH.—Seeds, if preserved in sand, may be sown in the warmth of spring in every description of soil.

CASTANEA, CHESNUT.—The seeds are put in the ground in March or April. Sandy loams, or clayey soils free from stagnant water, are the most favorable.

CUPRESSUS, CYPRUS.—This tree thrives best in a light sandy loam. Seeds kept in the cones until spring, when they are sown in warm situations or in pots.

JUGLANS, HICKORY.—It is best to preserve the nuts with their husks on until the time of sowing in the spring. Succeeds in almost all soils—rich and loamy the most favorable.

LARIX, LARCH.—Soil composed of sand, peat, or bog earth, and loam. Seeds sown from their cones in April.

LIQUIDAMBER, SWEET GUM.—Succeeds best in sandy loam. Seeds sown in the spring in boxes or pots, and the plants shaded in summer, and protected from frost in winter.

PINUS, PINE.—Soils sandy and rocky. Seeds kept in their cones until March or April.

QUERCUS, OAK.—If the acorns have been kept from vegetation they may be planted in the spring. All soils—loves a rich loam, with a clayey sub-soil.

ROBIMA, LOCUSTS.—Attains the greatest perfection in light sandy soils. Seeds in March or April.

Saving Ashes in a Dry State for the Destruction of Insects, &c. By T. L. LAIN. To the Editor of the New-York Farmer.

Mr. FLEET: SIR,—I notice in your January number, page 9, an article entitled "Remarks on the Economy of Peat as Fuel, and the Ashes as Manure, particularly in reference to the Poor---By T. Bridgeman;" and I think with the writer of that article, that if you should succeed in arousing the citizens to a consideration of the subject, incalculable good may result to the community at large, and that your periodical would be viewed as a blessing.

I myself have travelled through various parts of Europe, and can testify to the truth of Mr. Bridgeman's assertion. I have known manufacturers in France make use of peat altogether, for the purpose of driving their steam engines; and it is customary for them to save their ashes in a dry state, which are bought or taken in exchange for future supplies of fuel. They generally fetch about half the cost of the peat; and are highly estimated by cultivators of the soil, not only as manure, but as an antidote for the destruction of insects.

I have the satisfaction, also, of stating that their importance is estimated by some of the farmers and gardeners of this country; and I am persuaded that, if the citizens would be induced to save all their ashes in a dry state, they would soon be able to find customers.—I know a gentleman in New-Jersey who would be glad to buy a quantity of peat and coal ashes, if he could get them dry and clean.

It is impossible to calculate what the value of all the ashes made in the city of New-York would be to farmers and gardeners, if taken care of. Mr. Colquhoun, in his "Statistical Researches," estimates "the value of the turnip crop annually growing in the United Kingdom of Great Britain and Ireland at fourteen millions of pounds sterling," (equal to upwards of sixty millions of dollars); and who can tell what proportion of this success is attributable to the use of ashes? Farmers and gardeners here very frequently get their crops of turnips cut off by the black fly, through neglecting to use ashes and other antidotes for the destruction of insects.

Yours, respectfully,
T. L. LAIN.

New-York, January 22, 1833.

REMARKS BY THE EDITOR.—This subject is deserving of the special attention of gardeners, and of all those who feel interested in behalf of the poor. Mr. Bridgeman says it is customary with housekeepers in Europe to sift their coal ashes every morning as soon as they are taken from under the grates. A frame is attached to an ash house, on which slides a sieve with a long handle. After the contents of the fire-pan are thrown into the sieve, a few strokes to and fro cause the ashes to separate from the cinders. These may be used for backing in the kitchen fire, or consumed in stoves. Thus managed, the ashes compensate for the trouble. Mr. B. thinks by the above plan one half of the expense of fuel is reduced, compared with the practice adopted by housekeepers in New-York.

ROOTS OF GRAFTED TREES.—A writer in the New-England Farmer, under the well-known signature of B. says,

"There is a fact in vegetable physiology which to me is inexplicable, and which I should be very much obliged to any of your correspondents for an explanation—it is this: It is well known to nurserymen that the roots of a grafted or budding tree take the habits of the scion, that is, they are numerous and ramified, horizontal or deep, according to the variety taken, and generally conform in their direction and volume to the shape and abundance of the top; and yet the sprouts which spring from these roots invariably, I believe, take the character of the original stalk. I will state a case: bud a peach on a plum-stalk at the surface of the ground, when it has but a few inches of root, the bud not only gives a character to the branches and fruit, but apparently to the roots which succeed, and which are alone produced by the sap elaborated in the peach leaves, and yet the sprouts which shoot from the roots will be plum sprouts. My wonder is why the roots should retain the character of the stock, after they have been enveloped and seemingly lost in the growth produced by the scion. The quince and the paradise apple are the only cases that I remember in which the character of the roots are not materially changed by the scions engrafted into them."

We presume the question is the same as that which would require the cause of the scion or graft preserving its identity or producing fruit like its parent stock. When the scion is grafted on a stock whose roots have acquired their natural habits, they influence the branches of the scion to such a degree as to cause them, in a very considerable measure, to assume forms and habits like those of their own variety or species. Although thus influenced, still grafts from these branches, we all know, continue their identity. It has been asserted that the stock does influence the fruit of the graft; we would inquire if it is not only when the roots have acquired their natural habits before the scion was inserted?

Maturity of Grain on Old and New Lands. By AGRICOLA. To the Editor of the New-York Farmer.

I was much amused on perusing in your January number of the Farmer, the communication taken from the American Farmer respecting the difference in the maturity of grain on old and new land.

I believe it will be found that the richer the land the longer all crops will be in coming to maturity. On poor, sandy soils, vegetation is rapid and short; on new lands, the soil, being charged with vegetable food, will of course be richer, whereas old lands, exhausted of vegetable food by cultivation, is consequently poorer; and I conceive it makes little difference whether land be elevated one hundred or a thousand feet above the level of the sea. If it be rich, the crops will be longer in coming to maturity.

We observe this almost daily in our fields; spots enriched by ashes or other manures are frequently green and growing, while the grain adjoining them is perfectly ripe.

If these considerations be taken into view, I think it will not be hard to explain the difficulties which seem to have puzzled the farmers in Ohio.

Yours, AGRICOLA.

Yates county, 18th Jan. 1833.

Ginger for Heaves in Horses. By T. C. To the Editor of the New-York Farmer and American Gardener's Magazine.

As Farriery is embraced in this work, I may add, that my old horse, who is now in his 20th year, has been cured of the disease called "Heaves," by the use of ground ginger, a remedy recommended to me for the purpose. A table-spoonful was given to him daily, for several weeks, mixed in his mess of indian meal and cut straw. The horse had been troubled with wheezing and a hard cough for a year or two, and had lost flesh so much that he seemed to have nearly finished his term of service. Since the use of the powdered ginger he has become quite fat, and appears to be years younger and in good spirits.

T. C.

LIME AS A MANURE.—Mr. John Wells, in the New-England Farmer, gives the following as the experience of the benefits of lime:

From the frequent perusal of the benefits derived from lime in its application to soil in Europe, I have been induced for more than a score of years, successively, to make use of it for agricultural purposes to the extent of more than one hundred casks annually.

One of my first experiments arose from a desire to give a top-dressing to a piece of land, which it was otherwise inconvenient to do. The soil was a heavy black loam. Having a quantity of black earth from a trench, (or top stratum,) I procured a quantity of lime. A bottom of four or five buck loads of earth was first placed; then a couple of casks of lime were spread thereon; then earth and lime again, till my materials were used, or the quantity needed was had at the rate of eight or ten casks to the acre. Thus a cask being supposed to produce about five bushels of slacked lime, the cost of which, if the casks are swelled and the lime partly slacked, is eight to ten cents a bushel. This is the most moderate application in Europe, and the cost is about the same.

This mixture after lying twelve or fourteen days was shovelled over, and after some days being found fine and well mixed was spread from the cart on the ground. To my *surprise* I found the effect produced to be equal to what is usual from common compost manure!

I had a piece of ground of about four acres, of rather light soil, which gave promise of a very small crop of grass. Being without the means of obtaining manure, as I had a quantity of earth of the top stratum, taken up on building a wall, I forthwith procured a quantity of lime and mixed it in the manner before mentioned. About the middle of June I had the grass mowed and the land ploughed. The lime compost was then spread and lightly harrowed in. An early sort of yellow corn, which when ripe husked itself, was procured. And my neighbors, who knew the process, were, in the fall of the year, much surprised by the stout ears of golden grain thus unfolded to view!!!

ON THE ADVANTAGES OF USING COW-WASH IN THE GROWTH OF VEGETABLES, BY MR. WILSON.—Some of the readers of the Register may not altogether be aware of the benefits to be derived from the use of cow-wash in the growth of vegetables. The market gardeners in the vicinity of Glasgow use it in great quantities, which they procure from cow feeders in the city, at the rate of —— per barrel, (a common herring barrel,) and I can from observation vouch for its efficacy. Cauliflower, cabbage, broccoli, celery and asparagus, thrive amazingly with it, and I have applied it myself to gooseberries, currants, raspberries, &c. with excellent effect. They apply it after this manner: a little earth is drawn round the stem of the plant or tree in the form of a basin, into which the liquid is poured. If it be dry, hot weather, this is done in the evening, but if the weather be moist it may be done at any time. When this has been performed two or three times, the plants are earthed up, and receive no more of it. They apply it to their asparagus beds at any time from the beginning of March to the beginning of April. Their celery is planted on ridges five feet wide, in rows across the ridge, at twelve inches from row to row. Before planting they flood the ridge with the wash, having previously dug the bed with a little manure. Nothing answers better than this wash for turnips. I have seen most excellent crops when no other manure was used. The ground for this purpose was well soaked with it during winter. To try the experiment I dug a plot of ground without giving it any manure; one half of this I watered with the wash previous to sowing, and the other half was sown without; the difference was very great; the part watered bore turnips of a fine clear skin and color, and at least a third larger than the unwatered land. Any of your readers who wish to excel in growing vegetables may stir up a small quantity of cow-dung with the wash, and if applied when the plants are in a growing state, I hesitate not to say it will answer their highest expectations: this I speak from experience, as cauliflowers, cabbages, and gooseberries, which have obtained the prizes, I have watered with my own hands. I am satisfied, if farmers in this country were to have a barrel sunk in one corner of their cow-house, and the wash drained into it, and with a water-pot or other means, apply it to their land in moist weather, they would find their labor would not be lost.—[Gardeners' Mag.]

HORSE SHOE NAILS.—Mr. F. Palmer, of Buffalo, N. Y. has invented a new method of making nails for shoeing horses and oxen, for which he has obtained a patent. It is an invention which promises to be of great value to the community and to the inventor, who is at present the principal proprietor. Some idea may be formed of its importance, from the fact that one man can manufacture nails, in this way, at least as fast as fifty men can in the usual way. The nails have been proved to be equally as good in quality, and far superior in point of form.

PRESERVING MEAT IN SNOW.—Meat that is killed in the early part of winter may be kept, if buried in snow, until spring. This is an excellent method of preserving fresh and good the carcases of turkeys and other fowls.

Set an open cask in a cold place; put snow and pieces of meat alternately. Let not the pieces touch each other, nor the sides of the cask. The meat will neither freeze, grow dry, nor be discolored; but be good the last of March. The surfaces of the pieces should be a little frozen before they are put into the snow, that the juice of the meat may not dissolve the snow. The cask should be placed in the coldest part of the house, or in an outhouse.—[N. E. Farmer.]

PUMPKIN PIES.—Take any given pumpkin, and after dividing it horizontally and ridding it of its seeds, and superfluous contents, place the two parts together upon a dish or pan in an oven or stove, with a slow fire, without the addition of water; let it remain therein for two hours, or until sufficiently baked: after which remove it, and the *subject matter* of the pumpkin may be readily separated from the skin, and will be found to be in the precise condition for pies, needing only the sugar and spices, which can be added according to the common rules of taste.

This, for simplicity, will not only save much labor, but exclude the milk and eggs as useless articles: the pies according to the above rule not only being better without them, but may be made with only one-fourth of the trouble attendant on the ordinary mode.—[N. E. Farmer.]

RICE MACHINE.—We mentioned a few weeks since, says the Northampton, (Mass.) Courier, the invention of a machine for cleaning rice from the hull, by some ingenious mechanics of this town. At that time the trial of its capacities had hardly been tested fairly, as it was not perfected in all its parts nor its exact powers graduated. Within a few days, however, a machine has been completed, and all the improvements which experience had suggested been done, and a trial of its powers made in the presence of a large number of our citizens. It performed its task to the admiration of all, and goes by horse, steam, water, or any other power. It works rapidly, cleans the rice in the best possible manner, without, as has been the leading difficulty with all other machines, breaking up the grain. The Patent Office at Washington contains a number of inventions for this purpose, and the premium of $50,000 has often been claimed, but they all, upon experiment, fail of accomplishing the great object successfully. Gentlemen who are familiar with the cultivation of rice, think this machine cannot be otherwise than successful, conferring a benefit upon rice plantations almost incalculable.

TO RESTORE SOUR WINE.—Take dry walnuts, in the proportion of one to every gallon of wine, and burn them over a charcoal fire; when they are well lighted, throw them into the wine, and bung it up; in 48 hours the acidity will have been corrected.—[Horticultural Register.]

PRUNING.—In pruning young plum and cherry trees never cut away the spurs, as these produce the fruit. With peaches reverse the order, and cut away old wood, and and reserve the most thrifty shoots, as these produce the finest sized peaches. Unlike many other kinds of fruit, the flower buds will be found upon strong shoots of the preceding year's growth. In many instances such shoots may be shortened to advantage, and after the curculio has ceased to puncture them, the wounded ones should be picked, and others thinned where too many remain.—[Gen. Far.]

CURRANTS AND GOOSEBERRIES.—The common Currant and Gooseberry, so essential to cookery and so prolific at the north, are not seen in these parts. The shrubs have been introduced, but do not bear, as far as we are informed. These have generally been brought from New England. Probably were cuttings or roots procured further south, they might succeed. We have eaten gooseberry tarts in Washington City—and are informed that in Virginia, both the currant and gooseberry succeed admirably. We should be happy to see these valuable fruits naturalized in our climate.—[Southern Planter.]

WALNUTS.—A cottager at Warson, near Mansfield, has gathered from a walnut tree in his possession sixty thousand ripe walnuts, allowing, as they are usually sold, six score to the hundred; part of which he sold at one shilling per hundred, and the remainder at tenpence; therefore, calculating the whole sixty thousand to be sold at tenpence only, the tree produced, at that rate, twenty-five pounds. It must also be understood that, in the pickling season, when green, some thousands were also gathered, which are not reckoned in the above calculation.—[Doncaster Gazette.]

SUMMARY.

Steam Boats on Seneca Lake.—We understand the Messrs. Stevens, of Hoboken, long and favorably known to the travelling public as connected with steam navigation on the Hudson River, have purchased of the Messrs. Rumneys the steamboat on Seneca Lake, together with the unexpired term of the exclusive right to navigate the Lake by steam. We further learn that those enterprizing and persevering gentlemen intend forthwith to commence building, and will have in readiness early in the summer, another boat, which, for accommodation and expedition, will be fully adequate to the wants of our men of business and those travelling for pleasure or health. On the opening of the Chemung and Crooked Lake Canals, the ensuing season, the commerce of our Lake will be so vastly increased as to demand additional steam navigation facilities; and the present arrangement, we are assured, will furnish them to the extent required.—[Geneva Gazette.]

At a Meeting of the State Medical Society, held at the Capitol, in the City of Albany, Feb. 5th, 6th, and 7th, 1833, the following gentlemen were elected its officers for the ensuing year, viz:

Dr. Thomas Spencer, Madison county, President.
Dr. James McNaughton, Albany, Vice President.
Dr. Joel A. Wing, Albany, Secretary.
Dr. Platt Williams, Albany, Treasurer.
Drs. James R. Manley, E. G. Ludlow, John R. Rhinelander, Censors for the Southern District.
Drs. Jonathan Eights, William Bay, Peter Wendell, Censors for the Middle District.
Drs. Moses Hale, Elijash Porter, Samuel M'Clellan, Censors for the Eastern District.
Drs. John M'Call, Harvey W. Doolittle, Laurins Hull, Censors for the Western District.
Drs. John H. Steele, Saratoga county, John B. Beck, New-York, John James, Albany, Henry Mitchell, Chenango county, Bryant Burwell, Erie county, Phineas Hurd, Cayuga county, and Samuel White, Columbia county, Committee of Correspondence.
Dr. John G. Morgan, Cayuga county, and Dr. Samuel White, Columbia county, were elected permanent members.
Dr. Walter Channing, Massachusetts, Dr. Reuben D. Mussey, New Hampshire, were elected honorary members.
The Society, on the first day of their meeting, adopted the following resolution:
"Resolved, that this society will wear the usual badge of mourning for the space of 30 days, as a mark of respect to the memories of the late Dr. John R. B. Rodgers, of New York, and Dr. Joseph White, of Cherry Valley, two of its former Presidents."

A Just Rebuke.—A correspondent in the Columbia (S. C.) *Hive*, of the 26th ult. says: "One of the most contemptible scenes that my eyes have ever witnessed, I saw yesterday at Church. It was nothing more nor less than a Minister of the Gospel with a blue cockade fixed in his hat."

Mr. Leigh, the Commissioner from the Legislature of Virginia to South Carolina, arrived at Charleston on the evening of the 3d.

Sickness at Key West.—Capt. Eldridge, of the schr. Whale, from Key West, brings information that it was quite unhealthy on the Island, and particularly among the troops. The commanding officer informed him the day before he sailed that there were twenty one men on the sick list.

A letter from Key West of 21st January says.—"Disease has attaaked us here very severely.—Six United States soldiers have died lately. One will be buried to day, which I hope and believe will be the last. It is a new species of disease. The rigidly sober were equally attacked with the intemperate. The former weathered it, but almost all the latter who were attacked, fell victims. The physicians do not know what the disease is."

Another letter, dated 2d Feb. says,—"I am sorry to report an unusual number of cases of disease and death on the Island, though our particular friends have escaped as yet."

Boston, Feb. 9.—*The Lost Found.*—We learn that the greater part of the package of money lost by the Greenfield Bank, was found a day or two since in the cellar drain of the shop of the individual to whom it was entrusted by the Cashier to bring into this city. He has been arrested together with his workmen, who, it appears, were present when the money was committed to his care. The amount of the package was $15,000, all of which has been recovered, except about $1000. Time will determine who is guilty—the individual or his workmen.—[Atlas.]

Vacant Lots.—The total number of vacant lots of ground on this Island, south of the line of Fourteenth street, were stated by Mr. Murray, in the Board of Aldermen, on Monday evening last, to be only 4,200—a majority of which was owned by thirteen individuals.—[Courier & Enquirer.]

Furious Driving.—John Phillips, a milkman, was convicted on Tuesday at the Sessions, upon an indictment for driving his cart through the streets faster than the allowed rate of speed, by which a lady was run over and very much injured. The Recorder, in charging the jury, took occasion to say, that he hoped this would prove a warning to the drivers of Broadway stages, cartmen, milkmen, and other gentlemen of the whip, and that whenever offences of this nature occurred, the perpetrators should certainly be visited with the utmost rigor of the law. Phillips will probably be sentenced to imprisonment in the Penitentiary.

The notion of the Indian loxia lighting up its nest with a glow worm, has usually been considered a popular fable, but the conductors of the Library of Entertaining Knowledge state, that an informant of theirs, a gentleman long resident in India, tried various experiments on the subject, and always found when he took away the glow-worm out of a nest, that it was replaced by the birds with another, which was not used for food, but was stuck on the side of the nest with clay for a lamp.

Murder.—The Pendleton *Messenger* gives an account of an outrageous murder, committed on the 26th ult. near Stantonville, in Pendleton District, on the body of Jason Howard, by John Blakeley.—Howard was on the road with a wagon, where he was met by Blakeley, returning from muster in a state of intoxication. Blakeley ordered Howard to give the road, and as he stepped aside raised his gun and shot him down. Howard lived but an hour or two after he was shot. There had been no previous quarrel; but it is said that Blakeley had loaded his gun at muster, declaring his intention to shoot another man with whom he had some difference.

Drowned.—Last night, while attempting to cross on the ice from the new Bridge to Fort Preble, a Mr. Poole, one of the soldiers of the Fort, was drowned. We understand he was a man of steady habits and correct deportment. In crossing the ice he mistook his course and was plunged unawares into the open sea. His cries were heard, but no assistance could be rendered him.—[Portland Daily Advertiser.]

Singular and Distressing Casualty.—The Carlisle Republican of Wednesday last, says:—"On Sunday last, two small children of Mr. Henry Kimmel, of the borough of Mechanicsburg in this county, conveyed into the barn floor, where a keg of powder was deposited, a coal of fire, and communicated it to the powder, which caused a sudden explosion,—and what was most singular, blew each one of the children out of each door on the opposite side. One died the same evening, and the life of the other is altogether despaired of. No injury was done to the barn, nothing taking fire except some tobacco leaves, which were near or over the powder, and which was immediately extinguished."

DIMENSIONS OF SHIP OF LINE PENNSYLVANIA.

	ft	in.
Length between the perpendiculars on lower gun deck,	220	00
Extreme length aloft,	247	00
Length of keel for tonnage,	190	00
Moulded breadth of beam,	56	09
Do do for tonnage,	57	00
Do do to outside of wales,	59	00
Depth of hold.	23	00
Extreme depth amidships,	51	00

Burthen in tons 3306 23-95. Guns 140.

The following seems to be a proper pendant to the above:—

The following is an estimate of the quantity of sail duck required for the making of one complete suit of sails, &c. for the United States ship Pennsylvania, now building at Philadelphia:—

Number of yards for one set of sails,	18341
Bags, Hammocks, Boat Sails, Awnings, &c	14624
	32965 yards.

Size of Shrouds	11 inches
Main stay	19 do
Main mast from step to fly pole	278 feet
Main yard	110 do
Topsail yard	82 do
Topgallant yard	52 do
Royal yard	36 do
Sheet anchor	10,000 lbs
Sheet cable	25 inches
Main topsail contains	1521 yards

By C. WARE, late sail maker in the U. S. Navy.

DESTRUCTIVE FIRES.

In this city, about half past 8 o'clock last evening, a fire broke out in the large four story brick store, 25 and 27 Cedar street, owned by Hugh Maxwell, Esq., occupied below by Huntington & Campbell, and above by Marcus Deforest. The interior of the building was badly damaged, and the goods, consisting of cloths, &c., nearly destroyed. The stock of Messrs. Huntington & Campbell was worth about $10,000, and the loss is estimated at half to two thirds of the amount. They were fully insured. Mr. Deforest's stock was worth about $7000, and is nearly a total loss. He also was insured, as was likewise Mr. Maxwell on the building.—[Journal of Commerce.]

At Watertown, N. Y., the extensive Tannery and Oil Mill of Jason Fairbanks, Esq., the Paper Mill and Printing Office of Messrs. Knowlton and Rice, booksellers, and the Morocco Factory, and a dwelling house of Messrs. Kitts and Carpenter, are now, with all their contents, a heap of ruins.

The fire was discovered about 7 o'clock on Thursday evening, and so rapid were the flames, that nothing of consequence could be saved, and for a while, threatened the entire destruction of all the Factories and Mills in the upper part of the village.

Jason Fairbanks' Tannery and Oil Mill, probable loss $20,000, no insurance.

Messrs. Knowlton & Rice, do. $15,000; insurance $5,000.

Messrs. Kitts & Carpenter, do. $4,500; no insurance.—[Watertown Eagle,—Extra.]

At Buffalo, at half past 4 o'clock on Thursday morning, a fire was discovered in the centre of Ellicott Square, on Main street, which consumed the four centre Stores, owned by Messrs. Blossom & Allen. Loss $5,000, of which $4,000 was insured by the Howard Company, New York.

Occupants.—Wadsworth & Penegar, Chair Factory; loss $1000—no insurance.

John Hunt, Grocer; loss $500—no insurance.

Whitmore & Francis, Block Tin Factory; loss $200—no insurance.

Abner Cutler, Cabinet Maker, $1,500—insured by the Hartford Company.

Eli Troxel, Chair Factory; loss $800—insured.

Considerable damage accrued in Stores and buildings adjoining by removals of property—the Printing Offices of the Bulletin and the Patriot are among the number.

Mr. Troxell's life was probably preserved by the attachment of a favorite dog. His lodging room was in one of the upper stories, and he was first alarmed by his little room mate springing upon the bed and attempting to rouse him by his howling.—Not sufficiently awakened he threw him from his bed and bade him "be still"—but the faithful animal furiously dragged off the covering and continued his efforts till his master was made sensible of his danger, and just in time to preserve himself from suffocation.—[Buffalo Journal,—Extra.]

Richmond, Thursday, Feb. 7.—The Gallego Mills owned by Mr. P. J. Chevallie, were entirely destroyed by fire last night.

The fire originated about 7 o'clock from friction, it is supposed, of the machinery, in the loft of the new mill. The mill was in operation at the time, and when the fire was discovered, three wheat fans were in a blaze, and their action on the air immediately wafted the flames to the roof, which in a few moments was in a complete blaze; and the old mill adjoining being to leeward, soon caught also, and in half an hour both mills were wrapped in flames from top to bottom.

$100,000 will hardly cover the damage done by this destructive fire. Near that amount is insured.—These mills were the most extensive in this country, and turned out flour of the most superior quality, nearly all of which found a market in Brazil, at a higher price than any other except the flour from Haxall's new mill. This is the first season the Gallego mills were in operation, since the new mill was built, and already they had ground over 220,000 bushels of wheat.

About fifteen years ago, the old Gallego mill was destroyed by fire, also produced by friction of the machinery. Mr. Rutherford had his mill burnt previous to that, and more recently the Messrs. Haxalls theirs, the fire in each case originating, it was supposed, in the same way.—[Whig.]

Awful Calamity.—We learn from an unquestionable source, that the dwelling house of Mrs. Pollard, of Gerard county, together with the barn and several other houses, were entirely consumed on the 11th instant, and, most distressing to relate, three of her daughters were burnt to death in the house!

Their bones were found near a front window, where it is supposed they had gone to endeavor to make their escape.—[Lexington (Ky.) Observer, Jan. 26.]

Fire.—The woollen factory, with all the stock and machinery, belonging to Messrs. Flanders & Beckford, in London, N. H., was destroyed by fire on Monday morning last, about 4 o'clock. There was no insurance on the building, stock or machinery.

Lieut. Randolph.—It is with sincere pleasure that we are enabled to announce to the public, on the best authority, the *complete* and *honorable* acquittal of Lieut. Robert B. Randolph, of the Navy, by the Court which has lately had his case under consideration. He has been fully and honorably acquitted on each and all of the charges and specifications on which he was tried. The balance appearing, in the settlement of his accounts against him, has been, together with the accounts, turned over to the proper officers in the Treasury Department for adjustment; and that there can be no difficulty on that score will at once be seen, when it is stated, that the deficit exists from the fact of *his* having given receipts for stores, which were brought home in the vessel and deposited at Charlestown; and which, of course, the Government received in full.—[Alex. Gazette.]

[*From the National Intelligencer of Friday.*]

The First of February, the reader will recollect, was the day on which the South Carolina Ordinance was to take effect. We have no information from Charleston later than that day. From Columbia, the seat of Government of the State, we have seen a letter which states, that on the preceding evening the students of the College in that place formed a procession at about 8 o'clock, and marched through the Main street, with an effigy of General Jackson, with a label "Andrew the First" on its head, and the Executive Messages in its hand. They bore it to the front of "The Hive" Office, (a Union paper) and there they burnt and shot it. "So ended with us Nullification the first day," says the writer.

All the 25th number of the American Quarterly Review, except the final article, the subject of which is Nullification, has been printed. We annex the titles of most of the articles.—Life of Commodore Barney: Revised Code of Pennsylvania; Life of Schiller; View of the State of Ohio; Girard College; Hampden and his Times; New-Zealand and Tristan d'Acunha; Memoirs of the Duchess of St. Leu, &c.—[Nat. Gaz.]

North River.—This river is again closed below the Highlands, and all the steamboats have discontinued running. The ice has formed so rapidly for a few days past, that the Marco Bozzaris, which left here for Poughkeepsie, was unable to get back, and is now frozen in at Newburgh. At Albany the ice is sufficiently solid to admit of loaded stages and produce wagons crossing with perfect safety.

We are requested to state that the contradiction volunteered in a morning paper of a report that Mr. James Lawson was about to be connected with the editorial department of the new Magazine published in this city, was premature, inasmuch as such a report never reached the ears of the conductor of that publication.

A gentleman who crossed Hackensack bridge at 9 o'clock on Wednesday evening, informs us that the middle part of it had settled at least two feet, in consequence of the piles by which it was supported, being loosened or otherwise affected by the ice, which had accumulated above the bridge in considerable quantities. It was apprehended at that time, that the whole structure would be ruined.

Ohio State Bank.—The Columbus Register of a late date says, the project of a State Bank in Ohio, is by common consent, to sleep until the next session.

At the last stated meeting of the Philosophical Society of this city, Professor A. D. Bache made a communication showing that the experimental examination, by Sir David Brewster, of the optical illusion by which Cameos, seen through a compound microscope, appear to be intaglios (elevations to be depressions), and vice versa, had been entirely anticipated by our illustrious countryman, Rittenhouse, who, in 1780, made a series of experiments on this subject, agreeing, remarkably, in their details with those described by the British philosopher. The examination by Sir David Brewster is contained in his "Letters on Natural Magic," recently published; that by David Rittenhouse in the Transactions of the American Philosophical Society, vol. 2.—[Nat. Gaz.]

Accounts from Nashville to the 21st ult. state one death and one new case of cholera the day previous.

Shocking Accident.—The Paterson Courier contains the following most distressing account:—"About ten days ago a Mrs. Glen, who had been sitting up till a late hour awaiting the return of her husband, who was absent, was so unfortunate as to have her clothes take fire. Her dress being of cotton fabric, was instantaneously in a sheet of flame, which communicated itself also to the dress of her small child who was near her. Finding it impossible to extinguish the fire, she rushed out of doors in search of aid, and ran to the door of one of the adjacent houses. The astonishment which seized the inmates of that, upon seeing as they awoke, a human figure enveloped in a sheet of flame, standing at their door, it may well be supposed, prevented them from rendering the most prompt and judicious aid. Before the flames could be extinguished the poor woman was most severely burnt, as was also her child, which remained in the house. Hopes were for a while entertained for their recovery, but on Friday last the lifeless remains of both were deposited in one grave."—[Jour. & Adv.]

We learn that on Thursday evening last, the two story dwelling house of Mr. Ichabod Bruen at Union Hill, between Chatham and Bottlehill, Morris County, was entirely destroyed by fire. The fire broke out between 7 and 8 o'clock, and it is supposed originated from the wick of a candle which had been imperfectly extinguished. Mr. Bruen and his wife had gone from home, leaving a young woman and two children who had retired to bed. They were not awakened by the flames and when the neighbors arrived, it was with great difficulty that they were rescued, as the fire was within two feet of the bed where they were sleeping. A large part of the furniture was destroyed, and the total loss is estimated at $2,000, no part of which was insured.—[Newark Daily Adv.]

Singular and Fatal Accident.— At Salem, Mass. on Tuesday last, as a girl named Webb, about ten years old, was going out of the back door of a cabinet shop, one end of a woolen tippet which was tied around her neck, caught as the door was drawn by the pulley, and she was thrown over the side of a flight of stairs, and literally hung, in which situation it is supposed she must have remained at least half an hour, before she was discovered. A person who happened to go into the shop at this time, saw the little sufferer, and as he opened the door, she fell, about four feet, upon the floor. She was taken up, and a physician immediately called, when it was found that her neck was broken, and, of course, life extinct.

Appointment by the President.—John Haley, of Pennsylvania, Consular Commercial Agent of the United States, at the Island of Barbadoes, vice John M. Kankey, deceased.

The following genuine piece of humor is from Hood's Comic Annual, entitled an epistle from a country boy to his friend in town:

"Now, Bob, i'll toll you what I want. I want you to come down here for the holidays. Don't be afraid. Ask your sister to ask your mother to ask your father to let you come. It's only ninety mile. The two prentices, George and Will, are here to be mode farmers of; and Nick is took home from school, to help in agriculture. We like farming very much; its capital fun. Us four have got a gun and go out a shooting; its a famous good one, and sure to off if you don't full cock it. Tiger is to be our shooting dog, assoon as he is left off killing the sheep. He's a real savage, and worries cats beautiful. Before father comes down, we maen to bait our bull with him. There's plenty of new rivers about, and we're going a fishing as soon as we have mended our joint. We've a poney, too, to ride, when we can catch him; but he's loose in the paddock, and has neither mane nor tail to signify to lay hold of. Isn't it prime Bob? You *must* come. If your mother won't give your father leave to allow you—run away. Remember you turn up Goswell street to go to Lincolnshire, and ask for Middlesex ball. There's a pond full of frogs, but we wont pelt them till you come; but let it be before Sunday, as there's our own orchard to rob, and fruit's to be gathered on Monday. If you like sucking raw eggs, we know where the hens lay, and mother dont; and I'm bound there's lots of bird nests. Do come, Bob, and I'll show the wasp's nest, and every thing that can make you comfortable. I dare say you could borrow your father's volunteer musket of him without his knowing of it; but be sure any how to bring the ramrod, as we have mislaid ours by firing it off."

Dreadful Accident.—A female domestic in the service of a gentleman in the Bowery, was seized with a fit yesterday morning, while arranging the breakfast, and fell into the fire; no person was in the room at the moment, and before the occurrence was known to the family and assistance could be rendered, the sufferer was dreadfully burned in the head and the upper part of her body. Hopes are entertained that her life may be saved, although her situation is very precarioue.—[Standard.]

Health of the City of Hudson.—According to a statement of the interments during the last year, the total number of deaths is 75 out of a population of 5,392,—exhibiting a degree of health which will hardly find a parallel in any other section of our country. The greatest mortality occurred among children, and those under one year of age. The appalling pestilence, says the Columbia Republican, which swept over our land, carrying death and dismay into different and distant sections of the Continent, passed us without leaving a trace of its existence; and our citizens, unless they witnessed its ravages in other and less fortunate places, know nothing of the character of this fearful destroyer, except by the indistinct reports which they have obtained from abroad.

New Orleans, January 19.

Two of the cabin passengers (Wm. L. Moore and Warren Stone, M. D.) of the unfortunate brig Amelia, which it will be recollected was wrecked on Folly Island, S. C, on her passage from New York to this place, arrived here yesterday, in the schooner Eagle, from Havana. They give the following particulars:

Left Folly Island, November 20, with 61 persons on board (40 of the passengers of the brig having died of the cholera), and on the 28th were again wrecked on Matinilla Reef, off Abaco, 4 1-2 miles from land—they all except two got ashore on an island called Walker's Key; the vessel went to pieces immediately and was lost—some of them got ashore entirely naked—they remained on the island fifteen days, subsisting on conk and other shell fish, which they caught by diving into the sea; and when relieved were in a state of actual starvation. They were taken off on the 15th day by two wrecking sloops, and conveyed to Nassau, N. P. There being no vessel in port bound to the United States, they got on board an English man-of-war bound on a cruize among the West Indies, and, falling in with an American schooner, they got on board and arrived at Havana, Dec. 24, and then took passage for this port. The rest of the passengers were left at Nassau; among whom were Mr. Rimi Miville, and family, of this place. The names of the two persons drowned are William Lawrence and William Murphy, Printers.

The carpet manufactory of Mr. Robert Thompson, at Manchester, opposite Paterson, was entirely consumed by fire on Sunday morning last, and several of the buildings adjacent considerably injured

[*From the Norfolk Herald, of Monday.*]

Arrival of the Grampus.—Arrived in Hampton Roads on Saturday, and proceeded up to the Navy Yard yesterday, the U. S. Schooner Grampus, Lt. Com. Joseph Smoot, from Vera Cruz, Havana, and Key West, 9 days from the latter place, bringing the midshipmen of the West India squadron, whose examinations take place this year, all the sick of the squadron, and men whose term of service has expired. We have been politely favored with the following particulars:

Left U. S. ship Vandalia, Com. Henley, at Havana, and U. S. ship St. Louis, Capt. Newton, at Key West. The officers and crews of both vessels were in excellent health—both ships bound on a cruize.

The Grampus returns for a new crew, and brings despatches from Col. Butler, Chargé d'Affaires at Mexico, and also from Com. Henley, commanding the West-India squadron.

There was a cessation of hostilities in Mexico, between the contending parties, owing to arrangements being made by the leaders of the factions, to compromise differences; General Pedraza had been elected President, and was to have made his entry into the city of Mexico on the 3d ult. The armies had united and there was a prospect of a speedy and permanent peace.

List of Officers on board the Grampus.

Joseph Smoot, Esqr. Commander.
William H. Campbell, 1st Lieutenant.
Lloyd B. Newell, 2d do.
Ezra T. Doughty, Acting Sailing Master.
Benjamin J. Cahoone, Purser.
William M. Wood, Acting Surgeon.

Midshipmen.—John J. White, Chas. S. Ridgley, Geo. Hebron, James K. Bowie, Francis Lowry, Curran, Kearney Captain's Clerk.

Visiters from the Western Wilds.—We understand (says the Richmond Compiler,) that in a few days Black Hawk, the Prophet, and the other Indian prisoners, taken by Gen. Scott, are expected to arrive at Fortress Monroe, to remain there as hostages for their tribe. Their location upon the seaboard is said to be preferred by the government, for this consideration, among others, that they may be permitted to be prisoners more at large; for, if they were to attempt to make their escape, they would soon be recognized and apprehended in passing through the country to the West. They will be objects of much curiosity at Old Point.

There is now fine sledding from Boston to Eastport, and in all the interior of New-England, and also at Quebec.

A letter has been received from the schr. Amazon, which vessel sailed from Portland, (Me.) on the 9th January, and not having been heard of before, was supposed to be lost. The letter was dated Winelhaven, (Me.) Jan. 26, and stated that up to that time she had been frozen in at that place, but had received no damage.

Disaster.—We learn from the Providence Journal of Monday, that the schooner Cherub, Hoskins, of Newburyport, from Baltimore, bound to Boston, went ashore at Norris Neck, between Watch Hill and Point Judith, on Thursday morning last, during the snow storm, and bilged She had a cargo of flour and corn. One of her hands perished from the severity of the weather. The others are safe.

A very destructive tornado passed through the neighborhood of Montgomery, Alabama, on the 23d ult. It passed over the plantation of Dr. Samuel C. Oliver, about ten miles distant, and levelled every building to the ground, with the exception of the gin house, which was situated some distance from the other buildings; not a house is left standing! Dr. Oliver had just built a new dwelling house. His family was in the house at the time it was blown down, but they escaped injury.

Original Anecdote.—Some five and thirty years ago, when this country was almost entirely new, and our inhabitants were few and far between, an enterprizing blacksmith came into the town of Bloomfield, and being unable, for the want of time and utensils, to erect a shop, put up his anvil and set his fire and bellows going, out of doors. Not long afterwards, one of his distant neighbors hearing that there was a blacksmith in town, started off to go and employ him; but not finding the way, inquired of a man whom he met on the road, "how far it was to Mr. B.'s blacksmith shop?" "You are in the shop now," replied the wag, "but it is three miles and a half to his *anvil*."

Alms House.—Mr. Whiting in the course of debate, on Monday last, in the Board of Aldermen, stated as a fact not generally known, but nevertheless true, that such had been the public munificence in the management of the Alms House heretofore, that he knew of an instance where an individual born in the institution and now living there, had been brought up and married, and had children in the Alms House, never having lived elsewhere during her whole life, and likely to remain in the same institution during the remainder of her days.—[Courier & Enquirer.]

Life Insurance.—In the Rochester Daily Advertiser, we find the following remarks, which we transfer to our columns, because we believe, that a more frequent recurrence to the practice of insuring life, would, to many a parent, alleviate hours of sadness during life, and to survivors, days of privation, after the death of a parent.

Life Insurance.—In the most common form in which these insurances are made, the party procuring a policy pays a certain premium to the Company, who engage, in the event of his death *during the year following*, to pay a specified amount to his family, or to such other person as he shall have directed. A person at the age of 25 years pays $10 upon $1000. If 35 years of age, he pays $13 60 upon $1000, the premiums increasing with the age of the applicant.

The benefits to be derived from Life Insurance, will be best seen by examining the practical effect it would have upon families in different situations in life. A young man has a family dependant upon his exertions for support. He is engaged in a business that furnishes him a comfortable living, but he has not acquired so much property but that were he to die they would be left destitute. Such a man by paying a small annual premium, removes one subject of constant anxiety, by securing a certain provision for his family in case of his death.

Another case, particularly applicable to a mercantile community like ours, is that of a man who is engaged in extensive business, has a large amount of property in his hands, and is indebted for a portion of it, or he is engaged in a lucrative business and his income far exceeds his expenditures. He does not fear but that *if he lives* he can discharge his debts and have a handsome property left; but should he die, and his estate be settled by executors, the necessity of changing property into cash at once to discharge his liabilities, would much diminish, perhaps entirely absorb the provision he had intended for his family. This man's income would enable him to pay an annual premium, and a policy (proportioned in amount to the extent of his business) would furnish funds to his executors to pay a portion of his debts and leave his property to his family.

Sir Walter Scott was a striking illustration of this class. In consequence of responsibilities that he had assumed for his publishers, he had become involved in debt to an amount far beyond his then present means. An anonymous friend offered him a sufficient fund to relieve his embarrassments, but his feelings of independence led him to decline receiving it, as he was confident that he could retrieve his fortune by his own exertions.

He know that his magic power extended not only to the passions, but to the purses of men; that each production of his gifted mind was a draft, never dishonored, on every admirer of genius, talent, and taste, for an amount that other poets and novelists sometimes gave to their heroes, but never dreamed of possessing themselves; and he felt certain that *if he lived*, his Midas-pen would win sufficient to extricate him from his embarrassments. To provide for this contingency he procured an insurance on his Life. Long ere the amount necessary had been gathered, death broke the wand of the enchanter; but the *Policy of Insurance* saved the estate from bankruptcy and Abbottsford from the hammer.

Men of stated income; those who have regular salaries; most professional men; and all of that class whose incomes furnish little more than a support, but whose accumulations are so slow that there is danger death will overtake them before they have secured a comfortable provision for those dependent upon them—all these can guard against the evils that would otherwise arise from such a casualty by procuring a Life Insurance

I presume there is no one who reads this but can look around among his acquaintances and friends, and find many a widowed family that are now suffering the ills of penury and want, or dependent, upon the world's cold charity; where without any diminution from their comforts during the life time of the father, a competent support might have been secured to the survivors by a Life Insurance.

SAY.

HOME AFFAIRS.

CONGRESS.

Tuesday, Jan. 5.

The Senate resumed the consideration of the bill further to provide for the collection of the duties on imports.

House of Representatives.

The morning business having been gone through the House then passed to the Orders of the Day, and again resolved itself into a Committee of the Whole on the state of the Union, Mr. Wayne in the Chair, and resumed the consideration of the

Tariff Bill.

Mr. Wickliffe proposed to graduate the reduction on cotton, so as to put this duty at 35 per cent., then at 30, and then at 25 per cent. permanent.

This was negatived—Ayes 38, Noes not counted.

Mr. Beardsley moved to put the duty at 40 per cent. then 35, and leave it permanent at 30.

This was also also negatived.

The question was put on Mr. White of New York's amendment, which fixes the duty at 30 per cent., then at 25, and leaves it permanent after 1836, at 20 per cent., and carried by the casting vote of the Chairman: Ayes 69, Noes 69.

Mr. Reed of Mass. moved to amend the Bill in the section respecting tarred cordage, so as to leave the duty at 4 cents.

This amendment was agreed to: Yeas 77, nays 48.

He offered another, leaving untarred cordage at 5 cents: which was agreed to.

Mr. Reed of Mass. moved to strike out the section in relation to Olive Oil. Agreed to, yeas 86.

Mr. Root moved to amend the duty on silks by abolishing the discrimination between silks from India and those from the Mediterranean and France.

The duty in the bill was postponed until March, 1834.

Mr. Jarvis wished to put the duty on all silks at 10 per cent. Negatived.

Mr. E. Everett moved to put India silks at 10 per cent. and admit all others free. Negatived.

The motion of Mr. Ingersoll to strike out the whole section in relation to silks, finally prevailed. Yeas 75, noes 60.

The committee then rose, and the House adjourned.

February 6.—In Senate.

The bill from the House of Representatives, to amend and explain the act of May, 1830, reducing the duties on coffee, tea and cocoa, was read a third time and passed.

The resolution yesterday offered by Mr. Wilkins, to fix 12 o'clock as the hour for calling the special order of the day, until the close of the session, was taken up for consideration.

The special order was called for, it being 12 o'clock—but the chair decided that the resolution just past did not take effect till to-morrow.

The bill to survey and locate a road in continuation of the Cumberland Road, from Vandalia, in Illinois, to Jefferson, in the state of Missouri, was taken up.

Mr. Smith moved to strike out Jefferson and insert "some point," in order to leave for future decision the question whether the government shall continue the road through a State. This motion was stoutly resisted by the Missouri Senators. [The question presented by the motion is this—Whether the compact made with the North Western Territory, for making a communication between the Atlantic border and the western limits of that territory, extends to the state of Missouri, with which no such compact was made; and if not, whether the government could, constitutionally, make an appropriation for a road within a State. The western men, however, avoided this question, and referred the constitutionality of the measure to the obligation of the government to give two per cent. of the proceeds of the whole of the public lands, in each of the new states, to the purposes of internal improvement within the State.]

The amendment was rejected, and the bill was ordered to be engrossed for a third reading—yeas 18, nays 16.

The House resumed the consideration of the Bill further to provide for the Collection of Duties on Imports, and

Mr. Tyler, of Virginia, took the floor, and, in a speech of two hours and a half in length, opposed the bill. Of the doctrine of Secession and Nullification he purposed to decline giving any opinion. In this course, he followed the example of the Legislature of Virginia, which made no decision on these questions. He entered extensively into the history of our Government, and drew from that and other sources a theory of the Constitution which is altogether at variance with the powers claimed for the General Government by the Bill under consideration. There were, he said, three great parties in the country, at the adoption of the Constitution, who had each its separate notions as to the form of Government which we ought to establish. They were, the *Monarchical*, *National*, and *Federal* parties. At the head of the first was Alexander Hamilton, whose purity of purpose, high intellectual powers, and commanding eloquence, he eulogized in the warmest terms. At the head of the National party, he was sorry to say, were the statesmen of Virginia, with Edmund Randolph as their champion. Mr. Madison, it had been confidently reported, was of this party. Mr. Hamilton, having been defeated in his favorite views, joined himself to the National party. The Federal party was triumphant, and owed their triumph in a great measure to Mr. Dickerson, of Delaware, who sustained their principles in the Convention, with great zeal, boldness and ability. The difference of principles between the National and the Federal party, he exhibited at length, by a reference to the powers which their respective leaders proposed to confer on the General Government. For instance, the National party wished to give the general government a veto on the laws of the States. The distinction between a Federal and a National government he drew with strong discrimination, and finally came to the conclusion that the people owed no allegiance to the federal government; but to the States of which they were respectively citizens, and that a State could not commit treason against the United States, nor be forced to obedience to the laws. As to the Supreme Court, as an arbiter, there was

no use to speak, for, "inter arma silent leges," when governments come into conflict, the decision of a court would not hush the thunder of their cannon. He denied altogether the right of the government to make war upon a State, and with a view to support this proposition his argument was chiefly framed.

Mr. Clayton, of Delaware, has the floor for to-morrow.—[Reported for the Journal of Commerce.]

[*From the National Intelligencer of Wednesday.*]

HOUSE OF REPRESENTATIVES.

The House then once more went into Committee of the whole on the *Tariff Bill*.

Mr. H. Everett moved a duty two cents per pound on copperas; which was agreed to—yeas 58, nays 55.

Mr. Evans, of Maine, offered an amendment restoring to paper of all kinds the same rate of duty as was imposed by the Tariff of 1824.

After some remarks from Mr. Verplanck, in which he stated that it was his purpose to move a general provision covering the stocks now on hand, in this and other branches of manufacture,

The amendment was agreed to—yeas 72, nays 66.

Mr. Denny moved an amendment which went to restore to cut glass the duties of the Tariff of 1824, viz: three cents a pound specific, and thirty per cent. ad valorem.

This motion was sustained a good deal at length by Messrs. Denny, E. Everett, and Reed, of Mass., who stated the rapid increase and prosperous state of the manufacture, and its need of protection against a British bounty.

Mr. Cambreleng denied that any such bounty existed.

The amendment was carried—yeas 72, Nays 60.

Mr. Ashley moved an amendment giving to lead the same protection it had received under the act of 1828.

The amendment was supported by Messrs. Watmough, Horn, and Wing; and opposed by Messrs. Verplanck and Wilde. It was then carried—Yeas 67, Nays 49.

Mr. Denny proposed a duty of 5 cents a pound on white lead; which was agreed to.

Mr. Denny moved to restore to window glass the protection of the law of 1824, which was agreed to.

Mr. Denny moved the same thing in respect to bottles, vials and demijohns—which was agreed to.

Mr Verplanck moved to amend the miscellaneous section of the bill, which provides that on articles not enumerated, there shall be a specific or ad valorem duty, as at present, according as one or the other should be lowest, by deferring its operation until March, 1834; agreed to.

Mr. Sutherland moved to protect the article of ready made clothing, as by the act of 1828, which was agreed to.

Mr. Semmes moved to exempt certain paints manufactured extensively at Baltimore and elsewhere, from the effect of the bill; which was agreed to.

Mr. Root now moved to amend the duties on wool, so as to fix them at 50 per cent. till 1834; 40 per cent. till 1835; and then at 30 per cent. permanent duty.

This amendment was rejected, yeas 47, nays 54—(no quorum having voted, the question was again put, and the vote stood, yeas 58, nays 64)

Mr. Beardsley tried a different amendment on the same clause, putting the duty on wool at

40 per cent. till	. . .	1834
35 do	. . . .	1835
30 do	. . . .	1836
25 permanent,		

This amendment was adopted—yeas 74.

Mr. Howard moved to put the duty on Fossil Salt at 5 cents till March 1834, and then at 2 cents.

This gave rise to an animated debate in which the quantity of the Salt made in Eastport, in Maine, (the only manufactory of the article,) was discussed, as also the extent of capital employed, and whether owned by British or American citizens; documents were quoted on both sides, and the policy of encouraging an article which competed with the salt made from water in various parts of the Union, was warmly argued.

The amendment was warmly resisted by Messrs. Jarvis, Bates, and Andersom of Maine, and McKennon of Pennsylvania; and advocated by Messrs. Howard, Ellsworth, Sutherland, and Reed, of Massachusetts.

It was finally amended by Mr. Reed so as to fix the duty on Fossil Salt at one-third that on other Salt: and in this form it was agreed to—Ayes 66, Noes 63.

Mr. Watmough moved to restore the duty fixed by the act of 1832, on carpets, carpetings, flannels, bockings, and baizes: he briefly sustained the motion, which was further supported by Mr. Ellsworth, of Connecticut, and Mr. E. Everett. It was then carried: ayes 64, noes 58.

Mr. Watmough moved a farther amendment including in the bill "patent floor cloths, and oil cloths of every description" (under the duty of 40 per cent.)

This was also carried—yeas 93, nays 63.

Mr. Pendleton of New York, moved to strike out "and worsted" from the 35 per cent duty and put on worsted yarn costing 40 cents a pound, a duty of 10 per cent.

This was carried—yeas 68 nays 52.

Mr. Barringer moved an amendment in the section on cottons, which, owing to the confusion which prevailed, could not be distinctly understood.

Mr. Watmough moved a duty of 25 per cent on manufactures of marble.

Mr. H. Everett added "and Marble."

Thus amended, the motion was agreed to.

Mr. Cooke now moved that the committee rise and report the bill, but the motion was pronounced out of order at present.

Mr. Russell of Ohio, now moved to strike out all of the bill after the enacting clause, and insert as a substitute, that the law of July, 1832, shall be and continue in full force and virtue until the 3d of March, 1841.

Mr. Ingersoll said the question was new and important; and, to allow time for its consideration, he moved that the Committee rise. He withdrew the motion at the request of Mr. Polk, who urged the Committee to bring the debate to a close, and report the bill.

The motion to rise was now renewed, and prevailed.

The Committee rose accordingly; and

The House then adjourned.

Thursday, Feb. 7,

In the Senate, this morning, a Message was received from the President of the United States, transmitting a Report from the Secretary of State on the subject of our diplomatic relations; and another Message on Executive business.

At 12 o'clock the Senate renewed the consideration of "the bill further to provide for the collection of the duties on imports."

Mr. Clayton, of Delaware, spoke in support of the bill, and in reply to Messrs. Bibb, Tyler and Brown. He greatly preferred the doctrine of secession to that of nullification. A separation of the States would, in his opinion, be productive of less mischief than the anarchy and confusion which would result from the exercise of a power by the States to annul the laws of the United States.

Mr. Mangum followed in reply, and after speaking about an hour, gave way to a motion to adjourn, and the Senate then adjourned.

HOUSE OF REPRESENTATIVES.

Eighteenth Section of the Tariff of 1832.—After the transaction of the unimportant morning business,

On motion of Mr. Cambreleng, the House went into Committee of the Whole on the State of the Union, upon the bill from the Senate, to explain and amend the 18th section of the act to alter and amend the several acts imposing duties on imports, approved 14th July, 1832.

Before any question was taken, the hour allotted to the consideration of the Tariff Bill arrived, when the Committee rose, and obtained leave to sit again.

The House again resolved itself into Committee of the Whole on the State of the Union—Mr. Wayne in the chair—upon the bill to reduce and otherwise alter the duties on imports.

The question pending at the adjournment, yesterday, was the motion of Mr. Russell to strike out all after the enacting clause, and substitute a section that the act of 1832, in relation to the Tariff, shall remain in force until the 3d of March, 1841, and no longer.

Mr. Ellsworth briefly supported the amendment.

Mr. Russell then rose, and withdrew his amendment, remarking that he would reserve to himself the right to renew it hereafter if he thought proper.

On motion of Mr. Semmes, a duty of two cents per pound on alum was inserted in the bill.

Mr. Jarvis moved an amendment, allowing the benefit of drawback, under certain circumstances, which was agreed to.

Mr. Reed, of Massachusetts, moved an amendment allowing a drawback on nails exported—ayes 67, noes 52.

Mr. Alexander then moved that the Committee rise, and report the bill to the House.

Mr. Adams rose and went into a long explanation of the general remarks which he had submitted a few days since, (particularly in relation to the Constitutional powers of the Government, and the subject of Nullification) and in reply to Messrs. Drayton and Patton, who, Mr. A. alleged, had misunderstood and misrepresented his former argument. Of Colonel Drayton he said, it was "better to meet an open foe, than a treacherous and flinching friend."

Mr. Drayton rejoined with coolness, in the course of which he declared that the gentleman from Massachusetts (Mr. Adams) had used language in relation to himself, "*indecorous, ungentlemanly, and totally without foundation,*" and such as before had never been used towards him (Col. D.) His worst enemy, if he had enemies, would not use such expressions.

Mr. Patton also made a few remarks in explanation and in reply to Mr. Adams.

The Committee then rose and reported the bill to the House as amended, without a division, and by common consent.

The bill and amendments were ordered to be printed.

The House then adjourned.

[*From the Globe of Saturday.*]

Friday—IN SENATE.

After two or three bills were carried through stages of passages, the resolutions offered on the preceding day by Mr. Poindexter, calling for the orders issued to certain officers in South Carolina came up.

The bill further to provide for the collection of the duties on imports, was then taken up.

In the House of Representatives, Mr. Bell from the Committee on the Judiciary to which had been referred the Message of the President in relation to the proceedings in South Carolina, made a report accompanied by a "bill more effectually providing for the execution of the revenue laws, and for other purposes," which was read twice and committed to a Committee of the Whole on the state of the Union. The bill is in substance, as follows:

Section one provides that suits arising under the revenue laws, commenced in the State Court, may be removed to the Circuit Court of the United States in said district.

Section two provides that whenever suit shall be entered in the Circuit Court of the United States, notice shall be given to the State Court in which the suit orriginated, which State Court shall proceed no further; and if the State Court shall proceed, an injunction may issue from the Circuit Court to stay proceedings therein.

Section three provides, that in all other proceedings in a State Court by capias in witherman or distress by attachment or otherwise, against the person or effects of an officer of the customs, &c., the Judge of the Circuit Courts may issue an injunction for restraining further proceedings therein.

Section four provides, that the Marshal shall execute any process of injunction as the Sheriffs of the States may do—any person who shall obstruct or resist any officer of the United States in the execution of such process shall be guilty of a misdemeanor, and on conviction fined not exceeding $5,000, and imprisoned, not exceeding two years, at the discretion of the Court.

Section five provides, that either of the Justices of the Supreme Court, or District Judge of the United States, may grant writs of habeas corpus in cases of persons committed to jail by sentence of a State Court, for any act done in pursuance of the revenue laws; and any person who shall disobey the said writ of habeas corpus, shall be adjudged guilty of a misdemeanor, and may be fined, not exceeding $6,000 and imprisonment, not exceeding three years, at the discretion of the Court.

Mr. Bell of the Judiciary Com. stated that the report and bill had received the sanction of a majority of the committee merely. The minority, however, did not object to the provisions of the bill, but were of opinion that they did not go as far as was necessary to meet the emergency. The minority of the committee, he further stated, were not opposed to a portion of the views submitted in the Report.

The report was then read, referred to a committee of the whole on the state of the Union, and directed to be printed.

The bill to reduce and otherwise alter the duties on imports, and the amendments reported by the committee of the whole, came up for consideration. The first amendment, which proposed to insert a duty on worsted twist and yarn, was disagreed to without a count. The amendment adopted in committee at the instance of Mr. C. P. White, fixing the duty on manufactured wool, was considered.

[*From the Journal of Commerce.*]

Saturday, Feb. 9.—In Senate.

Mr. Smith, from the Committee on Finances, reported a bill to allow the importation, free of duty, of Railway iron; which was read and ordered to a second reading.

On motion of Mr. Moore, the Committee on Revolutionary Claims were discharged from the further consideration of all business before them not hitherto acted on.

The various bills and resolutions from the House of Representatives, lying on the table, were twice read and referred.

The Senate took up, as the unfinished business of yesterday, the resolution offered by Mr. Poindexter.

House of Representatives.

On motion of Mr. Verplanck, the House went into Committee of the Whole on the state of the Union, Mr. Ward in the Chair, on the bill making appropriations for the Naval service for the year 1833.

Various amendments were proposed and agreed to.

The committee rose and reported the bill as amended.

The amendments were then concurred in.

Mr. Wickliffe then renewed in the House the amendment which had been rejected in Committee, limiting the number of midshipmen to 466.

An animated debate ensued. The amendment was supported by Messrs. Wickliffe, Branch, Semmes and Carson, and opposed by Messrs. Dearborn, Watmough, Cambreleng, Hubbard, Gennell, Adams Howard and Hoffman.

The question was then taken and decided in the negative—yeas 88, nays 102. The amendment was accordingly rejected.

The bill was then ordered to be engrossed and read a third time.

It was now about half past two o'clock, and the Tariff Bill came up as the special order. A motion was made to adjourn, upon which the yeas and nays were ordered. The call consumed nearly half an hour, and resulted in a majority of 14 in favor of the adjournment. The House accordingly adjourned.

Monday, Feb. 11.—In Senate.

Mr. Kane, from the Committee on Public Lands, reported sundry Home Bills, without amendment.

Mr. Clay gave notice that he should to-morrow ask leave to introduce a Bill to modify the Act of July 14, 1832, entitled an act to alter and amend the several Acts imposing duties on Imports.

His motive, he said, in introducing this Bill, was the hope—perhaps the vain hope—of effecting an adjustment of the question to which it relates. He should take the opportunity to accompany the motion with some explanations of the object which he had in view.

The Resolution offered by Mr. Poindexter, requesting the President to lay before the Senate copies of all orders issued by him, to the commanding officers of the troops and naval forces assembled near Charleston, and particularly of all orders, if any, which have been issued to resist the constituted authorities of South Carolina, within the chartered limits of said State, was taken up as the unfinished business of Saturday.

The resolution was agreed to, *nem. dis.*

A report from the Committee on Military Affairs, adverse to the continuation of the Military Road from Madawaska to Mars Hill, in Maine, was read, and the Committee was discharged from the further consideration of the subject.

At 12 o'clock the Senate resumed the consideration of the "bill further to provide for the collection of duties on imports."

House of Representatives.

The Tariff.

Mr. Wickliffe gave notice, that if there were no *manifestations* in the course of this day, he would to morrow make a motion that would test the question, with a view of giving room for the consideration of other important matters.

Mr. Wayne, of Georgia, moved to postpone the bill and amendments unti to-morrow.

The motion was agreed to.

The bill making appropriations for the Naval service for the year 1833, and several private bills, were passed.

Tuesday, Feb. 12.—In Senate.

A message was received from the President of the United States, transmitting, in compliance with the resolution of the Senate adopted yesterday, all orders issued to the commanding officers of the military and naval forces assembled near the City of Charleston, and stating that no orders had at any time been issued to resist the constituted authorities of that State, but that a letter from the Secretary of War, giving some directions, to take effect on certain contingencies, he had deemed it proper to withhold.

On motion of Mr. Poindexter, the papers were ordered to be printed.

Mr. Forsyth called for the reading of the orders.

The Secretary proceeded to read them, but as they appeared to be numerous, the reading was suspended. [So far as read, they enjoined it upon the officers to take care of the public property, to guard the forts against surprise from the militia; and, in case of an attack, to defend them to the last extremity.]

Mr. Clay, agreeably to notice given yesterday, asked leave to introduce "a Bill to modify the Tariff of July 14th, 1832, and all other Acts imposing duties an Imports."

After giving a general view of the Bill, Mr. Clay took up fairly and in succession, all the objections which were likely to be urged against this measure of compromise and conciliation, by the two parties, Tariff and Anti-Tariff, and closed by an eloquent appeal to the patriotism of the Senate and of the country for aid in restoring harmony to the Union.

Mr. Forsyth met the Bill, *in limine*, with a variety of objections, and demanded the yeas and nays on the motion of leave to introduce the Bill.

Messrs. Poindexter and Sprague replied, with great severity, to Mr. Forsyth.

Mr. Calhoun approved of the objects of the bill, and was willing to receive it as a measure of compromise. Until this question was settled, we could not expect to see peace. The controversy between the North and the South was owing to the present degraded state of the politics of the country; for degraded he must declare them to be. An average ad valorum duty on all articles, was the only plan on which an adjustment could be made. He agreed fully in the propriety of the basis which the bill assumed. Some of the details he also approved, and others he was opposed to. By yielding mutually, he hoped that the bill could be made acceptable to all parties, and that by its passage we should put an end for ever to this vexed question. [A spontaneous burst of applause was heard from the galleries. The Chair ordered them to be cleared, but at the suggestion of some Senators, suspended the execution of the order, till another similar breach of decorum should take place.]

Mr. Webster, among others, gave his views in relation to the bill. He was bound to say that, in its principles and details, the bill presented great difficulties. It surrendered the power of discriminating in laying duties, and at the end of the process, provided a uniform rate of duties. He saw no reason to believe that the system, in a moderate and reasonable degree, could not be sustained. If it was sustained, it would be by public opinion. The question was to be decided by a majority of votes, and to the good sense of the people he was willing to trust it. He had no wish to anticipate their judgment.—He concluded by saying that to-morrow he should ask leave to lay on the table certain Resolutions expressive of his opinion on this subject.

The result of the debate was, that Mr. Forsyth withdrew his opposition to the introduction of the Bill, and it was read and ordered to a second reading.

The *Enforcing Bill* was then taken up, the question being on Mr. Forsyth's motion to strike out the 3d section.

A debate of some length ensued on this motion.

House of Representatives.

The bill refunding to the legal representatives of Colonel Matthew Lyon, a fine imposed under the Sedition Law was passed—yeas 77, nays 56.

LEGISLATURE OF NEW-YORK.

February 6.—In Senate.

Petition—Of Stephen Van Rensselaer and others, inhabitants of the city and county of Albany, for a ship canal from Albany to the deep waters of the Hudson below New Baltimore.

The same committee passed the bill authorizing the appointment of commissioners for supplying New York with pure and wholesome water.

Assembly.

Bills reported: To incorporate the Tanners' Insurance Co. N. York; to incorporate the Brewers' Bank, Albany; to incorporate the Lewis Co. Bank at Martinsburgh.

By Mr. Stillwell, to alter the charter of the New York and Albany Railroad Co. [Extends the time for going into operation; may commence the work when $500,000 is subscribed; shall not forfeit the part of the road they have made, if not finished within the time prescribed by the charter.]

In Senate—*Thursday.*

The bill for the appointment of commissioners in relation to supplying the city of N. York with pure and wholesome water, was read a third time and passed.

Friday, Feb. 8.—Assembly.

The committee of the whole, took up the bill to amend the charter of the Hudson and Erie Railroad Co. [Extends the time for going into operation; may commence when 500,000 is subscribed; shall not forfeit the part of the road they have made, if not finished within the time prescribed by the charter.] The bill passed in committee, and they rose.

Saturday, February 9.—In Assembly.

Third reading of bills.—To incorporate the Herkimer County Bank. After the bill was read it was laid on the table.

To amend the charter of the New York and Erie Railroad Company. Passed, 88 to 5.

Monday, February 11.—In Senate.

Mr. Sherman from a select committee, reported a bill authorising the improvement of the navigation of Flushing bay and creek.

In Assembly.

Bills reported: To incorporate the Buffalo & Black Rock Railroad Company.

The Committee of the whole, Mr. McKeon in the chair, passed the bill from the senate, to incorporate the Rochester Canal and Railroad Company. Report agreed to.

Delaware.—The following resolutions have been adopted by the Legislature of this State.

Resolved, by the Senate and house of Representatives of the State of Delaware in General assembly met, that in the opinion of this Legislature, it would greatly promote the interest and prosperity of the inhabitents of the Peninsula, formed by the waters of the Chesapeake and Delaware Bays, if they were united under one government.

Resolved, That it comports with the views and wishes of the people of this State, that the people of the Eastern Shore of Maryland and of this State, should be united under one government, and that region of country inhabited by them respectively, should be denominated the *State of Delaware.*

Resolved, That the Governor of this State be and he hereby is authorized and empowered, in case the above measure should meet the approbation of the Legislature of the State of Maryland, to appoint three Commissioners on the part of this State to meet such as may be appointed on the part of the State of Maryland, to carry the measure into execution and settle the details thereof, subject to the final ratification of the Legislatures of the two States, and that of the Congress of the United States.

Resolved, That the Governor of this State be requested to transmit the foregoing resolutions to the Governor of the State of Maryland to be laid by him before the Legislature of that State.

FOREIGN INTELLIGENCE.

The foreign news by the Orpheus, from Liverpool, is up to the 6th ult. It leaves the question as between Holland and Belgium still unsettled, though from the prompt retiring of the French army after the fall of the citadel of Antwerp, the probabilities of general war were for the time diminished.

Paris, Jan. 1.—The King's equipages have already left Paris, and have partly passed the Senlis.

Rome, Dec. 18.—All eyes are fixed on the affairs of the provincials, but no result is known. General Sebastiani, late Minister of foreign affairs in France, arrived here on the 9th, on his way to Naples.

Cardinal Spinola, Nuncio at Vienna, has received the hat. It is said he is destined for Bologna, and that M. Brignoli will come from Bologna to be invested with the title of Treasurer. Cardinal Spinola and M. Brignoli are both very rich. The latter is related to the widow of Charles Theodore and the families of Dalberg and Acton, at Naples, and has great family influence.

Count Gourieff, the new Russian Ambassador, has presented his credentials to the Pope, and resides in the palace of the Prince de Montfort. Prince Augustus of Prussia arrived here the day before yesterday.

Dec. 20.—King Otho and his brother, the Prince Royal of Bavaria, arrived here this morning.

The citadel of Antwerp was on Monday occupied

by the Belgian troops. The French army continued to retire. The total number of killed and wounded in the besieging army does not exceed 800, and the number of their sick is under 1,000. The garrison of the citadel, consisting altogether of 4,000 men, exclusive of the wounded, will reach Dunkirk on the 5th and 6th. How long they will be detained remains a problem. It is certain they are treated as prisoners of war, whatever may be the appella tion by which they are designated. A general order of Marshal Gerard, announces to the troops the rewards that they will receive from the King's hands on his reviewing them at Valenciesns. It states, 1st, the number of metres of trenches thrown up by the working parties to be 14,000, or about 8 1-4 miles. 2d, the number of wounded, 695; killed outright, 108; total, 803. 3d, the rounds of ammunition fired by the artillery, 62,000; of which 16,-000 were howitzer shells, new model; 15,000 ten inch mortar shells; and the remainder 32,000 round shot, 24 and 16 pounders. The materiel found in the citadel and forts amounts to 130 pieces of different form and calibre, with a large supply of ammunition and projectiles of every description. The proposal to convert the Waterloo Lion "into bombs and cannon ball!! for the defence of the liberty and independance of the people," has been rejected by the Belgian Chambers, only fourteen having risen to defend its being taken into consideration. The Chamber agreed to a vote of thanks to the French army.

ANTWERP, Monday evening, Dec. 31.—The last siege of the citadel of Antwerp is past. At 2 o'clock the French soldiers quitted it, and this day, the last of 1832, has been the first on which this celebrated fortress became the possession of the Belgians, as a free and independent people. It has existed 250 years, and now it has at length become the property of the people in whose country it was erected as a cause of terror. At first religious bigotry laid the basis under the government of Philip II. King of Spain, and after many changes it lastly found the support of commercial bigotry, under William, King of Holland.

The capture of it by the French army under Marshal Gerard has added to the military renown of that nation; for the only "Crown" to which their claim to which their claim could be in the least doubted was the mural one; they have obtained it here, by carrying on the siege against only two bastions.—Yet to me their glory seemed pnre, disinterested, and peaceful, when I saw to-day their soldiers surrender the gates and the body of the place to the Belgians. This act demonstrated that the French Government of the modern time can earn laurels and maintain good faith—the best encomium that can be bestowed on any nation.

The appearance of the citadel itself is a heap of ruins: all the buildings are destroyed by the shells and by the results of the garrison's departure. To many it was during the last week an object of interest, yet to me it was most so when the Belgians entered it. I was present and saw them enter into possession. The ground and the ramparts were ploughed up; broken shells, cannon balls, and lished in the Albion of yesterday evening, was communicated to us in the course of the same day, the wrecks of houses, were scattered amidst walls desecrated by fire. Yet the provision store, through which I passed to Chassé's apartment, had received but one shell. There several hundred barrels of provisions, bread in abundance, and the pumps in the casements, were untouched. The chapel is a striking ruin; nothing is whole: one remarkable object was the broken headless statue of Fernando de Solis, erected over his grave in Spanish times. The inscription yet remains in that language.

From the London Albion of the 3d of Jan.

The new project of a convention, proposed to Holland by Lord Palmerston and Talleyrand, is dated Dec. 30, and contains nine articles, of which the following are brief contracts:

1. The forts of Lillo and Liefkenshock to be surrendered to the Belgian troops within ten days after ratification.
2. The navigation of the Meuse to be subjected to the same regulations as those recently established for the Rhine.
3. The navigation of the Scheldt to be entirely free till the conclusion of a final treaty between Belgium and Holland.
4. The transit of Belgian merchandize in Germany to be free, with the exception of moderate tolls for support of roads, &c.
5. Impunity for all political offences in Venloo and Luxemburg
6. Evacuation of Venloo and the Dutch portion of Luxemburg by the Belgian troops.
7. Reduction of Dutch army to peace establishment.
8. Reduction of Belgian army to peace establishment.
9. Restitution to legal owners of Dutch property confiscated by English and French Governments.

The London Courier of the 4th remarks on the foregoing as follows:—

When the Project of Convention, which was published extraordinary nature of it induced us to doubt its authenticity. We have since made inquiries, and we find it is correct nearly to the letter. There is only one trifling error: it was signed, not on the 30th, but on the 31st.

This Project of Convention has been submitted to the Court of Holland; the reply of the King we may easily anticipate.

What does it require of him? It asks him, with a simplicity which we are surprized to find exhibited by a veteran diplomatist, to consent to that which neither the potocols of two years incubation, and the late military measure of coercion, has failed to persuade him to. As to the proposition that the Scheldt should remain open till after the signing of a definitive treaty of peace between Holland and Belgium, such a request is pure *niaiserie*. That would be the end before the beginning. The whole, or nearly the whole, dispute now, is, respecting the navigation of the Scheldt.

What then is the object of this new project of Convention? It is not to be supposed that Lord Palmerston and Prince Talleyrand imagine that it will be acceded to by the King of Holland. We must suppose, then, that their object was to procure the formal refusal of Holland to consent to it. And what then? When the refusal is obtained, will Great Britain and France attempt to force his consent? Surely not, for there is a Convention ready made on the matter still not completed.

Of all the extraordinary things which have taken place during the intermediate of the Great Powers of Europe between Holland and Belgium, this certainly is one of the most inexplicable.

On Sunday we may expect to receive the King of Holland's reply to this courteous invitation that he should quietly yield that which he has sturdily defended against a fleet of thirty vessels of war, and an army of a hundred thousand men.

A calculation is made in the Paris advices, that the expense of the army of Belgium is 75,000*l.* per diem, and that already the campaign has cost 2,000,-000*l.*, of which, it is said, Great Britain is to pay her share, viz. one half.

The *Duke of Fitzjames* writes a letter from Naples, asking permission to take the place of the *Duchess of Berri* as a captive. "I offer," says he, "to wear the chains of the daughter of kings, and my life shall answer for her future course whatever it may be" Yet the Duke of Fitzjames is a man of sense.

Earnest discussions are going on in the English papers as to the introduction of the vote by ballot into England. Elections there are now conducted *viva voce*. The Government lean against it strongly; yet the functionaries of the Government are divided. Lord Althorp, Mr. Stanley and Mr. Spring Rice have declared themselves opposed; Lord John Russel, on the other hand, said it might become necessary, and Mr. Poulett Thompson publicly, at Manchester, avowed himself in favor of it. It will, undoubtedly, be among the earliest propositions discussed in the Reformed Parliament. How accurately the Press discourses about it, the following extract from the London Courier of 29th December will witness.—

The ballot system, say they, "*does* exist in the United States of America; and the prejudicial effects apprehended from it by those who oppose its introduction into this country, do *not* exist."

A little explanation is necessary here; the *system* of ballot exists in the United States of America, but the *practice* does not. Every elector there has the *right* to give a secret vote; but no elector, in the face of his fellow citizens, dare to exercise it. As much pains are taken in the United States to prevent the ballot box from contributing to the secrecy of the vote, as are used by some in this country to establish it. In fact, secrecy of voting exists in America only in name; the established practice is the most ostentatious publicity; and that man would be branded as a social sneak, and political traitor, who should refuse to comply with the rigorous measures which are adopted in the United States to make public the vote of every elector.

Thus, the example of the United States of America does not help the argument in favor of the introduction of the ballot system in this country. On the contrary, it proves that secrecy in voting, however plausible in theory, is impossible in practice.—Even the attempt at secret voting has been abandoned by a People above all others jealous of the free exercise of their political privileges.

Mr. *Spring Rice*, in his speech at Cambridge, in which he expressed his opposition to the ballot vote, quoted the opinion of a "valued American friend, the eloquent Mr. Randolph," who told him, that, though in a recent Convention in Virginia changes had been made in the Constitution of that State, no one was wild or base enough to propose to a Virginian a secret vote.

The Spectator thus amuses itself with the notice of Gully the boxer's services in the House of Commons:—

It is rumored that a great number of disorderly persons have got into the New Parliament. This being the case, it is lucky that the Speaker will have such a backer as Gully: no man is better qualified for keeping order and seeing fair play. It would not be a bad job to make him Deputy Speaker (with a salary) his office being to enforce the "order" which his chief only proclaims. Should any dispute arise, it should be Gully's office to take the parties into a private committee-room and see it out. A better timekeeper could not be had. He might also be useful in case of any long-winded speeches: we would appoint Gully to stop the honorable members' wind at the end of a reasonable given time. Such an apparitor would be mightily useful in a deliberative assembly. It is not likely he will speak much; though probably the House will be glad to hear his sentiments on the Game-laws. No one will attempt to cough him down. Dick Martin used to talk of leaden pills for the cure of such coughs; but a pair of Gully's boluses will frighten the malady away at once. The Speaker has a habit of looking *oeculis retrorsis*, and it is rather difficult to catch his eye: Gully will do it with ease; and if he is dissatisfied with their present azure hue, he will change their color. He might be set against the Repealers: no one understands that business better than Gully: if ever man could quiet the Agitator, it is the Ex-Champion of England. In a very few rounds, he would settle the affairs of Ireland. Sir Henry Harding used, somehow or other, always to start up when words seemed to be akin to blows; but we shall have none of that sort of bullying permitted now: England expects her Champion to do his duty; and when any of these disgraceful scenes take place, to step forth, and put an end to them with a strong hand. Two to one on Gully being one of the most useful members in the House—taken.

Mr. *Alex. Baring* had, after a severe contest, succeeded in being elected for *North Essex*, beating Mr. Western, for twenty years a member for the county. Mr. Baring goes into the House of Commons as a Conservative, or Anti-Reformer. Mr. Western lost his election by the votes of a class to whom he was mainly instrumental in securing the right of voting—tenants at will of farms. All these almost voted according to the bidding of the great landholders under whom they held. They were actually led up to the polls in droves by the great man's agent, and voted in his hearing for the candidate prescribed to them.

A Quaker named Pease has been returned to Parliament from South Durham, but he has misgivings, it would seem, from the annexed paragraph, about taking the oaths.

A member of the Society of Friends, by name Joseph Pease, has been placed at the head of the poll and returned for the southern division of the county of Durham. He is a man of considerable wealth and of great influence in that part of the county, as this election proves—there being in Southern Durham a vast number of persons who wear the same garb, and profess the same doctrines, as their honorable representatative.

Mr. Joseph Pease, however, has some apprehensions as to his reception in the House of Commons. He may not court, but he obviously anticipates martyrdom. He told the electors that "he was well aware that he must go through *much persecution in their cause*, and that he should not be surprized if the Sergeant at Arms be ordered to take him into custody."

These fears take their rise in Mr. Joseph Pease's honest and conscientious repugnance to take the necessary oaths. He declares that he cannot take an oath—that the taking of oaths is unlawful—and that he is resolved to contest their expediency with the Speaker, at the hazard of being removed from the House by the Sergeant at Arms.

NEW-YORK AMERICAN.

FEBRUARY 9, 11, 12, 13, 14, 15—1833.

LITERARY NOTICES.

LECTURES UPON NATURAL HISTORY, by *Timothy Flint*. Boston, *Lily, Wait, Colman & Holden*; Cincinati, *E. H. Flint*. Few men have done more, or done better what they have undertaken, than the author of these Lectures. His "Recollections of Ten Years passed in the Valley of the Mississippi," is a book replete with amusement and instruction; written in a right feeling, and with a heart alive to the beauties of nature, and the wants and interests of man. This was followed by a "Geography and History of the Mississippi Valley," in two volumes, which, in a second edition, have been bound into one, and constitute probably the latest and most accurate and authentic account of that great region. The book now before us is not inferior, in execution to either of its predecessors, and is, by reason of the generality of its subjects, superior in interest. It is the volume of nature opened, explained, and illustrated, by one who has studied it from early youth with enthusiastic delight, and who tells the result of his meditations with all a a poet's fervor and a lover's fondness. In the course of these lectures, in which the text book chiefly relied on is, we are told in the preface, a French work, by *Aimé Martin*, entitled "*Lettres a Sophie*, the chief phenomena which come under the cognizance of Natural Philosophy, are happily elucidated, and that too without pedantry, or parade of hard words and learned terms. We cannot spare much room for quotations. One or two will suffice to show the manner in which our author imparts interest to his topics.

After descanting upon "pure and unmixed Love," as the pervading principle of the Creation, we have this passage:

Some modern philosophers have transcended even these views of the extent of love, as the prolific source of being. Some years since, Durand delivered a course of lectures upon mineralogy. He affirmed, that he was able mathematically to demonstrate, that stones were endowed with sensibility. To sustain his theory, he relied chiefly upon what he called the love of matter for the sun. He gave the following as an example. Take a solution of salt. Expose the vessel which contains it in such a manner as that one half the surface shall be in the sun, and the other half in the shade. In a little time you will see superb crystals in the enlightened part, and none in the portion deprived of the sun's rays. This singular phenomenon proves, that light enters into the composition of crystals. Diamonds are only found in those portions of the world, where the intense and almost continually cloudless action of the sun imparts the degree of heat and brilliancy, which determines their peculiar crystallization. These bright gems, so eagerly sought by power and beauty, according to this theory, are a kind of consolidated light; and the opaque elements from which they are formed, on a principle of love for the solar rays, imbibe the germ of their formation from the influence of a planet placed many millions of leagues from them. The philosopher carried his thoughts still farther. Remarking that the highest mountains are placed under the equator, he attributed their creation to the light of the sun. According to him there is there on a vast scale the same process by which crystals form in the solution of salt, and Antisana, and Chimborazo, and Himala are formed of crystallized light! If these portions of the globe had been in shade, these sublime piles had never been reared.

Whatever may be thought of the system of Durand, it has awakened a great number of new observations. The highest mountains of the globe are granite. Granite is an outline of crystal, an imperfect crystallization. If Durand reasoned justly, light a little more brilliant, heat a little more vivid, and all these mountains had been diamond. In this way a trifling experiment upon a solution of salt, indicated by chance, suggested new principles in a theory of creation, which supposes it gradually becoming a crystallization.

It is a little in opposition with the theory of *M. Durand*, that *Chimborazo* and the other giants of the Andes, are—according to Mr. Temple, whose travels in Peru are noticed below—not of *granite*, but of *secondary* formation.

Elsewhere, in discoursing of Botany, and of the almost sentient existence of some plants, this passage occurs:

The naturalist Bonet pleasantly exclaimed, in a botanical discussion turning on the question of the sensibility of plants, 'It is not so easy, as you imagine, to distinguish a rose tree from a cat.' Let us contemplate some of the characteristics, which excited such extraordinary doubts. The upper surface of the leaves is slippery and varnished. It serves as a roof for the inferior surface, which is turned towards the earth, and where nature has placed a multitude of little mouths to inspire the humidity which nourishes the tree. Turn the under surface of the leaves upwards, and you will soon see the leaves commence a return movement, gently twisting, yet with a kind of effort, on their peduncle, as on a pivot. At the end of a few hours, you will find that they have resumed their first position.—The varnished surface will have become anew the roof of the leaf; and the little mouths, once more turned toward the earth, will be again inhaling the ascending moisture.

Astonished, says Aimé Martin, at these movements, which unfold a kind of sensibility, I transplanted a rose tree from one part of my garden to another, and continued to observe it. To the right of the new position the soil was dry, hard and sterile; to the left moist, rich and tender. The roots at first radiated alike to the right and left. But I soon discovered, that the roots, which had advanced to the right, bent back towards the fertile and mellow earth, as if divining, that their companions at the left had found better pasture. To prevent their intercepting nourishment intended for other plants, I dug a ditch to prevent the further advance of the roots. Arrived at the ditch they plunged perpendicularly below its bottom, ran onward beneath it, ascended, and advanced anew towards the point, where they had discovered the rich soil. I stood astonished, and almost expected to hear my rose tree complain of my injuries. I recollected the voices which softened the heart of Tancred in the enchanted forest, and the groans of the myrtle which expostulated with Eneas on the shores of Thrace. Should the stately and noble trees of our country thus cry out against every rude Vandal, who cut them down without necessity, what an appalling shout would issue from our groves!

We cannot close our extracts better than with the annexed *political* lesson, derived from the orderly commonwealth of the Bees.

'Young girl endowed with beauty,' said Pythagoras, 'ask of the laborious bee, if flowers have no other use than to please the senses?' The invariable order established in these little governments, the unremitting industry with which each individual labors for the public good, the grand principle of utility which regulates every movement, offer the example of a perfect commonwealth. The genius of Montesquieu invented nothing so perfect as a model of communities. All the dreams of political reformers are here realized in a living example. A queen, respectfully surrounded by fifteen or twenty thousand of her subjects, of which she is at once the monarch and the mother, legislates for her realm, so as to produce unlimited obedience and the most perfect order. Where she advances, the circle opens with the profoundest homage. For her they store their waxen cells; and if she dies without leaving a successor, the whole nation perishes; for the subjects immediately abandon their labors in utter discouragement. Why should they not? With their mother and their queen, perishes their hope of posterity, and the book of their history is closed. The philosophers, metaphysicians, moralists, politicians, who imagine that no intelligence remains on the earth, beyond human reason, are struck with surprize.

TRAVELS IN PERU, INCLUDING A YEAR'S RESIDENCE AT POTOSI, by *Edmond Temple*. Philadelphia: *E. L. Carey & A. Hart*.—Two volumes of light, *very* light reading, about a country little known, written by a good humored Irishman, who embarked in 1825—a year so fruitful in schemes destined to fail—as Secretary of one of the splendidly promising mining companies which England then fitted out. The whole concern soon blew up; but not till our Secretary had ridden over much of Peru; and though, when his golden dreams were dissipated he found himself almost destitute in the interior of South America, his spirits never appear to have deserted him. His descriptions of the country and its manners are fresh and free; sinning grievously in the latter particular against all the rites of hospitality, which the Prince *Puckler Muskau* is so much rated by the English for doing in respect to them. Our traveller thus excuses himself, for what is inexcusable, in exposing by name the misery and filth of establishments where he was kindly entertained.

I have said that I received a hearty welcome; nothing could be more cordial; *but I am not on that account to suppress the truth*, in describing the manners and customs of the people of whom it is my wish to give a faithful representation; and this sketch may be considered a tolerably accurate outline of the general mode of living here, among that class of people which, in England, we denominate the first.

CABINET OF AMERICAN HISTORY. Vols. 1, 2, 3, & 4. By *Thomas F. Gordon*. Philadelphia: *Carey & Lea*.—Under this comprehensive title, these enterprising Publishers are preparing to present to the reading world a series of works, each of which, being complete in itself, will together constitute a full historical account of the two Americas, and of each of its separate peoples. We have on a former occasion noticed the first two volumes of this series, containing the history of the Spanish discoveries prior to 1520; the third and fourth now, together with the other two, before us, comprise the history of Ancient Mexico, or *Anahuac*, from the foundation of that Empire to its subjugation and overthrow by the Spaniards under Cortez and his successors. The authority mainly relied on is that of the honest *Clavigero*, who dissipated so many of the brilliant errors and striking but fallacious generalities of Robertson. The narrative is compressed and well connected, and omits nothing material either in the political history or natural features and productions of the country. The style of printing and the paper of these last volumes are inferior to those of the first. The engravings are certainly useful, but not very ornamental or finished in execution. The design of this undertaking is certainly deserving of encouragement; since it extends, as we have before said, to publishing a complete history of the discovery, aboriginal state, and present condition of every part and people of this continent, and of the islands contiguous to it. Italy, which contributed so much to discovery in this new world, and which has, in *Botta*, given to us the citizens of the United States, the best narrative of the Revolutionary War, has the merit of suggesting the idea and the model of this "Cabinet of American History." The Cavaliere *Giuseppe Compagnoni* published some years ago, as part of a Universal History, a compendium of American, comprising a full and methodical account of events in America, from its discovery by Columbus to the treaty of Ghent in 1815. The general outline of his plan is to be followed up in this work, which is to be brought, as to each volume, to the time of its publication.—When it comes to the turn of the United States, a separate volume will, where necessary, be appropriated to a single State—confining the general history of the United States to the "Events of the Revolution, and the operations of the General Government."

HISTORY OF IRELAND, BY W. C. TAYLOR; WITH ADDITIONS BY WM. SAMPSON, ESQ. 2 vols. Harpers' Family Library.—There is no gloomier volume in the annals of the world than that wherein the History of Ireland is written. From the traditionary times of the conquest of the country by the Phœnicians, long before the Christian æra, and the interminable wars which followed between the five king-

doms into which they divided it, from the fierce invasion of the Danes in the 9th century, and the bloody conflicts which for centuries kept alive the recollection of their descent, till the still more ruthless and oft-repeated invasions of the English, down to the famines, the murders, and burnings of our own days,—this devoted island has ever been a corner of the world where misery has accumulated upon misery, and the vindictive passions of men have raged with the most desolating fury. It was early in the year 1170 that the first invaders from England appeared upon the Irish coast. They consisted of but 30 knights, with 60 men-at-arms, and 300 archers, and were under the command of Fitz-Stephen, the lieutenant of Earl Strongbow, who, before his chief could arrive with about double the number more of additional troops, had already, with his handful of followers, made good the footing of the Normans in Ireland, and prepared matters for that ascendancy of the English power which ensued upon the invasion of the country by Henry the Second. The sudden departure of Henry, after receiving the tendered allegiance of the Irish princes, without having subjugated the people, and his intrusting the further conquest of the country to private adventurers, whose rewards were to be the spoils of the vanquished, laid the foundation of all the political evils under which Ireland has since labored. About one-twentieth of the population were received at once within the pale of English law, and all the rest, from this time down to the reign of Elizabeth, were held enemies, and could neither sue nor be sued, nor have their wrongs redressed in any way but by the sword. The Irish were, in fact, handed over to the warlike Barons of England, to be turned into serfs, as fast as the Courceys, Laceys, and De Bourgos could bring them within the feudal power; while the invincible spirit of the O'Connors, O'Rourkes, Kavenaghs, with some other powerful septs, who

> "——— fought the English of the pale,
> And stemmed De Bourgo's chivalry,

made the task of the invaders no sinecure, and kept the land rife with battle and slaughter for ages. The whole, indeed, of the history before us, is so made up of details of war and rapine, of slow treachery, or sudden onslaught, of outrageous oppression and bloody resistance, that you may open the book at almost any part, and allowing a little for the change in the costumes of the characters engaged since their ancestors first came into collision a thousand years ago, you find the scenes to which they give life in every age the same,—from the horrors attendant upon the bold invasion of bloody Pembroke, or the remorseless butcheries of Groy's administration in Queen Elizabeth's reign, down to the hideous scenes of 1798, when bigotry and revenge, robbery, murder, and every species of licentious crime had full sway, and all the dark passions that combine with them, stalked over this fated land, destroying in a few months, one hundred thousand lives, consuming three millions sterling of property, demoralizing the whole face of society, and withering as in the grasp of death "every growth of nature and humanity." Made up of such materials, the History of Ireland offers few bright spots upon which the mind can dwell with tranquillity or satisfaction. The soul tires of the eternal characters of blood in which it is written, and the heart sickens at the scenes of violence and profligacy, each of which is but a reflection of the other. Still, for those who delight in the records of wild adventure, and dwell with pleasure upon pictures of carnage that are sometimes relieved by generous deeds, and acts of noble fidelity, there is much vivid interest in this work; nor can they who would rightly estimate the blessing of living under a well-ordered government, find a livelier illustration of the ills which their rulers may entail upon the people, than in the history of a country, whose gross misgovernment for centuries has made its administration a by-word among the nations.

The conclusion of the work is written in a glowing style by Wm. Sampson, Esq. of this city, and offers an interesting comment upon the work; while it embraces many particulars not found in the English edition.

POETRY.

The following *Anacreontic* is in Moore's happiest vein—touched with tenderness amidst its revelling. What if he could hear it sung as we have heard it?

Take hence the bowl tho' beaming
Brightly as bowl 'ere shone;
Oh! it but sets me dreaming
Of days, of nights, now gone.
Then in its clear reflection,
As in a wizard's glass,
Lost hope and dead affection
Like shades before me pass.
Take hence the bowl, &c.

Each cup I drain brings hither
Some friend who once sat by,
Bright lips—too bright to wither
Warm hearts—too warm to die.
'Till as the dream comes o'er me,
Of those long vanished years,
Then—then—the cup before me
Seems turning all to tears.
Take hence the bowl, &c.

DEATH.

Death is here, and death is there,
Death is busy every where;
All around, within, beneath,
Above is death—and we are death.
Death has set his mark and seal,
On all we are and all we feel,
On all we know, and all we fear:

First our pleasures die—and then
Our hopes, and then our tears—and when
These are dead, the debt is due,
Dust claims dust—and we die too.

☞ The following gentlemen have consented to act as Agents for this Journal; also, for the NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE—the MECHANICS' MAGAZINE—and the AMERICAN PLOUGH-BOY:

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Morristown, N. J.—C. Robbins, Esq.
Freehold, N. J.—Messrs. Bartleson, Editors Inquirer.
Baltimore, Md.—Britain Chase, (at the Railroad Company's Office.)
Washington, D. C.—Benj. Homans.
Fredericksburg, Va.—W. Battail.
New-Baltimore, Va.—T. H. Hampton.
Dansville, Va.—Editors of the Reporter.

☞ **MR. KING,** Prof. of Elocution, requests us to give notice, that his Institution for the *permanent correction* and *cure* of stammering, and *all other* impediments of speech, is closed.

Also, that he will open in Philadelphia, on the 20th instant. Those who require his services are requested to make application by the 15th March, as the Institution will not continue open there but *three* months.

☞ No pecuniary demand will be made until the pupil shall be satisfied with his instruction. F11 1t*

MARRIAGES.

On Sunday evening, Feb. 10th, by the Rev. Mr. Douner, Mr. Peter Provost, of this city, to Miss Catharine E. Cornelison of Nyack, New York.

Last evening, Feb. 12th, by the Rev. Dr. Wainwright, Joseph Alston, of South Carolina, to Helen, daughter of John Mason, Esq. of this city.

Last evening, Feb. 12th, by the Rev. Dr. De Witt, Ogden Haggerty, to Elizabeth Sedgwick, daughter of Henry Kneeland.

At St. Paul's Chapel, on Tuesday morning 12th inst. by the Rev. H. J. Morton, Robert L. Patterson, Esq. to Marianne, daughter of the late Henry McFarlane, of this city.

DEATHS.

This morning, George, infant child of Dr. A. J. Berry.

Last evening, William Bleecker, son of G. D. Smith, aged 10 months.

At Philadelphia, on the 5th inst. Willing Francis, Esq. in the 35th year of his age.

At Fort M'Henry, on the 4th inst. Capt. N. G Dana, of the 1st Regiment of Artillery. Captain Dana entered the Army in 1814, from the Military Academy, since which time he has been constantly on duty, which he always performed with promptness and devotion to the service.

At London, on the 30th Dec. Mr. Dumond Peck, after an illness of three weeks. Mr. P. was a native of Milford, Ct. and for many years a resident of this city, where his strict integrity, and correct deportment, gained him the esteem of those who knew him, and who now sympathise with his bereaved family.

WEEKLY REPORT OF DEATHS.

The City Inspector reports the death of 109 persons during the week ending on Saturday last, Feb. 9th, viz.:—19 men, 25 women, 37 boys, and 28 girls—of whom 40 were of the age of 1 year and under, 8 between 1 and 2, 13 between 2 and 5, 1 between 5 and 10, 4 between 10 and 20, 14 between 20 and 30, 11 between 30 and 40, 9 between 40 and 50, 2 between 50 and 60, 3 between 60 and 70, 2 between 70 and 80, and 2 between 80 and 100.

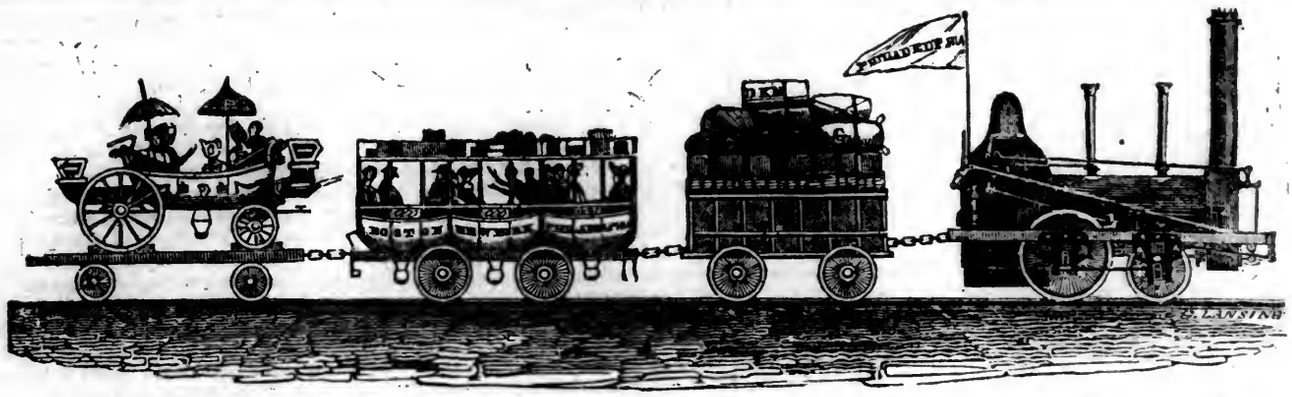
Diseases:—Apoplexy 2, asthma 1, casualty 1, childbed 2, consumption 21, convulsions 13, dropsy 2, dropsy in the head 8, dysentery 1, epilepsy 1, fever 1, scarlet fever 1, typhus fever 2, gravel 1, hives or croup 3, jaundice 1, inflammation of the bowels 4, inflammation of the brain 3, inflammation of the cheat 3, inflammation of the liver 2, intemperance 3 marasmus 2, old age 1, peripneumony 8, sprue 1, stillborn 13, syphilis 3, tabes mesenterica 1, unknown 2

ABRAHAM D. STEPHENS, City Inspector.

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, February 13, 1833.

ASHES—				
Pot, 1st sort 1832.	100 lbs	—	a	4 40
Pearl	do	4 60	a	4 70
BEESWAX—				
White	lb	40	a	—
Yellow	do	13	a	20
BREAD—				
Navy	lb	—	a	3½
Pilot	do	—	a	4½
Crackers	do	6½	a	6¾
BRISTLES—				
Russia, first sort	lb	60	a	70
Do. common	do	20	a	40
American	do	15	a	50
CANDLES—				
Mould, tallow	lb	12	a	13
Dipped	do	10½	a	11½
Sperm	do	33	a	35
CLOVERSEED	lb	11	a	12
COAL—				
Liverpool	chaldron	9 25	a	9 50
Scotch	do	8 00	a	—
Sidney & Bridgeport	do	9 00	a	—
Albion	do	8 00	a	—
Virginia	do	8 00	a	9 00
Anthracite	ton	8 00	a	9 00
COCOA—				
Caraccas	lb	—	a	—
Trinidad	do	7	a	8
St. Domingo	do	—	a	7
Para	do	—	a	6
COFFEE—				
Cuba	lb	11	a	13½
Brazil	do	13	a	13½
Porto Rico	do	13	a	14
Laguira	do	12	a	13½
St. Domingo	do	11½	a	12
Java	do	12½	a	14
Jamaica	do	12	a	13
COPPER—				
Sheathing	lb	—	a	24
Pig	do	—	a	17
Old	do	17	a	—
Bolt	do	24	a	—
CORDAGE—				
Foreign	lb	9½	a	11½
American	cwt	10½	a	11
CORKS—				
Velvet	gross	40	a	50
Common	do	20	a	30
Phial	do	5	a	11
COTTON—				
New Orleans	lb	11	a	13
Upland	do	9¾	a	11
Alabama	do	9¾	a	12
Tennessee	do	10	a	10¾
COTTON BAGGING—				
Hemp	yd	13	a	20
Flax	do	11	a	15
Do. American	do	19	a	21
DIAPERS—				
Russia, broad	piece	2 15	a	2 20
DUCK				
Russia, U. X.	bolt	18 00	a	19 00
Do. Bruisguine				
Do. Zotoff & Konop'ff		17 00	a	—
Do. 3d quality	do	15 50	a	16 00
Do. inferior	do	12 50	a	15 00
German, Half	do	11 00	a	12 00
Holland, A. A.	do	24 00	a	25 00
Ravene	do	8 50	a	9 75
Amer. Joy's, all flax, No. 1 a 8	do	15 50	a	12 00
Do. Phenix Mills, Paterson, flax. No. 1 a 8		16 00	a	12 00
Do. cotton, Paterson, No. 1 a 10	yd	26	a	39
DYE WOODS—				
Braziletto	ton	30 00	a	—
Camwood	do	70 00	a	—
Fustic, Cuba	do	24 00	a	25 00
Do. Tampico	do	28 00	a	21 00
Do. Maine	do	20 00	a	21 00
Logwood, Camp'hy.	do	27 00	a	28 00
Do. St. Dom.	do	26 00	a	21 00
Do. Jamaica	do	—	a	17 00
Nicaragua. Bonaire.	do	—	a	40 00
Do. Coro	do	—	a	45 00
Do. Hache	do	—	a	70 00
FEATHERS—				
Live, Foreign	lb	14	a	20
Do. American	do	38	a	40
FISH—				
Dry Cod	cwt	2 75	a	3 00
Scale	do	2 00	a	—
Pickled Cod	brl	4 25	a	—
Do. Salmon	do	12 50	a	13 50
Smoked do.	lb	14	a	15
Mackerel No. 1	brl	6 50	a	6 75
Do. No. 2	do	4 50	a	4 75
Do. No. 3	do	3 00	a	3 25
Shad, Conn. Mess	do	8 25	a	9 50
Do. Buckesport, do.	do	—	a	6 00
Herrings	do	2 25	a	2 50
Do. Smoked	box	40	a	90
FLAX—				
Russia	lb	—	a	—
American	do	9	a	11
FLAXSEED—				
Clean	cask	—	a	—
Rough	do	14 00	a	14 52
FLOUR AND MEAL—				
New York superfine	brl	—	a	5 75
Troy	do	—	a	—
Western Canal	do	6 12½	a	6 37½
Philadelphia	do	5 62½	a	5 75
Baltimore Howard st.	do	5 75	a	6 00
Richmond City Mills.	do	—	a	—
Do. Country	do	5 50	a	5 62½
Alexandria & Georgetown	do	6 75	a	6 00
Fredericksburg	do	5 50	a	5 62½
Petersburg	do	5 50	a	5 62½
Scratched and fine	do	—	a	5 37½
Fine middlings	do	5 12½	a	5 25
Rye Flour	brl	4 25	a	—
Indian Meal	do	3 75	a	—
Do.	hhd	17 00	a	—
FRUIT—				
Raisins, Malaga	cask	—	a	8 00
Do. bloom	box	—	a	2 50
Do. muscatel	do	—	a	2 75
Do. bunch	do	—	a	3 00
Do. Smyrna	lb	7	a	—
Currants, Zante	do	8½	a	9
Almonds, soft shell.	do	14	a	15
Do. shelled	do	—	a	16
Figs, Smyrna	do	4	a	7
Filberts	do	3½	a	5
Prunes, Bordeaux	do	22	a	23
Tamarinds	do	3½	a	4
GRAIN—				
Wheat, North riv.	bshl	—	a	—
Do. Genesee	do	—	a	—
Do. Virginia	do	1 15	a	—
Do. N. Carolina	do	1 15	a	—
Rye, Northern	do	84	a	90
Corn, Yellow, North.	do	70	a	73
Do. White, L. I. & N. J.	do	70	a	—
Do. Southern	do	62½	a	65
Barley, North river.	do	75	a	—
Oats, South & North.	do	42	a	50
Peas, white dry.	7 bshls	9 00	a	10 00
Do. black eyed	do	—	a	85
Beans	do	9 00	a	11 00
HEMP—				
Russia	ton	190 00	a	210 00
Manilla	do	210 00	a	—
Sisal	do	—	a	—
American new-rot	do	130 00	a	150 00
Yarns, Kentucky	lb	—	a	—
HIDES—				
La Plata & R. Grande	lb	14	a	14½
Brazil	do	11	a	12
Do. wet salted	do	7	a	6½
Oronoco	do	12½	a	13
W. India & Southern	do	10	a	12
S. A. Horse	piece	1 15	a	1 30
HOPS—				
First sort, 1832	lb	38	a	34
Second sort, do	do	—	a	—
HORNS—				
Ox	100	5 00	a	20 00
INDIGO—				
Bengal	lb	1 00	a	1 50
Manilla	do	75	a	1 12½
Caraccas	do	1 12½	a	1 30
Guatemala	do	75	a	1 25
IRON—				
Pig, Engl. & Scotch	ton	40 00	a	45 00
Do. American	do	30 00	a	40 00
Bar, do.	do	80 00	a	100 00
Do. Russia, P. S. I.	do	95 00	a	—
Do. new Sable	do	83 00	a	85 00
Do. Swedes	do	82 00	a	83 00
Do. English ass'td.	do	75 00	a	—
Sheet, English	cwt	6 75	a	8 00
Peru I. Co. flat & eq.	ton	—	a	—
Do. round	do	—	a	—
Hoop, American	cwt	5 50	a	7 00
Do. English	do	6 62½	a	6 75
LEAD				
Pig	lb	5½	a	5¾
Bar	do	6	a	—
Sheet	do	6½	a	6¾
Old	do	—	a	4½
LEATHER—				
Sole, Oak tanned	lb	20	a	27
Do. Hemlock	do	17	a	20
Do. damaged	do	14	a	16
Upper, dressed	side	75	a	2 75
Do. undressed	do	1 00	a	2 50
LUMBER—				
Boards, N. R.	M ft	—	a	15 00
Do. East'n Pine	do	16 00	a	17 00
Do. Albany do.	pce	16	a	17
Plank, Georgia do.	M ft	25 00	a	35 00
Staves, W. O. pipe	do	60 00	a	62 00
Do. do hhd	do	45 00	a	47 00
Do. do brl	do	30 00	a	—
Do. R. O. hhd	do	30 00	a	32 00
Heading W. O.	do	45 00	a	47 00
Hoops	do	25 00	a	—
Scantling, Pine	do	15 00	a	16 00
Do. Oak	do	20 00	a	25 00
Timber, Oak	sq. ft	20	a	25
Do. Geo. Yell. Pine	do	25	a	30
Shingles, Cypress.	M ft	4 25	a	4 50
Do. Pine	bundle	—	a	—
MOLASSES—				
Martinique & Guad.	gall	25	a	26
English Islands	do	26	a	27
Havana & Matanzas	do	24	a	24
Trinidad do Cuba	do	—	a	27
New Orleans	do	27	a	29
NAILS—				
Cut, 4d to 40d	lb	—	a	6
Cut, 3d	do	6½	a	7½
Cut, 2d	do	8	a	8½
Wrought	do	10	a	16½
NAVAL STORES—				
Tar	brl	1 87½	a	—
Pitch	do	1 50	a	1 62½
Rosin	do	1 12½	a	1 62½
Turpentine Wilm. soft		—	a	2 87½
Do. North Co.	do	—	a	2 50
Spirits Turpentine	gall	40	a	42
OILS—				
Florence 50 flasks	box	5 00	a	—
French 12 bottles	bskt	3 00	a	4 00
Olive	gallon	1 12½	a	—
Linseed, American	do	85	a	—
Do. Eng. & Dutch	do	87½	a	90
Whale	do	24	a	25
Do. refined	do	40	a	—
Sperm, Summer	do	90	a	92
Do. Winter	do	1 02	a	1 05
Liver, Straits	brl	15 00	a	15 50
Do. Shore & Bank	do	14 00	a	—
OSNABURGS,	yd	9½	a	10
PROVISIONS—				
Beef. Mess	brl	8 50	a	9 00
Do. Prime	do	5 37½	a	5 75
Do. Cargo	do	4 50	a	4 75
Butter, N. Y. Dairy	lb	14	a	18
Do. Shipping	do	12	a	13
Do. Philadelphia	do	—	a	12
Hog's Lard	lb	7½	a	9
Pork, Mess	do	12 00	a	13 75
Do. Prime	do	10 75	a	11 00
Do. Cargo	do	9 50	a	—
Cheese, American	lb	6½	a	8½
Hams, Virginia	lb	10	a	11
Do. Northern	do	9	a	10
RAGS—				
Foreign	do	4	a	6½
Country	do	3	a	5
RICE	100 lb	3 00	a	3 50
SALT—				
Turk's Island	bshl	40	a	42
Isle of May	do	38	a	40
St. Ubes	do	—	a	—
Cadiz	do	—	a	35
Lisbon	do	—	a	—
Liverpool ground	do	35	a	36
Do. blown	do	—	a	—
Do. sack do.	sack	1 75	a	1 81
SALTPETRE—				
Refined	lb	—	a	9
Crude E. I.	do	—	a	7½
SHEETINGS—				
Russia, white	piece	10 50	a	11 00
Do. brown	do	8 75	a	9 00
SOAP—				
New-York, Brown	lb	5	a	6
Castile	do	11	a	12
SPELTER	lb	—	a	3½
SPICES—				
Cassia, in mats	lb	22	a	23
Cloves	do	50	a	—
Ginger, race	do	9	a	—
Do. ground	do	6	a	11
Nutmegs	do	1 50	a	1 65
Pepper	do	16	a	17
Pimento, Jam.	do	14	a	14½
SPIRITS—				
Brandy, Ot. D. & Co.	gal	1 62½	a	1 69
Do, Rochelle	do	1 50	a	1 56
Do. Bordeaux	do	1 30	a	1 40
Rum, Jam. 4th proof.	do	95	a	1 12
Do. St. Croix, 3d do.	do	95	a	—
Do. Wind. Isl. 3d do.	do	85	a	—
Do. N Orl'ns, 1st do.	do	40	a	45
Do. N. Eng. 1st do.	do	36	a	—
Gin: Holl'd, Meder Swan	1	20	a	1 25
Do. Hour Glass	do	—	a	1 15
Do. Pine Apple	do	—	a	1 19
Do. Imperial	do	1 12½	a	1 15
Do. Country	do	36	a	44
Whiskey, Rye	do	30½	a	31
Cider Brandy	do	40	a	42
STEEL—				
German	lb	10½	a	12½
English	do	11	a	14
Trieste, in boxes	do	5	a	5½
American	do	5½	a	6
SUGARS—				
British Island	lb	7½	a	8½
St. Croix	do	8	a	9½
New Orleans	do	5	a	6½
Havana, White	do	9	a	10½
Do. Brown	do	7½	a	9½
Do. Muscovado	do	6½	a	7
Porto Rico	do	7½	a	8
Brazil, White	do	7	a	8½
Do. Brown	do	6	a	7½
Manilla, Brown	do	—	a	7
Lump	do	12	a	13
Loaf	do	14	a	17
SUMAC—				
Sicily	ton	70 00	a	75 00
Trieste	do	30 00	a	40 00
American	do	27 00	a	30 00
TEAS—				
Imperial	do	1 00	a	1 31
Gunpowder	do	1 00	a	1 31
Hyson	do	75	a	1 12
Young Hyson	do	70	a	1 06
Hyson Skin	do	50	a	75
Souchong	do	36	a	62
Bohea	do	21	a	24
TIMOTH. SEED	ice	20 00	a	—
TOBACCO—				
Richmond & Petersb.	do	3	a	6
North Carolina	do	3	a	4
Kentucky	do	3	a	5½
Cuba	do	9	a	18
St Domingo	do	9	a	15
Manufactured, No. 1	do	10	a	12
Do. No. 2	do	7	a	—
Do. No. 3	do	6	a	7
Ladies' Twist	do	14	a	16
Cavendish	do	8	a	30
WINES—				
Madeira	gall	1 12½	a	2 25
Sherry	do	80	a	2 00
Canary, Cogswell's	do	95	a	1 37½
Teneriffe L. P.	do	70	a	1 00
Do. Cargo	do	60	a	65
Malaga, dry	do	40	a	45
Do. sweet	do	43	a	48
Claret	cask	14 00	a	25 00
Do. in bottles	doz	2 25	a	6 00
Port	gall	70	a	1 87½
Lisbon	do	80	a	1 25
Marseilles Madeira	do	40	a	48
Catalonia	do	30	a	40
WOOL—				
Merino, Am. fleece	lb	40	a	55
Do. pulled	do	37	a	40
Common	do	30	a	35
Pulled, spinning	do	35	a	37½
Lambs, 1st quality	do	40	a	42
Do. 2d quality	do	27	a	29
Do. 3d quality	do	20	a	23



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, FEBRUARY 23, 1833.** [VOLUME II.—No. 8.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, FEBRUARY 23, 1833.

☞ I some time since made a proposition that, when the subscription list numbered 1500 I would add a *Mechanic's* department also to the Journal ; and although I have not realized as great an increase as was anticipated, I shall very soon redeem, to its full extent, that promise.

Arrangements have been made which will enable me to render the Journal all that I have ever promised ; I therefore trust, that the patrons of the Journal will not suspect, because I have announced my intention to publish monthly a *Mechanics' Magazine*, that I intend to *desert* the Journal, or relax my exertions to make it valuable. The Journal will contain very nearly all that will appear in the Magazine. I find I cannot induce those who want a *Mechanics' Magazine* to *believe* that they would *obtain* their wishes by taking a *Railroad Journal* ; hence the necessity, if I intend to meet their views, and supply their wants, of publishing a monthly work to be called the *Mechanics' Magazine* ; and that I may do so to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extensive circulation. He will also give his attention to the Railroad Journal. With this increased expenditure on my part, may I not anticipate renewed exertion by the friends of the Journal to extend its circulation ? ☞ at least a *prompt remittance* from those who have not yet done so for the second volume ?

D. K. MINOR.

*** In a *few* instances the Journal has been returned without the *name* of the subscriber upon it, and consequently, we know not whose to discontinue.

We have commenced, and intended to have given entire, the Report of the New-York canal commissioners, but its length has compelled us to divide it—the remainder will be given next week. From this Report it appears that very extensive repairs have been made upon the canals during the past year—many temporary structures have been replaced by permanent ones, and considerable progress has been made in rendering their navigation better, and interruptions less frequent, than heretofore. The expenditures must necessarily be heavy for several years yet, until the whole has had a thorough repair.

To the Editor of the Railroad Journal.

Sir—I understand that measures are about to be adopted by your Corporation to make an experiment of *M'Adamizing* a small part of some one of your streets. This is as it should be, or rather as it should *have been* long since. I have often, when in the city, made the enquiry, why the present mode of paving and *high crowning* streets is still retained, when another and far *better* mode could so easily be adopted, but have never yet met with any one who could give me a satisfactory answer. Will you therefore do me the favor to make the inquiry through your Journal ?

A Practical Road-maker.

We have also understood that the Street Commissioner has submitted to the Corporation a plan for making an *experiment* with a view of improving our streets—and have no hesitation in saying that there are few subjects more deserving of their serious attention, and prompt action, than that of regulating and improving the streets. It may well be said, we apprehend, that more attention to the formation of the *surface* of the streets already made, and less to the construction of new ones, would be more acceptable to a large portion of our citizens.

The present mode of forming the surface of the streets appears to us very objectionable. The unnecessary rise, from side to centre, of from 8 to 14 inches, in a street of 15 to 30 feet wide, is out of all just proportion. We contend, and have the very best authority for so doing, that the rise should never exceed, even in a 30 foot track, *three* inches, which is ample, if the surface is properly formed to answer all purposes for which such rise is designed. With a crown of three, or even four inches, every part of the street may be used with equal safety—but now from necessity only are the sides, constituting at *least* one *half* of the street, used at all, and for the best possible reason—there is danger in using them. In consequence of this difficulty, the entire travel, or nearly so, comes upon the centre of the street, which is of course much sooner destroyed than it would have been if the travel had been equally distributed over all parts of its surface.

Another and a very serious objection exists in the present mode of draining the streets. Can there be a more inconvenient and uncomfortable mode of getting rid of the surplus waters than the present ? Is there no way of dispensing with the present unsightly, carriage destroying cross-drains, which occur at almost every cross street ? Is there not talent and enterprise enough in New-York to devise some other and better method of effecting the same object ? It appears to us that the subject is one of sufficient importance to attract the attention of men competent to effect an improvement, and introduce a better mode of construction. The *surface* of our streets should vary but little from a level, and be so smooth that they can be swept *clean*—and not, as they are usually swept, leaving more *loose* dirt than the sweepers found ; and this may be effected, too, with very little if any more expense than is now, once in *ten* years, appropriated to repaving. *This* is a part of the business which requires very little investigation. It has been thoroughly tested by experienced engineers, and may now with safety be adopted without the least fear of the funds being misapplied.

It is, however, desirable, if the *Fathers* are not yet convinced of the superiority of *M'Adamized* streets over pavements, that an experiment should be made in one of the great thoroughfares of the city, that all may satisfy themselves of its superiority.

We have now in our possession, and shall republish in our next number, a report made by Caspar W. Weyer, Esq. upon a work of the kind recently under his care in the city of Washington, which may be interesting to some of our readers. We also hope to obtain within a few months some account of the latest improvements in this branch of road-making.

Annual Report of the Canal Commissioners of the State of New-York.

ALBANY, January 17, 1833.

The Hon. Chas. L. Livingston, Speaker &c.

Sir,—Herewith is transmitted to the Honorable the Assembly the Annual Report of the Canal Commissioners.

With respect, your obedient servants,

S. VAN RENSSELAER,
S. YOUNG,
W. C. BOUCK,
JONAS EARLL, JR.

REPORT, &c.

To the Legislature of the State of New-York.

The Canal Commissioners, pursuant to Chapter ix, Title 9, Article 2d, of the First Part of the Revised Statutes, respectfully submit their

ANNUAL REPORT.

The day fixed upon by the Commissioners for the commencement of navigation upon the Erie, Champlain, Oswego, and Cayuga and Seneca Canals, was the twentieth of April last: but in consequence of the injury done to canals by the spring floods, it was found to be impracticable to have every part of them navigable before the twenty-fifth.

The canals were frozen, so as to prevent navigation, about the twentieth of December. The navigation was interrupted by ice at some places on the canals before that time; but not so as to prevent boats from reaching their places of destination. Most of the persons engaged in navigating the canals had discontinued running their boats before the commencement of freezing weather; and but few boats were actually engaged in the transportation of property at the time the canals closed.

The flood of last spring, which took place early in the month of March, while the ice was very strong, removed it from the Schoharie creek and Mohawk river with destructive and unusual violence, and either carried away or materially injured about one hundred and fifty feet of the dam across the former stream, and about one hundred and twenty feet of the dam across the latter stream, below the Cohoes falls.

The dam across the Schoharie creek was so much injured, that there was danger of its being carried away by any succeeding flood. Under these circumstances, there appeared no alternative but to repair it immediately; and the work was commenced under very appalling circumstances. The weather was extremely cold; and back water from the Mohawk river, occasioned by dams of ice, continued the water in the Schoharie creek, for some distance farther up than where the dam is located, to an elevation corresponding with but little variation from a level with the top of the dam.

It will readily be perceived, that to commence this repair under such circumstances was formidable in the extreme, both as it regarded personal consequences, and the great expense which would unavoidably attend it: but it was commenced with great spirit, and by steady perseverance, was speedily accomplished. The north end of the dam, from the direction with which it crosses the stream, was more exposed to the influence of the ice and floods than other parts of it, and had become much weakened. The ice broke and carried away the range stick and rafters; and the water passing under the dam, wore a channel about twenty feet deeper than the original bottom. This was repaired with trees, brush, stone and gravel.

The second flood, which took place about the first of April, carried away about one hundred feet of the dam, adjoining that part of it which had been repaired but a short time previous. The repair of this breach was also effected before the opening of the navigation.

In the month of July last, at a low state of water, the dam was examined, and it was found that the water had undermined the apron in several places; that piles on which it rested had been removed; and the general appearance of the dam was such as to create great doubts whether it could be maintained for any considerable length of time. The repairs which had been made in the spring were of such a character as to render it necessary to rebuild a part of it, for the purpose of forming an apron, and making a suitable top covering to render the passage of water over it secure. Although, at a large expense, it might have been practicable to maintain the dam for a few years longer, yet when it was considered that a failure of this dam, either in the spring or during the season of navigation, would entirely interrupt the navigation of the Erie Canal for twenty-four miles, and that the expense of repairing it would have amounted to nearly one half the sum which would make a new dam, prudence seemed to dictate that such an important portion of the public works should not be subjected to this contingency. A new dam of trees, brush, stone and gravel, with stone abutments of masonry at the ends, has been constructed a few rods farther down the stream.

The direction of the new dam is nearly at right angles with the stream, and will more equably receive the force of ice from above. The north end is thrown about three hundred feet down the stream, which will lengthen the pond above, and materially lessen the current in the boat channel when the creek is high. The present dam is an excellent structure, perhaps not inferior to any thing of the kind. The difficulty which has usually attended this kind of dam, when a rapid current is passing over it, and removing the gravel and displacing the brush, has been obviated by covering about twenty feet of the upper part of it with white oak plank, eight inches thick at one end, and four at the other, securely fastened with iron bolts to four range timbers of hard wood placed in the dam for that purpose. The dam is six hundred feet long; nearly ten feet high; and contains fifteen thousand cubic yards of timber, brush, stone and gravel.

The breach in the dam across the Mohawk river, above referred to, was repaired in the month of July. Until this was repaired, the navigation of the Champlain canal was, to some extent, interrupted; but every practicable accommodation was furnished at the expense of the State, by men and scows to carry horses across the stream, and to assist in towing the boats. The inconvenience of crossing was very essentially increased by the loss of nearly five hundred feet of the towing-path bridge, which was also carried away by the flood. The bridge has been rebuilt by the Cohoes Bridge Company, who, by their contract, are bound to maintain it; and the usual facilities for navigation were entirely restored in the month of September.

The Commissioners, on several occasions, have been under the necessity of noticing failures in this dam. It is made of logs resting on a rock foundation, but the small quantity of timber used in the dam, and a defect in the manner in which it was made, rendered it at all times rather a feeble structure. The vexatious interruptions which have already been experienced in the navigation, the annual expense in repairing breaches, and the hazardous condition of the work, justify, it is believed, the erection of a new dam. This has been determined upon, and contracts will be made for the delivery of materials next May, and a new dam will be built in the course of the next season. The length of the dam is seventeen hundred feet, and the average height about eight feet.

A great body of ice, which was brought down the Mohawk river in the March freshet, lodged against the bridge which crosses that stream at Schenectady, and extended in an apparently solid mass about two miles up the river. This obstruction continued until the freshet in April, and so effectually closed the channel of the river as to raise the water above its banks. The water made an entire breach through the banks near the first lock above Schenectady, and inundated the extensive flat on the south side of the canal. The banks of the canal, and the railroad embankment connected with it near the city, formed a barrier until the water was elevated to a higher level, when it passed over these banks, and wore a channel in some places to a great depth, and formed an outlet to the river for the great body of water which had accumulated. In its discharge, it produced great destruction of private property, by carrying off fences, boats, and houses. The injury to private property was very great, and the expense of repairing the public work was about ten thousand dollars.

The piers of the aqueducts across the Mohawk river below Schenectady, were protected by ice-breakers. The force of the ice in passing off the freshet of last spring almost entirely demolished them, and in two instances the piers were considerably broken. This protection is indispensable to the security of the aqueducts, and has been restored during the past season.

Arrangements have been made to afford additional security to the lower aqueduct, by sinking additional piers above it. If the ice should be sufficiently strong this winter, the work will be done before the spring floods. Entire new trunks have been placed on these aqueducts during the last winter and spring, and these structures are now in an excellent condition.

In addition to these aqueducts, which, combined, are eighteen hundred and eighty feet in length, new trunks have been placed on five others west of Schenectady, which altogether are seven hundred and fifty feet in length.

The aqueduct that crosses the Oriskany creek was damaged by the flood of last spring. A road bridge, which stood a short distance above, was carried down against the aqueduct, and with other timber formed a dam, which prevented a free passage for the water under the aqueduct. The consequence was, that where the water found a passage, it removed the earth from the bottom of the creek to a great depth, and undermined some of the abutments of the aqueduct. The aqueduct was immediately repaired so as to be used; but the trunk could only be made of sufficient width to admit the passage of a single boat. The abutments have been rebuilt, so as to have a trunk placed upon them wide enough for boats to pass each other. The materials for the trunk are procured, and it is intended to have it finished in time for spring navigation. An arrangement was made with the commissioners of highways, by which the abutments of the road bridge are placed the same distance apart, and directly above those of the aqueduct. This arrangement will give a free passage for water and timber under the aqueduct, and add to its security.

The aqueduct over the Oneida creek was built of stone which has crumbled. The arches in several places are cracked so as to admit the passage of water through them. Braces of stone masonry were erected several years since, for the purpose of supporting this aqueduct. Before the commencement of navigation last spring, a wooden trunk of two hundred and thirty feet in length, and of sufficient width to admit the passage of boats, was put into this aqueduct, for the purpose of preventing the leakage of water through it, and of making the navigation more safe.

A wing wall and an abutment of the aqueduct over the Butternut creek failed during the last winter. They have been rebuilt in a permanent manner.

The towing-path bridge at the junction of the Oswego with the Erie canal was rebuilt before the commencement of spring navigation. This bridge is four hundred feet in length.

A waste-weir of stone has been built on the Camillus level in place of one of wood; also a towing-path bridge over it. The length of the waste-weir and bridge is one hundred and sixty feet.

A new towing-path bridge, fourteen hundred and forty feet long, has been built over the Seneca river, in place of the old bridge which had become unsafe.

The lock near the aqueduct over Mud creek, in the town of Lyons, has been rebuilt. The old lock, which had become unfit for use, was taken down immediately after the close of navigation in December, 1831. The new lock was ready for use at the commencement of

spring navigation; and although it was built at an unfavorable season of the year, it will probably be as durable as any lock on the canal. The materials used in its construction were of the best kind, and the masonry was well executed. The expense of building locks and aqueducts at the season when the canals are not navigable is much greater than it would be during the season of navigation: but it is important to the interests of the State, that repairs of this kind should be made at such times as not to interrupt the business on the canals. Several of the other locks between the Seneca and Genesee rivers require a large annual expenditure to keep them in repair. Some of them will probably have to be rebuilt in the course of a few years, in consequence of the unfitness of the stone used in their construction.

The aqueduct over Mud creek, near the village of Palmyra, has been in part rebuilt, and the trunk made wider, so that boats can pass each other in it.

In the month of March last, the water in the Genesee river rose to such a height as to break through and carry away the west bank of the Genesee feeder in a number of places. The water likewise passed over the lock and pier at the head of the feeder, and cut a channel through the embankment between the lock and the high ground east of it. Such quantities of water passed from the river into the canal as to fill it to overflowing. The superintendent of repairs had the banks of the canal cut through in several places, which he selected as most favorable for letting off the water, to prevent breaches at other places where much damage might have been done. Heavy expenses have been incurred to repair the injury, and to guard against a similar occurrence. The lock, pier and banks of the feeder, have been raised so high as to prevent the water from passing over them, if it should again be as high as it was last spring, which is unusual.

The aqueduct over the Genesee river was much injured by frost last winter. When the water was drawn off for spring repairs, it was discovered that the flagging over the crown of every arch had been displaced by the frost. The flagging stone were removed from the bottom of the aqueduct, and the old mortar and grout were taken out, and a new supply, which was made strong with water lime, put in. The flagging stone were then replaced; and the bottom, after being swept, was grouted with a heavy coat of water lime grout, and the sides of the walls were pointed. The aqueduct has leaked less since this repair than at any time before.

The spring flood carried away the embankment of the weigh-lock at Rochester. The race-way to carry the water from the lock into the Genesee river was filled up, so that the lock could not be used for a time. And during the summer, the scales of the weigh-lock were broken, by weighing a heavily laden boat. This lock is built of wood. It leaks so as to waste large quantities of water, to the injury of navigation in a dry time. It is found to be difficult to stop the leakage. The frame over the lock, which supports the scales, is so weak that it is difficult to weigh boats with heavy cargoes accurately. It is necessary that the lock and frame should be rebuilt.

A waste-weir, one hundred and six feet in length, has been built at the deep hollow two miles west of Rochester; one at King and Adams' basin, one hundred and sixteen feet in length; and one at Brockport, one hundred and twelve feet in length. These waste-weirs are all built of stone and water lime, and are substituted for those of wood.

A stone wall has been built at the deep hollow west of Rochester, one hundred and fifty-four feet in length, and eleven feet in height, to support the embankment.

Much injury was done to the public works at Lockport last spring. The water in the Tonnewanta creek rose to such an unusual height as to pass over the guard-lock and embankments at Pendleton. It also carried away a dam which had been built to keep the waters of the little Tonnewanta, or an arm of the principal creek, which connects with the canal below the guard-lock, from passing into it. The water passed down the canal in large quantities, carrying with it saw-logs and other timber from the creek. The flagging in the bottom of the upper locks was torn up by the water and timber. Forty-five feet in length of the wall to the raceway near the locks was broken away; the earth was carried away from the south side of the two upper locks, and a channel forty feet wide, and from fifteen to twenty feet deep, was cut from thence to the basin at the foot of the locks. Injury was also done to the towing-path between Lockport and Pendleton, by washing away the timbers and earth. These injuries have all been repaired, and the works put in as good a condition as before. The guard-gates and embankments of the guard-lock have been raised, and the dam across the little Tonnewanta has been rebuilt to prevent injuries in future.

The race-way to carry the water to the lower level at Lockport, which was commenced before our last annual report has been completed.

There is some difficulty in navigating the canal with boats that are heavily loaded, between Lockport and Pendleton, through a part of the deep earth cutting, for the want of a sufficient depth of water in a dry time. Some of this canal was never excavated to the depth intended. The banks in some places have slid in, and quicksand has come in at the bottom in other places. It has been necessary for purposes of navigation, for several years past, to raise the dam at the mouth of the Tonnewanta for a part of the season. This occasions the overflow of land on the banks of the creek, and is thought to be injurious to the health of the inhabitants on its borders. Large quantities of earth have been taken from the bottom of this canal, since the water was first let into it. During the last season more than five thousand cubic yards were taken out, by the use of scrapers that operated under water. The difficulty is not yet entirely overcome. Since the close of navigation the water has been drawn off, for the purpose of finishing this work the present winter if practicable.

Stone have been placed along the outside of the bank of the canal between Tonnewanta and Black-Rock, at places where it had been injured by being washed by the Niagara river.

The pier of the Black-Rock harbor was broken through by ice in several places last spring. The largest of these breaches was nearly opposite to the entrance of the canal from Buffalo into the harbor. At this place the pier was carried away to the bottom for a considerable length. In the construction of this pier, timbers were framed together in cribs, and sunk to the bottom and filled with stone. The ice, which frequently comes against the pier in large pieces and with great force, breaks away the timbers; the stone then fall out, and such a current is formed through the breach as in some cases to remove all the timber and stone to the bottom. In repairing these breaches the last season a new course has been pursued. The breaches have been filled with heavy stone, without the use of any timber. This is found to be a cheaper method of repairing; and it is believed that a pier thus constructed will more effectually resist the action of the ice upon it than one in which timber is used. In addition to repairing the breaches, large quantities of stone have been placed upon and by the side of the pier and icebreakers, to render them more secure.

A pier has been constructed at the foot of the dam at Black Rock harbor, twelve feet wide, and eighteen feet from the dam. The space between the pier and dam has been filled with stone to the surface of the water. This work extends from the ship-lock to Squaw Island, a distance of three hundred and seventy-five feet; it is thirty feet wide, and about nine feet deep. The work was done under a contract with the lessees of the surplus water at this dam, and only a part of the expense was paid by the State. It adds greatly to the strength and security of the dam. The ship-lock has been raised one foot, and strengthened. The embankment or dam at the head of the lock has also been raised.

During the last winter and spring, the guard-lock on the Champlain canal, at the Saratoga dam, has been rebuilt of stone in a very substantial manner. It was ascertained on a close examination, that the guard-lock on the north side of the Mohawk river (now of wood) was so far decayed as to render it unsafe. Arrangements were made during the past season to rebuild this lock of stone masonry, and about two thirds of the work has been done.

The sloop-lock, the dam across the Hudson river, and the apron connected with it above the city of Troy, have undergone a considerable repair during the past season. The work is not completed, but sufficient has been done to render these structures secure.

The Glen's Falls feeder has been in a navigable state for the two last seasons, although there have been some interruptions by failures in the locks, and the difficulty growing out of that part of the feeder which is located on a limestone rock containing large fissures, which have been troublesome, and are very difficult so entirely to close as to prevent the water from occasionally passing through the bottom in large quantities. The condition, however, of the feeder and its appurtenances has been much improved; and there is reason to believe, that not only the navigation of the approaching season will be much better than at any former period, but that the expenses (which have hitherto been considerable) will be diminished.

The value of this improvement to that part of the country whose products pass upon it can be best estimated by stating the amount of property which passed upon it during the last season of navigation, and the amount of tolls collected. The collector at Fort Edward was directed to furnish a statement of the amount and kind of property which passed on the feeder, and the amount of toll collected. He reports that the amount of toll received is $7,-803.99; and his statement, which is hereto annexed, gives the amount and kinds of property

The navigation upon the Oswego canal has been uninterrupted, during the whole of the season that the other canals were navigable.

One of the largest dams on the Oswego river was undermined by the water, in consequence of the apron's being broken away by the last spring floods. It settled at one end so as to impair the navigation when the water was low. It has been thoroughly repaired, and is now considered secure.

The work on the towing-path embankment by the side of the Onondaga lake, which was commenced before our last annual report, has been continued, and is nearly completed. The injury to this embankment from the ice last spring was much less than the spring before; and it is believed that, when the work which is now in progress is finished, this embankment will be secure against the operations of the ice from the lake.

The towing-path along the Oswego river was so low in many places that the high water in times of flood overflowed and washed it away. Much expense has been incurred in raising this towing-path, to secure it against future injury.

The navigation on the Cayuga and Seneca canal has, for a short period during the past season, been incommoded by low water in the outlet of Seneca lake, between Waterloo and Seneca falls; and also in the outlet near the foot of the lake. In the former case the levels became depressed, in consequence of the great quantity of water drawn to mills situated on two dams crossing that stream.

The same difficulty occurred in 1829; and it was then intimated, that to secure the navigation from a recurrence of this inconvenience, it would be necessary "to place a permanent

dam in front of all the flooms leading to these mills, on a level with the top water line in the canal." This would prove injurious to the mills in the winter season. Under the expectation that those interested in the mills would conform to the suggestion which were then made, and would see the obvious propriety of making such arrangements among themselves, in relation to the manner of drawing the water, as not to reduce it below its proper level, this work has not been done.

During the navigable period of 1831, the water in the outlet continued above its ordinary height, and no inconvenience was experienced; but a return of low water last season, has brought with it all the evils of 1829. The extension of hydraulic erections, drawing their supply of water from the dam at Seneca falls, renders a dependence on any arrangements or restrictions which may be imposed, too precarious to rely upon. It is believed that a due regard to the maintenance of an uninterrupted navigation, from the causes mentioned, renders it indispensibly necessary to make the erections referred to. In order to obviate the injury which may result to the mill owners, it is intended to permit them, at their own expense, to place gates in the dam in front of their flooms, through which water may be drawn in the winter season; but which should not be under their control during low water, when the canal is navigable.

It should be recollected, that the act incorporating "the Seneca Lock Navigation Company," which was passed in 1813, granted to the owners of land on which water privileges should be created cy the company's works, the right of using all the surplus water, as an equivalent for damages, provided such use should not interrupt the navigation. The upper dam at Seneca falls, and the one about two miles farther up the outlet, on which the mills which are the subject of complaint are situated, were constructed by this company, and are now maintained at the expense of the State.

In pursuance of the "Act authorising the construction of the Cayuga and Seneca Canal," passed April 20th, 1825, the canal constructed by the Seneca Lock Navigation Company, with all its appendages, was transferred to the State. Under these circumstances it has been considered proper not to interfere with the hydraulic works which draw their supply of water from dams erected by the company; farther than would be consistent with the paramount object for which the dams were constructed.

To obviate the difficulty of navigation in the outlet near the foot of Seneca lake, it is intended to deepen the boat channel next summer.

The towing-path across the Seneca outlet, below Seneca falls, has been rebuilt. This bridge is two hundred and fifty-seven feet in length. About one and a half miles of the towing-path bank has been walled and docked; and a ditch has been cut below Waterloo, of about one and a half miles in length, for the purpose of draining low land adjoining the towing-path, which had been injured by its construction. The latter work was done by order of the Canal Board.

It is intended this winter to construct a guard-gate, with abutments of stone masonry, on the level connected with the outlet at Waterloo; and also one on the level which connects with the outlet below Seneca falls, in order to secure the banks of the canal on these levels from floods.

There have been an unusual number of breaches in the canal banks the past serson, but none that have interrupted the navigation for any great length of time. Several of these breaches were occasioned by the banks being frozen to an uncommon depth during the winter. When the frost came out in the spring, it left the banks so low that the water easily found its way through them.

The navigation upon some parts of the Erie canal was impeded for the want of a sufficiency of water during the dry weather last season. It will, in the opinion of the Commissioners, be necessary to take in additional feeders upon some of the levels. Surveys and estimates for the purpose have been made. If any legislation upon the subject should be found necessary, a separate report will be made.

In addition to the repairs before mentioned, there have been constructed upon the navigable canals the past year, one hundred and six bridges, sixteen culverts, fifteen waste-weirs, one hundred and seventy lock-gates, four lock-tenders' houses, three carpenters shops, ten repairing scows, and twenty-five miles of wharfing and walling.

The amount expended for repairs and improvements upon the canals, for the year ending on the thirtieth of September last, has been greater than that of any former year: but the Commissioners are not conscious that any unnecessary expenses have been incurred. The injury which was done to the canals by the severity of the frost of last winter, and the unusual floods of last spring, rendered it necessary to make extensive repairs before navigation could commence, a detailed account of a part of which has been given. Many of the wooden structures upon the canals, which had failed, have been replaced by those of stone. In raising the towing-path where it was worn or washed away, great pains have been taken to procure the best of materials. It has been necessary to build an uncommon number of lock-gates and repairing scows the past season. In the amount charged as expended for repairs, is included the salaries of the superintendents of repairs, and the pay of lock-tenders. The practice had become general for lock-tenders to keep groceries to sell to boatmen and others, and almost every lock-house upon the canals was converted into a grocery. The consequence of which was that there was a great anxiety to procure locks to tend, by persons who were more desirous of selling groceries than of discharging their duty to the public. Complaints were frequently made that boats were delayed in the locks for the purpose of giving the lock-tender an opportunity of selling to boatmen or passengers, and that idle and dissolute company collected about the locks. The Canal Board last winter made an order prohibiting any lock-tender from keeping a grocery. In consequence of this order, higher wages have been given to the lock-tenders than before, but their duties have been more satisfactorily performed.

The following is the amount of expenditures on the navigable canals, from the 30th of September, 1831, to the 1st of October, 1832:

ERIE AND CHAMPLAIN CANALS.

By William C. Bouck, including salary,.....		$24,209 79
" Jonas Earll, junior,.....do.....		9,824 30
" the superintendents of repairs,.....		327,302 91
		$361,337 00

OSWEGO CANAL.

By Jonas Earll, junior,.....	$115 00	
" the superintendent of repairs,.	12,254 79	
		12,369 79

CAYUGA AND SENECA CANAL.

By William C. Bouck,.....	$3 00	
" the superintendent of repairs,.	5,356 00	
		5,359 00
		$379,065 79

From the above should be deducted as not properly chargeable for repairs, payments made for damages, &c.

By William C. Bouck,.....	$11,296 33	
" Jonas Earll, junior,.....	9,511 42	
		20,807 75

The amount paid for repairs, salaries to superintendents, and pay of lock-tenders, for the year ending on the 30th September, 1832,..... $358,258 04

The following sums have been expended on the unfinished canals:

CHEMUNG CANAL.

By William C. Bouck,..... $70,213 89

CROOKED-LAKE CANAL.

By William C. Bouck,..... $55,686 00

The Revised Statutes, part first, chapter 9, title 9, article 1, and sections 4 and 5, require the Canal Commissioners to cause to be made "a complete manuscript map and field notes of every canal that now is or hereafter shall be completed; and of all lands belonging to the State adjacent thereto or connected therewith, on which the boundaries of every parcel of such lands to which the State shall have a separate title shall be designated, and the names of the former owners, and the date of each title be entered. And if the Canal Commissioners, on examination of the premises, be satisfied that the cost and expense of making such map, field notes and survey, will exceed the sum of five thousand dollars, no such map and field notes shall be compiled. Every such map shall be compiled by the Canal Commissioners, who shall for that purpose cause all necessary surveys to be made. When prepared, it shall be submitted to the Canal Board for its approbation; and when so approved, shall be signed by the Canal Commissioners, be certified by them correct, and be filed in the office of the Comptroller."

In pursuance of the provisions of the above recited sections of the Revised Statutes, the Canal Commissioners, in the winter of 1829, accepted a proposition from Holmes Hutchinson, Esquire, a civil engineer, to make the survey, maps and field notes, referred to in said said sections. A survey of the Erie canal from Canistota to the Hudson river, and of the Champlain canal, (except the Glen's Falls feeder,) has been made, and the maps and field notes are nearly completed, accompanied with a complete manuscript map and field notes, which comprise "all the lands belonging to the State adjacent to the canals or connected therewith, designating the boundaries of every parcel of land to which the State have a separate title, with the names of the former owners, and the date of each title."

The statute evidently contemplates that the survey, map and field notes shall be made in such manner as shall be approved of by the Canal Board. The Commissioners have therefore considered it to be their duty, in several stages of the survey, to advise with the members of the Canal Board, and as soon as a complete specimen of the survey, map and field notes was prepared, to submit the same informality to their examination, to the end that if any alterations or amendments were suggested and approved, the plan on which the work had thus far proceeded, might be amended accordingly.

Within the present month the Canal Board have deliberated on the plan of the survey, maps and field notes submitted to them.—This informal deliberation has resulted, as heretofore, in an approval of the plan adopted by Mr. Hutchinson.

The survey of all the canals would long since have been completed, but for an unexpected difficulty which has arisen since the acceptance of Mr. Hutchinson's proposition. The acting Commissioners, from a desire to favor Jacob Trumpbour, who had made a proposition, and was anxious to make the survey, expressed a wish to Mr. Hutchinson that he should assign to Mr. Trumpbour a pourtion of it, if they should agree on the terms in relation to the compensation and the parts of the canal each was to survey, reserving to the Commissioners, as is done in all their contracts, the right in every stage of the work, to direct and control the manner in which it should be done.

In the fall of 1829, Mr. Seymour, then an acting Commissioner, discovered that Mr. Hutchinson and Mr. Trumpbour were making the survey on different plans. This fact was first communicated to the other Commissioners in the winter of 1830. For the purpose of reconciling this difficulty, and agreeing on a uniform plan for making the survey, maps and field notes, in this early stage of the matter, when Mr. Hutchinson had surveyed about forty miles, and Mr. Trumpbour one hundred miles, the Commissioners, considered it their duty to make an informal conference with the other members of the Canal Board. Soon after this conference, Mr. Trumpbour was apprised that the Canal Commissoners and Canal Board were of opinion that the survey, maps and field notes should be

made on a uniform plan; that they preferred the plan adopted by Mr. Hutchinson, and that he must proceed no further in his survey, until the difficulty which had arisen was adjusted. Notwithstanding this notice, Mr. Trumpbour, in the month of May following, announced to Mr. Seymour his intention of recommencing the survey; he was again requested by Mr. Seymour to "abstain from any farther proceedings in relation to it." In defiance of the directions of the Canal Commissioners, and in defiance too of the fact within his own knowledge, that the plan on which he was making his survey, was disapproved of by the Canal Commissioners and the Canal Board, he continued his survey; and after this period he surveyed one hundred and seventy-seven miles of canal, for which he now not only asks the Legislature to remunerate him, but also for his expenses in employing counsel, and attending on the Legislature to further the allowance of his claim, amounting in the aggregate to a larger sum than the appropriation.

Although Mr. Trumpbour, as he alleges, may have commenced his survey the first season in good faith, and under the impression of an implied contract; yet we conceive that there is no possible apology for his having persisted in completing his survey of that part of the canal allotted him by Mr. Hutchinson, after being apprised that the plan adopted by him was objected to by the Canal Commissioners and the Canal Board, to whom exclusively the statute committed the decision of that point. Could he have supposed it practicable to coerce the public officers to an approval of his plan; or did he intend to act in defiance of their opinion, and refer his claims to the Legislature? Events subsequent to this stage of the transaction, clearly show that the latter course was intended.

Memorials from Mr. Trumpbour and Mr. Hutchinson were presented to the last Legislature; these, with a report from the Canal Board, to which they had been referred, were referred to a select committee, whose report will no doubt bring the subject before the present Legislature.

In the last paragraph on page 17 of the report of the committee, they say, "If it be admitted that the maps must include the boundaries of the property, then it must also be conceded that they must be ascertained by actual survey on the ground. For what other purpose would the Legislature have directed the Canal Commisioners to cause all necessary surveys to be made, but that the boundaries to be exhibited on the map might be designated on the ground itself by proper visible landmarks? This is the object of every survey of boundaries. For how else can encroachments be discovered and prevented? The committee think, therefore, that they incur no hazard in saying that both the statute and the above resolution require the actual survey and designation of the boundaries of the public lands along the canals appropriated to the use thereof, by courses and distances, and visible permanent monuments on the ground itself, as has been heretofore used and approved in this State."

The fourth section of the statute referred to evidently comprises two classes of lands to be surveyed; the one, the lands appropriated for the construction of the canals, the fee simple of which is vested in the State by the Constitution; the other, the lands "adjacent thereto or connected therewith, to which the State have a separate title." The last class of lands is the one, no doubt, referred to, "on which the boundaries of every such parcel of land shall be designated, with the names of the former owners, and the date of each title."

The Committee have evidently confounded these two classes of cases; and they seem to suppose that the statute requires "an actual survey on the ground, designating the exterior bounds of the canal by courses and distances, and visible and permanent monuments." The Commissioners infer, as well from the nature of the case as the amount appropriated, that the Legislature could not have intended that "visible and permanent monuments" should be erected, by which the exterior bounds of the canal could be designated at any future period. To have done this, would have required an appropriation of at least $15,000. If this supposition is correct, the design of the Legislature no doubt was to make such a survey as would furnish the most ready and certain means of ascertaining the exterior bounds of the canal; and that the "boundaries of all lands adjacent thereto, or connected therewith, to which the State shall have a separate title," either by purchase or cession, "shall be designated, with the names of former owners, and the date of each title."

If this construction of the statute is correct, it would make no difference whether the courses and distances of the exterior bounds of the canal were ascertained by running lines on the ground, or whether the means of ascertaining them are furnished; provided that the data on which those means rest, would produce as accurate a result as lines run on the outward bounds of the canal by compass and chain. And we do not hesitate to say, that the means furnished by the plan adopted by Mr. Hutchinson, would produce a more accurate result in this case, than lines run on the outward bounds of the canal.

It is evident that Mr. Trumpbour did not suppose the statute to require that the exterior bounds of the canal should be designated by "visible permanent monuments." Although he has noted many of the structures on the canal, and the position of buildings and other objects in its vicinity, yet there are several miles in different places on the canal where there are no permanent structures or buildings in its vicinity; and it is not contended that he has in a single instance placed a "visible permanent monument," unless stakes about two feet long can be called such; and if these are so considered by the committee, they could easily have ascertained how much reliance is to be placed on this kind of monument, by tracing the lines run by Mr. Trumpbour. We venture to say that only a small portion of those driven into the ground by the axemen in the employ of Mr. Trumpbour could now be found.

The mistaken views and unauthorised inferences of the committee in many other respects, will, we think, be readily perceived by an attentive examination of the case. The misconstructions which they have put upon the acts of the Canal Commissioners and the Canal Board, will be passed over in silence. Neither the Commissioners nor the Canal Board appeared as a party before the committee, by counsel or otherwise; nor does the State seem to have had any representative to take care of its rights and interests. It is solely in reference to the rights of the people of the State, and with a view to shield, as far as we are able, those rights from violation, that our remarks upon this extraordinary report are submitted.

The committee, by inference and implication, have assumed that a contract was made in the spring of 1829, between the acting Canal Commissioners and Mr. Trumpbour, for one half of the work to be executed under the law. Now let it be supposed for a moment that this inference is just. Let it be further supposed that this contract had been put in writing, and three copies of it signed by Mr. Trumpbour and the Commissioners as the statute requires, and that the contract had specifically designated Mr. Trumpbour's mode of survey as the one which he was to pursue. Even in a case as strong as this, the conduct of Mr. Trumpbour subsequent to the season of 1829, would be wholly indefensible. It has been the uniform practice of the Commissioners to reserve the power in their contracts of limiting, controlling, and changing the mode of their execution, whenever, in their judgment, the interests of the State required it. This practice is founded on the obvious principle, that men may learn wisdom by experience. And the statutes of the State have constantly recognized and sanctioned this practice, by giving to the contractor a claim for damages, in case the expense of his contract is increased by "new directions" as to its execution. If then there had been such a contract as has been supposed, the obstinate pertinacity of Mr. Trumpbour in refusing to conform its execution to the direction of the Canal Commissoners, acting also under the advice of the Canal Board, would have utterly precluded his claims for posterior services from the favorable regard of either law or equity.

(To be continued in our next)

PETERSBURG RAILROAD.—Our citizens have been for some time past anticiprting a visit from a number of the members of the Legislature, who were generally invited to make an excursion on the Petersburg Railroad.

Yesterday we were gratified by the appearance of about forty members, who with about an equal number of our citizens and of travellers, took their departure from the company's depot on Washington street, at 9 o'clock, on a train of five coaches and cars. The party reached Belfield some time before the dinner hour, and after a pleasant repast resumed their seats on the carriages at 3 o'clock. The locomotive Roanoke, then partially displayed its power and velocity, by returning to the depot in Petersburg, a distance of 41 miles in two hours and six minutes—of which time 8 minutes were occupied by two stoppages to replenish fuel and wood. It is believed that the same distance has never before been performed in the same time on any other Railroad—41 miles in 2 hours and 58 minutes.

Not the slightest action or interruption took place, until on entering the town, a negro man attempted to run in front of the locomotive, which struck him and he survived but a few hours. [Petersburg Intelligencer.]

[*For the American Railroad Journal.*]

RAILROADS FOR PRIVATE USE.—The force of traction necessary to propel a ton's weight on a level road is eight pounds. To propel the weight of an ordinary human body, or 140 lbs. would require at this rate just half a pound. As easily, hen, as such a person could walk up several flight of stairs to the height of thirty-two feet, he could move his own weight upon a level railroad one mile and three-quarters; and if we include a light carriage of 140 pounds, he could move himself and his carriage three-fourths of a mile as easily as he could walk up stairs 32 feet. The ease with which persons can walk on level ground, or a floor, is an argument for level roads, which many must sensibly feel; but, whatever be the ease with which persons can walk on level ground, they cannot move forward with great rapidity, nor without some fatigue; but a wheel is not put out of breath, and a friction on the axle, of a few inches, carries it forward several feet. For innumerable occasions this facility of moving would be exceedingly convenient in a vast variety of lines of communication, where large railroads for steam or horse power could not be supported. There are innumerable occasions on which families in the country wish to convey articles a few miles to a store, which they cannot carry in their hands, and which are not a load for a horse. In these cases it would be very easy for a man, or even a woman, to take a beautiful, fancy rail-car, of 140 pounds weight, and take a load of 200 pounds weight, and go on a dry rail, when a common road is deep with mud, some four or five miles to a store. In this case no more effort would be necessary than would be required to raise up over a pulley a weight of one pound and two-thirds. It would require no more force to move through the whole four miles, the carriage of 140 pounds, the load of 200 pounds, and the person of 140 pounds—in all 480—than for the person of 140 pounds to walk ten times up a flight of stairs of 26 feet in height.

PUBLICOLA.

AGRICULTURE, &c.

Rise and Progress of Agriculture in Scotland.

By Senex. For the New-York Farmer.

Mr. Editor,—Having lately become a subscriber to the New-York Farmer and American Gardener's Magazine, I feel much pleased with the work, both in its plan and execution. I flatter myself every farmer and gardener, and every lover of Agriculture and Horticulture in the state, may feel an interest in it, and give you all the aid in their power to carry it on. You are entitled to their assistance, and I sincerely hope you may receive it liberally. Under this impression, being willing to contribute my mite I send you the following short statement regarding the Rise and Progress of Improved Husbandry in Scotland, (my native country,) under the idea that it may be found interesting of itself, and as affording the American farmer an opportunity of comparing his situation with that of his brethren in Europe.

For many ages prior to the beginning of the eighteenth century, the state of agriculture in the north of Europe was in the most abject condition; the art itself, as well as its poor, ignorant, and oppressed professors, was held in very low estimation—the barbarous influence of the Feudal System blasted agriculture and every useful art. The first germs of improvement took root in Holland and Flanders; commerce, manufactures, agriculture, and industry of every description, encouraged and protected by a wise policy in the Dutch Republic and Belgian Provinces, in a short time spread prosperity and riches over these countries; population increased with unexampled celerity; cities and villages arose on every hand, and a market was created for every species of agricultural produce:—here it was that clover and other artificial grasses, turnips and other ameliorating crops, were first introduced into field culture, in rotation with grain. The plough and other farming utensils were here first improved, and new machines, such as the fanner and roller, invented—the value of manure properly appreciated—fine cattle bred, and husbandry carried on with a degree of system and perfection formerly unknown.

Good husbandry was for many years confined to Holland and Belgium, or the Netherlands. It was only about the beginning of the last century that clover and turnips were introduced into England—in the county of Norfolk first, and from thence, by very slow degrees, to the other English counties, in some of which their introduction is only of recent date.

Improved husbandry was introduced into Scotland at a still later period, and though its progress there was at first equally slow, it finally surpassed that of England, both in rapidity of progress and perfection of practice—the husbandry of Scotland being accounted at the present day superior to any part of the north of Europe, Holland and the Netherlands excepted—for it is allowed that these countries still continue to excel the rest of Europe in the practice of agriculture.

The remainder of this communication will be confined to Scotland, where I have been an eye witness to the progress of improved husbandry from nearly its commencement to the present day. I may premise, that the division of land in Great Britain, as well as Europe generally, is very different from that of America. The whole of the soil of Scotland and England is divided among a comparatively small number of proprietors. Some of the estates of the nobility and gentry comprehend whole parishes, others many farms, others only a few farms. Most of these proprietors live on their estates, and have a farming establishment about their mansion-house, managed by a steward or overseer, but of course the great body of the farmers are tenants, paying rent and holding their farms on leases of limited duration. The Union of Scotland and England, or rather the time between the years 1715 and 1745, when the two last efforts were made in Scotland in favor of the royal family of Stuart, may be considered as the period of the first introduction of improved husbandry in the south of Scotland; this was accomplished by the exertions of a few spirited proprietors, whose memory will be long revered in that country—these had travelled in England and Flanders, and from thence introduced fallowing, clover and turnips, with improved utensils, on their own farms, and by most liberal assistance and encouragement, induced a few of their tenants to follow their example. From 1745 to the end of the American Revolutionary war, the new system had made a slow progress in a few of the southern counties, particularly in East-Lothian, among the tenants, and had advanced northward among the proprietors. Towards the end of this interval many of these made great exertions; they procured overseers, both from Norfolk and Lothian, to manage their own farms, and by giving very favorable leases, induced farmers and farmers' sons from the south to settle on their estates. They sent, at their own expense, some of their farmers' sons to England and Lothian, to be instructed in the best practices, and on their return gave them very favorable leases. In this period, also, the Press first came to the aid of Scottish agriculture. Several excellent Treatises on the art came out, particularly "The Gentleman Farmer," by Lord Raimes, which had a most beneficial effect in diffusing correct information, and raising a spirit of emulation which has not yet subsided. Improved farming became quite fashionable among the landholders, many of them embellished their estates with fine plantations of forest trees, and brought their house farms into good cultivation. Still, however, their example had wonderfully little effect on the great body of the tenantry, whose habits and practice, sanctioned and endeared to them by antiquity, were given up with the greatest reluctance. I may here state the condition and practice of the old Scottish tenantry at this period, namely, the close of the Revolutionary war. I was then sixteen years of age, and remember it as well as yesterday. The farm-houses were mean hovels, built of rough undressed stone and earth, without wooden floors or upper story; the out-houses were of the same kind, placed where chance seemed to direct, without regard to plan or regularity. The plough was a most clumsy and ponderous utensil, drawn by eight, ten, or twelve oxen on the large farms, and on the small, by the aid of cows and small horses; the work performed miserably bad, so as to require much spade work to make it fit for the seed. No carts were in use; the farm-yard manure was carried out in baskets of a particular construction on the horses' backs, and the harvest brought home by a similar contrivance. One system of cropping prevailed all over Scotland for every kind of soil. I shall not take up your time to detail it; suffice it to say, that it consisted of perpetual scourging of the ground for grain crops as long as it would return the seed.

The end of the American war was the period destined to eradicate this system, and give an irresistible impulse to Scottish husbandry. The landholders finding the tenantry not to be moved by example or precept, resolved to force them out of the old path, and with this view, in granting new leases, introduced compulsory clauses binding them under severe penalties to fallow, sow grass seeds, cultivate turnips, and adopt a rotation of cropping suitable to the soil and circumstances of the farm. This was unwillingly gone into at first, but upon a fair trial was found so advantageous, that they became entirely reconciled to it. Compulsion became unnecessary—correct practice became more generally known and valued, and at the present day compulsory clauses are seldom inserted in leases, but only such restrictions regarding cropping as may appear necessary to guard the farm against waste or over-cropping towards the end of the lease.

Farming became more and more fashionable among the nobility and gentry—the king himself setting a good example to the nation. Among the expedients to stimulate and encourage the tenantry, Farming Societies were about this time got up in Scotland and England, who held out premiums for all sorts of improvements. These Societies still continue, and persevere in their patriotic labors. They consist of the nobility, country gentlemen, clergy, and most respectable of the tenants; and though their very liberal efforts have often come short of their, perhaps, too sanguine expectations, still there is no doubt their influence has been highly beneficial. These Societies, at first small and unconnected, have, in many instances, joined and formed one large County Society; and some of them comprehend several counties, by which they are enabled to act with more effect, and extend their use and influence.

Soon after this period the Board of Agriculture was instituted by the British Parliament, under whose orders fit persons were employed to draw up and report a state of the agriculture of every county in Britain. The publication of these Reports furnished for the public a matchless mass of agricultural and statistical information; this has been also arranged and condensed, by Sir John Sinclair, and given to the public in two separate works. At the same time "The Edinburgh Farmer's Magazine" made its appearance, (a work similar to your own,) through whose pages, whatever is most material in these reports, as well as in every other agricultural publication of the day, was quickly communicated to the farmers in general. This book is generally believed to have had more effect in the dissemination of sound agricultural principles and practice, and forwarding their adoption among the farmers, than all the efforts of the Farming Societies, liberal and persevering as they certainly have been. It was begun in 1801, and has been continued ever since; and such is considered its importance, that scarce any respectable farmering Scotland can now want it. Its circulation in England is also very great. While on this subject I may mention the establishment of a Professorship of Agriculture in the University of Edinburgh, by which an opportunity is afforded to all who choose to be instructed in the theory, as well as the practice, of agriculture.

These exertions and measures have undoubtedly contributed highly to the advancement and prosperity of agriculture in Britain, and have been aided by other very powerful auxiliaries. The first I shall mention is the introduction of lime as a manure. This most important article came into general use in Scotland soon after the period last mentioned, namely, the end of the American Revolutionary war, and soon became indispensable on every Scotch farm.—Without this noble assistant the best lands in Scotland could never have attained their present state of fertility and productiveness, and the poor and muirland soils must have remained in perpetual sterility. Used with proper judgment it is indeed valuable; there is not the least doubt that it has more than doubled the value of all the arable lands of Scotland.

Another highly important circumstance in favor of the farming interest of Great Britain is the successful establishment and progress of manufactures, many of which had their beginning, and the whole received an unprecedented impulse, near the above stated period, accompanied at the same time by a most successful, active and extended commerce. By these, the population of the country has been gradually and greatly increased, and thereby a ready market (the very life of farming) provided for every kind of agricultural produce. The depreciation of money and increase of the circulating medium may also be noticed as a circumstance favorable to the tenants; holding their farms on leases of nineteen or twenty-one years duration, generally, with a fixed money or victual rent, they had all the advantage of the fall of money and rise in the price of produce, which had the effect, in fact, of lessening the value of the rent during the currency of the lease, while it increased the value of produce.

Under these favorable circumstances the an-

nual rent of the arable lands of Scotland have been more than quadrupled within the last sixty years. The face and appearance of the country has been wonderfully changed to the better; and the condition and circumstances of the tenants vastly improved in spite of all the increased rents, and sometimes heavy taxes. Many of them have made genteel fortunes; all of them live better in every respect; all of them now have comfortable houses of mason work; many of them live in genteel mansions, with excellent steadings of farm offices, built after a regular plan, and quite complete: their respectability and standing in society is also much raised. Those who occupy large farms are generally well educated themselves, and often give their sons a liberal education. Farming capital is, probably, increased tenfold within the period last stated.

In surveying the above statement, the American farmer will naturally notice with interest the various measures and circumstances by which this agreeable state of things has been brought about. The various and persevering exertions of the landholders in the first place, and secondly, the progress of manufactures, commerce and population. And here I cannot avoid expressing my ardent wishes for the continued success of American manufactures and commerce, and my hopes, that such necessary protection may still be afforded them as to prevent their decay or destruction by foreign competition, supported, as it is, by foreign legislation, overwhelming capital, and low rate of labor. There cannot be the least doubt that the prosperity of agriculture is closely connected with that of manufactures and commerce at the present day, and has been so in every age.

The American farmer, in comparing his situation with that of the great body of his European brethren, must find himself on very enviable grounds—fully master of the soil, himself the landlord—without the anxiety and hazard attending the taking or renewing of a lease—without rent to pay—taxes light—his soil and climate superior, producing the most valuable kinds of grain in perfection, with fruit in great variety—his markets good, with every prospect of being steady. What better encouragement can the heart of man desire? Internal Improvements have ever been favorable to agriculture as well as commerce, and certainly we have no reason to complain for want of enterprise in our citizens on that head. Our manufactures and commerce are prosperous at present, and our population increasing at an unexampled rate; all these circumstances we have advantage of. I say therefore the present times are as favorable to farmers as they can reasonably expect or wish for. The character and standing in society of the American farmer is every way respectable; many of our members understand agriculture both in theory and practice, and their farm management would do credit to some of the best districts of Europe: at the same time it must be owned that a much larger proportion of us appear to manage our operations as if ignorant or regardless of principles or system.

There is no doubt that the diffusion of agricultural knowledge among us is needed. Good principles and good practice will be extremely advantageous to all of us. The science, if you please to call it so, is certainly progressive and susceptible of improvements and alterations periodically. Therefore nothing is more just than the old adage, that farmers are always to learn. And I know of no mode of communicating information to us so well adapted as a well conducted Magazine. Such a work puts the farmer in possession of the practices and opinions of men of his own profession in different districts of the country, gives him notice of every different improvement as it takes place—makes him acquainted with every new treatise connected with the art as published—informs him of the state of the crops in every part of the Union, as well as in foreign countries—of the present prices of produce, both at home and abroad, and the probability of their rise or fall—in a word, every thing that can be interesting or entertaining to the farmer, as well as the gardener, may be expected, from an able editor or conductor, in such a work, assisted and supported as he ought to be. Wishing every success to the Magazine, I beg leave to subscribe myself, your friend and well-wisher, SENEX.

January 15, 1833.

[From the Southern Agriculturist.]

MANURES.—We were highly gratified in discovering the interest which is taken by the planters generally, in the subject of manures. At one time, if a farmer could get enough to manure a portion of his corn crop, he thought he did well—as to manuring his cotton, it was out of the question; and there are some who are now zealously engaged in the system of manuring, who at one time absolutely ridiculed the idea of a planter ever having as much manure as would enable him to apply any to his cotton crop. Now, great attention is paid to this subject, and it has become one of considerable importance. We witnessed with much pleasure the operations made on several plantations for collecting and making manure. In one pen the pine straw was at least three feet deep, and they were still engaged in hauling in more. The cattle had not been in it long, and this depth would decrease as it became more trampled.

The better to secure all the advantages to be derived from penning cattle, D. H. Ravenell has recently erected an extensive range of sheds for his cattle. The space enclosed by these sheds and pens is a square half acre; the principal range is on the north side, 150 feet long and 16 feet wide, boarded on the north side and shingled; two wings project from this, one on the west side, 40 feet long, and the other on the eastern, 80 feet in length—these both face inwards, and are boarded at the backs. The pen is made by large posts sunk into the ground, with oak rails nailed on, and the whole capped by a large piece fixed to the posts with mortices and tenons. It is divided into three divisions—one for oxen, one for milch cows, and the other for dry cattle. This pen is used only during the winter, and the cattle are here regularly fed at night on cotton seed, corn husks, &c.

But although much attention is now paid to manuring, it is far from being carried on as systematically, or to as great an extent as it might be. The fact is, that even those who are most engaged do not employ all the means within their power, nor employ all of the substances which might be collected and advantageously used. They all depend too much on the cow-pen and stable; and we have heard it seriously urged, that the planters in that neighborhood never could manure all their cotton crops, because cattle enough for this purpose could not be supported in the several ranges. This idea, we fear, has done much to retard the extension of this system, and consequently been prejudicial. It is still fresh in the memory of most of the planters, when no part of the cotton crop was manured at all, all being retained for the provision crop.

Now, numbers manure, not only all of their provision crops, but even a large portion of the cotton—some as far as half. The knowledge of this fact should serve as an incentive to use greater exertions. We have, however, little fear on the subject; the importance of manuring is duly estimated by most of the planters. A commencement has been made—thus far the attempt has been eminently successful; and we, therefore, cannot fear that in such an intelligent community, it will either languish or be discontinued.

Before quitting this subject we will make one suggestion; it is this—that all the materials fit for manure, and within the reach of the planters generally, are either not used for that purpose or in much less quantities than they might be. The pens and stables are chiefly depended on, and each planter estimates his capability of manuring by the number of stock his range can support. Now we request the serious attention of the planters to this subject—let him consider well, and we are certain he will discover that he has the power of increasing the quantity of his manures greatly. Some who have but few cattle do not employ any hands steadily at carting in trash to the pens, giving, as a reason, that the quantity would be too great for the number of animals penned, and consequently it would be weak, and when used, be of little service. We would suggest to those thus situated, that they continue to employ one cart and two hands steadily, and instead of hauling in pine straw and leaves every day, they should bring in only enough to form a thick layer, and then cart in on this swamp mud, mud from the ponds, and when these cannot be had, top-soil from the woodland, and when a layer of this has been formed, then place on it another of pine straw, &c., thus making alternate layers, keeping the cattle penned on it nightly. In this way a large addition would be made to the usual quantity, whilst the quality would not be at all inferior.

In addition to this, each planter should have a small stercorary, or receptacle, made near the offices, into which all the soap suds, trash, and offals, which are gathered around these, may be placed, and not left to offend the eye and manure noxious weeds;—to this the sweepings of the hen-house could be added, and earth be thrown in to absorb the surplus moisture, as it became necessary.

In manuring the crops generally, a system should be entered into, and this persevered in as far as practicable, due regard being had to the crops and the soil to be manured.

BEET-ROOT SUGAR.—The same necessity—that proverbial "mother of invention"—that led our ancestors, during the Revolutionary struggle, to extract molasses from pumpkins and corn-stalks, taught the French, after having lost their colonies during the late war, to manufacture sugar from the beet. Indeed, during the latter years of that war, nearly the whole consumption of France was furnished from that source. The peace of 1816, and the consequent influx of foreign sugars under a temporary relaxation of the protective duties which the government had extended to the domestic article, caused the manufacture, for a while, to languish and be neglected. Shortly, however, the government resumed, efficiently, the protective policy; the manufacture of sugar from the beet-root was resumed with renewed energy, and rapidly extended; it is now firmly and profitably established; and although her annual consumption of sugar is estimated at eighty millions of kilogrammes, yet France will shortly produce within her own bounds, nearly, if not quite all the sugar she consumes.

We learn these particulars, with much other valuable information in relation to this important branch of French domestic manufacture, from a curious and valuable article upon the subject, copied by the *Family Lyceum* from the "British Quarterly Journal of Agricul-

ture," and which, with our earliest convenience, we intend laying before our readers. We have noticed it now, for the purpose of contrasting the policy of France, in relation to this manufacture, and its immensely beneficial national consequences, with the course which certain wise theorists and would-be patriots would fain have our government pursue, in relation to the Domestic Industry of this country.

Sugar---no matter how---had become one of the necessaries of life. Up to the wars of the Revolution, France was supplied with it from her own colonies. This supply failed; and a new one was sought and found at home. But the war ceased, and France again has sugar-growing colonies, whence her demand may be supplied; or she may buy the article from her neighbors, the English or the Dutch. Does she do either? No. She has learned her lesson too dearly, so soon and so easily to forget it. She has learned that these sources are precarious---depending on the questions of peace or war---and that they render her dependent. She has learned, moreover, that she has means and sources that are not precarious, and that are independent: and she has wisely determined to cultivate and to cherish them. Already is she reaping the reward of her wisdom; having increased not only her independence, but her wealth and her comforts, by this policy of *protecting her own industry and her own productions*. How much better, more satisfactory, and more conducive, is one such example, one such lesson drawn from the school of experience, than all the abstract reasonings and fine spun theories of the Free-Trade political economists?

Food for Oxen and other Cattle.—"Every traveller who passes Alsfett, a little town near Frankfort in Germany, has noticed the remarkable fine cattle of that place, who are fed in the following manner: Straw is cut short by means of a straw-cutter; is then put into a cauldron, with the addition of potatoes and carrots, and boiled till it forms a kind of jelly; this mixed with a sufficient quantity of water is served to the beasts.—The animals so fed require no water, and so well do they thrive on this mess, that they are, notwithstanding the summer labor, ready for the butcher at the end of the year."

Grind all sorts of grain which is intended to be given to cattle or horses. In order to obtain the greatest benefit from it, boil it in water, and while hot add cut straw, stirring it well, and when cool it will be fit to feed out.

The following observations upon fattening cattle were published by Nathaniel Landon, of Litchfield, Connecticut. He says, "I boiled about two quarts of flax seed, and sprinkled it on cut straw, which had been previously scalded, and seasoned with salt, together with some oil-cake and oat-meal: working them into a tub with a short pitchfork, until the whole became an oily mush. I fed a three year old heifer regularly in this way, about two months, when she had eaten about one bushel of flax-seed, with the other ingredients in proportion. When she was butchered she weighed 584 lbs., 84 lbs. of which was tallow. She would not have sold for more than $16 before fattening. I sold two quarters of her for 18 dollars and 13 cents. She cost me not more than ten dollars, exclusive of the hay she ate, which was chiefly scalded as above. On the first of February I began with an ox: I fed him about three months, but not altogether as well as I did the heifer. He digested about one peck of flax-seed per day, prepared as above, which I suppose formed about one half of the fat in these two cattle. The ox was short, measured 7 feet 2 inches, and weighed 1082 lbs. and had 180 lbs. of tallow. He cost me when fattening 25 cents per day; he had previously cost me 35 dollars. My neat gain in fattening these two cattle was more than all I have cleared before in fattening oxen and cows, for fifteen years, and this is owing I think chiefly to the use of flax-seed."—[Rural Economist.]

Colt.—To break him never strike, but often lead him by the side of another horse, with a bridle. When he walks well, bring him to trot after him; then lead him often in the saddle. Then put on a small weight, and gradually increase it. Then let one hold and another mount him, and ride after another horse in a ploughed field, till he learns the use of the bit, and will stop or go on at your pleasure. By this easy method you will break your colt without breaking his spirit.—[N. E. Farmer.]

METEOROLOGICAL RECORD, FOR THE WEEK ENDING MONDAY, FEBRUARY 18, 1833.

[Communicated for the American Railroad Journal.]

Date	*Hours.*	*Barometer.*	*Thermometer.*	*Winds.*	*Strength of wind.*	*Clouds from what direction*	*Weather and Remarks.*
Tuesday, Feb. 12..	6 a. m.	29.89	32	NNE	light		cloudy and foggy
	10	.89	33	..	fresh	WSW	.. —cloudy
	2 p. m.	.81	37	WSW	faint	..	cloudy
	6	.85	35	..	light	..	rain
	10	.89	34	..	..		..
Wednesday, " 13..	6 a. m.	.88	30	ENE	moderate		rainy [E by N brisk
	10	.89	31	..	..	E by N	sleety-cloudy—scud from
	2 p. m.	.70	33	..	..	E	rainy—rain
	6	.56	32	..	fresh		rain—snow
	10	.61	31		light		fair—clouds at W
Thursday, " 14..	6 a. m.	.80	28	NNW	fresh	NW by N	.. scuds from NW by W
	10	.90	29	NNW—NW	strong	NW	..
	2 p. m	30.04	32	NW	..	NNW	..
	6	.17	32	..	light		..
	10	.22	30	..	..		hazy
Friday, " 15..	6 a. m.	.28	27	NE	..	WSW	cloudy
	10	.29	31	..	moderate	..	..
	2 p. m.	.17	31	..	fresh	..	snow—(snow at Philadel-
	6	.20	31	..	strong		.. [phia at 10 a.m.)
	10	.10	31	..	fresh		..
Saturday, " 16..	6 a. m.	.26	26	NNW	light	W by S	fair—fair at 2 a.m. wind W
	10	.30	28	NW to SW	..	WSW	..
	2 p. m.	.29	36	SW—WSW	faint	WSW to W	..
	6	.26	34	WSW	..	W by N	.. —clouds at WSW
	10	.26	34	..	..		cloudy
Sunday, " 17..	6 a. m.	.17	32	SSW	light	WSW	..
	10	.17	37	S by W	..	..	.. —fair
	2 p. m.	.04	40	S—S by E	moderate	W by S	clear
	6	29.96	38	S by E	light	..	fair—hazy
	10	.93	37	south-easterly	..	..	cloudy
Monday, " 18..	6 a. m.	.64	38	ENE	..		cloudy and foggy—wind
	10	.62	40	NW—SW	..	W by S	cloudy—fair [NW at 9
	2 p. m.	.58	44	WSW	..	..	fair—cloudy
	6	.67	42	..	moderate	..	cloudy
	10	.73	41	..	..		..

Average temperature of the week, 33.6.

Greatest elevation of the Barometer in January, 30.49 inches—lowest, 29.32—range, 1.17 inches.

N. B.—It appears that the rain-storm of the 12th and 13th inst. was a heavy snow-storm near the sea-board in New-Hampshire and Maine. The snow-storm of the 15th is known to have commenced and terminated five hours sooner at Baltimore than at New-York.

In the summary of winds for January, appended to the Record of the week ending on the 11th inst., "NE." is intende to designate all the points between north and east; and so of the other quarters of the compass.

FOREIGN INTELLIGENCE.

Later from Europe.—By the *Henry IV.*, from Havre, we have Paris papers to 10th ult. inclusive; and by the *York*, from London, papers of the 11th are received from that city.

Their aspect, as to the affairs of Europe, is decidedly pacific; though Holland still held out, and refused assent to the recent propositions made by France and England. Meantime the Scheldt was closed by the Dutch gun-boats off Lillo; one of which had boarded an Austrian vessel from Antwerp, and sent her back, saying that no European vessel could pass in or out.

The French army had returned to France. The division under General Sebastiani was at Lisle on the 4th ult., and the whole was to be concentrated there, when the King was to review them; after which, says Marshal Gerard in an order of the day, "they were no longer to be kept upon a footing of war; neither were they to be placed on the peace establishment, but to remain on a footing of readiness (pied de rassemblement)."

The French Chamber of Deputies, on the 2d Instant, passed a law, only 24 dissenting, to repeal the law of 1816, for keeping the anniversary of 21st January. The Peers, it was anticipated, might not concur. In an order of the day, dated 31st December, Marshal Gerard, after thanking the Army for their conduct, says, that in the memorable siege just finished, they had dug 1400 metres of trenches, fired 63,000 rounds of artillery, captured 5000 troops, and lost in killed 608 men. The King and the Dukes of Orleans and Nemours left Paris on the 7th for Valenciennes, when the King is to review Marshal Gerard's army.

The Gazette de France, of 9th ult. announces as *certain*, that the King of Holland had refused assent to the new proposition made by France and England.

The arrest and imprisonment of the Duchess of Berri were discussed in the Chamber of Deputies on the 5th, on the report of the Committee to which the various petitions for her liberation, from individuals and different parts of the country, were referred. The conclusion of the Committee was, that the House should, as to the prayer of the petitioners, proceed to the order of the day; which is virtual rejection. *M. de Broglie*, the Minister for Foreign Affairs, sustained this conclusion, and made it the occasion of explaining the course and intention of the Government with regard to this Princess—whom he declared they meant to retain in captivity so long as the interest and safety of the State should require, without subjecting her to any trial. We will endeavor to find room for at least parts of the discussion which ensued: in which Messrs. *de Bro-*

glie, Berryer, Odillon Barrot, and *Thiers* took part.

Count *Sosthene de la Rochefaucauld* has been condemned to three months imprisonment and a fine of 1000 francs, for having published a pamphlet tending to bring the King into contempt.

Joseph Bonaparte has, according to the London Times, been intriguing for the restoration of the Bonaparte dynasty in France; and allusion is made to a memorial said to have been presented in his name, in the Chamber of Deputies. Our French papers make no mention of it.

The Elections in Great Britain were over, and the following is the result:

In England,	Reformers	394	Conservatives	100
Ireland,	do.	44	do.	9
Scotland,	do.	80	do.	25
		518		144

making altogether a proportion of about five to one in favor of liberal principles.

Still Later.—The New-York, from Liverpool, brings us papers from London of the 15th. The Dutch King's answer had been received, but not made public. The Times of 15th, says in relation to it:

The recent communication from the King of Holland will not, we trust, be made by Lord Palmerston and his colleagues of the Conference a peg for the support of a hundred further Protocols. The country is in no temper to endure such trifling. If the King of Holland profess a desire for peace, let him open the Scheldt to the trade of England and of Europe; or, if he will not spontaneously, let it be done for him. We have men-of-war in abundance, and they could not be more worthily employed. The King of Holland, in common consistency, must be greatful to this Government for helping him to act upon his own professions. But we seriously protest, on the part of this country, against any longer indulgence of delay, or demonstration of weakness in our foreign policy. Our allies, Russia, Prussia, and Austria, profess an anxiety for peace; why are they not called upon to show their sincerity by an immediate co-operation with England and France in some decisive measure to compel the King of Holland to abandon that absurd and mischevious policy which alone endangers the tranquility of Europe? This is the plain and simple course, and ought instantly to be adopted.

There is nothing of moment from the Continent in these papers. The Royal Family of France were at Lille, where that of Belgium was to join them, and the review of Marshal Gerard's army was to be a magnifinent sort of fête.

The President's Proclamation had been received in London, and is published at length and warmly commended in the Times and Courier. Other papers head their news articles on the subject—"Preparations for Civil War in the United States!"

Meeting of Parliament.—We announced yesterday that parliament was to proceed with the public business in the first week of February. We are now enabled positively to state, that no delay in the despatch of business will take place after the 29th instant, (the day on which the Writs are returnable,) beyond what is absolutely necessary sor the observance of the formalities which must accomyany the opening of a new Parliament.—[London Courier, 13th.]

[*Correspondence of the Journal of Commerce.*]

London, Jan. 14.—It was understood that the Council of Ministers held yesterday was on the same subject which has for some time occupied their attention—the important subject of Church Reform. The plan will, we trust, be of a searching nature, and as extensive in its remedial provisions as are the evils which demand a cure.

The Dutch King's answer has arrived in the mail-packet the Attwood, and consists of a counter-project which it is proposed to submit to all the five Powers, although one of them has formally withdrawn from the Conference. Upon the whole we have reason to believe that, with an air of approach and moderation, the new proposals are concocted in the same bad faith and spirit of procrastination which have attended these negotiations on the part of the King of Holland from first to last.—[Globe.]

By the accounts from Oporto, it appears that Don Pedro's forces have at length found a leader of talent and resolution, in the French General Solignac, who has been appointed Commander-in-Chief, and who has already shown much activity and boldness. He is a veteran trained in the school of Napoleon, and served, it is said, in Portugal, under Marshal Junot. No movement on either side has taken place since the repulse of Don Pedro's attack on Villa Nova.

London, Jan. 14.—After an intermission of maritime communication with Oporto for nearly a month, we have at last received despatches from that city of a very recent date. The last letters of our correspondent extend to the 6th inst., and contain a description of the regular series of events from the middle of December to that time.

Though no affair of great importance has occurred within the last month, the parties are always *in presence* of each other, and hostilities of one kind or another are of daily occurrence. The chief skirmish within this period took place on the 17th ult., when a party of the troops of Don Pedro made a sortie to the south side of the river to remove some wine belonging to the Wine Company of the Douro from the lodges of the said company in Villa Nova.

The detachment of the ex-Emperor's force was not large, consisting only of about 600 or 800 men, and though partially successful, accomplished their object only at a considerable loss of lives, and by endangering the British ships of war which our Government is obliged to maintain on that station for the protection of British property. The loss which it occasioned was by no means repaid by the capture of some pipes of wine, and the plunder or conflagration of a convent.

It would appear from our letter of the 18th ult., that Don Miguel has at last arrived at his army. It is singular that the siege should have continued for seven or eight months without such a visit from the Usurper, and that he should have been at Braga and other towns north of Oporto, without repairing to the army which is fighting his battles.

But our correspondent announces the arrival of a more important succor to the cause of Don Pedro, in the person of General Solignac, than the Miguelite army has received in that of their chief. The General is admitted to be a good soldier, and provided he can inspire such confidence into the Emperor as to obtain the absolute direction of the war, the transferrence of the command to him cannot but be beneficial.

It seems to be the general impression in Oporto that a desisive blow is soon to be attempted, and that it will crown the constitutionalists with success. No result could be more auspicious for humanity and freedom.

Order of Don Pedro.

"Lieut. Gen. Baron I. Baptiste Solignac, having offered me his services in the cause of my august daughter, Donna Maria II., Queen of Portugal, and being desirous of testifying my sense of such generous sentiments, and of the valor and experience which have for so many years acquired him the most merited military reputation, I have thought fit, in Her Majesty's name, to promote the said Lieut. General Baron I. B. Solignac to the rank of Marshal of the Army, and appoint him Major General of the Army under my immediate command. The said Marshal will in this quality immediately proceed to organize the head quarters as he shall judge best for the service, and will propose to me the officers to be employed at the same head quarters.

"Don Pedro, Duke of Braganza.

"Agostinho Jose Freire.

"Palace of Oporto, Jan. 3."

Hull, Jan. 10.—The City of Edinburgh steamer arrived off Brighton yesterday; sailed from Oporto on Saturday last, and from Vigo on Sunday night, the 6th inst. She reports that the French troops had arrived in the London Merchant, and that Don Pedro was about to make an attack on the Miguelite fort which commanded the entrance of the Douro.

All are said to be in good spirits.

Spain.—*London, Jan.* 12.—Letters have arrived from Madrid this morning of the 31st ult., which state Count Ofalia had accepted the Ministry of the Interior. It does not appear, however, that the resignation of Zea Bermudez, which was stated some days back in the Paris papers, has actually taken place. It is affirmed that the utmost cordiality and desire of mutual co-operation existed between those two Ministers.

Liverpool, Jan. 15, 1833.

Great Fire at Liverpool.—Last night 10,000 bales of cotton were destroyed by fire, and property altogether to the amount of £300,000. But our Cotton market to-day was dull, holders appearing determined to be free sellers.

Another letter says, "fifteen warehouses were destroyed, and 10 to 12,000 bales of Cotton, and a large amount of other produce, estimated to be worth upwards of £200,000." The fire was in the neighborhood of Bath-street.

The fire commenced about 11 o'clock, on the night of the 14th, in the neighborhood of Bath street, supposed in a painter's shop, and soon extended to the large ware houses in Lincelot's hey, four or five of which were soon enveloped in flames.

"Every thing was now consternation and alarm. The quantity of valuable property in these premises caused the utmost anxiety, and, as may readily be conceived, the most strenuous exertions were made to preserve the buildings from destruction, or to rescue their contents. The exertions of the men employed upon this laborious and hazardous task were amazing. From the state of the premises, and the intolerable heat thrown off even at a distance, their condition must evidently have been little short of suffocation; yet they continued to work with undiminished ardor, like men determined to abide the last extremity. In this perilous situation, they continued throwing out the bales of cotton, one after another, into the street—nor did they quit their work until the flames pressed round them on every side, and there was no longer a passage for their retreat. During all this time, the spectators outside were watching them with intense anxiety, giving expression continually to alternate hopes and fears respecting them; the interest in their fate became more and more intense, in proportion as their position seemed to be more desperate, and the repeated inquiry was,—what would become of them? After a while, a volume of smoke was seen to rush out of the rooms, for a time hiding all from view. An instantaneous cry was raised by the people outside, for the men to make their escape at once. But they appeared to have calculated all the exigencies of their situation, and knew the danger themselves. With a presence of mind which showed they were prepared against every emergency, they immediately ran to the jigger-rope, turned it into a fire-escape, and when the smoke had cleared away, they were seen descending the rope like a swarm of monkeys, and jumping, one by one, into the street. As the last man was leaving the room, a volume of flame sprung out at the door, as if in vengeance for having lost its prey; the poor fellow, however, jumped at the rope with an eagerness that told that there was life in the grasp, and descended in safety among his companions.

"The cotton saved from these warehouses, as it was thrown into the street, was piled up by other hands, till it formed a heap reaching to half the height of the houses in Lancelot's-hey.

"The rapidity with which the fire continued its ravages was almost incredible. Several buildings in Bath-street had now fallen victims to its fury, and three or four in Lancelot's-hey were now in the midst of it, like stubble. It was like an instantaneous blaze, a conflagration without any beginning, so swift and sudden were its effects. Scarcely was the attention directed to the partial emission of the flames in a fresh spot, before the floors and beams gave way, and the roofs came tumbling in, and the unbroken, universal blaze stretched up to heaven in the pride of its absolute possession."

The cotton in the street took fire about 3 o'clock, and the flames were communicated to the dwellings on the opposite side of the way, forming the two corners of Union-street, spreading the utmost consternation among their inhabitants, who barely escaped with their lives, saving little or none of their furniture. About this time the wall of a new warehouse facing the end of Union-street, belonging to Mr. Molyneaux, fell into the street, and buried several persons under its ruins. One man had been taken out dead. Several persons were seriously injured and carried to the Hospital. Col. Jordon, the inspecting field-officer of the district, was so much injured by the falling of a wall, that it was found necessary to amputate his right leg above the knee. The shipping on Princes Dock were several times in imminent danger from the falling flakes. The value of property consumed is calculated at 150,000 pounds, against which there are insurances to the amount of 120,000 pounds.

French Funds, Paris, Jan. 12.—Five per Cents., 100f. 70c.; Loan of 1832, 100f. 75c. 101f. 15c.; Four per Cents., 87f. 60c.; Three per Cents., 72f. 20c.; National Loan, 100f. 80c.; Bank Stock, 1,660f.

MISCELLANY.

[*From Gardiner's "Music of Nature."*]

ORATORY.

Before knowledge was conveyed by the art of writing, or the use of books, men resorted to an elevated mode of speaking when they had any thing to communicate, in which the common interests were concerned; and as circumstances arose, oratory or public speaking must have prevailed with the ancients more than ourselves. The feelings of a speaker in addressing a large assembly are not those of common life. He is excited by the multitude around him and becomes the focal point of every eye, and every ear. In a situation like this, his passions are roused; nature dictates the tone of voice in which he speaks; and what in ordinary conversation would be expressed in many words, he forcibly depicts by a figure. Oratory is the language of the passions and we 'catch fire by what is kindled in another.' In ordinary speech we distinguish more nicely, and our descriptions may come nearer to the truth; but in oratory we yield to sympathy, what we refuse to description. There is a moving tone of voice, as Mr. Burke observes, an impassioned countenance, and agitated gesture, which affects independently of the things about which they are excited; so there are words which touch and move us, under the influence of passion more than any other. It is this moving tone of voice, and these emphatic words, that constitute the powerful efforts of oratory. It is said of Cæsar, when addressing his army, he chose long words for their grandeur. It would have been more correct to say—that he chose sonorous words, those that were full of sound and would fly to the farthest point of his battalion. A powerful voice is one of the first requisites of a good speaker, and he will not fail to use the clearest and best parts of it for the drift of his discourse, reserving the extremes for particular effects.

The pitch should be that of a tenor, or middle voice. Mr. Denman's is rich and sombre, but rather too low. Mr. Burke's was, on the contrary, too high—a sort of lofty cry—soaring too much in alto. Clearness and distinctness is an indispensable quality. An indistinct utterance is not only painful to the ear, but causes a great labor of attention, which ought not to be occupied with the words, but the ideas. From the following description of Lord Chatham, the great Pitt, we may conclude that he was an orator of the first description "His voice was both full and clear; his lowest whisper was most distinctly heard; his middle tones were sweet, rich, and beautifully varied. When he elevated his voice to its highest pitch, the House was completely filled with the volume of sound; the effect was awful, except when he wished to cheer and animate; and then he had spirit-stirring notes which were perfectly irresistible. He frequently rose on a sudden from a very low to a very high key (note); but it seemed to be without effort. His diction was remarkably simple, but words were never chosen with greater ease. He was often familiar, and even playful; but it was the familiarity and playfulness of condescension—the lion that dangled with the kid. The terrible, however, was his peculiar power.—Then the whole House sunk before him. Still he was dignified and wonderful, as was his eloquence; it was attended with this important effect, that it impressed every hearer with a conviction that there was something in him finer even than his words; that the man was infinitely greater than the orator." It is important that the tone of voice should invite attention; the finest strains of eloquence, delivered in the same level tone, always fail to produce much effect. Musically speaking he is the best orator, who has the greatest number of tones at his command, who unites the upper and lower voices to his natural speaking voice.

Mr. Kean possesses these qualifications in the highest degree. He has at his command the greatest number of effects—having a range of tone from F below the line to F above it—the natural key of his voice being that of B flat, a note lower than Talma's. His hard guttural tone upon G is as piercing as the third string of a violencello; whilst his mezzo and pianissimo expressions are as soft as from the voice of a woman. He has three distinct sets of tones; as if he occasionally played upon a flute, clarionet, and bassoon, which he uses as the passion dictates. In the scene with Lady Ann his notes are of the most touching and persuasive kind, often springing from the harmonies of his natural voice, which he elicits with exquisite delicacy. We shall instance the peculiar softness of the following expressions;—

You mock me, mother. Remember.

But the same voice, which moved with a ruder stroke, gave the yell and choked utterance of a savage.

Shylock. Oh! if I can catch him once upon the hip.

His tones of furious passion are deep seated in the chest, like those of the lion and tiger, and it is mastery over these instinctive tones by which he so powerfully moves his audience. At times he vomits a torrent of words in a breath, yet avails himself of all the advantages of deliberation. His pauses give a grandeur to his performance, and speak more than words themselves.

The French actors know nothing of this music of the voice; their recitation is disagreeably high and chanting. In the year 1822, the writer was present at the play of "Regulus," in Paris, and saw their famous actor Talma, who is certainly a great exception to this remark. The tone of his voice was strikingly clear, sonorous, and beautiful.

In his whisper there was something touching and divine. The character of Regulus, in which he appeared, was evidently intended to represent that of Bonaparte; and at the following expression—

Tremblez, tremblez, Tyrans—

the shouts of applause were, if possible, more loud and uprorious than any thing heard in England.

The voice of Cooke was sharp and powerful, possessing little variety, and none of the softer inflections. In compass and celerity of vocal motion he was superior to any other orator, which peculiarly adapted him for scenes of villany.

Words lengthen or shorten under the passion with which they are uttered; in anger, we hurry over them; in grief, we dwell upon them.

Kemble had a voice of very limited powers, and of a level tone, which, without his talent as an actor, would have interested little. That hollowness so peculiar to him, rather increased than diminished certain effects; as in the character of the Stranger. His haggard look, and deep sepulchral tones, which struck awfully upon the ear—'like the croak of night's funeral bird,'—admirably qualified him to depict the workings of a mind weighed down with sorrow and irretrievable calamity.

So powerfully are we affected by the tones of voice, that it is often of more importance to the just representation of character, than any other qualification we may possess. The delicious sweetness and charming tone of Miss Murray's voice can never be forgotten, and the accents of Miss O'Neil, if possible, were more beautiful than herself.

Macready, though an actor of great eminence, possesses but few of these excellencies. His voice is hard and croaking, and though his figure is well suited, his tones belong not to Hamlet. By aiming too much at distinction he incurs a false pronunciation of the vowels, which proceeds from his drawing back too much the corners of his mouth; so that we have *scarn*, for scorn; *go farth*, for go forth; *harrible! harrible!* for horrible! horrible! His *sotto voce* is more perfect; in the scene where he gives instruction to the players, he is highly natural and pleasing.

A voice adapted to the character is as necessary to the drama, as a particular instrument to the orchestra, to express the idea of the composer.

The great inattentions shown to this often renders the character unnatural and ridiculous; as in common life, we meet sometimes a stout athletic man with the piping voice of a child, and a spare, slender creature with the hollow tone of a giant. Why are we so convulsed with laughter at the incomparable Liston? Perhaps the oddity arises from the junction of his pompous voice with the mean and senseless character he personates. It is like putting the grave and sententious expression of a Lord Chancellor into the mouth an idiot. This swelling of the words in a dignified character has its due effect; for, as Lord Pembroke observed, Johnson's sayings would not have appeared half so extraordinary but for his bow-wow way.

Liston's powers are of the highest order. His *voce dipetto* is perfect, and the range of his voice is more extentsive than any performer upon the stage. These qualifications would have given him the greatest advantages in tragedy; but then the singularity of his performance would have been destroyed. It is this odd union of voice, face, and figure, that renders him so unlike any other actor,—so truly comic, with a humor so unique, that no one has yet dared to imitate him.

At the bar, or in the pulpit, oratory has seldom risen to its highest pitch of excellence. There wants the action and business of the stage to keep alive the passions of the mind. It is true the actor has nothing to do with the invention of the images or sentiments; they are furnished by the poet. He has only to depict them by appropriate voice and gesture.

Mr. Burke's oratory was of a contrary kind,—nothing could exceed the flow of his language, and the powers of his imagination. At the trial of Warren Hastings, his shrill voice rang through the hall, but it was cold and ineffective. There wanted the darker tones, to clothe the sublime images of his fancy. As it regarded the effects of voice, there was more natural eloquence in the prisoner at the bar when he called upon the lords to save him from the fury of his accusers.

In the pulpit, the want of vocal expression is still more apparent. The preacher is in too great possession of the field. The familiarity of the subject and the want of novelty beget a sameness of tone, that wearies the attention and destroys the interest.

As an exception to this remark, we may mention the performance of the Rev. Mr. Irving, at the Scotch church, which is purely a musical exhibition, not a little aided by dress and gesture. His voice is that of a clear sonorous basso of considerable compass.

In manner he is slow and reverential, never hurrying beyond the time adagio,—carefully using the right tone for the particular passion.

His prayer commencing with the words, "Almighty and most merciful Father, in whom we live, move and have our being," reminded me of that slow and solemn strain of deep holding notes, gradually ascending, which describes the rising of the moon in Haydn's *Creation*.

Although the advantages of a musical voice have been fully shown, yet there are speakers of great eminence but little qualified in this particular. As an instance we may mention the extraordinary powers of the late Rev. Robert Hall, of Leicester, whose voice was naturally so deficient in strength, that in a large auditory he was heard with difficulty: yet the stores of his mind and the brilliancy of his conceptions place him in the first rank of orators. His delivery, though feeble, was peculiarly neat and graceful, and when urged by the fire of his imagination, became so rapid that no short-hand writer was able to take down his words. The scintillations of his fancy and the flow of his eloquence may be compared to that of Burke; and as a writer of the English language, he is not surpassed by any one, ancient or modern.

From the earliest state of society to the present time, the power of oratory has been felt and acknowledged. In savage states, recently discovered, the chiefs and rulers have obtained their power by the influence of this noble and enthusiastic art; and we may conclude that, as language refines, with grace of action and the pomp of words, its influence will keep pace with the polish of society.

HOME AFFAIRS.

CONGRESS.

The following is a copy of the Bill introduced into the Senate by Mr. Clay, on Tuesday, 12th inst.:

A Bill to modify the Act of the 14th July, 1832, and all other Acts imposing duties on imports.

1. Be it enacted, &c. That, from and after the 30th day of September, 1833, in all cases where duties are imposed on foreign imports by the act of the 14th day of July, 1832, entitled "An act to alter and amend the several acts imposing duties on imports," or by any other act, shall exceed twenty per cent. on the value thereof, one tenth part of such excess shall be deducted; from and after the 30th day of September, 1835, another tenth part shall be deducted; from and after the 30th day of September, 1837, another tenth part thereof shall be deducted; from and after the 30th day of September, 1839, another tenth part thereof shall be deducted; and from and after the 30th day of September, 1841, one half of the residue of such excess shall be deducted; and from and after the 30th day of September, 1842, the other half thereof shall be deducted.

2. And be it further enacted, That so much of the second section of the act of the 14th of July aforesaid, as fixes the rate of duty on all milled and fulled cloth, known by the name of plains, kerseys, or kendal cottons, of which wool is the only material, the value whereof does not exceed thirty-five cents a square yard, at five per cent. ad valorem, shall be, and the same is hereby repealed. And the said articles shall be subjected to the same duty of fifty per cent. as is provided by the said second section for other manufactures of wool, which duty

shall be liable to the same deduction as are prescribed by the first section of this act.

3. And be it further enacted, That until the 30th day of September, 1842, the duties imposed by existing laws, as modified by this act, shall remain and continue to be collected. And from and after the day last aforesaid, all duties upon imports shall be collected in ready money, and laid for the purpose of raising such revenue as may be necessary to an economical administration of the government; and for that purpose shall be equal upon all articles according to their value, which are not by this Act declared to be entitled to entry subsequent to the said 30th day of September, 1842, free of duty.—And, until otherwise directed by law, from and after the said 30th day of September, 1842, such duties shall be at the rate of 20 per cent. ad valorem.—And from and after that day all credits now allowed by law in the payment of duties, shall be, and hereby are, abolished: Provided, That nothing herein contained shall be construed to prevent the passage of any law, in the event of war with any Foreign Power, for imposing such duties as may be deemed by Congress necessary to the prosecution of such war.

4. And be it further enacted, That, in addition to the articles now exempted by the existing laws from the payment of duties, the following articles imported from and after the 30th day of September, 1833, and until the 30th day of September, 1842, shall also be admitted to entry free from duty, to wit: Bleached and unbleached linens, manufactures of silk, or of which silk shall be the component material of chief valume, coming from this side of the Cape of Good Hope, and worsted stuff goods, shawls, and other manufactures of silk and worsted.

5. And be it further enacted, That from and after the 30th day of September, 1842, the following articles shall be admitted to entry free from duty, to wit: unmanufactured cotton, indigo, quicksilver, opium, tin in plates and sheets, gum arabic, gum Senegal, lac dye, madder, madder root, nuts and berries used in dying, saffron, tameric, woad or pastel, alocs, ambergris, Burgundy pitch, cochineal, camomile flowers, coriander seed, catsup, chalk, coculus indicus, horn plates for lanterns, or horns, other horns and tips, India rubber, manufactured ivory, juniper berries, musk, nuts of all kinds, oil of juniper, nsnufactured rattans and reeds, tortoise shell, tin foil, shellac, vegetables used principally in dyeing and composing dyes, weld and all articles employed chiefly for dyeing, except prussiate of potash, chromate of potash, aquafortis and tartaric acids, and all other dyeing drugs, and materials for composing dyes.

6. And be it further enacted, That so much of the act of the 14th July, 1832, or of any other act, as is inconsistent with this act shall be, and the same is hereby repealed: Provided, That nothing herein contained shall be so construed as to prevent the passage, prior or subsequent to the said 30th day of September, 1842, of any act or acts from time to time, that may be necessary to detect, prevent, or punish, evasions of the duties on imports, imposed by law.

Wednesday, Feb. 13—In Senate.

Mr. Webster submitted the following resolutions, which lie on the table one day of course.

Resolved, That the Annual Revenues of the country ought not to be allowed to exceed a just estimate of the wants of the Government: and that as soon as it shall be ascertained with reasonable certainty that the rates of duties on imports, as established by the Act of July 14, 1832, will yield an excess over these wants, provision ought to be made for their reduction, and that in making this reduction, just regard should be had to the various interests and opinions of different parts of the country, so as most effectually to preserve the integrity and harmony of the Union, and to provide for the common defence and promote the general welfare of the whole.

But whereas it is certain that the diminution of the rates of duty on some articles would increase, instead of reducing the aggregate amount of revenue collected on such articles as it has been the policy of the country to protect, a slight reduction on one might produce essential injury, and even distress to large classes of the community, while another might bear a large reduction, without any such consequences; and whereas also, there are many articles, the duties on which might be reduced, or altogether abolished, without producing any other effect than the reduction of revenue: Therefore

Resolved, That in reducing the rates of duties imposed on imports by the Act of the 14th July aforesaid, it is not wise or judicious to proceed by way of an equal reduction per centum on all articles, but that as well the amount as the time of reduction ought to be fixed, in respect to the several articles, distinctly, having due regard, in each case, to the question, whether the proposed reduction will affect revenue alone, or how far it will operate injuriously on those domestic manufactures hitherto protected especially, such as are essential in time of war, and such also as have been established on the faith of existing laws; and above all, how far such proposed reduction will affect the rates of wages, and the earnings of American manual labor.

Resolved, That it is unwise and injudicious, in regulating imports, to adopt a plan hitherto equally unknown in the history of this Government and in the practice of all enlightened nations, which shall, either immediately or prospectively, reject all discrimination in articles to be taxed, whether they be articles of necessity or of luxury, of general consumption or of limited consumption, and whether they be or be not such as are manufactured and produced at home; and which shall confine all duties o one equal rate per centum on all articles.

Resolved, That since the people of the United States have deprived the State governments of all power of fostering manufactures, however indispensable, in peace or in war, or however important to national independence, by commercial regulations, or by laying duties on imports; and have transferred the whole authority to make such regulations and to lay such duties to the Congress of the United States; Congress cannot surrender or abandon such power compatibly with its constitutional duty; and, therefore,

Resolved, That no law ought to be passed on the subject of imposts, containing any stipulation, express or implied, or giving any pledge or assurance, direct or indirect, which shall tend to restrain Congress from the full exercise at all times hereafter, of all its constitutional powers, in giving reasonable protection to American industry, countervailing the policy of foreign nations, and maintaining the substantial independence of the United States.

The resolutions were read, and on motion of Mr. Dallas ordered to be printed.

The bill to modify the Act of July 14, 1832, and all other acts imposing duties on imports, was read a second time.

The motion to refer the bill to the Committee on Manufactures was lost,—ayes 12 noes 26.

The motion to refer it to a Select Committee, was then agreed to, without a division.

The bill to continue the Cumberland Road from Vandalia, Illinois, to Jefferson in the State of Missouri, was read a third time and passed.

The Act to amend an Act suplementary to an Act, entitled an Act for the relief of certain surviving officers and soldiers of the Revolution was considered, read a third time and passed.

Mr. Robbins, from the Committee on the Library, reported a bill to authorize a contract for a bust in marble, of the late Chief Justice Ellsworth, which was read and ordered to a second reading.

The act making appropriation for the naval service for the year 1833, was read twice, and referred to the Committee on Finance.

The Chair called the special order.

Mr. Poindexter reminded the Senate, that at one o'clock, they would have to proceed to the House of Representatives, to count the votes for President and Vice President, and moved to lay the special order on the table. The motion was agreed to.

Soon after a message was received from the House of Representatives, informing the Senate that the House was ready to proceed to count the votes for President and Vice President, whereupon the Senate proceeded to the House, and on their return, adjourned to meet at five o'clock in the evening.

House of Representatives.

Mr. Polk, from the Committee of Ways and Means reported a bill authorizing the Secretary of the Treasury to sell at the market, and not less than the par value, the Government Stock in the Bank of the United States. Rejected, 102 to 91.

Election of President and Vice President.

At one o'clock, the two Houses met in the Hall of Representatives, to count the votes for President and Vice President, of the United States, for the term of four years from the 4th of March next.

Messrs. Grundy of the Senate and Drayton and Hubbard of the House of Representatives, acted as tellers.

The President of the Senate opened the ballots, commencing with the State of Maine, when they were examined, and the certificate of the vote read aloud by the tellers. The following is the official result:

States.	For President.				Vice President.				
	Jackson.	Clay.	Floyd.	Wirt.	V. Buren	Sergeant	Wilkins	Lee.	Ellmaker
Maine	10	..	..	..	10	..	..	..	..
New Hampshire.	7	..	..	..	7	..	..	..	..
Massachusetts	..	14	..	..	..	14	..	..	..
Rhode Island	..	4	..	..	..	4	..	..	..
Connecticut	..	8	..	..	..	8	..	..	..
Vermont	..	..	..	7	..	..	..	..	7
New York	42	..	..	..	42	..	..	..	..
New Jersey	8	..	..	..	8	..	..	..	..
Pennsylvania	30	..	..	..	..	..	30	..	..
Delaware	..	3	..	..	..	3	..	..	..
Maryland	3	5	..	..	3	5	..	..	..
Virginia	23	..	..	..	23	..	..	..	..
North Carolina	15	..	..	..	15	..	..	..	..
South Carolina	..	..	11	..	..	..	..	11	..
Georgia	11	..	..	..	11	..	..	..	..
Kentucky	..	15	..	..	..	15	..	..	..
Tennessee	15	..	..	..	15	..	..	..	..
Ohio	21	..	..	..	21	..	..	..	..
Louisiana	5	..	..	..	5	..	..	..	..
Indiana	9	..	..	..	9	..	..	..	..
Mississippi	4	..	..	..	4	..	..	..	..
Illinois	5	..	..	..	5	..	..	..	..
Alabama	7	..	..	..	7	..	..	..	..
Missouri	4	..	..	..	4	..	..	..	..
	219	49	11	7	189	49	30	11	7

Only 286 votes were returned, two having been lost from the sickness of the Electors, or other accident. The majority for Jackson was declared to be 145.

The President of the Senate then pronounced the result, when the Senate retired to their Chamber.

The House then adjourned.

(Reported for the Journal of Commerce.)

Thursday, Feb. 14—In Senate.

Mr. Smith from the Committee on Finance, reported the Bill from the House making appropriations for the Naval Service of the United States, for the year 1833.

Tariff Resolutions.

The Senate proceeded to the consideration of the resolutions which were yesterday submitted by Mr. Webster.

After the resolutions were read,

Mr. Webster said that it had, for some time, been his wish to express his opinions on this interesting subject, in the form of resolutions, and to follow them up with a few explanatory remarks. He was willing to say now what little he intended to say, but he was unwilling to interrupt the progress of the bill which, by a standing order, was to be called up at 12 o'clock. If the gentleman (Mr. Rives) who proposed to occupy the floor to-day on that subject, was now ready to proceed, he would postpone his remarks on the subject of the resolutions until to-morrow.

Mr. Rives was prepared, he said, to proceed now, if such was the pleasure of the Senate, or to suspend his observations until after the Senator from Massachusetts had been heard.

The Resolutions were then laid on the table, with general consent, and at a quarter before twelve the Special Order was called up, being the

Revenue Collection Bill.

Mr. Rives, of Virginia, took the floor, and after a modest exordium, in which he alluded to the embarrassment under which he labored, as a stranger to this body, almost a stranger in his own country, though in feeling he had never been separated from it,—and a total stranger to the new doctrines which had sprung up in the country during his absence—he went on to examine the question, upon the fundamental principles of the Constitution, which are deeply rooted in the mind of every citizen. The new doctrines which he had heard from members of this body, went, he said, not to a single portion or principle of the Constitution, but to the whole frame and structure of our Government—to its very existence. He begged leave to state, in the outset, that no one was more opposed to the policy of the protective system than himself. He had often raised his voice against it in the other House, as a system unjust, and in its operation unequal. * * *

Mr. Rives concluded his remarks at three o'clock, when the Senate took a recess till five o'clock.

Half past Five.

Gen. Smith is speaking in the Senate, but will not speak long.

Mr. Calhoun has just remarked that he will speak to morrow, if the Senate will adjourn. But it is doubtful whether the majority wil consent to an adjournment. There is some disposition to push the bill to a third reading.]

House of Representatives.

Several unimportant resolutions were submitted and adopted.

[*From the Globe of Saturday.*]

Analysis of Friday's Proceedings.—In the Senate, Mr. Smith, from the Committee of Finance, reported a bill authorizing the Secretary of the Treasury to place at interest the money received under the late Convention with France, until the claims thereto shall be settled. Mr. Robinson presented memorials of the Legislature of Illinois, relative to certain Land Offices in that State, and to the duty on Lead.

Mr. Ruggles presented the memorial of the Legislature of Ohio relative to the boundary line between that State and the Territory of Michigan.—Several other memorials were presented. On motion of Mr. Smith, the Senate took up the bill making appropriations for the Naval service for the year 1833; which, after being amended agreeably to the Report of the Committee, was passed. Several other bills of the House passed stages. At 12 o'clock the Senate took up the Special Order, the bill further to provide for the collection of duties on imports.

Mr. Calhoun addressed the Senate in opposition to the bill, and in justification of the course of South Carolina, nearly two hours; when complaining of a slight indisposition, he gave way to a motion by Mr. Webster to lay the Special Order on the table, which was agreed to. The Chair laid before the Senate communications from the Secretary of the Treasury accompanying statements of the Foreign Commerce of the United States and various other statements prepared in pursuance of law. Various private bills passed stages, when the Senate adjourned.

In the House of Representatives, after the transaction of unimportant morning business, the House resumed the balloting for Printer, as follows:

	11th	12th	13th	14th
Gales & Seaton,	91	94	93	99
F. P. Blair,	90	91	90	94
Duff Green,	7	3	2	1
Condy Raguet,	5	5	2	2

Gales & Seaton, having received a majority of all the votes, were duly elected Printer to the House for the 23d Congress. The House then adjourned.

Saturday, Feb. 16.—In Senate.

Mr. Kane presented a petition from the President of Union College, Illinois, praying for a grant of land.—Reforred.

Mr. Smith from the Committee on Finance, reported a Bill to amend an Act entitled an Act to amend the several Acts imposing duties on imports passed July 14, 1832, which was read, and ordered to a second reading. [The amendment proposed by this Bill relates merely to certain manufactures of copper—stills chiefly.]

At 20 minutes before 12 o'clock, the Senate resumed the consideration of the Special Order, being the "bill further to provide for the collection of duties on imports."

Mr. Calhoun resumed his remarks in opposition to the Bill. He took a wide survey of the theory of Confederated Governments, as illustrated by History, ancient and modern; attempted to show that they were the only safe governments; that they had all been destroyed by the attempts made to concentrate and consolidate the powers reserved to the individual States; that a Government founded on majorities must necessarily lead to despotism, for it could have no limitations of power. He made much use, by way of illustration, of the History of the Ten Tribes of Israel, and it really seemed to stand him in very good stead. He traced the causes of their separation with a masterly hand, and showed that they were analagous to those causes which threaten our Union. The correctness of his theory he subjected to the test of the powers of analysis and combination, which, he said, God had bestowed upon man, to enable him to ascertain moral and political truths with as much certainty as, by the same powers, he he could display the solar system, or the earth upon which we tread. He could demonstrate, by the application of his theory to the circumstances in which we are placed, that our form of government, as now understood and administered, must end in the government of one man. This day we had come hither to try the question whether there were any limitations to our government or not. From this point, Mr. Calhoun proceeded to apply his principles, immediately, to the present state of things in this country. [He appeared to be unwell, during the whole speech, and once or twice, he requested indulgence while he paused for a moment; and finally, he closed his remarks, hastily and prematurely, from physicul inability to proceed. The effort was better than that of yesterday.]

Mr. Webster followed and spoke till the hour appointed for the recess, 3 o'clock. He spoke, not so much in reply to the speech just delivered, as in opposition to the South Carolina doctrines, as he ascertained them from the Resolutions recently submitted by the Senator from South Carolina, and his several speeches in relation to the message and the bill.

An adjournment instead of a recess, was tendered to Mr. Webster, but, considering, he said, the pressing nature of the Bill, he was unwilling to delay it for his own convenience, and he would therefore prefer to finish what he wished to say, this evening.

At 5 o'clock, he will resume his speech. There will be no question taken to-night, for Mr. Calhoun is to reply to Mr. Webster at length next week.

P. S. Half past 8.—Mr. Webster has just finished his argument in reply to Mr. Calhoun, and in opposition to the South Carolina doctrines. He spoke altogether over five hours. His peroration elicited loud and universal demonstrations of applause from the galleries and privileged seats on the floor. The galleries were immediately cleared by order of the Chair.

Mr. Poindexter took the floor for Monday.

House of Representatives.

The House, on motion of Mr. R. M. Johnson, went into Committee of the Whole on the State of the Union, Mr. Taylor in the Chair, upon the following bills:

1. A bill making appropriations for support of the Army, for the year 1833.
2. A bill making appropriations for the Indian Department for the year 1833.
3. A bill making appropriations for the Engineer and Ordinance Departments, for 1833.
4. A bill making appropriations for the erection of certain fortifications.
5. A bill in addition to an Act for the gradual increase of the Navy.
6. A bill for the more perfect defence of the frontiers: and
7. A bill extending the session of the Legislative Council of Michigan.

The Committee rose and reported the foregoing bills to the House with various amendments. The amendments to the first, second and fifth bills were concurred in, and they were ordered to be engrossed and read a third time. The other bills were laid on the table.

At an early hour, the House adjourned.

[The adjournment took place at ten minutes before 2 o'clock—one third of the whole sitting having been occuping in taking the yeas and nays on motion to adjourn. The proposition to adjourn began to be pushed the moment the House reached the special order—*The Tariff Bill*, and they were not discontinued till they had prevailed. Here is another evidence, if evidence were wanting, that the House is reluctant to touch the Tariff at all, and have no wish or intention to act on the subject, at this session.

[*Reported for the Journal of Commerce.*]

Monday, Feb. 18—In Senate.

The Bill further to provide for the collection of duties on imports, was taken up. Mr. Poindexter, who was entitled to the floor was unable to proceed from indisposition.

House of Representatives.

Mr. Polk, from the Committee of Ways and Means, reported a bill authorizing the sale of the shares owned by the United States in incorporated Canal Companies, which was read twice and referred to a Committee of the Whole on the State of the Union.

A number of Private Bills were read a third time and passed.

At one o'clock the House resumed the consideration of the *Tariff Bill*, (*Mr. Verplanck's.*)

The question was then taken upon the amendment reported by the Committee of the Whole, which proposed to strike out $25 as the rate of duty for every $100 worth of blankets, and insert $35 with a gradual reduction so as to leave the rate in 1836 at $20, and thereafter at $15 permanent, which was decided in the affirmative; Yeas 114, Nays 68.

The amendment striking from the bill "ready made clothing," so as to leave the duty as by the Act of 1828, was concurred in—Yeas 100, Nays 75.

The amendment which provided that the duty on woollen manufactures generally should be $40 for every $100 value thereof, until 4th March, 1834, and thereafter a gradual reduction, so as to leave the duty permanent after 1836 at $25, was concurred in—Yeas 104, Nays 72.

The amendment fixing the rate of duty on manufactures of cotton was concurred in without a count.

The amendment inserting a duty of two cents per pound on raw cotton, was concurred in,—96 to 76.

The amendment fixing the duty on fossil and mineral salt, at one third the rate of duty on salt, was concureed in.

Half past three o'clock.—The House are going on with questions on the amendments.

Tuesday—In Senate.

Mr. Clay, from the Select Committee to which was referred the bill to modify the several acts imposing duties on imports, reported the bill with various amendments.

Mr. Clay stated that he was also authorized to say that at a proper time another amendment would be offered on the subject of the valuation of goods, which would be calculated to conciliate the conflicting opinions which had prevailed in reference to that point. He was happy to say that although there was so short an interval for the action of the two Houses on this bill, the Committee entertained strong hopes that it would be found practicable to effect some accommodation of this question before the close of the present session. He was directed to move that the amendments be printed, and further to move that the bill and amendments be made the special order for to-morrow, with the understanding that if the measure now pending before the Senate should not be disposed of by that time, the bill now reported would not be pressed to interfere with that discussion.

The amendments were then ordered to be printed, and the bill and amendments were then made the special order for to-morrow.

The Senate being about to pass to the third reading of the bill to provide further for the collection of the duties on imports,

Mr. Calhoun said, that as there seemed to be a desire to press this bill to its passage to-day, in order that the Tariff might be taken up to-morrow, and as he was desirous to be heard on the resolutions which he had offered in reply to the Senator from Massachusetts, he would now move the Senate to take up the resolutions with a view to make them the order of the day for Monday next.

The motion being agreed to, the resolutions were taken up, and made the order for Monday next.

LEGISLATURE OF NEW YORK.

Thursday Feb. 14.—In Senate.

Mr. Bronson, from the finance committee, to whom was referred so much of the Governor's Message as relates to the finances of the state made a long report on that subject, in which the committee expressed a decided hostility to the bill now before the senate for the construction of the *Chenango Canal*. The report concluded with the introduction of a bill authorizing a tax of one mill on the dollar on the inhabitants of this State for the term of two years.

Mr. Dodge, one of the committee of finance, stated that it was perhaps proper for him to say that the report just submitted, was that of the majority of the committee and not its unanimous report. He agreed with so much of it as relates to internal improvements, but dissented altogether from that part of it which recommends a direct tax. There were abundant sources of revenue without resorting to such a measure.

In Senate—*Tuesday.*

The Senate resolved itself into a committe of the whole, on the bill for the construction of the Chenango Canal. The discussion of which occupied the remainder of the day.

Mr. Clay.—A letter has just appeared in the Georgia papers, bearing date the 12th January, written by Mr. Clayton, a member of the House of Representatives from that State, in which he gives his views of the then aspect of affairs at Washington. With these we do not mean to trouble our readers; but the following extract of a letter, *written more than a mouth ago*, respecting Mr. Clay's probable course, strikes us as significant.

Clay has been heard to say, he is under no obligation to the manufacturers, for he considers that they deserted him in the late election, and therefore, it is thought, he is keeping back with his friends to come in as a mediator, in the way he settled the Missouri question. Strong expectations are entertained that he will, at a proper time, throw in a project that will harmonize the conflicts of the times. All this, however is mere conjecture, for he keeps himself very much reserved indeed.

SUMMARY.

The Postmaster-General, it appears, has determined so to accelerate the pace of the mails, that the Washington papers shall be delivered here within twenty-four hours of their publication.—The mail is to leave Washington at midnight, arrive in Baltimore in time for the steamboat, which reaches Philadelphia about two o'clock, and thence an express is to be despatched for this city. The arrangement goes into effect, it is understood, from this day. The credit of it should be given, as it belongs, to the Journal of Commerce.

Fire.—The Columbian Steam Sawmill, corner of Tenth avenue and Sixteenth street, owned by Wm. M. Johnson, Esq., and occupied by James Brown & & Co., was totally destroyed by fire this morning about six o'clock. The mill cost the owner about $10,000, on which there was an insurance of $2500. The occupants had no insurance; their loss is about $1200. The fire is supposed to be the work of an incendiary, as the mill had not been occupied for the last six weeks.

Collection in St. Thomas's Church.—The Sermon of Bishop M'Ilvaine, in St. Thomas's Church on Sunday evening, well sustained the high reputation which that gentleman enjoys for effective pulpit eloquence. If other evidence than a newspaper assertion of the fact is required, it may be found in the fact, that the collection received, amounted to the handsome sum of four hundred and twenty-six dollars and twenty-seven cents.—[Com.]

Snow-balling and Sleighing.—Broadway was in continual uproar on Saturday from the animation called out by the first good snow this season.—Sleighs of every possible shape and description, were contiually darting to and fro, and more than one accident occurred from their collision. In one instance, a pair of horses attached to a sleigh in Broadway, broke from their harness, and started off at a furious rate—one of them taking the West sidewalk of that street, and overturning every thing in his way. When near St. Paul's Church, a little child who was passing at the time, received a severe cut in the head from a flying trace, and a gentleman near, was knocked down. The child was immediately carried to Chilton's drug store, where the wound was dressed. Another pair of horses broke from a sleigh in the Bowery, and running furiously along the sidewalk near Hester street, struck against the bow window of a grocery store, and completely destroyed it. The shoulder of the animal was much lacerated, and he continued running for a short distance further, leaving a track of blood—[Standard.]

We are sorry to see by the following paragraph from the Mercantile, that the novelty of the occasion hurried the spirits of seme beyond the bounds of propriety.

About one o'clock a mass of men and boys—amounting, says our informant, to four or five hundred—met in Broadway, between Anthony and Pearl streets, and commenced a regular attack, with snow balls, upon the sleighs that were passing, without respect to either sex or age. One sleigh in particular, containing three ladies, two girls, a gentleman and the driver, were so completely covered with the broken fragments of these missiles, that they presented more the appearance of a snow bank than of human beings. It was not long, however, before *Justice Wyman* sent his officers among them, when several were arrested and held to bail, in $100 each, for their appearance at the next session.

New-Orleans, Jan. 28.—Yesterday, two men calling themselves John Higgins, and John McDermitt, were detected in placing pieces of wood upon the rails, on the most unfrequented part of the Railroad. The train of cars being under great way, they expected to make good their retreat; but the engineer brought up handsomely, and the two gentlemen were taken on board by the passengers.—They have been delivered into the hands of the law. We think this will prove a warning to others, for we understand that the engineer has been compelled to bring up, on several other occasiocs, in order to remeve the obstructions maliciously placed on the ways. The offence is punishable by imprisonment for one year, and a fine of one thousand dollars.—Louisiana Adv.]

Levi Hubbell, of Canandaigua, Ontario county, has been appointed by the Governor, Adjutant General of this State, vice Gen. John A. Dix, *promoted*.

Most Melancholy.—*Double Suicide.*—Yesterday morning, (says the Boston Transcript of Tuesday) the bodies of Mr. John Carter and Miss Mary Bradlee, were found suspended in the first chamber of her father's (Mr. Samuel Bradlee's) store, on Washington street. They were hanging, each in a handkerchief, tied to the same rope, and fastened to the hook of a scale-beam. They had mounted on two chairs, and it appears that Miss B. being shorter than Mr. Carter, they placed a box on her chair to elevate her to his height. It would seem that they had embraced each other, and then pushed away the support, as they were found hanging in close contact, face to face.

Mr. Carter served his apprenticeship with Mr. Bradlee, and lef him about three years since for N. leans, where he entered into business. Mr. Bradlee wrote to him some time last summer, requesting him to return and enter his store as an assistant in his business, offering him favorable terms. Mr. Carter returned, took his post and renewed a former intimacy with the daughter, to whom he was geuerally admitted to be betrothed, and permitted to visit and accompany her accordingly. Mr. Bradlee desired to retire from business. Mr. Carter entered into an unsuccessful negotiation to purchase the "stock and stand," with a view to immediate marriage. Not being able to accomplish his wishes, he resolved to return to New-Orleans and renew his business there. Miss Bradlee was anxious to accompany him, but her parent's refused their consent. The lovers were rendered mutually unhappy, and in an hour of madness resolved to terminate their existence. The result we have told.

They left Mr. Bradlee's house yesterday afternoon, under pretence of going to Trinity Church. Their parent's worship at Mr. Pierpont's church.—No alarm was felt for the absence of Miss Bradlee, as she was in the habit of accompanying Mr. Carter to his father's house, and often remained there over night with his sister. There are duplicate keys to the store, one of which Mr. Carter used.

When the lad, whose duty it is to open the store, went there this morning, he he found that by inserting his own key, he knocked out the other, which was on the inside. On entering the store, he found Mr. Carter's cloak on the counter, and thought all was not right, but did not go into the chamber, where the bodies were found, until some time after. Mr. Carter left two letters, one directed to his father, the other to Mr. Bradlee; Miss B. left one directed to to her father, and all three were enclosed in one package.

Mr. Bradlee is truly a bereaved and heart broken man. But a short time since, his son and partner died of consumption; and last summer he lost another child by the parting of a wheel tire, as she was looking out of a carriage wiudow in which they were returning from the country.

A coroner's jury was immediately summoned and an inquest held upon the bodies of the deceased.—Their verdict was that they came to their death by hanging themselves by the neck, by mutual agreement.

One of the news carriers states that about one o'clock, yesterday morning, he heard, as he was passing the store of Mr. Bradlee, the sound of voices within, and saw a light in the second story of the store.

Pensacola, Feb. 1.—*Loss of Brig Mary M'Donald.* On Tuesday night last during a very severe wind from S. by W. the English Brig Mary McDonald. Captain Wallace, was drove ashore on Santa Rosa Island, near this place. She was bound from Porto Cabello to Mobile with a cargo of Copper Ore. In a conversation with the Capitain this morning, we learn that nothing will be saved except her sails and rigging, but that no life was lost.

New-Bedford, Feb. 16.—*Distressing Accident.*—Yesterday morning between 10 and 11 o'clock, as Mr. William Russell, Jr. one of our most enterprising citizens, was in his grist-mill explaining to a person the nature of some improvement he had been making in his machinery, the skirt of his coat was caught in the cogs of the wheels and he was drawn in and crushed immediately to death. The accident was so sudden that the person with him was unaware of any thing extraordinary having occurred, until he looked aroud and saw the lifeless body mangled in a shocking manner. Not a groan was heard, the departure of life was so instantaneous. Mr. R. was in the 68th year of his age, and was respected by all who knew him.

Fire at Salisbury, N. C.—The Western Carolinian, printed at this place, says, under date of the 4th inst. "On Monday night last, all that part of Concord st. between the Court House and the Tavern of Mrs. Mahan, was consumed by fire. We have not yet learned all the particulars of the fire.

Female Courage and Presence of Mind.—A letter from a gentleman residing near Smithville, Brunswick county, N. C., published in the Fayetteville Journal, relates the following interesting circumstance:—

"A short time ago, in the vicinity of Smithville, a negro man (Joe, the property of old Captain Brown,) went to the house of a Mr. Daniel Bennet, in his absence, with the intention of committing an assault. Mrs. Bennet was in the house when he entered, and he made known his intentions to her. She immediately rose up, when he threw his arms around her; she however by her exertions got rid of him for a moment, when he went to a large crack in the house to see if any person was approaching. While he was in this position, she seized a gun which was loaded with buck-shot, and shot him dead on the spot. She immediately communicated to her neighbors what she had done. A Coroner's Inquest was held, when she appeared before the Jury and swore that she had done the deed, and why she did it."

The ambassador of Virginia, Mr. Leigh, has declined to be considered "the guest" of the city of Charleston, and also the public dinner offered him. He was about to return to the nation of Virginia. The Telegraph, in reference to this mission, says, on the authority of private letters, that the Convention of South Carolina would be reassembled soon after the adjournment of Congress,—about the 9th of March, probably,—in order to answer Virginia.

A correspondent of the Norfolk Beacon, writing from Charleston under date of the 5th, says:

A gentleman has just informed me that an attempt was made yesterday to administer the *Test Oath* to the City guard, but every one refused to take it; consequently, they were all discharged, and the City guarded last night by a volunteer company.

An inquest was held yesterday, at Whitehall, on the body of Wm. Brown, a foreigner, aged about 30 years. Brown was one of the hands of the newsboat Eclipse. In attempting to go on board the schooner on Friday evening, he fell in the water in Counties Slip, and before any assistance could be rendered, was drowned. His body was taken out of the water yesterday morning.—[Mercantile.]

Fire at Baltimore.—Baltimore, February 14.—This morning, about 2 o'clock, the large building corner of Baltimore and Calvert-street, occupied in the upper stories by Peale's Museum, was discovered to be on fire. The Fire Companies succeeded in extinguishing the flames in season to save the lower part of the building, but the Museum was very badly injured. From the articles composing it and the situation in which they were placed, it could hardly be otherwise. A very complete collection of anatomical figures in wax, valued at $10,000, were among the curiosities of this collection, and were badly, if not ruinously injured.

The following particulars are from the Baltimore Patriot of Thursday evening:

Before the fire was got under the first and second stories were burnt out, and from the great masses of water thrown into the edifice, much damage has been done to the other parts of it.

The occupants of the first, or ground story, have received no injury by the fire—but PEALE'S MUSEUM, which filled all the upper rooms, is nearly, if not quite destroyed. Many, however, of the most valuable Paintings, were taken out and secured.

We should suppose that not less than $10,000 would cover the loss on the building and perhaps $7000 on the Museum. Insurance more than amply to cover both, we learn, have long since been effected at the Baltimore and the Firemen's Insurance offices.

It is hoped this calamity will afford another incentive to diligence and care, in examining the roofs of houses whenever a chimney shall have been on fire.—[Correspondence of the Journ. of Com.]

Reverse of Fortune.—The Sunderland, England, Herald says;—Would any of the gay gentry of these parts deem themselves honored and above their fellows, had they "tripped the light fantastic toe" with royalty? There is at this very moment, while I write, a female casting coal into my celler, (the wife of a naval officer deceased) who once danced with King George the Fourth.

STATE OF DELAWARE.—We published some days ago a series of resolutions adopted by this State, setting forth the advantages that would accrue to her from a cession by Maryland of all the Eastern shore. The Baltimore American thus comments on these resolutions:

Delawarean sovereigty is as true an entity as South Carolina sovereignty—and the notion "swells her." The 'giant' heart expands, and her body feels keenly the fetters which keep down the 'magnanimous' spirit of a 'sovereign' state—a 'nation' which, as has been assumed by Gov. Hayne of South Carolina, has the right to do all acts which 'any prince, potentate or power,' may of right do. So large a pretension ought to be sustained by at least some show of strength, even if it be not an army of twelve thousand volunteers. She has therefore cast longing eyes upon the territory of her neighbors;—she requires a frontier worthy of her sovereignty, and the Chesapeake Bay is her Rhine, and the Eastern Shore of Maryland, what Belgium is to France—except that France is vastly more large and populous than Belgium, while Delaware is stretching her hand over a territory twice as large and containg one-third more population than herself. The modesty of the proposal, we suppose, is to be attributed to the magic of that word 'sovereignty, which makes the three counties on the Delaware shore entitled to call upon the eight counties on the Chesapeake shore to come to them. But for that, we might suppose the more natural proposal would be for Delaware to abdicate her sovereignty and throw herself and her population into the arms of Maryland, We are very sure that strong arguments might be advanced for such a course, and among the strongest, that it would obtain for us in Maryland, what we so much need, a new and republican constitution.

Seriously speaking, the proposal is an extraordinary one, involving a number of curious questions of constitutionality and expediency. Of the motives with which it is made, there are diverse opinions, but of the manner in which it will be received, there can be no doubt. It is too sudden and unthought of by the people, to be entertained now, even if the advantages were many and more obvious than our neighbors of Delaware can without doubt make them appear.

Girard College.—At a joint meeting of rhe Select and Common Councils of the City of Philadelphia, held, according to Ordinance, on Monday, the 11th of February, 1833, the following named persons were elected:

Directors of the Girard College.

1. Nicholas Biddle,
2. George B. Wood, M. D.
3. Thomas M'Euen, M. D.
4. Wm. H. Keating,
5. Richard Price.
6. Benj. W. Richards,
7. Thomas Dunlap,
8. Charles Bird,
9. Joseph M'Ilvaine,
10. George W. Toland.
11. John M. Keagy, M. D.
12. Wm. M. Meredith,
13. Algernon S. Roberts,
14. Capt. John Steele,
15. John C. Stocker.

As soon as the election was completed, the Clerks of the Select and Common Councils divided, by lot, the names of the persons chosen, into three classes of five each, according to the preceding arrangement—the first FIVE, to serve ONE YEAR, the second to serve TWO YEARS, and the third to serve THREE YEARS.

NEW-YORK AMERICAN.

FEBRUARY 16, 18, 19, 20, 21, 22—1833.

LITERARY NOTICES.

LE DUC DE REICHSTADT: *Notice sur la vie et la mort de ce Prince redigée à Vienne, sur des documens authentiques: par* M. DE MONTBEL, *ancien Ministre du Roi Charles X.: à* PARIS, *Le Normant.*—A life of the son of Napoleon, the King of Rome, the heir of the mightiest empire of modern days, written in Vienna by an exiled minister of Charles X., may certainly be ranked among the curiosities of literature. As such, and from the intrinsic interest of the subject, we propose to say a few words about this Memoir to our readers. It is the first authentic account we have had of the disposition, habits, education and talents of young Napoleon; and compiled as this is from official documents and personal intercourse with those who lived in the familiar circle and intimacy of the Prince, it is undoubtedly authentic. "It belonged," says the Preface, "to a Frenchman driven by the tempest to Vienna, to gather up there recollections in which France has an interest. Wandering upon the shores of Egypt, it was an old Roman soldier who collected the ashes of Pompey." The analogy of the two cases is near enough to be striking; and though not French, we thank *M. de Montbel* for the picture he has drawn of this youth of such high destinies at his birth, of such overwhelming reverses, and so short and painful a career. The testimony of this book confirms that afforded by the physiognomy of the young Prince, and the general impression derived from public report, of his kind and amiable qualities; but in other particulars—especially as to his education—it dissipates much of false rumor circulated during the life time of this "son of the man." Instead of being neglected in his studies, or confined to particular branches, and kept carefully, as was supposed, in ignorance of the career of his father, he was it appears initiated into all the departments of knowledge; and as to the history of France, before and since the revolution, and under the Consulate, the Empire and the Restoration, there was no work in whatever spirit written he did not read. His predominant taste was military; his passion was for war; and every battle, every campaign of his warrior sire was familiar to him in all its details. The political character of Napoleon, his faults and achievements as a statesman, were examined and laid open for him by *Metternich*, who was especially charged by the Emperor of Austria with that duty. "I desire," said the Emperor, "that the Duke should respect the memory of his father; that he should take example by his great qualities, and learn to distinguish his faults in order to avoid them, and be on his guard against their fatal influence. Speak to the Prince of his father as you would wish to be spoken of to your son: conceal not from him, therefore, any thing that is true, but teach him to honor his memory." Owing to the peculiarity of his position, the unsettled state of Europe, and his own aversion to be the object of intrigues, as well as from his youth, he lived retired in the midst of the imperial family. His mother he did not see from the time he was four years old till she came to close his eyes at twenty-one. For the Emperor Francis he had both respect and affection, and was in turn tenderly beloved by him. To his governor, tutors, and young companions, he endeared himself very much by his truth, sincerity, and gentleness. Of perception not naturally quick, he accomplished by perseverance and attention more than those of readier intellect—but his physical power was uncqual to the aspirations of his spirit—and he was restrained by the solicitous care of the Emperor Francis, from the military exercises, which were his greatest pleasure, but which fatigued and exhausted him. The disturbance which, in the early part of 1831, occurred in Parma and Placentia, fired his spirit, and he intreated permission to go and protect his mother. It was withheld: and he felt his life to be useless and sterile. It was shortly after this that *M. de Prokesch*, distinguished alike for his military and scientific attainments, and to whom the Duke was much attached, was sent by the Court of Vienna on a mission to Rome—then alarmed and disturbed by the revolutionary movements in the Marches. The separation was painful to both.

On this occasion, the following letter to his friend and instructor, from young Napoleon, presents him, we think, in a favorable light:

[*Translation.*]

VIENNA, 31st March, 1831.

To-day, for the first time, since the commencement of our friendship, we are about to be separated for any considerable time. Days rich in action, and full of great events will doubtless pass before we meet again. For me, the sands of the glass will only mark perhaps a succession of onerous and sterile duties: perhaps honor and the voice of destiny will exact from me the most difficult of sacrifices.—that of the dearest wish of my heart, at the very moment when its accomplishment is presented to my eyes in such bright and seductive colors. But in whatever position Fortune may place me, rely upon me always: gratitude and friendship will ever bind me to you. The care you have taken of my military education; your courageous sincerity; the confidence you have granted me; and finally, our common sympathies, cannot but guarantee to you the duration of these sentiments. Friendship does not estimate keepsakes by their positive value, but renders them precious by deeming them so. Accept then, this watch: it is the first I ever wore; it has not left me for six years. May it only note for you hours always fortunate! May it indicate for you the moment of glory!—but in appealing to it, always remember, that it is you who taught me the true value of time, and the more difficult lesson still of waiting for it. If I comprehend the object of your mission, it is an affair that can scarcely occupy your faculties: but you who know the world and how to regard it, to you it presents an admirable opportunity of appreciating these revolutionary movements, in their nature and their connections, and of judging the actual strength of that nation in relation to the future: finally, you are going to that land which has left us an almost inapproachable model of power and greatness. I shall write to my mother and speak of you with all the warmth of feeling with which you have inspired your sincere friend,

F. DE REICHSTADT.

Taking this as the letter of a young man not yet twenty-one, and written in all the flow of friendship, it speaks well for his heart and understanding. In fifteen months from the date of it, that heart had ceased to beat.

Considering M. de Montbel's idolatrous attachment to the Bourbons, he has done justice to the Son of Napoleon, and what was more difficult, to Napoleon himself, when he had occasion to speak of him. A translation of this book, with judicious omissions of several portions which in no wise affect the main design, and can have little interest here, would, we think, be found attractive.

A BRIEF EXPOSITION OF THE CONSTITUTON OF THE U. STATES, WITH AN APPENDIX, by *James Bayard.*—Philadelphia: *Hogan & Thompson.*—This is another and valuable contribution to constitutional history, called forth by the events of the day. We rejoice in the multiplication of such publications as they multiply the chances of disseminating accurate knowledge respecting the origin and just powers of the Federal compact. In this little volume, a sensible introduction of about 20 pages explains the condition of the Colonies before and at the separation from Great Britain, and under the Articles of Confederation, of which the defects are concisely pointed out; then follows the Constitution, and after it an Exposition, article by article, of its provisions, with the interpretation which has been judicially given to most of them. The Appendix contains the Declaration of Independence and the Articles of Confederation; and a copious alphabetical Index facilitates reference to any desired topic.

MUSEUM OF FOREIGN LITERATURE, SCIENCE AND ART, for February.—The last number of this periodical combines a great variety of readable matter, selected with the usual discrimination of the conductor. Among other articles of interest, our attention is first attracted by one from the Foreign Quarterly Review, upon a subject of prevailing interest in this country, as well as abroad. A paper in that distinguished periodical, upon the present condition and future prospect of steam carriages, thus sums up:—

"The substitution of the power of steam for the strength of horses in propelling carriages, coaches, and wagons, has now been the subject of general and sustained interest for more than twenty years; the expectations, even of the less sanguine, have been raised periodically, and after intervals of nearly equal duration, to the full assurance of perfect confidence, by the reported and apparently entire success of some fortunate projector in effecting the complete solution of the grand problem; expectations that have only deepened the total disappointment by which they have been invariably succeeded. There is not at this moment, in this country or in any other, a single instance of a regular land communication satisfactorily sustained by steam. On common roads we have never seen any thing better than short-lived and unproductive experiments: on railroads (*chemins de fer*) they can scarcely be said to have been more successful. On the Liverpool and Manchester line they are only retained by an enormous sacrifice of money, and of the interests of the proprietors. The steam engines used on it are huge, disproportioned, clumsy masses of mechanism, better adapted in their size and structure to the staid and sober pace of an elephant, than to the rapid flight for which they are used; and though by being urged to the uttermost, they have attained velocities approximating nearer to aerial flight than earthly trudge, yet, like a cart horse goaded to a gallop, they founder themselves, and knock the road to pieces. From all that has yet been made public, we are only warranted to deduce this one conclusion—that *every attempt yet made to render steam carriages the means of economical and regular inland communication has totally and absolutely failed.*

"Reduced to this condition, it may be well to inquire into our prospects. Is there, we may ask, any peculiarity in the nature of land locomotion, to prevent that power which turns the wheels of a *boat*, from propelling with similar effect, the wheels of a *britchka?* Is there any thing in the nature of a carriage so peculiar, that while a steam engine can do the work of a hundred horses, it cannot do the work of 'four-in-hand?' Have we attained the 'hitherto and no further' of the power of steam? Knowing, as we do, that the proposed substitution would bring about a great and beneficial change in the moral, political, and commercial state of the empire, are we at last, after hopes so long and so fondly cherished, so long pregnant with apparent fruition, doomed to discover that we have only been tantalized? Are we to find that we have been hunting after nothing more attainable, than an alchymist's stone for converting steel and steam into oxen and corn, and baking the bread of the poor from the dust of the highway? Is all the mechanical skill of Great Britain at last foiled? Is all her science, all her ingenuity, unequal to the evolution of this small problem,—'with an engine of sixteen horse power, to propel a four horse coach?' Where is the present race of the Bells, the Boltons, and the Watts? Can the government do nothing to foster the invention and bring it to maturity? These questions are serious: the answers to them weighty, all-important to us—to Great Britain. We think they can be answered fully and satisfactorily, so as to show, that not in the nature of the thing to be done, but in the mode of setting about it, is the cause of failure to be discovered. We may be able to detect in each invention omissions and elements of self-destruction necessarily involving total failure, and these not in mere details, but in the great principles of structure and arrangement."

Then follows a long and interesting account of the several steam engines which have been tried in England, with an account of their defects; and the reviewer proceeds:

"Here then we arrive at the conclusion of the whole matter. We find that the failures which have hitherto attended all attempts at the steam carriage have arisen, not from any necessary incompatibility between the nature of steam and this particular application of its power, but from the deficiency of the inventions that have been produced in some of the great elements of structure which we have shown to be essential to success; that it would have been easy, from the construction of these engines, to predict their failure, as we now predict the failure of all constructed on the same or on similar principles; that it was an error to suppose that they were deficient merely in practical details which further experience would supply; that every one of them contained elements of self-destruction; that they attained all the perfection of which they were capable; and finally, that success may yet be expected from such as may be constructed in compliance with the requisites we have pointed out."

These requisites are:—1. A light and strong boiler, exposing a large surface to the fire. 2. Such an application of the power of the steam as will not waste it—it is said that in consequence of the bends in the pipes, &c., a large part of the whole power is lost. 3. A different arrangement of the cylinders; or rather, a single cylinder should be used, as it is difficult to make two *keep time*, and the greater surface causes more rapid cooling. 4. An arrangement for supporting the carriage-body and the whole of the moving machinery upon perfectly flexible springs, so as to vibrate freely in every direction, and yet admit of being impelled forwards with uniform power and velocity. 5. To construct an engine of variable power like that of a horse, which shall proportion its exertion to the resistance to be overcome.

In another part of the Magazine, an article upon Taylor's "Records of My Life," supplies some entertaining extracts from that work. The anecdotes of John Kemble, particularly, with whom poor Jack Taylor, as he was called, was upon terms of intimacy, afford the following amusing gossip:—

I was in the habit of constantly visiting Mr. Kemble on a Sunday morning for many years, and if I saw him in the intermediate days, he always said, "Taylor, remember the hebdomadal." I found him generally with some book or manuscript before him relative to his art. Sometimes he was cold, negligent, and less courteous than at others; and then feeling disgusted, I resolved to forbear my visit the next week; but the pleasure I always found in his company overcame my temporary spleen. He was fond of Dryden, and sometimes read to me passages from that admirable poet. I do not think he was a good reader, for he generally read in a tone either too low or too high. There is obviously but one tone in reading or acting that excites the sympathy of the hearer, and that is the tone which feeling suggests and expresses; and such was the charm of Garrick, which rendered his acting in tragedy or comedy impressive in the highest degree. There were many of Kemble's visiters who made court to him by telling him of faults in Garrick's acting, or of the unsuitableness of his person for some of the characters which he represented: for instance, Sir Charles Thompson, afterwards Hotham, a respectable old baronet, told Kemble that Garrick always gave him the idea of a little butler. Kemble generally told me what was said to him of this kind, not as appearing to believe such remarks, but to know whether they received a confirmation from me. On such occasions, I never abated my reverence for Garrick, but always discountenanced such insidious flattery, and, to the best of my recollection and ability, asserted the wonderful powers of the departed actor. Kemble always listened to my panegyric on his great predecessor with apparent conviction; but I cannot help believing that he would have liked me much better if I had never seen Garrick.

Kemble, with all his professional judgment, skill, and experience, like all other mortals, was sometimes induced to mistake the natural direction of his powers, and to suppose that he was as much patronized by the comic as by the tragic muse. When I called on him one morning, he was sitting in his great chair with his night-cap on, and, as he told me, cased in flannel. Immediately after the customary salutation, he said, "Taylor, I am studying a new part in a popular comedy, and I should like to know your opinion as to the manner in which I am likely to perform it." "As you tell me it is a comic part," said I; "I presume it is what you style intellectual comedy, such as the chief characters in Congreve, Wycherley, and Vanburgh." "What do you think," said he, "of Charles, in the School for Scandal?" "Why," said I, "Charles is a gay, free, spirited, convivial fellow." "Yes," said he, "but Charles is a gentleman." He tried the part, but his gaiety did not seem to the town to be of "the right flavor." It was said by one of Mr. Kemble's favorable critics in a public print, that his performance was "Charles's restoration," and by another, that it was rather "Charles's martyrdom."

Another time he attempted a jovial rakish character in one of Mrs. Behn's licentious comedies, from which, however, he expunged all the offensive passages; but he was not successful. I met him one day as I was hurrying home to dress for dinner abroad; and he strongly pressed me to go and dine with him, alleging that as Pop (Mrs. Kemble) was out of town, he should be lonely and dull. I told him I was positively engaged, and should hardly be in time. "Well, then," said he, "I'll go home and study a pantomime." It is hardly possible to conceive so grave a character contemplating new tricks and escapes for harlequin, and blunders for the clown.

He had determined to act Falstaff; and I was in the green-room at Covent Garden Theatre one Saturday, when, after his performance of some character which I do not recollect, three beards were brought to him, that he might choose one for Falstaff. We were invited to dine the next day with the late Dr. Charles Burney, Rector of Deptford. Kemble took me in his chariot, and we talked on the road of his intended Falstaff. He said that he had resolved to attempt the part, but was afraid that when "he came to the point, his heart would fail him." A ludicrous incident happened at this dinner. The Doctor, in helping Kemble to part of a pudding, gave him a very large portion; which induced me to say, "Burney, you do not observe Kemble's rule in your ample allotment to him."—"What is that?" said the Doctor. "Why," said I, "when I last dined with him, I was as lavish as you in distributing a similar dish. Kemble said, 'Taylor, don't help so much to an individual, for if you do it will not go round the table.'" Being somewhat in the habit of imitating Kemble, I spoke these words in his manner, forgetting that he was before me. "Now," said Kemble, "he thinks he is imitating me—I appeal to the lady;" and these words he delivered so much in the manner which I had assumed, that Mrs. Burney and the Doctor could not help laughing; Kemble gave way to the same impulse, and I was relieved from embarrassment.

I was one night in a box with him when the theatre was illuminated preparatory to the opening for the season, and a Mr. Reca was employed to give imitations, in order to try the effect of the voice. Kemble was one of the persons imitated; and while the man was delivering an imitation of him, Kemble, in a little above a whisper, knocking his stick on the ground, said, with perfect good humor, "Speak louder, you rascal, speak louder." The man did not hear, nor did Kemble intend he should.

POETRY.

The following lines, expressive of deep and well-founded indignation against the projected "improvement" through Trinity Church-Yard, are softened down and modified from some which under the title of "The Curse of the troubled Dead," we object to on Tuesday, as "*unchristian*." In using that epithet, however, we beg the unknown writer to understand us as referring not to the poet, but to the painful impressions produced by the wrath of the maledictions ascribed to those for whom the grave was not permitted to be a place of rest. Even as now given, these forcible lines will make strong natures shudder:—

[For the New-York American.]

THE ORACLE OF THE TOMB—TO THE SACRILEGIOUS VIOLATOR OF ITS SANCTITY.

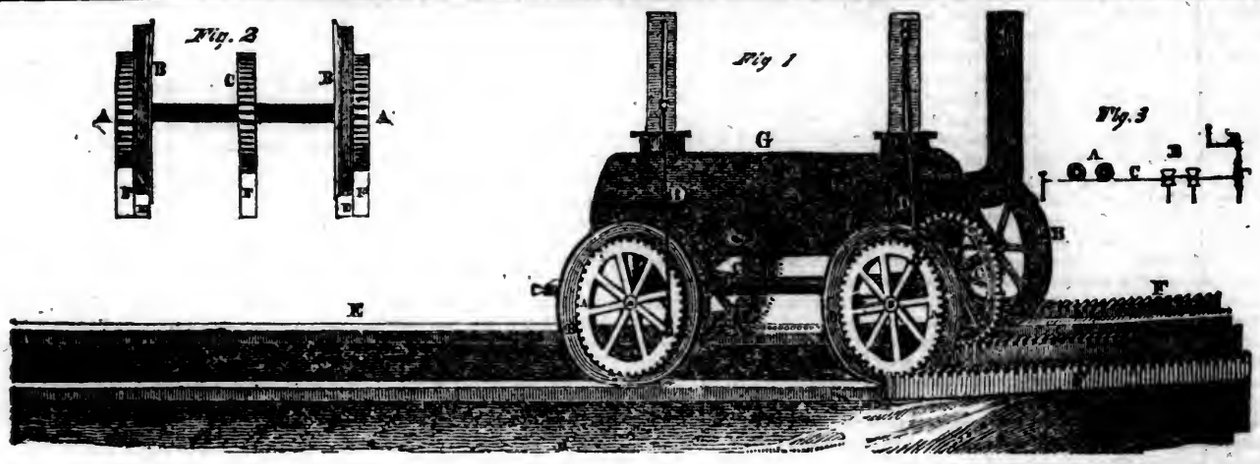
"It is as if the dead could feel
The icy worm around them steal,
Without the power to scare away
The cold consumers of their clay."—Byron.

Hyena, hence! break not the hallow'd sod,
That covers those whose spirits are with God;
There is a deep unearthly awe impress'd
Where'er the "dead" in solemn silence rest,
And black the hand, and hard the heart that dare
Intrude like an apostate Judas there.
Should the *Lex Talionis in wrath be sped
With justice stern on the monster's head,—
The dust of the parents who gave him birth,
Will be savagely trampled with common earth;
Their bones—once the pillars of temples so dear,
E'en *he* on their ruins must look with a tear,
Will be rudely uncoffin'd, and toss'd to the wind,
Till not their least trace can his agony find:—
When the wife of his bosom in death shall sleep,
On her rest will the vile Resurrectionist creep,
And rending her corse from its hallow'd mould,
Unearth it and sell it to Surgeons for gold.
Her form, just array'd in the drapery of death,
And her lips, scarcely cold from their last warm breath,
Will be torn in the lingering beauty of life,
And mangled, unwept—by the merciless knife:—
Nay, his sweet little babe, in its waxen repose,
While yet with the smile of a cherub it glows,
From its grave by the spade of the slave will be thrown,
And its ringlets of gold o'er the pavement be strown;
Then its delicate limbs will the cartmen drive o'er,
And laugh him to scorn if he *feign* to deplore,
Till his heart, if he have one, is broken with grief,
And shudders to death as its only relief.
Then, will he be left on the cold earth to rot,
Unburied, unshrouded, unwept—*not forgot!*
For the marble will brand, with its mem'ry of years,
The wretch whose corruption mocked piety's tears,
And, baser than heathen barbarians of old,
Through the graves of his fore-fathers quarried for gold.

TRINITY CHURCH-YARD.

* "An eye for an eye, and a tooth for a tooth." In common parlance, *Retributive Justice.*

The *pity* I to others show,"
"That *pity* show to me."



To the Editor of the Railroad Journal:

SIR: Will you have the goodness to give the following a place in your valuable paper, viz.—A Description of an Improvement made by Richard Berrian, of the city of New York, on the Locomotive Engine, as well as the Rails on the Road. The power gained on the present principle over the former is more than double; it will ascend and descend hills and mountains, on inclined planes, at the most freezing and slippery season of the year; it is secured by safety guards attached to the same; if any thing should give way in going up or down hill, it will stop itself in an instant of time, without injury to either passengers, freight, or cars. On the above principle, thousands and tens of thousands of dollars may be saved, in consequence of not being under the necessity of digging and cutting down hills and rocks, or mountains, to a level: to do which would be a herculean task that very few Companies would be willing to undertake. The power gained on this principle, it must be evident to every discerning mind, is in proportion to the diameter of the small cogged wheels, and the cranks that are on the axle which turn the same. The Locomotive Engine may either run on the double or single cogged Rails; the latter is the most simple, and the expense is more than one half less, viz. by fitting a small cogged wheel on the centre of the axle, cranked at each end, and placing it under the bottom of the Locomotive Engine, to receive the arms of the same, and the small cogged wheel to run in the cogs of a single Rail laid down in the centre of the inclined planes, between the ways for that purpose, and to be propelled by the steam of said Engine.

The centre wheel or wheels that run under the Locomotive Engine, may be cogged with either wood, iron, or steel, the two latter well sharpened, and made to spring; the cogs to be made in any shape or form, so as to run into each other with ease. On this plan it is intended to prevent the wheels from slipping in passing over hills and mountains, wherever there is snow, ice, or clay. You may run on either rails, plates, rods, turnpikes, m'adamized, or even the common roads. Whenever they are fitted for that use, it is presumed that they will answer a valuable purpose. By examining the modal minutely the advantages will more fully appear.

The subscriber having received a patent from the honorable the Secretary of State, he now offers his patent right on the above principle for sale, either to companies or to individuals, for the use of any of the roads in the United States. A commission of twenty-five per cent. will be allowed to agents throughout the United States, on all sales made agreeable to my wish.

RICHARD BERRIAN.

A spring wheel may be seen in operation on the inclined plane at No. 448 Broome street; where also may be seen a drawing of a spiral wheel, intended to run under the bottom or guards on either side of a canal boat, by steam or otherwise: it is expected that her speed will be from seven to ten miles per hour, without doing the least injury to the canal. F23*

MARRIAGES.

On Tuesday evening, 19th inst., by the Rev. Mr. Mitchell, Thomas Lee, M. D., of Camden, N. J., to Catharine E. Tylee, of this city.

On Thursday evening, 14th instant, by the Rev. Dr. Thomas Macauley, Edwin C. Read, to Miss Catharine L. Day, both of this city.

On Tuesday evening at Brooklyn, L. I. by the Rev. Walsh, Michael Bourne, to Miss Mary Austin, both of that place.

On the 11th of December last, by the Rev. Joseph D. Wickham, Mr Ackley Finch, to Miss Anne E. Ludlow, daughter of the late William C. Ludlow, Esq.

DEATHS.

On Saturday evening, after a short illness, Mr. Benjamin McCready, in the 49th year of his age.

On Sabbath morning, between 11 and 12 o'clock, after a severe indisposition, which he sustained with christian magnanimity, the Rev. Dr. Alexander McLeod, Pastor of the Reformed Presbyterian Church in Chamber street, in the 58th year of his age, and 33d of his ministry.

On Friday evening, 15th inst., of a lingering illness, William Weyman, in the 62d year of his age.

On Wednesday evening, 13th inst., of apoplexy, Walter D N. Cook, in the 33d year of his age.

On Thursday evening, 14th inst., after a short illness, George Elliott Taylor, in the 33d year of his age.

This morning, after a short illness, William, son of Moses Tucker, in the 4th year of his age.

At Suffield, (Conn) on the 19th instant, Mr. Horace Warner, aged 41 years.

At Baltimore, on Thursday 14th instant, William Norris, aged 59 years.

At Constantinople, on the 12th November, Henry Eckford, in 56th year of his age.

On the 15th instant, at Bennington, Vermont, Mrs. Ann Robertson, relict of the late Jonathan E Robinson, formerly of this city.

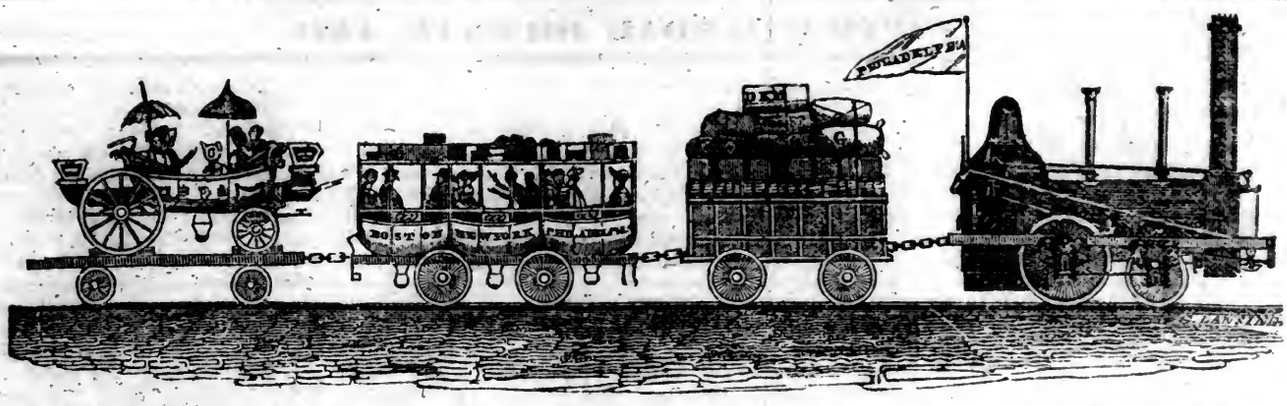
On Monday, Feb. 18, in Albany, Mrs. Sarah Knower, wife of Benj. Knower, Esq., in the fifty-fourth year of her age. The suddenness of her death adds poignancy to the sorrows of all who knew this amiable woman. The was yesterday in her usual health, attended church in the morning, and was on her way to it in the evening, when she fell in the street, and was taken up in a state of insensibility.—[Eve. Jour.]

WEEKLY REPORT OF DEATHS.

The City Inspector reports the death of 108 persons during the week ending on Saturday last, Feb. 16th, viz.:—36 men, 18 women, 24 boys, and 29 girls—of whom 30 were of the age of 1 year and under, 10 between 1 and 2, 7 between 2 and 5, 5 between 5 and 10, 3 between 10 and 20, 11 between 20 and 30, 16 between 30 and 40, 13 between 40 and 50, 5 between 50 and 60, 4 between 60 and 70, 4 between 70 and 80, and 1 between 80 and 90.

Diseases:—Apoplexy 4, asthma 1, burned or scalded 1, casualty 1, cholic 1, consumption 23, convulsions 10, diarrhœa 1 dropsy 4, dropsy in the chest 1, dropsy in the head 7, drowned 2, dysentery 1, fever 3, fever bilious 1, fever scarlet 2, fever typhus 1, hives or croup 4, inflammation of the bowels 6, inflammation of the chest 1, inflammation of the liver 1, intemperance 2, measles 2, nervous diseases 1, old age 2, peripneumony 7, pneumonia typhodes 1, sore throat 1, spasms 1, stillborn 9, tabes mesenterica 1, teething 2, unknown 1, whooping cough 1, worms 1.

ABRAHAM D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MARCH 2, 1833. [VOLUME II.—No. 9.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 2, 1833.

The Report of the Committee of the Paterson Railroad Company, and the "Statement of Facts in relation to the Origin, Progress, and Prospects of the New-York and Harlaem Railroad Company," are received, but unavoidably excluded from this number by the Report of the New-York Canal Commissioners. They will be attended to in our next.

The Knickerbacker.—The third number of this very popular magazine is published this day. We have had but little opportunity to examine it, yet from that little, we believe it will be found equal in every respect (unless to critical eyes the few typographical errors should mar its beauty), to either of the preceding numbers. Annexed we give its contents.

[*For the American Railroad Journal.*]

Complete System of Railroads.—If a man can draw up four pounds over a pulley, and walk off at the rate of two miles an hour drawing up such a weight by a cord, then he can move a load of 1,000 lbs. on a level Railroad. And if the departures from an entire level are not great, they would not much increase the difficulty of locomotion. Who can estimate the convenience to the public of a system of Railroads intersecting the whole country, and affording to every village and farming neighborhood an easy communication to market at almost all seasons of the year: in all seasons certainly, except in blocking snows. It would accommodate especially the laboring classes, who have not capital enough to employ a horse and carriage, and who are accustomed to use their limbs—and who could readily reach a market with their articles of manufacture or produce, if they could travel on a Railroad constructed for their convenience. Among the inventions which have blessed the world, none more evidently give additional prosperity to towns, villages and farming regions, than improved means of communication. No inventions have exerted a more powerful influence in diffusing knowledge and in elevating intellectual character. A system which may bring easy means of conveyance to every man's door deserves attention. A system which gives to farms and places of business of various descriptions, 30 or 40 miles distant, the advantages heretofore enjoyed by similar places within a few miles of a large market, claims examination from the man of business, the political economist, and the friend of the human race.

Publicola.

Internal Improvements.—A bill is before the Legislature of Pennsylvania, authorizing a loan of $2,086,188 84, at 5 per cent irredeemable for 25 years. This money, when obtained, is to be disposed of in the following manner :—

For the Philadelphia and Columbia railroad, $657,486 18; for the Alleghany portage railroad, $414,793 06; for the Columbia line of the Eastern division of the Pennsylvania canal, $35,835 25; for the Fran town line, $32,712 04; for the Wyoming line of the N. Branch, $115,202 46; for the Lycoming line of the West Branch division, including the Lewisburg cross cut, $470,007 90; for the French creek division, $162,991 98; and for the Beaver division $181,159 97 cts.

[*From the London Mechanics' Magazine.*]

Improved Leading Blocks.—On examining some "leading blocks," as they are technically called, a short time since, I was struck with the appearances which many of them presented. In some, the pulley had set fast, and one side had been cut into by the rope, while in all, the way between the pulley was cut into deep groves; evidently showing the existence of great mechanical disadvantage, where the reverse would have been highly desirable.

It occurred to me at the time, that a little addition would make a great improvement in this useful machine; and I send a sketch of a method of construction that would be found very much superior to those at present employed.

The prefixed sketch represents the side of a ship, or dock, &c., &c.; *a a* are two gun-metal sheaves, turning on iron axles, and having more end play than is usual. The sheaves rest upon a metal roller R, which runs freely upon an iron axis.

The roller should be closed in, about half-way up, both on the outside and within—[omitted in the sketch for the sake of distinctness, nor is it absolutely necessary.] The framing of the block should be lined with iron, and the whole kept well greased, to reduce the friction and prevent corrosion. With this form of block, the friction, and consequently the labor, as well as the wear and tear of ropes, would be greatly reduced. For, if the rope happened not to run against either of the sheaves, it would still work upon the roller, where motion would be almost as free. If the rope took into a sheave, that and the roller would turn together; the other sheave would be at liberty to turn with the roller, the friction between them most likely being sufficient to communicate motion.

The increased efficiency and durability of these blocks would amply repay the additional expenses of construction.

Yours, respectfully,

W. Baddeley.

London, Sept. 27, 1832.

Annual Report of the Canal Commissioners of the State of New-York.

(Continued from page 117.)

Several land surveyors are examined as witnesses before the committee, and they are called upon to swear not only to fact, but also to the construction of the law. Accustomed to survey farms by running exterior lines, they very naturally came to the conclusion that canals should be surveyed in the same manner; and that the outward extremity of each bank is to be traced by the chain and compass, as the exact boundary of the public works. If it had occurred to the surveyors, or to the committee, that the sides of the canals, for at least one-third of the whole distance, are occupied by useless or spoil banks; that the exterior of these banks is extremely irregular and precipitous, being sometimes two or three, and sometimes ten or twelve rods wide; that they are constantly washed down by rains, and in some cases ploughed down by cultivation, and that they are never repaired or replaced, some doubts might have arisen as to the permanency of base lines thus located. It is only in cases of embankment, where the canal is raised above the ordinary level of the earth, that the exterior parts of the banks are occasionally strengthened and repaired as they decay. At the extremity of the banks where the committee and the land surveyors suppose the base lines ought to be run, the surface is often exceedingly uneven, interrupted by hills, ravines and swamps; and in constructing the canals, the logs, roots, brush and other rubbish were deposited at the extremity of the banks. The difficulty, expense, and inaccuracy of surveying the canals by running lines along the outward extremity of the banks, is palpable to every one who is acquainted with their construction. Lines thus drawn along the foot of the banks of the Erie canal from Albany to Buffalo, would necessarily be several miles longer than the real length of the canal, as ascertained upon the more direct and level surface of the towing-path; nor can a true survey and map be made by a resort to such exterior lines. Along the Mohawk river, the canal is frequently bounded by the water of the river on one side, and high perpendicular rocks on the other. Between the upper and lower aqueducts are several miles in succession of this description, where the site of the canal has been reclaimed from the bed of the river. How would the committee or surveyors provide for exterior lines in such cases? The law authorised the Canal Commissioners to procure surveys and maps of the canals, provided the expense did not exceed five thousand dollars. They were prohibited by law from incurring any expense to the State beyond that sum. If they had not been able to devise a plan of survey, by which the work could be executed for that sum, they were bound to desist from it altogether. But Mr. Trumpbour, after determining to fix himself upon the State as a contractor, makes the further attempt to force his plan, and obtrude his construction of the law upon the public officers, who alone were responsible for its execution. And in the voluminous pages which the committee have compiled, he now occupies the unenviable situation of having offered originally to do the whole work which the law required for five thousand dollars, and of now claiming of the State considerably more than that sum for doing one half of it. Such is Mr. Trumpbour's present claim, as exhibited to the committee. Is it possible that such claims can furnish a legitimate passport to the treasury of the State?

In the early stage of the transaction, Mr. Trumpbour drew from the Surveyor-General an off hand and verbal assent to his proposed mode of surveying the canals. This assent was given unofficially, as the execution of the law was entrusted to the Canal Commissioners, and as the Surveyor-General had never consulted with them on the subject, and had not the means of making an estimate of the expense, or of ascertaining whether the appropriation would justify such a survey. This unofficial approval of Mr. Trumpbour's plan, affords to the committee the basis of many important conclusions in justification of Mr. Trumpbour's course. But when the Surveyor-General, on the 6th March, 1832, as a member of the Canal Board, officially signs a report exposing the injustice of Mr. Trumpbour's claims, the committee, after making an extract from the report, come to the conclusion "that the Canal Board did not intend the whole of the foregoing statement as conclusive in point of fact."

If we are not entirely mistaken, both the censure and applause of the committee are generally misapplied. They seem to us to have acted, from the beginning to the end of their labors, under mistaken impressions. But whether our views or theirs are correct, will be determined by the wisdom of the Legislature.

A report is herewith submitted in relation to Chemung and Crooked lake canals, by the acting Commissioner who has charge of those works.

S. VAN RENSSELAER,
S. YOUNG,
W. C. BOUCK,
JONAS EARLL, Jr.

January 17, 1833.

Re on the Chemung and Crooked Lake Canals.

The acting Commissioner, having charge of the Chemung and Crooked Lake Canals, respectfully submits the following Report:

CHEMUNG CANAL.

The early and intense cold weather, of last winter, and the unfavorable spring, together with the scarcity of laborers, retarded the completion of this canal to a later period than was anticipated. The unfinished work between the Chemung river and the navigable waters of the inlet to the Seneca Lake, was completed the latter part of September. Sections ten and eleven, which comprised the deep cutting on the feeder, and upon which the greatest amount of work remained to be done last spring, were completed on the 30th of August. Sections sixteen and seventeen were abandoned by the contractors in the month of July, and a faithful man was appointed to finish them. He prosecuted the work with all proper diligence and economy, but the unfavorable condition in which it was left by the contractors, and the high wages consequent upon a scarcity of hands, increased the expenses to a sum exceeding the amount which remained unpaid on these sections. The balance, which is $1,343.17, has been charged to the account of the contractors. The instance referred to, and the case of John Winans, who died during the progress of his work, are the only failures among the contractors on the Chemung canal. The balance which stands charged to John Winans, is $148.79. Section thirty-five, which comprises the excavation of bars in the inlet, the formation of a towing-path on its margin, and the excavation of a canal from a bend in the inlet to the lake in a westerly direction, is not completed. Most of the excavation on this section is in an open marsh, and lower than the surface of the water in the lake. This work would have been pressed to a completion with the other work on the canal; but the water in the lake, during the two past years, has generally been above its ordinary level, and has deterred the contractor from commencing the excavation until last fall. Under these circumstances, it was thought proper to grant some indulgence, as there was a navigable connection between the Seneca lake and the canal by the inlet. The contractor is prosecuting the work this winter, with an intention of completing it before a rise of water in the spring.

The high embankment located on a river bluff on section two, and the adjoining embankment on section three, were made of coarse materials, and the necessary care in assorting them was no doubt omitted by the workmen, though it was often enjoined upon them. A lining of suitable materials was placed in the bottom and sides of the canal; but it was discovered, on the admission of the water, that the work was imperfectly done, and the profusion of the leakage rendered it impracticable to pass a sufficient quantity to fill the canal, and occasioned a heavy slide from the bank into the river. It became necessary to remove the coarse materials from the bottom and sides to a proper depth, to increase the quantity of lining, and to enlarge the bank. The water was again admitted about the tenth of September; but it was then very low in the river, and the porous soil through which the canal was constructed for about seven miles, its thirsty condition at the time the water was admitted, and a continuation of dry weather, prevented a sufficient quantity from passing through the feeder to supply the other levels of the canal, until about the 20th of October. Since this period, the supply has been abundant, and it it is now evident that the quantity filtrating from the canal has considerably diminished It is believed that a continuation of the water in the canal during this winter and next spring, will so far serve to tighten it as to render an adequate supply for the next season certain.

On filling the locks for use, it was discovered that they were insufficient; and only a few boats passed from the summit level to the lake. The locks are constructed of wood, supported on the sides with braces, with a stone wall of masonry at the head, and a dry wall on the sides, resting on the foundation timbers. The locks are of ten feet lift; and the defect consists in their not being properly supported on the sides, to resist the great pressure of water within the chamber of the lock when it is filled. Those locks on which the work was well executed, have been frequently filled with water, without producing any material injury; while others, on which the work was badly executed, gave decicive evidence of being imperfect. This unfortunate occurrence was entirely unexpected, as several of the locks had been nearly filled with water, for the purpose of experiment, and no indications of their defect was discovered; but it is evident that the increased pressure, resulting from a full head of water, caused the sides to yield, and the angle of the sides in the bottom of the lock to open.

The public had a right to expect the use of this canal last fall; and some property was collected at Horseheads, and between that place and the Seneca lake, under the expectation of transporting it on the canal. The discovery that the locks were defective, occurred too late in the season to repair them for use before the closing of the navigation; and the undersigned regrets that this failure has defeated the arrangements predicated on the expectation of using this canal, and that it may result in a loss to the owners of property.

An experiment has been made upon one of the locks which proved most defective; and it has been ascertained that they can be made sufficiently strong, by connecting the longitudinal sill, on which the short posts are framed, more firmly with the bottom sills, with bolts, by additional braces, and by increasing the dry wall about fifty cubic yards to each lock. This plan for repairing the locks has been adopted, and the expense is estimated at eight thousand dollars, but an unfavorable winter may increase it to nine thousand dollars.

Nearly all the levels of the canal have been filled with water; the banks well tested; and every part of the work, except the locks, appears to be substantial.

The unusual floods of last spring materially injured the dam erected across the Chemung river. The great quantity of ice passing over it broke the range stick on the top of the dam, the top covering and front posts in several places, and also deepened the bed of the river below the apron and chute, and carried away a few of the piles on which the apron rested. The injured part of the dam has been repaired; an additional covering of oak plank has been placed on the most exposed part of it; and a pier filled with stone, resting on brush, has been sunk below the apron and chute, to prevent the reaction of the water, in the time of floods, from undermining the dam and chute. At the east end of the dam, an embankment was raised several feet above the highest flood marks. During the

flood a breach was made in the embankment, and the force of water passing in this direction almost entirely demolished it, and deepened a channel considerably below the original surface. This embankment, which now contains seventeen thousand three hundred and eighty-five cubic yards, is larger and higher than the former one, and is considered entirely out of danger.

Last spring, the waters of Newtown creek broke through the bank of the canal on the summit level, where an opening had been made to let the water into the canal to saturate the earth, and which had been imperfectly closed. The unfinished work at the locks on both ends of the summit level, was considerably injured.

The Chemung canal is thirty-six miles long, and has 516 feet of lockage. The following exhibit will show the entire cost of this canal; the different structures, and their cost; the number of cubic yards of excavation and embankment, and the average price per cubic yard:

52 locks, comprising 516 ft. lockage, have cost	$84,131 59
This sum includes the estimated allowance in consequence of the alteration of plan.	
1,175,963 cubic yards of excavation, at an average price of 9 cents 8 mills per cubic yd.	115,399 70
533,912 cubic yards of embankment, average price 10 cents 2 mills,	51,499 02
7,220 cubic yards of slope wall,	3,468 54
28,775 feet of docking	1,551 24
6,303 rods of fence	3,151 50
1,423 rods of fence removed to the canal,	241 91
27 farm bridges,	2,302 75
32 road bridges,	3,792 48
17 farm bridges, from the maintenance of which the State is released,	2,015 00
1 guard-lock,	1,497 40
Dam across the Chemung river,	5,721 26
Chute in said dam, to accommodate the river navigation,	1,457 59
Grubbing and clearing,	9,605 00
Lining canal,	1,185 00
3 aqueducts,	3,697 13
6 waste-weirs,	477 60
5 culverts,	729 40
4 lock-houses,	992 00
908 rods of towing-path on inlet,	2,724 00
Altering mill-dams and flooms,	575 00
Removing buildings and saw-mill,	505 00
Land for lock-houses,	120 00
Pier at the intersection of the canal with the Seneca lake,	1,164 91
Altering and making roads,	1,172 50
Expenses of engineer department,	12,800 00
Conductors around locks,	249 37
Miscellaneous works,	2,434 36
	$314,395 51

The preceding remarks will indicate that the expenses for repairs could not have been inconsiderable, and they are principally applicable to expenses growing out of the floods of last spring, and the difficulties on sections two and three; though a portion (and not an unusual amount) is applicable to contingencies, which on all occasions rest on new and untried works, when the searching operation of water is first experienced.

The sum expended for repairing and maintaining this canal and its appendages, from the period that the several parts of it were taken from the contractors and declared finished by the engineer, to the first of January instant, amounts to $12,953.90; and the estimated expense of putting the locks in a condition for navigation by the first day of May next, is $8,000.

The following statement will shew the probable condition of the fund on the first day of April next, which is applicable to the construction of the Chemung canal, its maintenance, and the payment of interest on the loans which have been made, to wit:

Cost of the canal,		$314,395 51
Disbursements for repairs previous to the first of December last,		12,953 90
Estimated expense of repairing and strengthening locks,		8,000 00
Estimated expense of ordinary repairs to the first day of April next,		500 00
		$335,849 41
Amount of loans,	$290,263 00	
do authorised to be loaned,	25,737 00	
do rec'd for premiums on loans,	36,873 71	
do do interest on deposits,	5,949 30	
	$358,823 01	
To am't paid for int.	$28,644 74	
To interest due the 1st next May,	4,837 72	
	33,482 46	
		345,340 55
		$10,508 86

By the preceding statement it will be seen, that it becomes necessary to make provision for the sum of $10,508.86, to meet the expenditures now in progress on the canal; and also for its maintenance to the first day of April next.

It will readily be seen, that any estimate which may be made of the expenses for the next spring repairs, and during the season of navigation, must proceed from a very uncertain data. It is presumed, however, that about $6,000 would be sufficient to meet the ordinary expenses for repairs; but it is proper to remark that this sum might be very much increased by the spring floods.

There are twenty-nine claims for damages now on file; and the entire uncertainty of the amount which may be awarded by the appraisers, precludes the practicability of submitting an estimate.

CROOKED LAKE CANAL.

At the date of my last report in relation to this canal, arrangements had been made to prosecute the work during the winter; and its completion last fall was confidently expected. The unfavorable winter and spring retarded the progress of the work, and less was done during this period, than had been anticipated. The extensive public works in progress in the State of Pennsylvania last season, attracted the attention of laborers on this canal; and early last summer it was discovered that many were leaving for that State, under the expectation probably of obtaining higher wages, and a more extended employment. Nearly all the laborers on the public works in this country are foreigners, who have no fixed residence; and it is very common for these men to concentrate from various parts of the country at the commencement of a new work of any considerable magnitude; hence arises the difficulty of retaining men on a work of short duration, or when nearly completed. These facts were illustrated at the commencement and in the progress of the Chemung and Crooked Lake canals. At the commencement of the former work, laborers were plenty, and the avarage price did not exceed ten dollars per month. The second year laborers grew more scarce, and the prices advanced to fourteen dollars per month; while the contractors on the Crooked Lake canal, which had just commenced, paid only twelve dollars per month. The facility of procuring laborers depends very much on the magnitude of the work, and the probable extent of the employment.

The contractors on this canal appeared to manifest a willingness to prosecute their work with proper diligence, and they made efforts to procure men by sending agents and printed notices into other parts of the State, offering liberal wages. With perhaps a single exception, the contractors possess character and responsibility, and a general confidence seemed to prevail, until in the month of October, the surviving partner of a contract for two miles of this canal failed in paying his men. He was a foreigner who had great influence with his countrymen, and so far succeeded in obtaining their confidence, as to protract his payments, until his indebtedness exceeded $3,000. This occurrence so exasperated some of his men, that after taking from him every vestige of moveable property, and setting fire to his shanties, they left the country. This affair had an unfavorable influence through the whole line of canal, and interrupted the progress of the work. It is due, however, to this contractor to say, that he had prosecuted his work with proper diligence, and that a portion of his excavation was very expensive. He no doubt persevered with an intention of finishing all his work, under the expectation of obtaining an allowance on a part of it. The sureties of this contractor, immediately after his failure, made arrangements for the completion of the unfinished work.

The excavation on a part of this canal is hard pan of an expensive character, and in almost every lock-pit this material or rock is found. This circumstance has served materially to protract the progress of the work.

The line of this canal, in passing down the narrow valley of the outlet of Crooked lake, was in many places located near the foot of a steep side hill, into which an excavation was made to form the towing path embankment. This was rendered necessary, for the purpose of avoiding any interference with the mill-ponds, which in a few instances occupy almost the entire width of the valley. The soil in some places indicates a quick sand, and last spring when the frost disappeared, and while the earth continued saturated with water, a considerable quantity slipped and run into the canal, where it had been excavated.

In penetrating the rock on section 6, it was found that the seams between the horizontal strata were very open, and full of cavities, which rendered it necessary to excavate wider and deeper, for the purpose of receiving a lining on the bottom and sides of water-tight materials. To secure the water in a short pound reach which occurs on this rock, it became necessary to form the sides of it with a stone wall laid in water lime mortar. From the causes mentioned, the expense of this section will far exceed the original estimate.

In determining on the final location of the line on a part of section 4, at Way and Andrews' mills, it was found very difficult to pass in a narrow and circuitous route, between dwelling houses and mills, where the line was first located; and the only alternative which appeared to present itself was to remove a dwelling house or change the location of the line. The latter course was adopted, and it has increased the amount of excavation at this point about 8,000 cubic yards.

The estimate for the construction of this canal was predicated on banks six feet high, with the usual width at the top, and a slope of one foot rise to every one and a half feet of horizontal base. The short pound reaches between many of the locks render the banks liable to be over flowed by the irregular admission of water, which sometimes unavoidably occurs. The line of canal, as has been before observed, is located throughout its almost entire extent, near to, and at the foot of a steep side hill, and is subject to sudden inundations from the quantity of water which may be thrown into it by a heavy fall of rain. In addition to waste-weirs, it was considered necessary to construct the upper gates no higher than the top water line in the canal when at a proper level, in order to aid in discharging the surplus water; and also to raise and enlarge the banks, to afford the necessary strength and security. The banks are generally seven feet higher, and have a slope of one foot rise to two foot of horizontal base.

The guard lock which connects the canal with the water of the Crooked lake, was unavoidably located in a very contracted place, in a deep excavation of clay, with a saw-mill on one side of it and a high bank on the other. These circumstances, connected with the design of the lock to serve as a guard to the water of the lake above it, rendered it entirely proper, both in reference to economy and security, to make this a more permanent structure than was originally designed.

The bottom of the lock near the intersection of the canal with the Seneca lake, is excavated about five feet below the surface of the water in the lake at its ordinary state, and was an expensive work to execute. The plan of this lock has been changed at a small additional expense, so that in rebuilding it at any future period, it will not be necessary to remove any part of the work below the surface of the water. The locks are made similar to those on the Chemung canal, and will require the same additional bracing, bolting, and dry wall, in order to give them sufficient strength.

Sections 7 and 8 are completed; sections 1, 2, 3 and 5 can be finished early in the spring; sections 4 and 6, on which the greatest amount of excavation remains to be done, will be prosecuted through the winter; the locks are all framed, twenty have been raised, and to most of these the masonry and dry wall is nearly completed; and such arrangements have been made in relation to all the unfinished work, as justifies the opinion, that the canal will be ready for navigation about the first of July next.

The report of the Canal Commissioners to the Legislature in relation to this canal, previous to the time when the work was put under contract, stated "that the character of the line of this canal was such that it would be difficult to foresee all the expenses necessary to afford proper security and protection to the work;" and it expressed the opinion "that the estimated allowance for contingencies would prove insufficient." This prediction has been verified. It now appears from an estimate recently furnished, that the number of cubic yards of excavation and embankment have been materially increased, and that other unforeseen circumstances have arisen. Most of the rock excavation was covered with earth when the original estimate was made, and the amount could not be ascertained with certainty. The amount of rock excavation now estimated, exceeds that in the former estimate, by 9,617 cubic yards.

The present estimated cost of this canal is $136,101.17, making an excess over the sum appropriated, of $16,101.18; which exceeds the original estimate of the engineer, $16,903.17; and the estimate on the prices for which it was proposed to construct this canal, submitted previous to the consummation of the contracts, $33,778.17.

The last excess has arisen as follows, to wit:

116,350 c. yds. of earth excavation at 8 cts. per cubic yard,			$9,308 00
84,849	do	embankment, at 9 cts.	7,591 41
1,537	do	rock excavation at 27 do	587 19
8,030	do	do do at 60 do	4,818 00
Additional expense by reason of a change of plan in guard-lock,			1,504 00
Extra allowance on 27 locks on account of alteration in plan,			2,830 14
Extra allowance on lock near Seneca lake,			390 00
2,200 c. yds. of lining and expense of preparation on rock, section No. 6,			510 00
4,500 c. yds. of quick sand shipped and run into canal, on section 2,			360 00
8,000 c. yds. of do on section 6,			640 00
Way and Andrews' mills,			680 00
Increased expense in constructing piers in Seneca and Crooked lake,			314 40
Additional expense of docking,			2,025 28
Increased expense to 27 locks for the purpose of giving them sufficient strength, and for lining locks,			3,780 00
Wall of masonry on section 6,			375 00
Additions in bridges and waste-weirs,			309 00
do	to the expense of engineer depart...		2,257 00
do	for removing buildings, bridges, &c.		1,744 00
			$40,053 42
From this amount should be deducted, on account of work included in the estimate referred to, now intended to be omitted,			
3 lock-houses,		$840 00	
Culverts,		75 00	
Fences,		360 00	
			1,275 00
			$38,778 42

By the preceding statement, it will be seen that about one half of the excess consists in an increase of earth and rock excavation, and embankment. The preceding remarks have shown that the banks of the canal have been materially enlarged, which accounts for the greatest portion of this increase. The number of yards of excavation in the channel of the outlet between the guard-lock and dam, and the lake, has also been increased. The banks in several places are located in the outlet, and mill-ponds; and it seems probable that sufficient care may not have been exercised by the engineer, in ascertaining the quantity of embankment in these places.

The following statement will show the state of the fund applicable to this canal, and the charges upon it, to wit:

Cost of constructing canal			$136,101 17
Amount loaned	$100,000 00		
Amount authorised to be loaned	20,000 00		
		120,000 00	
		16,101 17	
Amount of interest paid	$7,787 67		
Am't of interest rec'd on deposit	3,506 78		
		4,270 89	
		$20,382 06	

Leaving a balance against the fund of $20,382.06. This fund will be farther chargeable with the interest payable after this period, the contingencies resting on a completion of the work, and the maintenance of the canal and its appendages when completed.

WILLIAM C. BOUCK.

January 17, 1833.

Statement A shews the amount of tolls received by the several collectors on the Erie, Champlain, Oswego, and Cayuga and Seneca canals, for the years 1829, 1830, 1831 and 1832, and also the increase and diminution at each place for the years 1831 and 1832.

B, is a statement of property which passed Utica on the Erie canal, during the years 1830, 1831 and 1832, and exhibits the increase and decrease of the several articles enumerated for the years 1831 and 1832.

C, shews the amount of property cleared at Buffalo and passing east on the Erie canal, in the years 1830, 1831 and 1832, and also an account of property which has arrived at Buffalo in the same years, designating that which has arrived from and departed to other States.

D, is a statement of property arriving at Whitehall, on the Champlain canal, and passing north, in 1832; and also a statement of property cleared at Whitehall, on the Champlain canal, south, during the season of 1832.

E, is an account of property passing through the Glen's-Falls feeder, towards tide-water, and the amount of toll received thereon at Fort-Edward, during the year 1832.

A.

STATEMENT showing the Amount of Tolls received by the several Collectors on the Erie, Champlain, Oswego, and Cayuga and Seneca Canals, for the years 1829, 1830, 1831, and 1832; and also, the Increase and Diminution at each place for the years 1831 and 1832.

ERIE AND CHAMPLAIN CANALS.

PLACES OF COLLECTION.	Collected in 1829.	Collected in 1830.	Collected in 1831.	Collected in 1832.	Increase over 1831.	Decrease from 1831.
Albany,	$161,443 69	212,044 82	269,443 73	236,636 32		32,807 41
West-Troy,	85,259 46	124,771 46	169,458 19	160,329 28		9,128 91
Schenectady,	29,671 96	37,805 98	35,700 56	37,794 95	2,094 39	
Little-Falls,	9,648 21	8,670 97	9,685 78	15,023 12	5,337 34	
Utica,	42,122 33	46,142 10	41,012 61	47,046 78	6,034 17	
Rome,	23,956 78	28,835 26	28,680 79	35,547 14	6,866 35	
Syracuse,	60,752 69	85,876 30	66,144 82	94,916 24	28,771 42	
Montezuma,	66,701 63	75,845 74	65,570 15	73,288 99	7,718 84	
Lyons,	27,733 55	24,229 18	20,539 46	25,278 85	4,739 39	
Palmyra,	44,845 71	48,337 94	55,776 33	59,434 78	3,658 45	
Rochester,	98,518 17	150,128 83	174,350 90	154,541 08		19,809 82
Brockport,	10,150 26	12,313 52	10,750 82	13,025 81	2,274 99	
Albion,	12,019 99	12,138 95	10,993 94	10,219 43		774 51
Lockport,	12,503 42	21,553 24	31,023 19	28,433 22		2,588 97
Buffalo,	25 957 38	48,958 64	66,609 19	58,232 09		7,777 10
Geneva,	11,402 43	31,478 29	27,742 98	29,333 69	1,590 71	
Waterford,	16,305 75	9,775 17	9,667 34	17,338 18	7,719 84	
Sloop-Lock,	928 73	752 12	766 15	1,091 59	325 44	
Fort-Edward,	10,516 28	11,766 49	15,054 17	16,249 85	1,195 68	
Whitehall,	44,617 10	41,051 68	46,879 09	50,357 21	3,478 12	
Salina,			39,360 30	31,839 52		7,520 78
	$759,055 52	$1,032,476 68	$1,194,610 49	$1,196,008 12	$81,805 13	$80,407 50

OSWEGO CANAL.

Salina,	7,533 35	8,662 32	11,634 23	11,935 68	251 45	
Oswego,	1,906 09	3,672 86	4,586 87	7,850 52	3,263 65	
	$9,439 44	$12,335 18	$16,271 10	$19,786 20	$3,515 10	

CAYUGA AND SENECA CANAL.

Geneva,	4,100 22	5,223 39	5,246 34	6,459 18	1,212 84	
Montezuma,	4,543 27	6,764 42	7,674 05	7,435 50		238 55
	$8,643 49	11,987 81	12,920 39	13,894 68	1,212 84	238 55

SUMMARY OF THE PRECEDING STATEMENT.

Erie and Champlain Canal,	795,055 52	1,032,599 13	1,194,610 49	1,196,008 12	1,397 63	
Oswego Canal,	9,439 44	12,335 18	16,271 10	19,786 20	5,515 10	
Cayuga and Seneca Canal,	8,643 49	11,987 81	12,920 39	13,894 68	974 29	
Total,	$813,138 45	1,056,922 12	1,223,801 98	1,229,689 00	5,887 02	

B.

The following Statement of Property which passed Utica, on the Erie Canal, during the years 1830, 1831 and 1832, exhibits the increase and decrease of tonnage of the several articles enumerated in the years 1831 and 1832.

ARTICLES.		1830.	1831.	1832.	Increase over 1831.	Decrease since 1831.
Domestic spirits,	galls.	1,812,918	1,472,685	1,537,680	64,995	
Shingles,	m	20,786	28,819	50,453	21,643	
Sawed lumber,	feet,	21,257,490	31,132,086	31,354,027	221,941	
Timber,		262,453	691,215	851,022	159,797	
Staves,		6,009,000	8,586,237	7,341,018		1,245,219
Flour,	bbls.	532,464	609,254	631,497	22,243	
Provisions,		36,982	31,448	42,216	10,768	
Salt,		75,112	69,754	66,651		3,103
Ashes,		34,752	28,437	28,810	373	
Lime,		11,220	15,596	34,610	19,014	
Beer,		595	355	205		150
Cider,		124	2,181	435		1,746
Wood,	cords,	3,556	2,927	3,826	899	
Wheat,	bush.	714,406	411,424	645,340	233,916	
Coarse grain,		237,147	183,938	160,677		23,261
Bran and ship stuff,		96,380	273,397	161,204		112,193
Peas and beans,		5,724	2,413	15,072	12,659	
Grass seed,	lbs.	1,212,896	1,354,874	1,282,222		72,652
Wool,		526,462	1,025,321	719,444		305,877
Cheese,		1,727,403	1,677,209	1,233,586		443,623
Butter and lard,		2,216,609	2,713,465	3,548,045	834,580	
Hops,		396,248	148,749	337,495	188,746	
Furs and peltry,		284,069	329,568	200,890		128,678
Gypsum,		4,829,557	8,083,600	8,072,104		11,496
Stone,		7,871,661	17,088,146	7,987,232		9,100,914
Merchandize,		89,931,254	122,039,775	116,126,047		5,913,728
Furniture,		6,612,624	7,215,556	7,679,343	463,687	
Coal,			2,578,062	3,101,603	523,541	
Pig iron,			1,533,370	1,841,569	308,199	

C.

Account of Property cleared at Buffalo and passing east on the Erie Canal, in the years 1830, 1831, and 1832, and also an account of property which has arrived at Buffalo in the same years, designating that which has arrived from, and departed to, other States.

ARTICLES.	1830. From Buffalo east.	1830. From other States east.	1830. Total.	1830. Arrived at Buffalo.	1830. From Buffalo west to other States.	1830. Total.	1831. From Buffalo east.	1831. From other States east.	1831. Total.	1831. Arrived at Buffalo.	1831. From Buffalo west to other States.	1831. Total.	1832. From Buffalo east.	1832. From other States east.	1832. Total.	1832. Arrived at Buffalo.	1832. From Buffalo west to other States.	1832. Total.	Increase from other States east, of 1832 over 1831	Decrease from other States of 1832 over 1831
Wheat.....bush.	3,117	146,042	149,219				12,760	173,208	185,968				228	100,533	100,761					79,207
Flour.....bbls.	3,390	29,620	31,810				5,858	57,110	62,968				200	21,732	21,932					41,038
Pork.....do		5,130	5,150				67	4,725	4,792				359	4,630	4,989					163
Beef.....do	20	1,524	1,544					846	846				7	163	170					676
Whiskey.....do	320	3,862	4,182				654	3,096	3,750				194	2,014	2,208					1,542
Oil.....gal.	3	799	802				27	1,393	1,420					44	44					1,376
Fish.....bbls.		851	851					150	150					276	276				126	
Ashes.....lbs.	2,991,306	5,436,242	8,427,548				1,793,743	3,212,694	5,006,437				1,673,406	2,546,831	4,220,237					785,757
Fur.....do		164,047	164,047					192,726	192,726					214,134	214,134				21,408	
Candles.....do		611,260	611,260					884,350	884,350					936,969	936,969				52,619	
Furniture.....do		117,430	117,430					137,945	137,945					176,265	176,265				38,320	
Tobacco and hemp.....do		163,696	163,696					596,257	596,257					830,636	830,636				234,379	
Pig iron.....do		686,433	686,433					819,924	819,924					1,521,546	1,521,546				701,622	
Butter.....lbs.	1,616	348,028	349,644					404,146	404,146					790,677	790,677				386,531	
Cheese.....do	21,803	321,904	343,707					410,412	410,412					148,361	148,361				262,049	
Lead.....do		81,990	81,990					344,672	344,672					149,868	149,868					194,804
Ordnance.....do		78,816	78,816					19,963	19,963					2,205	2,205					17,758
Staves.....m		464,000	464,000					249,351	249,351					221,239	221,239					28,112
Lumber.....feet	30,136	97,274	127,410					568,040	568,040					353,000	353,000					215,040
Merchandize.....lbs								150,928	150,928					251,604	251,604				100,676	
Salt.....bbls.																				
Wool.....lbs.																				
Foreign hides.....																				

D.

A Statement of property arriving at Whitehall, on the Champlain Canal, and passing north, in 1832.

ARTICLES.	Whole amount.	To Vermont.	To Canada.
Ashes,.....bbls.	5		
Beer,..... do	42	10	
Beef and pork,... do	4,260	63	3,105
Flour,..... do	24,780	11,103	43
Western salt,....bush.	86 025	51,005	
Foreign do .... do	5,875	3,453	
Agricultural products, pounds,	338,095	141,790	22,461
Brick, clay, sand, &c. pounds,	795,192	311,465	
Buffalo robes and deer skins,.....pounds,	87,212	1,665	77,861
Coal,..... do	565,061	213,311	
Cotton,..... do	195,806	147,641	1,311
Household furniture,do	107,121	9,650	
Horses,..... do	6,600		
Hides,..... do	981,242	193,764	564,725
Merchandize, do	16,129,274	8,411,324	1,309,867
Western plaster, do	566,672	271,496	
N. S. plaster, do	499,939	232,012	6,600
Pig iron,..... do	424,267	178,694	
Stone,..... do	391,167	108,407	
Tallow,..... do	398,713		311,761
Rags,..... do	11,200		
Hogs,..... do	8,000		8,000

A Statement of the property cleared at Whitehall, on the Champlain Canal, south, during the season of 1832.

ARTICLES.	Whole amount.	From Vermont.	From Canada.
Ashes,.....bbls.	992	135	
Beef and pork,.....do	5,074	4,062	
Charcoal,.....bush.	3,360		
Grain,.....do	17,600	12,321	
Domestic spirits,...gal.	109,124	80,120	
Glass,.....boxes,	10,095	3,521	
Agricultural productions,.....pounds,	257,283	178,143	
Butter & cheese,...do	1,233,647	1,103,335	
Copperas,.....do	85,080	85,080	
Furs and peltry,....do	16,140	1,225	10,533
Household furniture,do	338,993	122,269	112,237
Hoop-poles and lath,do	1,699,036	522,675	
Iron and nails,.....do	3,501,734	255,160	
Iron ore,.....do	480,620		
Iron-castings,.....do	19,180	13,250	
Leached ashes,.....do	70,000		
Manganese,.....do	227,305	227,305	
Merchandize,.....do	126,700	83,654	
Rags,.....do	13,920	2,100	9,327
Starch,.....do	198,514	198,514	
Stone, wrought,....do	1,346,399	1,116,261	
Sand,.....do	314,800	127,347	
Staves and heading,.do	165,353	63,000	
Sundries,.....do	300,611	168,175	
Wool,.....do	412,961	326,173	
Paper,.....do	139,490	76,850	
Sawed lumber,....feet,	53,075,647	5,103,160	700,654
Timber,.....do	736,495	245,150	
Shingles,.....m	4,026	125	
Wood,.....cords,	4,536	165	
Post and rails,.....	471		

E.

An Account of Property passing through the Glen's-Fall feeder towards tide-water, and the amount of tolls received thereon at Fort Edward, during the year 1832.

Sawed lumber.....feet	7,528,483
Square and round timber.....	129,604
Wood.....cords	5,553
Lime.....lbs.	706,507
Staves.....	818,500
Merchandize.....	161,835
Stone (entirely unwrought).....	278,000
Agricultural productions.....	3,456
Hoop-poles.....	100,700
Potash.....	30,600
Butter and lard.....	16,859
Castings (iron).....	2,400
Lath (less than 5 feet in length).....	42,000
Sawed marble.....	169,439
Furniture.....	33,576
Pork.....	700
Shaved hoops.....	8,250
Rails 3,200, posts 5,370.....	8,570
Shingles .....m	6264

Amount of toll received, $7,803 99.

FELIX ALDEN, *Collector.*

Collector's Office, Fort Edward, Dec. 8, 1832.

Improved Method of Using Wheel-Drags. By W. BADDELEY. [From the London Mechanics' Magazine.]

Passing down Ludgate-hill the other evening, I noticed a very heavily laden west-country waggon going down the hill with one of the wheels locked; the consequence of which was, that the friction of the wheel upon the stones caused the evolution of considerable heat, which dried up the road in the track of the wheel, and at length produced a charring of the fellies, as was shown by the escaping of small quantities of smoke, accompanied with a strong smell of burning wood. On reaching the bottom of the hill, I went up to the waggon and found that it was furnished with a proper shoe or drag, but that the driver chose to *lock* the wheel in preference to using the drag. The reason appeared to be, that the former was the *easier* method; for if the shoe had been used, it would have been necessary to *back* the waggon out of it, whereas the locking chain was disengaged in an instant, by simply striking off a ring.

Few persons are perhaps aware of the extent to which wheels are continually injured by this practice; first, by the actual wear of the iron tire; and, secondly, by the mischievous effects of the heat upon the wooden fellies. I have repeatedly observed on Ludgate and Holborn hills, and other places, both in town and country, that unfortunately this is a regular practice, partly arising from laziness, and in part from the real difficulty of backing a loaded vehicle out of the drag.

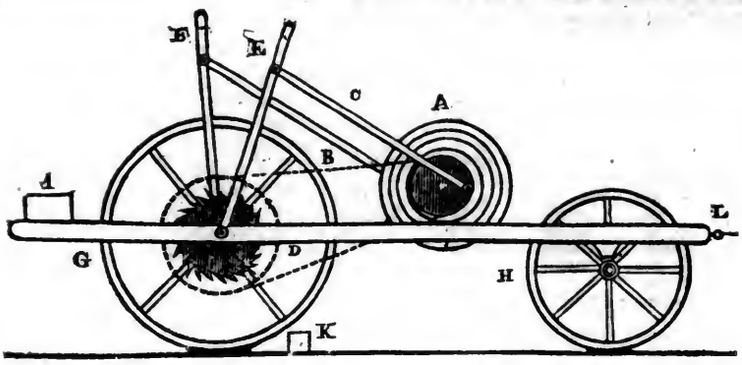
It has therefore occurred to me, that a very simple remedy may be provided for this evil, by rendering the use of the shoe *as convenient* as the locking-chain. And this may be done in several ways: thus, for instance, by using a drag-chain of such a length as to permit the wheel to roll off it, and to take it up short enough to carry the wheel, when it is to be dragged by the same simple fastening at present used for the locking chain; viz. a ring sliding on a bent pin. In this way the drag may be used, and when the vehicle reaches the bottom of the hill it may be instantly and easily disengaged, and when the wheel has rolled off may be hooked up out of the way. Or the shoe may be permanently fixed by a chain behind the wheel, and connected with the chain drag, when required, in the way before mentioned; when done with, it may be disengaged from the drag-chain and replaced behind the wheel.

Improved Method of Aquatinta Engraving. By MECHANICUS. To the Editor of the Mechanics' Magazine and Register of Inventions and Improvements.

SIR,—If the following short account of the method of effecting aquatinta engraving is thought worthy of a place in your valuable publication, it is at your service.

After the intended figure is outlined, by etching or otherwise, the plate is covered all over with a ground of rosin, Burgundy pitch, or mastic, dissolved in rectified spirits of wine, this is done by holding the plate in an inclined position, and pouring the above composition over it. The spirit of wine almost immediately evaporates, and leaves the resinous substance in a granulated state, equally dissolved over every part. The granulations thus produced, if examined through a magnifying-glass, will be found extremely regular and beautiful. When the particles are extremely minute, and near to each other, the impression from the plate appears to the naked eye exactly like a wash of Indian ink; but when they are larger, the granulations appear more distinct. This powder or granulation, is called the aquatinta grain. The plate is next heated to make the powder adhere; and in those parts where a very strong shade is wanted, it is scraped away; but where strong lights are wanted, a varnish is applied. The aqua fortis, properly diluted with water, is then put on with a piece of wax, as in common etching or engraving; and by repeated applications of this process, scraping where darker shades are required, and covering the light parts with varnish, the final effect is produced.

Engraving by aquatinta was invented by Le Prince, a French artist, by whom the process was long kept secret. It is even said that for some time he sold his prints, (which are still reckoned excellent specimens,) for drawings.



[*From the London Mechanics' Magazine.*]

PROOF OF THE ADVANTAGES OF LONG LEVERS IN LOCOMOTIVE MACHINES.—Sir: I had written separate replies to most of the opponents of my theory of locomotion; but, finding in their papers so much truth intimately mingled with so much error, I perceived my remarks were, and must be, far more extended than I wished them to be, or than your pages would reasonably permit. I therefore thought all useful purposes would be answered by sending the following conclusions, arrived at by the various reasonings of your correspondents, and by multiplied experiments of my own, by which they will see how far I am convinced of the truth of what they have advanced, and how far I retain my original opinions: such are the beneficial uses of discussion.

Conclusions.—1. That my 8th proposition, vol. 15, page 44, is virtually admitted, and that the fulcrum of locomotion is the ground. This renders it unnecessary to send the promised drawing of a carriage, without spoke or axle, and here I particularly wish to give part of my intended answer to S. Y., page 94. He says, "the difficulty of obtaining those outward abutments" is the great obstacle. I agree with him, that it is one great difficulty, that is to obtain abutments of sufficient hold or strength; he wants an iron cog rail, to use a great force at, with a short lever; but that a common road will never furnish; the abutments must be taken as they are; and by using a long lever and light power in emergencies, those abutments may be made, in all useful cases, sufficient; instance, a ton-weight, balanced on an equal armed lever, will require another ton, therefore the fulcrum or abutment will carry and be forced by 40 cwt.; but if you balance the ton on a 20 to 1 armed lever, the fulcrum will only be forced by 21 cwt. and may hold when it would not with 40 cwt. This I consider a good and true illustration, in some cases, of the force of long levers on my locomotive fulcrums, and of the advantage of such levers.

2. That my 9th proposition is not to be considered as an universal one, because a locomotive machine may be worked by levers of the second order, as well as by those of the first order, as is exemplified below.

3. That an open-topped steam cylinder has a different effect on a locomotive machine to a close-topped cylinder is again different in its power of locomotive action to a horizontal one, and that the action of spur or bevil gearing is different in effect to the action of cranks of the same radius.

4. That my 5th proposition is only partially correct, being right in some cases and wrong in others; consequently, that the theory of the application of power in various ways to a locomotive machine must be divided into two or more classes, each class embracing two or more orders, which classification I shall hereafter describe. The following leading principle, mentioned vol. 15, page 150, I think includes all classes: "There cannot be advancing motion produced by any machine, animate or inanimate, unless the power attempting to produce such motion can ply against an abutment or fulcrum that is either immoveable or much more slowly moving than such power of advancing motion."

5. That a short lever can effect on cog-rails, that which it is impossible for it to effect on a plain road with plain wheels.

6. (And which is the burden of all from the beginning.) That gearing of long radius will practically pass a locomotive machine with plain wheels through difficulties which gearing of short radius cannot do.

Any remarks upon these conclusions I shall be happy to peruse, and to reply to; and if I have not heretofore written under such equanimity of temper as some of your correspondents, it has arisen more from playfulness of spirit than from any unbecoming feeling, but I will restrain it in future.

I have long been trying to work a locomotive machine by a lever longer in its power-arm than the radius of the wheel, and am happy to send you particulars of a successful experiment to that effect. The singular motion of a pin on the rim of a coach wheel has often been remarked, and the nature of the cycloidal curve explained, but until the promulgation of the wheelbarrow problem, vol. 14, page 191, I do not know that the locomotive advantages of this curve have ever been known or applied. In making a complete revolution of a locomotive wheel, the point that first touched the ground moves forward the same distance that the axle does (see page 8); but in moving this distance, it first proceeds very slowly, then very rapidly, then slowly again, so that the top of a wheel is always advancing very much faster than the bottom. In makingonly one-eighth of a revolution, the top starting point of the wheel will have advanced more than 12 times as far as the bottom starting point—consequently, by constantly making the top of the wheel the place of the power, and constantly making the bottom of the wheel (as it is) the place of the fulcrum, and the axle the place of the locomotive resistance (as in a second class lever), a small power may be made to have a great effect, as in the wheelbarrow problem, *especially if the top radius of the wheel can be lengthened without lengthening the bottom.* This, as the following experiment shows, may be done, and in theory may be done without limit, so that a power (abating friction), however small, may be made to locomote a weight, however large, over an obstacle of any definite height. Can Science do more for locomotion than this?

Let A be a locomotive power (I used a strong spiral spring) turning a wheel carrying two or more, if needful, pins, BC, two or more connecting rods working on these pins.

D, two or more ratchet wheels fastened to the axle of the carriage wheels, E, F, two or more main levers pulling round the ratchet wheels one way only, and slipping the other way.

G, H, wheels of the locomotive carriage.

I, a balance weight to keep plenty of pressure on the ground and obstacle K.

N. B.—This weight must be particularly attended to, if any one repeats the experiment.

Now, the motion of the spring wheel, A, alternates the main levers, and propels the carriage, something like the little predomotive vehicles described in Treatises on Mechanics, but on quite a different principle as regards situation and leverage. The longer these main levers are the less power will be requisite to effect the motion, and any obstacle can be locomoted over with plain wheels that the wheels will hold on without slipping. A carriage might be worked on good ground, with only the common power requisite for a level road, by any ordinary gearing (represented by the dotted lines,) and a pair or more of these levers, occasionally used, would take the carriage through any difficulty.

I placed the machine on a level plane, with an obstacle K under the power wheel equal to one-tenth the distance of the wheel. I then tried how much statumotive, or horse power, at L, must be exerted horizontally to draw the machine over the obstacle, and found it, say, 56; I next wound up the spring until it indicated a power equal to 56, and when the connecting rods, B C, were fastened to the levers E F, near to the full radius of the wheel, this power of 56 also locomoted the machine over the obstacle. Again I shifted the rods until they were attached to the levers, E F, considerably beyond the rim of the wheel, when a power on the spring, equal to 25, effected the locomotion over the obstacle, and I believe I could have lengthened the levers until a power of 5 or less, or even a fraction, would have effected the same locomotion (slower, of course.) Next I attached the rods to a short radius on the levers, when it required a power on the spring equal to 200 to effect locomotion over the obstacle.

This I consider a very successful experiment; forcibly showing the power and practical advantages of long levers in surmounting locomotive difficulties—as in extreme cases, we can have the leverage of large wheels without the incumbrance of their weight.

A permanent power of 25 might be amply sufficient for such a machine as this to carry; whereas, without a shifting leverage, it must carry a power of 200 or more to meet extreme cases. This little machine, with plain soled wheels, mounted an inclined plane, rising 9½ in 20, and with cogged wheels, 12½ in 20, thus out-triumphing the "Triumph," whose model's best performances, with plain wheels, only ascended a rise of about 7 in 20! the abutment being more forced at than in this machine.

I cannot become coach proprietor or common carrier; but I hope Mr. Gurney will be induced to try the effect of occasional long levers—he need not then fear any hill or newly made road that horses can travel upon. As I before stated, I see no obstacle to the success of steam carriages on common roads but their vast weight, in proportion to their power; and this obstacle I know not how to overcome without abatement of speed.

Yours, &c. SAXULA.

December 12, 1831.

THE IRON OF BORNEO.—The iron found all along the coast of Borneo is of a very superior quality, which every person must know who has visited Pontiana or Sambas. At Bangermassing, it is, however, much superior; they have a method of working it which precludes all necessity of purchasing European steel. But the best iron of Bangermassing is not equal to that worked by the rudest Diak; all the best kris-blades of the Bugis rajahs and chiefs are manufactured by them; and it is most singular, but an undoubted fact, that the farther a person advances into the country the better will be found all instruments of iron. Seljie's country is superior in this respect to all those nearer the coast; his golloks, spears, and kris-blades are in great demand.

There are forty-nine forges at work merely in the campong of Marpow, but the mandows and spears which he uses himself, and gives to his favorite warriors, are obtained further north. Those men live in a state of nature, building no habitations of any kind, and eating nothing but fruits, snakes, and monkeys, yet procure

this excellent iron, and make blades sought after by every Diak, whose hunting excursions have in view the possession of the poor creature's spear or mandow as much as his head, strange as it may sound.

Instruments made of it will cut through overwrought and common steel with ease. We have seen penknives shaved to pieces with them by way of experiment; and one day a wager of a few rupees having been made with Seljie, that he would not cut through an old musket barrel, he without hesitation put the end of it upon a block of wood and chopped it to pieces without in the least turning the edge of the mandow.

In the sultan of Cotti's house there are three muskets, formerly belonging to Major Mullen's detachment, which are each cut more than half through in several places by the mandows of the party which destroyed them. This circumstance being mentioned to Seljie, he laughed, and said that the mandows used on that occasion were not made of his iron, otherwise the barrels would have been cut through at every stroke.—[Abridged from an article in the Singapore Chronicle.]

Remarks on Mr. White's experiments on the cohesion of cements, with a tabular view of their results, reduced to a common scale. By B. Bevan, Esq. [From the Philosophical Magazine and Journal.]

Gentlemen,—The papers on cements, communicated by Mr. White, and published in the Philosophical Magazine and Annals, N. S. vol. xi. pp. 264 and 333, are of considerable importance on account of the numerous facts they contain. They enable the architect and builder to know where, and in what manner, to apply the different kinds of cement, and the degree of stress which may safely be laid upon them.

A careful perusal of the numeral results will point out several common errors, in respect to the cohesive properties of Roman cement and pozzolano, under different modifications, and under various degrees of exposure to moisture.

And as you probably may be of opinion that an abstract of the results given in those papers, reduced to one common scale in a tabular form, may be acceptable to some of your readers, and save much time to individuals, I take the liberty of sending one.

		Cohesive strength per inch. lbs.	Mean.
Cement in bars,			
Age 6 days,	1 dry - -	474	
	2 variable -	360	356
	3 wet - -	234	
Age 47 days,	1 dry - -	516	
	2 variable -	564	
	3 wet - -	270	
Age 94 days,	1 dry - -	210	
	2 variable -	618	380
	3 wet - -	312	
Age 187 days,	1 dry - -	534	
	2 variable -	708	519
	3 wet - -	336	
Mean of the dry - - - - - -			433
variable - - - - -			562
wet - - - - -			288
With salt water, - - - - -			924
With 51 per cent. of water, - -			330
With 64 do. do. - -			215
3 parts cement, 2 parts sand, -			456
1 part cement, 1 part brickdust,			312
Bricks,			
3 pts. cement, 2 sand, 6 months,			375
3 do. 2 ? - -			362
All cement, - - - 9 months,			360
Paving bricks, best sort, - - -			253
Do. seconds, - - -			194
Common building brick, London,*			43
Common bricks, Soho, - - -			412
Brick cylinders,			
Laid in cement, - - - - -			27
Laid in cement and sand, - -			58
_____, - -			48
_____, - -			53
Brick piers,			
Laid in cement, 2 parts, rough lime, 1 pt. sand, 1½ parts,	1 month		4⅓
pozzolano, 3 pts docking lime, 1 p	6 weeks		7
pure cement, - - -			21
pozzolano, 1 ; stone lime, 1, - - - - -			8¼
Atkinson's cement, 1 ; sand, 1, - - - - -			25¼
ditto, - - - - - -			49¼
cement, 4 ; lime, 1, - -			17

The apparent deficiency of strength in these experiments probably arose from the position of the resultant and strain in being on one side, instead of in the middle of the piers.

Force required to crush, per square inch.

P. 337.

	lbs.
A 14 inch brick pier, laid in cement, -	470
Pozzolano, 3 parts; ground lime, 1,	296
Atkinson's cement, 1; sand, 1,	410
Pozzolano, 4; lime, 1, - -	638
Ditto, 3; Dorking lime, 1, - -	600
Stone-lime, 1; sand, 3, - -	500
Portland stone pier, - - -	2300

Yours, truly, B. Bevan.

P. S.—From the disproportions between the cohesive strength of pure cement and cement used in brick work, it is desirable that further experiments should be made on this subject.

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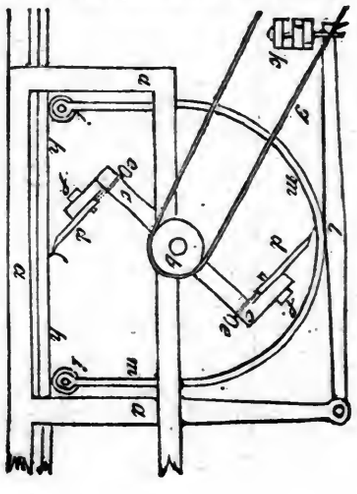
* Stowbridge fire bricks have a strength of 790 lbs. per square inch. The bricks I used at Greenwich Well were made at Fenny Stratford, and would support 715 lbs. per square inch; equal to the strength of Yorkshire stone.

ENGLISH PATENT.

Patent to M. Muir. *Engineer, for improvements in machinery for preparing Boards for Flooring, and other purposes. Granted December* 22, 1831.

In the third volume of the present series of the "Register," page 65, we have described a machine, by this patentee, for performing at once the several operations of sawing, planing, grooving, and tonguing flooring boards, and his present patent is for an addition to the same, by which the boards are reduced to a uniform thickness, and therefore completed for laying on the joists. For this purpose the boards are laid upon their faces, or planed sides, and made to pass under a set of revolving adze cutters, by which they are reduced to uniform thickness. The annexed is a sketch of the revolving adzes, where *a a a* show a cast iron frame, with a pulley, or trigger, for giving motion to the cutters *d d*, which are connected with a horizontal axis by means of the rectangular arms *c c*; *e e* are adjusting screws, to regulate the depth of cut; and *f f* are binding screws, for securing the cutters when adjusted. *g b* show a band by which the motion of the steam engine, or other first mover, is transmitted to the revolving cutters. *h h* show the board to be acted upon, and *i i* are two rollers resting upon the board, and by means of the weight *k*, the lever *l*, and the bent frame *m m*, prevent the board from rising while under the operation of the cutters.



The boards are brought forward to the cutters by means of a chain passing over a drum situated where the frame is shown imperfect. From different links of the chain descend hooks, which hold the end of the board and force it forward as the drum revolves, and when the last end of the board is brought under the drum it is to be pushed forwards by the introduction of another board, and a hook from the chain applied to the farther end of that, and so on in succession, during the operation of the machine.

The favorable opinion which we formerly gave of Mr. Muir's planing machine has been completely borne out by the success of the machine, and we have every reason for believing that the patent before us will prove an important addition to his former invention.—[Reg. of Arts.]

Iron Boats—*Expedition to the Niger.*—Extract of a letter from Mr. Richard Lander, dated Isle de Loz, Coast of Africa, Sept. 6, 1832, on board the Quorra Steamer:—"I write merely to inform you we arrived here on the 3d instant, all well, and leave for Cape Coast this evening. All the vessels have behaved very well. We have had several tornadoes: the lightning was felt more on board the Quorra than the iron steamer; it remained on our decks, but it merely struck the sides of the latter, and glided off into the water. This will give you an idea that an iron vessel is even safer than one built of wood. On board the Quorra we suffer much from the smell of bilge water, while the iron boat has not made one inch of water since she sailed from Liverpool, and she is never warmer than the water she floats in."

[*From Babbage's Work on Economy of Machinery, &c.*]

Machine for Making Pins.—Some further reflections are suggested by the preceding analysis, but it may be convenient previously to place before the reader a brief description of a machine for making pins, invented by an American. It is highly ingenious in point of contrivance, and, in respect to its economical principles, will furnish a strong and interesting contrast with the manufacture of pins by the human hand. In this machine, a coil of brass wire is placed on an axis; one end of this wire is drawn by a pair of rollers through a small hole in a piate of steel, and is held there by forceps. As soon as the machine is put in action—

1. The forceps draws the wire on to a distance equal in length to one pin: a cutting edge of steel then descends close to the hole through which the wire entered, and severs a piece equal in length to one pin.

2. The forceps holding the wire moves on until it brings the wire into the centre of the *chuck* of a small lathe, which opens to receive it. Whilst the forceps returns to fetch another piece of wire the lathe revolves rapidly, and grinds the projecting end of the wire upon a steel mill which advances towards it.

3. After this first, or coarse pointing, the lathe stops, and another forceps takes hold of the half pointed pin, (which is instantly relieved by the opening of the *chuck*,) and conveys it to a similar *chuck* of another lathe, which receives it, and finishes the pointing on a finer steel mill.

4. This mill again stops, and another forceps removes the pointed pin into a pair of strong steel clams, having a small groove in them by which they hold the pin very firmly. A part of this groove, which terminates at that edge of the steel clams which is intended to form the head of the pin, is made conical. A small round steel punch is now driven forcibly against the end of the wire thus clamped, and the head of the pin is partially formed by pressing the wire into the conical cavity.

5. Another pair of forceps now removes the pin to another pair of clams, and the head of the pin is completed by a blow from a second punch, the end of which is slightly concave. Each pair of forceps returns as soon as it has delivered its

burthen; and thus there are always five pieces of wire at the same moment in different stages of advance towards a finished pin. The pins so formed are received into a tray, and whitened, and papered in the usual manner.

About sixty pins can thus be made by this machine in one minute; but each process occupies exactly the same time in performing.

PUBLIC IMPROVEMENTS IN WASHINGTON.—Report of the Commissioner of the Public Buildings, of the expenditure of the appropriations for Public Improvements in the City of Washington, in the year 1832.

WASHINGTON, December 13, 1832.

SIR:—In obedience to the act of March 3, 1829, "making appropriations for the public buildings, and other purposes," I have the honor to report, that the expenditures out of the appropriations of last session, committed to my charge, have been as follows:

Improving Pennsylvania avenue,	$28,492 08
Conveying water to the Capitol,	24,222 71
Conveying water to the public offices,	2,587 93
Improving the Capitol square,	997 67
Improving the President's square,	3,000 00
Alterations and repairs in the Capitol,	1,442 04
Do. in the President's House,	209 06
Paving the walk from the western gate to Capitol,	4,572 34
Erecting a keeper's house, and improving the burial ground reserved for Members of Congress, &c.	1,500

The advanced state of the season when the appropriations were made, and the awful epidemic which visited our city shortly thereafter, paralyzing to a great extent, and for a considerable time, every effort to procure laborers, have prevented the completion of the principal works. The annexed report of Mr. Wever, who superintends the improvement of Pennsylvania avenue, will show the progress made in that work. The act of last session directs that the centre way be paved in a permanent manner, and the side-ways covered with the best gravel that could be obtained. It was, however, found impracticable to carry on both operations at the same time, without great inconvenience and increased expense. The gravelling of the side-ways was therefore suspended until the paving of the centre was finished; and this circumstance affords an opportunity of authorizing the entire width of the avenue to be done in the same permanent manner, if it should meet the approbation of Congress. Mr. Wever's report exhibits an estimate of the difference in expense which this would occasion.

A fountain of pure water, discharging sixty gallons per minute, has been secured, and the water conveyed in iron pipes to within a short distance of its ultimate termination at the Capitol. One of the capacious reservoirs is nearly finished, and the material for the other is being prepared.

The fountain on square two hundred and forty-nine has been conducted in iron pipes to the nearest offices; but it has yet to be extended to the President's House and more remote offices, and the reservoirs and hydrants are to construct.

Respectfully submitted,

J. ELGAR, Com. Pub. Buildings.

Hon. Speaker of the House of Representatives.

WASHINGTON, December, 12, 1832.

SIR: That part of the Pennsylvania avenue between 3d and 14th streets, embracing a distance of 4,888 feet, or nearly one mile, has been completed, as far as the graduation and macadamized cover of the centre space are concerned. The macadamized cover is forty-five feet in width, and nine inches in depth, composed of three strata of metal; the two first of which are of stone reduced to particles not exceeding four ounces, and the last of particles not exceeding three ounces, in weight.

The advanced state of the season, and the expected appearance of the cholera, rendered it prudent to undertake, with a view to completion, no more than could certainly be accomplished, under those circumstances, within the month of November. Much exertion was used to effect what has been done. The contractors labored under many and serious difficulties, but succeeded in effecting what was expected.

The existing law, making an appropriation for the improvement of that avenue, provides that the spaces between the centre macadamized cover and the side drains shall be graduated, and then covered with gravel of the best quality. It was impracticable to carry on this operation simultaneously with that on the centre, unless at what was deemed an unjustifiable increase of expense. Those spaces were indispensable as places of deposite for the material of which the macadamized cover was formed. If they had not been thus occupied, the material would necessarily have been handled at an increased expense; besides, the prosecution of that part of the work would have created an additional demand for labor, which could not have been obtained, unless at an advance of wages. During the winter season this work cannot progress with propriety, and as a suspension has necessarily taken place, and must continue during the winter, I would respectfully suggest the propriety of an application to Congress for such modification of the law as will admit of the extension of the macadamized cover over the whole extent of the travelled space of the avenue. If the cover on those spaces be made of gravel of the best quality, it will soon wear rapidly, and occasion much dust in dry weather, and mud in wet weather. The mud will be carried on the macadamized part, and be productive of injury to it.

The accompanying statement, marked A, shows that, for the completion of that part of the avenue as contemplated to be improved by the existing act of Congress, and, on the plan directed by that act, that is, with a gravel cover on the side spaces, it is estimated that an additional sum of $29,082 75 will be requisite; and that for the completion of the same extent, on the modified plan, now suggested, the present appropriation will fall short of the estimated cost the sum of $48,288 75.

Several depressions were originally formed transversely of the surface of the avenue for the purpose of conveying the water across it. Those depressions were unsightly in appearance, were at all times annoying interruptions to the free passage of carriages, and in winter were dangerous. They have been considered totally inadmissible in the principal avenue of the metropolis of the republic, and have been abolished by the substitution of subterranean arched drains. The construction of those drains considerably enhanced the cost of the road bed formation.

The graduation of the avenue was a task of some difficulty. The buildings, at opposite points, were found seldom to occupy the same level, and respect was due to them in any system of graduation which might be adopted. This was an embarrassing circumstance. After much examination and deliberation, an intermediate level was generally adopted as the basis of the cross section of the road. It was believed that this course was calculated to give more general satisfaction to the property holders, as well as be most likely to give to the avenue the best appearance of which it was susceptible, in consequence of the existence of this unfortunate circumstance. This plan was approved by the Mayor of the city; and so far, I have heard of no exception to it. A confident belief is indulged, that, when it is fully developed, by the entire completion of the work, it will prove satisfactory to the citizens of Washington and the public generally. By this plan the centre will be perfectly formed, whilst any inequalities of curvature or convexity, which must be submitted to because of the circumstance before adverted to, will be confined to the side spaces exclusively. A greater rise or convexity than is ordinarily admitted in macadamized roads has been given to this road, in order that the rain water may flow more freely, and thus relieve the avenue from a portion of the dust which would otherwise accumulate and become annoying. The altitude of the centre cover is, to the base, nearly as one to forty; that of the sides will vary, some parts will be a little more, and some a little less, curved.

The two centre rows of trees have been removed, so that the entire space between the side drains now constitutes a single and very superior way. It is believed that the foot pavements ought to be increased in width, so as to include within their curbs the trees which are now exterior to them. The trees, as now situated, are liable to be injured by passing carriages, and are also an obstruction to the approach of carriages, &c. to the foot pavements. With a view also of perfecting the avenue, and securing it from a deposit of mud carried from the cross streets, it is proposed to macadamize a portion of those streets. To effect these desirable objects, as well as to promote the utility and beauty of the avenue, and at the same time fully to develope the adopted plan of improvement, I have prepared an estimate of the expense, amounting to the sum of $69,634 72, and which is herewith communicated, marked B. The estimate may probably be considered large, and, if the improvement be authorized, may be found more than sufficient. It is, however, my rule to make such estimates as may be fully relied upon to effect the object intended.

I feel so confident that the plan now proposed is the only correct one, and that, if executed, it will be so regarded by every one who may see the work, that I will be excused by urging it upon your consideration, and earnestly suggesting the propriety of an application, on your part, for a correspondent modification of the law, and for the funds necessary to carry it into effect.

Before I close this communication, permit me to remark, that not only the more speedy, but also the more economical, completion of the work will be materially promoted by an early action of Congress on the subject.

Respectfully submitted,

CASPAR W. WEVER.

Joseph Elgar, Esq. Com. Pub. Buildings, Washington City.

A.

Statement of the estimated cost of the improvement of the Pennsylvania avenue, as contemplated by the act of Congress.

The M'Adamized cover will be 11,300 feet in length, by 45 feet in width, and embraces 56,500 superficial yards; an half will cost about 70 cents a yard, and the other half about 75 cents.

28,250 yards, at 70 cents,	19,775 00	
28,250 yards at 75 cents,	21,187 50	
		40,962 50
58,200 yards of gravelling at 45 cts.,		26,190
Graduation and subterranean drains,		12,500
Paving 10,500 square yards of side drains, at 38 cents,		3,150
Contingencies, 10 per cent.		8,280 25
		91,082 75
Deduct the present appropriation,		62,000
		$29,082 75

Shewing that the sum of $29,082 75 will be necessary, in addition to the present appropriation, to complete the work as directed by the existing act of Congress.

But if it be determined to cover the entire space with broken stone instead of gravel, then an addition of thirty cents a yard on 58,200 yards, or $17,460, must be added, as well as 10 per cent. on this last sum for contingencies, making together $19,206; which sum, with the above $29,082 75, produces the aggregate sum of $48,288 75.

B.

Statement of the estimated expense of the improvement of the Pennsylvania avenue, by extending the foot pavements not less than 5½ feet on each side, and forming the side drains about 4½ feet wide; macadamizing the centre space, which would then be not more than 109 feet between the curbs; setting a line of curbs, of granite, 8 inches thick, on

each side of that part of the avenue between the Capitol square and the President's square, with suitable returns at the cross streets; and macadamizing the cross streets for about 50 feet on each side of the macadamized cover of the avenue.

The macadamized cover as now authorized, (see statement A,)	40,962 50
49,674 yards additional macadamized cover, at 75 cents,	37,255 50
Graduation and subterranean drains,	12,500
13,930 feet of curb stone, set at $1 40 a foot,	19,502
10,500 yards side drains, at 30 cents a yard,	3,150
5,556 yards of foot pavement to take up and re-lay, at 25 cents,	1,389
Macadamized cover on cross streets, say 50 feet on each side of the cover of the avenue, would require about 9,500 yards at 75 cents,	7,125
Contingencies, 8 per cent.	9,750 72
	131,634 72
Deduct the present appropriation,	62,000
	$69,634 72

There will then be required the sum of $69,634 72 to complete the work on the plan here suggested, which is deemed the proper plan, and is very earnestly recommended.

Application of Projectiles to Rescuing from Fire. [From the London Mechanics' Magazine.

We extract from the "Supplement" alluded to in the article on "Mr. Murray's Plan of Instantaneous Communication with Stranded Vessels," (see page 51,) the following proposition for the application of Mr. Murray's pistol and arrow to the purposes of a fire-escape:

"I have already particularly referred to the application of the arrow and line to the instantaneous formation of fire, and it has been mentioned that the cord projected over a building was found quite sufficient to draw a rope over the roof. The suggestion was to make it thus effective for an extended rope ladder, which might be instantaneously formed on both sides of the building. The parallel ropes employed in the formation of the rope ladder must needs be kept separate by bars of wood alternating with rope, in order to prevent approach; and a single rope would suffice, there being steps attached to the side like the stirrup, the footstep having its base formed of wood, which would thus preserve an open space; the rope might be either projected at once over the roof and fastened on the opposite side, or the arrow be fired into one of the highest windows, or wherever required; to the top of the rope attached to the line might be fastened a lantern, to direct proceedings; a hammer and staple with a tally, instructing the inmates to drive the staple firmly into the floor, for fastening the rope of escape to it. For the purpose of facilitating the descent of the timid or helpless, the rope referred to might be supplied with two or more blocks, with pullies on each side, through which patent sash cord might pass for the purpose of raising or lowering a square basket, for the reception of invalids or females and children; and by the steps provided, some intrepid and enterprising individual might ascend for facilitating the rescue of the infirm and timid.

"There are cases wherein no fire-escape hitherto proposed would have proved effective in saving the helpless inmates. I may mention, as an instance of this description, the conflagration of Mr. Haigh's cotton-mills, at Colne-Bridge, near Huddersfield, some years ago, and in which seventeen individuals perished, as recorded in the pyramidal tomb reared over their ashes in the neighboring church-yard."

A mode of rescue similar to this of Mr. Murray's—only that a cross-bow is used instead of the pistol and arrow—has been already successfully reduced to practice by the admirable fire-establishment of Edinburgh. As the Edinburgh arrangements for the purpose are more complete than those of Mr. M., and are most of them equally adapted to the present invention, we shall here add the account given of them by Mr. Braidwood, in his excellent work on fire-engines, (Edin. 1830.)

"The apparatus necessary for this fire-escape is a chain ladder, 80 feet long, a single chain or rope of the same length as the ladder, a canvass bag, a strong cross steel bow, and a fine cord of the very best workmanship and materials 130 feet long, with a lead-bullet of 3 ounce weight attached to one end, and carefully wound upon a wooden cone, 7 inches high, and 7 inches broad at the base, turned with a spiral groove, to prevent the cord slipping when wound upon it; also a small pulley with a claw attached to it, and a cord reeved through it of sufficient strength to bear the weight of the ladder. In order to prevent the sides of the ladder from collapsing, the steps are made of copper or iron tube, fastened by a piece of cord passed through the iron tube and into the links of the chain until the tube is filled. The steps thus fastened are tied to the chain with No. 14 copper wire, so that in the event of the cord being destroyed, the steps will be retained in their places by the wire. The ladder is provided with two large hooks at one end, for the purpose of fixing it to a roof, window, sole, &c. The bag is of No. 3 canvass, 3 feet wide and 4 feet deep, with cords sewed round the bottom, and meeting at the top, where they are turned over an iron thimble at each side of the mouth of the bag. The steel cross-bow is of the ordinary description, of sufficient strength to throw the lead-bullet, with the cord attached, 120 feet high. When the house from which the persons in danger are to be extricated is so situated that the firemen can get to the roof by passing along the tops of the adjoining houses, they will carry up the chain-ladder with them, and drop it over the window where the inmates show themselves, fastening the hooks at the same time securely in the roof. The firemen will descend by the ladder into the window, and putting the persons to be removed into the bag, lower them down into the street by the single chain. If the flames are issuing from the windows below, the bag when filled is easily drawn aside into the window of the adjoining house by means of a guy or guide-rope. If the house on fire stand by itself, or if access cannot be had to the roof by means of the adjoining houses, the lead-bullet with the cord attached is thrown over the house by means of the cross-bow; to this cord a stronger one is attached, and drawn over the house by means of the former; a single chain is then attached and drawn over in like manner; and to this last is attached the chain-ladder, which, on being raised to the roof, the firemen ascend and proceed as before directed."

METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, FEBRUARY 25, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated for the American Railroad Journal.]

Date	Hours.	Barometer.	Thermometer.	Winds.	Strength of wind.	Clouds from what direction	Weather and Remarks.
Tuesday, Feb. 19..	6 a. m.	29.68	42	SSW	moderate	WSW	cloudy
	10	.73	44	..	..	..	.. —rain
	2 p. m.	.72	44	..	..	..	rainy—cloudy
	6	.70	43	..	..	..	cloudy
	10	.75	41	..	..	..	..
Wednesday, " 20..	6 a. m.	.84	40	SSW—SW	..	..	..
	10	.89	42	WSW	..	..	..
	2 p. m.	.80	48	..	..	..	..
	6	.84	46	..	..	..	..
	10	.95	35	..	..	..	..
Thursday, " 21..	6 a. m.	30.08	25	NNW	..	..	cloudy—fair
	10	.15	30	NW—WSW	..	WSW / WNW	fair—scud cloud from WNW
	2 p. m.	.11	34	WSW—WNW	fresh	W bys—WNW	..
	6	.14	32	WNW	moderate		..
	10	.19	30	..	..		clear
Friday, " 22..	6 a. m.	.20	30	SW by W	..	WSW	fair [from WSW
	10	.20	38	..	fresh	..	.. —thin cirrous cloud
	2 p. m.	.09	45	..	strong	..	.. —beautifully variega-
	6	.00	42	..	moderate	..	.. [ted *cirri.*
	10	29.98	38	..	light		clear
Saturday, " 23..	6 a. m.	.95	35	SW	moderate		..
	10	30.05	44	SW to NW	..	WSW	fair
	2 p. m.	.05	46	NW to NE	..	..	..
	6	.10	42	NE	..	..	..
	10	.15	34	NNE	..		.. —bank of clouds at NNW
Sunday, " 24..	6 a. m.	29.94	35	NE by E	..	WSW / E	cloudy—wind scuds from E
	10	.83	38	..	..	WSW / SE	.. —clouds moving swiftly
	2 p. m.	.57	46	..	..	SW / ESE — SSW	fair—bar. low't at 5, bank of clouds rising from WSW
	6	.47	40	NNE—NW	gale		at 7.15 sudden gale from NW
	10	.66	22	NW	..		snow [with rain and snow
Monday, " 25..	6 a. m.	30.00	18	..	fresh strong	WSW / NW	fair—wind scuds from NW
	10	.02	24	..	strong	.. / ..	..
	2 p. m.	.07	27	..	..	NW	..
	6	.18	24	NNW	moderate		..
	10	.30	22	NW	..		clear

Average temperature of the week, 36.16

[Communicated for the N. Y. American.]

At a regular meeting of the New York Lyceum of Natural History on Monday evening, Captain M. C. Perry, of the United States' Navy, a member of the Society, presented a meteorological journal kept under his direction on board of the United States' ships North Carolina, Concord and Cyane, during cruizes of these vessels in different parts of the world, from March 1825, to December 1832. This interesting journal contains the mean barometrical altitude, the mean temperature of the air and water, from observations made every hour, the place of the ship, and general remarks of the wind and weather, and furnishes a mass of information on the subject of the climate of different parts of the world highly interesting to the scientific observer, and of particular importance to the physician or invalid who should wish to recommend or choose any of the places mentioned in it as a residence. To those acquainted with Captain Perry, the work has a still greater value by the confidence they can place, from the pleasure he takes in investigating different branches of science, in the accuracy of the work. The journal can be examined by applying to any officer of the Society.

MODERN TRAVELLING.

[*From the London Quarterly Review.*]

May we be permitted, since we have mentioned the Arabian Nights, to make a little demand on our readers' fancy, and suppose it possible, that a worthy old gentleman of this said year—1742—had fallen comfortably asleep *à la Dodswell*, and never awoke till Monday morning in Piccadilly? 'What coach, your honor?' says a ruffian-looking fellow, much like what he might have been had he lived a hundred years back. 'I wish to go home to Exeter,' replied the old gentleman, mildly. 'Just in time, your honor—here she comes—them there gray horses—where's your luggage? 'Don't be in a hurry,' observes the stranger; 'that's a gentleman's carriage.' 'It ain't! I tell you,' says the cad, 'it's the Comet, and you must be as quick as lightning.' *Nolens volens*, the remonstrating old gentleman is shoved into the Comet, by a pad at each elbow, having been three times assured his luggage is in the hind boot, and twice three times denied having occular demonstration of the fact.

However, he is now seated—and 'What *gentle man* is going to drive us?' is his first question to his fellow-passengers. 'He is no gentleman, sir,' says a person who sits oppposite to him, and who happens to be a proprietor of the coach. 'He has been on the Comet ever since she started, and is a very steady young man.' 'Pardon my ignorance,' replies the regenerated; 'from the cleanliness of his person, the neatness of his apparel, and the language he made use of, I mistook him for some enthusiastic Bachelor of Arts, wishing to become a charioteer after the manner of the illustrious ancients.' 'You must have been long in foreign parts, sir,' observes the proprietor. In five minutes or less, after this parley commenced, the wheels went round, and in another five, the coach arrived at Hyde Park gate; but long before it got there, the worthy gentleman of 1742 (set down by his fellow-travellers for either cracked or an emigrant from the Backwoods of America) exclaimed, 'What! off the stones already?"—'You have never been on the stones,' observes his neighbor on his right; 'no stones in London, now, sir.' 'But we are going at a great rate,' exclaims again the stranger. 'Oh no, sir,' says the proprietor, '*we never go fast over this stage.* We have time allowed in consequence of being subject to interruptions, and we make it up over the lower ground.' Five-and-thirty minutes, however, bring them to the noted town of Brentford. 'Hah!' says the old man, becoming young again—'what, no improvement in this place? Is old Brentford here? a national disgrace!'

In five minutes under the hour the Comet arrives at Hounslow, to the great delight of our friend, who by this time waxed hungry, not having broken his fast before starting. 'Just 55 minutes and 37 seconds,' says he, 'from the time we left London!—wonderful travelling, gentlemen, to be sure, but much too fast to be safe. However, thank heaven, we are arrived at a good looking house; and now, *waiter!* I hope you have got breakf——.' Before the last syllable, however, of the word could be pronounced, the worthy old gentleman's head struck the back of the coach by a jerk, which he could not account for (the fact was, three of the four fresh horses were bolsters), and the waiter, the inn, and indeed Hounslow itself, disappeared in the twinkling of an eye. Never did such a succession of doors, windows, and window shutters pass so quickly in his review before—and he hoped they might never do so again. Recovering, however, a little from his surprize—'My dear sir,' said he, 'you told me we were to change horses at Hounslow? Surely, they are not so inhuman as to drive these poor animals another stage at this unmerciful rate!' 'Change horses, sir!' says the proprietor; 'why we changed them whilst you were putting on your spectacles, and looking at your watch. Only one minute allowed for it at Hounslow, and it is often done in fifty seconds by those nimble-fingered horse-keepers.' 'You astonish me—but really I do not like to go so fast.' 'Oh, sir, we always *spring* them over these six miles. It is what we call *the hospital ground.*' This alarming phrase is presently interpreted: it intimates that horses whose 'backs are getting down instead of up in their work'—some 'that won't hold an ounce down hill, or draw an ounce up'—others 'that kick over the pole one day, and over the bars the next,' in short all the reprobates, styled in the road slang *bokickers*, are sent to work these six miles—because *here* they have nothing to do but to gallop—not a pebble as big as a nutmeg on the road, and so even, that it would not disturb the equilibrium of a spirit-level.

The coach, however, goes faster and faster over the *hospital ground*, as the 'bokickers' feel their legs, and the collars get warm to their shoulders; and having ten outsides, the luggage of the said ten, and a few extra packages besides on the roof, she rolls rather more than is pleasant, although the centre of gravity is pretty well kept down by four not slender insides, two well laden *boots*, and three huge trunks in the *slide*. The gentleman of the last century, however, becomes alarmed; is sure the horses are running away with the coach—declares he perceives by the shadow, that there is nobody on the box, und can see the reins dangling about the horses' heels. He attempts to look out of the window, but his fellow traveller dissuades him from doing so:—"You may get a shot in your eye from one of the wheels. Keep your head in the coach, it's all right, depend on't. We always spring 'em over this stage.' Persuasion is useless; for the horses increase their speed, and the worthy old gentleman looks out. But what does he see? Death and destruction before his eyes? No: to his surprise he finds the coachman firm at his post, and in the act of taking a pinch of snuff from the gentleman who sits beside him on the *bench*, his horses going at the rate of three miles in the minute at the time. 'But suppose any thing should break, or a linch pin should give way and let a wheel loose?' is the next appeal to the communicative but not very conselling proprietor. 'Nothing *can* break, sir,' is the reply; 'all of the very best stuff; axletrees of the best H. Q. iron, faggoted edgeways, well bedded in the timbers—and as for linch pins, we have not one about the coach. We use the best patent boxes that are manufactured. In short, sir, you are as safe in it as if you were in your bed.' 'Bless me, exclaims the old man, 'what improvements! and the roads!!' 'They are at perfection,' says the proprietor; 'no horse walks a yard in this coach between London and Exeter—all trotting ground now.' 'A little galloping ground, I fear, whispers the senior to himself!' 'But who has effected all this improvement in your paving?' 'An American of the name of McAdam,' was the reply—'but coachmen call him the Colossus of Roads. Great things have likewise been done in cutting through hills and altering the course of roads: and it is no uncommon thing now-a-days to to see four horses trotting away merrily down a hill on that very ground where they were formerly seen walking up hill.

'And pray, my good sir, what sort of horses may you have over the next stage? "Oh, sir, no more bokickers. It is hilly and severe ground, and requires cattle strong and staid. You'll see four as fine horses put to the coach at Staines as you ever saw in a nobleman's carriage in your life.' 'Then we shall have no more galloping—no more springing them, as you term it?' 'Not quite so fast over the next ground,' replied the proprietor; 'but he will make good play over some part of it; for example, when he gets three parts down a hill he lets them loose, and cheats them out of half the one they have to ascend from the bottom of it. In short, they are half way up it before a horse touches his collar; and we *must* take every advantage with such a fast coach as this, and one that loads so well, or we should never keep our time. We are now to a minute; in fact, the country people no longer look at the *sun* when they want to set their clocks; they look only to the *Comet*. But depend upon it, you are quite safe; we have nothing but first rate artists on this coach.' 'Artist! artist!' grumbles the old gentleman, 'we had no such term as that.'

'I should like to see this *artist* change horses at the next stage,' resumes our ancient, 'for at the last it had the appearance of Magic—"Presto, Jack, and begone!"' 'By all means; you will be much gratified. It is done with a quickness and ease almost incredible to any one who has only read or heard of it; but use becomes second nature with us. Even in *my* younger days it was always half an hour's work—sometimes more.'

The coach arrived at Staines, and the ancient gentleman puts his intentions into effect,—though he was near being again too late; for by the time he could extract his hat from the netting that suspended it over his head, the leaders had been taken from their bars, and were walking up the yard towards the stables. On perceiving a fine, thoroughbred horse led towards the coach with a twitch fastened tightly to his nose, he exclaims, 'Hallos, Mr. Horse-keeper? You are going to put an unruly horse in the coach.' 'What? this here *ass?*—growls the the man; 'the quarest *kanimal* alive, sir!' as he shoves him to the near side of the pole. At this moment however, the coachman is heard to say, in somewhat of an under tone, 'Mind what you are about, Bob; don't let him touch the roller-bolt. In thirty seconds more, they are off—'the staid team, so styled by the proprietor, in the coach. 'Let em' go,' says the artist, so soon is he firmly seated upon his box. With this, the near leader rears right on end, and if the rein had not been yielded to him at the instant, he would have fallen backward on the head of the pole. The moment the twitch was taken from the nose of the thoroughbred near wheeler, he drew himself back to the extent of his pole-chain—his fore legs stretched out before him—and then, like a lion loosened from his toil, made a snatch at the coach that would have broken two pair of traces of 1742. A steady and good willed horse, however, his partner, started the coach himself, with a gentle touch of the thong, and away they went off together. But the thorough bred one was very far from being comfortable; it was in vain that the coachman tried to sooth him with his voice, or stroking him with the crop of his tool, i. e. *whip*. He drew three parts of the coach, and cantered for the first mile, and when he did settle down to his trot, his snorting could be heard by the passengers, being as much as to say, 'I was not born to be a slave.' In fact, as the proprietor now observed, 'he had been a fair plate horse in his time, but his temper was always queer.'

After the first shock was over, the Conservative of the 18th century felt comfortable. The pace was considerably slower than it had been over the last stage, but he was unconscious of the reason for its being diminished. It was to accommodate the queer temper of the race-horse, who, if he had not been humored at starting, would never have settled down to his trot, but have ruffled all the rest of the team. He was also surprized, if not pleased, at the quick rate at which they were ascending hills, which, in his time, he should have been asked by the coachman to have walked up—but his pleasure was short-lived; the third hill they descended produced a return of his agony. This was what is termed on the road *a long fall of ground*, and the coach rather pressed on the horses. The temper of the race-horse became exhausted; breaking into a canter, he was of little use as a wheeler, and there was then nothing for it but a gallop. The leaders only wanted the signal; and the point of the thong being thrown lightly over their backs, they were off like an arrow out of a bow: but the rocking of the coach was awful, and more particularly so to the passengers on the roof. Nevertheless, she was not in danger; the master-hand of the artist kept her in a direct line; and meeting the opposing ground, she *steadied*, and all was right. The newly-awakened gentleman, however, begins to grumble again. 'Pray, my good Sir,' says he anxiously, 'do use your authority over your coachman, and *insist* upon his putting the drag chain on the wheel, when descending the next hill.' 'I have no such authority,' replies the proprietor. 'It is true, we are now drawn by my horses, but I cannot interfere with the driving of them.' 'But is he not your servant?' 'He is, Sir; but I contract to work the coach so many miles in so many hours, and he engages to drive it, and both are subject to a fine if the time be not kept on the road. On so fast a coach as this, every advantage must be taken, and if we were to drag down such hills as these, we should never reach Exeter to-day.'

Our friend, however, will have no more of it.—He quits the coach at Bagshot, congratulating himself on the safety of his limbs.

The worthy old gentleman is now shown into a room, and, after warming his hands at the fire, rings the bell for the waiter. A well-dressed person appears, whom he of course takes for the landlord. 'Pray *sir*,' says he, have you any *slow* coach down this road to-day?' 'Why, yes, sir,' replies John; "we shall have the Regulator down in an hour.' 'Just right, said our friend, it will enable me to break my fast, which I have not done to-day.' 'Oh, sir,' observes John, 'these here fast *drags* be the ruin of us. 'Tis all hurry scurry, and no gentleman has time to have nothing on the road. What will you take, sir? Mutton-chops, veal-cutlets, beef-steaks?'

At the appointed time, the Regulator appears at the door. It is a strong, well-built *drag*, painted what is called chocolate color; bedaubed all over with gilt letters—a bull's head on the doors, a Saracen's head on the hind boot—and drawn by four strapping horses; but it wants the neatness of the other. The passengers may be, by a shade or two, of a lower order than those who had gone forward with the Comet; nor perhaps is the coachman quite so refined as the one we have just taken leave of. He has not the neat white hat, the clean doeskin gloves, the well-cut trowsers, and dapper frock, but still his appearance is respectable, and perhaps in

the eyes of many, more in character with his calling. Neither has he the agility of the artist on the Comet, for he is nearly double his size; but he is a strong, powerful man, and might be called a pattern card of the heavy coachman of the present day—in other words, a man who drives a coach which carries sixteen passengers instead of fourteen, and is rated at eight miles in the hour instead of ten. 'What room in the Regulator?' says our friend to the waiter, as he comes to announce its arrival. 'Full inside, sir, and in front, but you'll have *the backgammon board* all to yourself, and your luggage is in the hind boot.' 'Backgammon board! Pray what's that? Do you not mean *the basket*?' 'Oh no, sir,' says John, smiling—'no such a thing on the road now. It is the hind-dickey, as some call it; where you'll be as comfortable as possible, and can sit with your back or your face to the coach, or *both*, if you like.' 'Ah, ah,' continues the old gentleman; 'something new again, I presume.' However, the mystery is cleared up; the ladder is reared to the hind wheel, and the gentleman safely seated on the backgammon board.

Before ascending to his place, our friend has cast his eye on the team that is about to convey him to Hertford Bridge, the next stage on the great western road, and he perceives it to be of a different stamp from that which he had seen taken from the coach at Bagshot. It consisted of four moderate sized horses, full of power, and still fuller of condition, but with a fair sprinkling of blood—in short the eye of a judge would have discovered something about them not very unlike galloping. 'All right!' cried the guard, taking his key bugle in his hand; and they proceeded up the village, at a steady pace, to the tune of 'Scots wha hae wi' Wallace bled,' and continued at that pace for the first five miles. '*I am landed*,' thinks our friend to himself. Unluckily, however, for the humane and cautious old gentleman, even the Regulator was now to show tricks. Although what now is called a slow coach, she is timed at eight miles in the hour, through a great extent of country, and must of course make play where she can, being strongly opposed by hills lower down the country, trifling as these hills are, no doubt, to what they once were. The Regulator, moreover, loads well, not only with passengers, but with luggage; and the last five miles of this stage, called the Hertford bridge flat, have the reputation of being the best five miles for a coach to be found at this time in England.

The ground is firm, but elastic; the surface undulating, and therefore favorable to draught; always dry, not a shrub being near it; nor is there a stone upon it much larger than a marble. These advantages, then, are not lost to the Regulator, or made use of without sore discomposure to the solitary tenant of her backgammon board.

Any one that has looked into books will very readily account for the lateral motion, or rocking, as it is termed, of a coach, being greatest at the greatest distance from the horses—(as the tale of a paper kite is in motion whilst the body remains at rest;) and more especially when laden as this coach was—the greater part of the weight being forward. The Regulator takes but twenty-three minutes for these celebrated five miles, which cannot be done without 'springing the cattle now and then; and it was in one of the very best of their gallops of that day, that they were met by the coachman of the Comet, who was returning with his *up* coach. When coming out of rival yards, coachmen never fail to cast an eye to the loading of their opponents on the road, and *now* that of the *natty* Artist of the Comet experienced a high treat. He had a full view of his quondam passenger, and thus described his situation. He was seated with his back to the horses—his arms extended to each extremity of the guard-irons—his teeth set grim as death—his eyes cast down towards the ground, thinking the less he saw of his danger the better. There was what is called *a top-heavy load*—perhaps a ton of luggage on the roof, and, it may be, not *quite* in obedience to the Act of Parliament standard. There were also two horses at wheel whose strides were of rather unequal length, and this operated powerfully on the coach. In short, the lurches of the Regulator were awful at the moment of the Comet passing her. A tyro in mechanics would have exclaimed, 'the centre of gravity must be lost, the centrifugal force will have the better of it, *ever she must go!*'

The centre of gravity having been preserved, the coach arrives safe at Hertford bridge—but the old gentleman has again had enough of it. 'I will walk into Devonshire,' said he, as he descended from his perilous exaltation. What did that rascally waiter mean by telling me it was a slow coach? and, moreover, look at the luggage on the roof?' 'Only regulation height, Sir,' says the coachman; 'we arn't allowed to have it an inch higher;—sorry we can't please you, Sir, but we will try and make room for you in front.' '*Fronti* nulla fides,' mutters the worthy to himself, as he walks tremblingly into the house—adding, 'I shall not give this fellow a shilling, *he is dangerous*.'

The Regulator being off, the waiter is again applied to. 'What do you charge per mile posting?' 'One and sixpence, Sir.' 'Bless me, just double! Let me see—two hundred miles at two shillings per mile, postboys, turnpikes, &c., £20. This will never do. Have you no coach that does not carry luggage on the top?' 'Oh yes, Sir,' replies the waiter, 'we shall have one to-night, that is not allowed to carry a band-box on the roof.' That's the coach for me; pray what do you call it?' 'The Quicksilver mail, Sir; one of the best coaches out of London—Jack White and Tom Brown, pick'd coachmen, over this ground—Jack White down to-night.' 'Guarded and lighted?' 'Both, Sir; blunderbuss and pistols in the sword case; a lamp each side the coach, and one under the footboard—see to pick up a pin the darkest night of the year.' 'Very fast?' Oh no, Sir, just keeps time and that's all.' 'That's the coach for me, then,' repeats our hero; 'and I am sure I shall feel at my ease in it. I suppose it is what used to be called the Old Mercury.'

Unfortunately, the Deavonport (commonly called the Quicksilver) mail is half a mile in the hour faster than most in England, and is, indeed, one of the miracles of the road. Let us, then, picture to ourselves our anti-reformer snugly seated in this mail, on a pitch-dark night in November. It is true she has no luggage on the roof; nor much to incommode her elsewhere, but she is a mile in the hour faster than the Comet, at least three miles quicker than the Regulator; and she performs more than half her journey by lamplight. It is needless to say, then, our senior soon finds out his mistake, but there is no remedy at hand, for it is the dead of the night, and all the inns are shut up. He must proceed, or be left behind in a stable. The climax of his misfortunes then approaches. Nature being exausted, sleep comes to his aid, and he awakes on a stage which is called the fastest on the journey,—it is four miles of ground, and twelve minutes is the time! The old gentleman starts from his seat, having dreamed the horses were running away with the coach, and so, no doubt, they might be. He is, however, determined to convince himself of the fact, though the passengers assure him, 'all's right.' 'Don't put your head out of the window,' says one of them, 'you will lose your hat to a certainty:' but advice is seldom listened to by a terrified man, and next moment a stentorian voice is heard, crying, 'Stop, coachman, stop—I have lost my hat and wig!' The coachman hears him not—and in another second the broad wheels of a *down*waggon have for ever demolished the lost head-gear. But here we must leave our adventurous Gilpin of 1742. We have taken a great liberty with him, it is true, but we are not without precedent. One of the best chapters in Livy contains the history of 'an event which never took place.' In the full charm of his imagination, the historian brings Alexander into Italy, where he never was in his life, and displays him in his brightest colours. We father our sins, then, upon the Patavinian.

HOME AFFAIRS.

CONGRESS.

Wednesday, 20th.—In Senate.

Mr. Naudain presented several resolutions of the General Assembly of the State of Delaware, praying a re-organization of the Militia of the United States.

Also, various resolutions of the same Legislature, relative to the tariff; both which series of resolutions were laid on the table.

On motion of Mr. Smith, the bill amendatory to the revenue act of 1832, and re-imposing a duty on sheet copper, for ships bottoms, was taken up and considered as in Committee of the Whole.

The bill was then ordered to be engrossed and read a third time.

The bill form the House, for the gradual improvement of the navy of the United States, was read twice, and referred to the Committee on Naval Affairs.

The Senate having proceeded to the election of a Printer to that body for the next Congress, the following ballotings took place, viz:

	1st	2d	3d	4th	5th	6th	7th	8th	9th
Duff Green,	16	19	19	21	21	20	20	21	22
F. P. Blair,	17	17	17	17	15	13	11	11	10
Gales & Seaton,	8	7	5	5	6	10	11	11	9
Scattering,	2	1	2	0	1	0	2	0	2

So, on the 9th balloting, Duff Green was declared to be duly chosen.

Special Orders.

Mr. Poindexter concluded his remarks at fifteen minutes before three, when

Mr. Webster said a few words in reply. He was replied to by Mr. Poindexter; after which, the following bills were read severally and referred:

The bill making appropriations for the Indian Department for the year 1833;

The bill to create sundry new Land Offices, and to alter the boundaries of other Land Offices of the United States;

The bill making appropriations for the support of the army for the year 1833.

Mr. Foot presented the petition of Isaiah Brown, praying for a patent, which was referred to the Committee on Public Lands.

On motion of Mr Grundy,

The Senate then took a recess until 5 o'clock.

House of Representatives.

Mr. Horn offered the following resolution:—

Resolved, That the Committee of Ways and Means be instructed to inquire into the expediency of repealing so much of the act of Congress, passed the 14th of July, 1832, entitled "an act to alter and amend the several acts imposing duties on imports," as provides that certain articles therein mentioned shall not be imported at a less rate of duty than would have been chargeable upon the raw material constituting the chief value, if imported in an unmanufactured state.

Mr. Horn explained the object of his resolution.

After some remarks from Mr. Dearborn, Mr. Cambreleng, and Mr. Huntington, the latter moved to lay the resolution on the table.

Mr. Speight moved the previous question, which, after an ineffectual motion by Mr. Denny for the Order of the Day, was seconded, and the main question was ordered and put, when the House adopted the resolution.

The House took up the special order of the day, which was

The Tariff Bill.

The question was on the motion submitted by Mr. Taylor to reconsider the vote concurring in the amendment of the Committee of the Whole to lay a of duty two cents per pound on raw cotton imported.

Mr. Vinton asked for the ayes and noes, which were ordered and taken, when the motion was negatived by a vote of ayes 72, noes 105.

So the House refused to lay the motion on the table.

The question was then on the reconsideration of the vote.

Mr. Blair, of South Carolina, asked for the yeas and nays.

The question being taken on the motion for reconsideration, when it was decided in the affirmative, on a division, by yeas and nays, by a vote of ayes 91, noes 77. So the motion was agreed to.

The question recurred on the amendment of the Committee.

[*From the Washington Globe.*]

Analysis of Proceedings.—During the evening session in the Senate, on Wednesday, Mr. Grundy addressed the Senate about three hours in support of the provisions and general principles of the bill further to provide for the collection of duties on imports. Mr. Ewing then followed in support of the bill in a speech of about an hour and a half. When Mr. E. had concluded, Mr. Tyler moved the Senate adjourn, which was negatived—yeas 5, nays 27. The question was then taken on the final passage of the bill, which was carried by the following vote—yeas 32, nays 1. The Senate then adjourned.

Thursday, Feb. 20—In Senate.

The vote by which the Senate heretofore agreed to take a recess daily from three to five o'clock, was on motion of Mr. Kane, rescinded. On motion of Mr. Clay, the bill modifying the several Tariff laws, was taken up as in Committee of the Whole. The several amendments reported by the Select Committee, to which the bill had been referred, were adopted, after some discussion, in which several members participated. Mr. Clay moved to amend the bill, by fixing the period of its commencement a quarter of a year later than originally reported, which was agreed to.

Mr. Clay then moved to amend ths bill, by adding at the end of the third section as amended, a provision that the permanent duty of 20 per cent. to be assessed after 1842, should be calculated upon the market value of the merchandize at the port where it may be entered and not upon its foreign value. Upon this amendment a prolonged debate took place, in which Messrs. Clay, Smith, Forsyth,, Holmes, Calhoun, Clayton, Dallas, Kane, Silsbee, Poindexter and Tyler, took part; when Mr. Moore moved to amend the amendment by adding a proviso that

the valuation should be uniform at all the ports of the United States.

This proviso was discussed by Messrs. Black, Clay, Calhoun, Holmes, Moore, Forsyth, Smith and Miller; when, before the question was taken, Mr. Holmes moved an adjournment, which was carried, Ayes 22, Noes 19.

HOUSE OF REPRESENTATIVES.

A bill from the Senate authorizing the President to cause the line between the States of Illinois and Indiana, to be run and durably marked, was passed with an amendment.

The Special Order (the Tariff Bill) was called, when Mr. Dickson moved to postpone it until Saturday (this day being specially set apart for the business of the District), for the purpose of making some disposition of the Bill from the Senate, above referred to. The motion was advocated by Messrs. Dickson, Irvin, Ellsworth and Sutherland, and opposed by Messrs. Cambreleng, Clay, Thompson, of Georgia, Bouldin, Archer, Clayton and Isacks, and rejected—yeas 86, nays 99.

The House then resumed the consideration of the Tariff Bill. The amendment of the Committee of the Whole, which proposed to strike from the Bill the clause fixing a duty of 15 cents until 1834, and afterwards a duty of 10 cents per gallen on olive oil, was agreed to. The amendment fixing a duty of 25 cents per gallon on linseed, hemp seed, and rape seed oil, was amended by inserting a duty of 20 cents per gallon on olive oil, and concurred in.

The amendment of the Committee striking out the section imposing a duty of one cent per pound on coffee, after September, 1833, was concurred in—yeas 117, nays 57. The amendment striking out the section imposing a duty on teas was concurred in—yeas 108, nays 63. The House then, at six o'clock P. M., adjourned.

February 22.—IN SENATE.

The various bills lying on the table, waiting for their third reading, were taken up, read a third time, and passed.

On motion of Mr. Forsyth, the Senate then proceeded to the consideration of Executive business.

When the doors were re-opened—

The Senate proceeded to the consideration of the bill to modify the acts imposing duties on Imports.

After considerable debate, the question being upon Mr. Clay's motion to amend the bill (so as to require a home instead of a foreign valuation, after the year 1842,)

So the amendment was agreed to.

HOUSE OF REPRESENTATIVES.

Mr. Hoffman rose and announced to the House the decease of James Lent, Jr. a Member of the House of Representative from the State of New-York. After some appropriate remarks, Mr. H. submitted the following resolutions, which were unanimously adopted:

1. Resolved, That the members of this House will testify their respect for the memory of James Lent, deceased, late a member of this House from the State of New-York, by wearing crape on the left arm for the remainder of the present session of Congress.

2. Resolved, That this House will attend the funeral of the late James Lent, to-morrow at 11 o'clock, A. M. and that a Committee be appointed to take order for, and to superintend, the said funeral.

3. Resolved, That a message be sent to the Senate to notify that body of the death of James Lent, late a member of this House, and that his funeral will take place to-morrow at 11 o'clock.

The House then adjourned.

Saturday, February 23.—IN SENATE.

At 11 o'clock the Senate attended the funeral of the Honorable James Lent, late a member of the House of Representatives, from the State of New York.

At half past one, the Senate convened and proceeded to business.

The Chair communicated a letter from the Secretary of State, transmitting statements of the names of seamen and passengers arrived in the ports of the United States during the last year.

Mr. Dallas presented a remonstrance from sundry manufacturers of worsted yarn resident in Philadelphia against a reduction of duties on those articles.

New Tariff Projet.

On motion of Mr. Clay, the Senate resumed the consideration of the "bill to modify the Act passed July 14, 1832, entitled an act to alter and amend the several acts imposing duties on imports,"—the question being on Mr. Smith's motion to strike out that part of the 2d section of the Bill which increases the duty on Kendal cottons and plains, &c. from five per cent to fifty.

The Bill was then reported to the Senate, and the several amendments adopted in the Committee of the Whole were concurred in. Mr. Dallas moved to strike out the words in the third section requiring that such duties should be laid as are necessary to an economical administration of the Government.

Mr. Dallas and Mr. Webster contended that this clause had no legal effect whatever, but amounted to an admonition to our successors that duties hereafter should be laid with a view to revenue only and not protection.

The discussion was continued by Messrs. Clay, Forsyth, Webster, and Buckner, and at 8 o'clock the motion was still undecided.

P. S.—*Half past* 9. Mr. Clay's Tariff Bill has just been ordered to be engrossed and read a third time *without a division.*

Mr. Dallas's amendment failed by a large majority.

HOUSE OF REPRESENTATIVES.

At half-past eleven o'clock, the body of the Hon. James Lent, deceased, attended by the pall bearers, the committee of arrangements, &c., was placed in the Hall of Representatives.

The President of the United States, the heads of Departments, the Senators and the officers of the Senate, and a numerous concourse of citizens of both sexes, entered the Hall about the same time.

The funeral service was performed by the Rev. Mr. Hammett, Chaplain of the House; after which the procession moved to the congressional burying ground, situate on the eastern branch of the Potomac.

At 2 o'clock, P. M. the House was called to order; but a quorum not being present,

The House adjourned.

Monday, Feb. 25th.—IN SENATE.

Mr. Smith, from the Committee on Finance, reported the Bill making appropriations for the support of the army for the year 1833, without amendment.

The Senate resumed the consideration of the "bill to modify the Act of the 14th of July, 1832, and all other Acts imposing duties on imports."

HOUSE OF REPRESENTATIVES.

Revenue enforcing Bill.

The special order (the tariff bill) being called,

Mr. Bell said he hoped the House would refuse to take up the special order, until some disposition was made of the bill from the Senate further to provide for the collection of duties on imports.

The House then refused to take up the Special order; Yeas 80, Nays 106.

Mr. Clay New Tariff Project.

The House then resumed the consideration of Mr. Verplank's Tariff bill.

Mr. Letcher moved to re-commit the bill to the Committee of the Whole, with instructions to strike out all after the enacting clause, and *insert the bill pending in the Senate* (Mr. Clay's) on the same subject, and that the Committee report the bill this day.

The motion was assented to—Yeas 96, Nays 54,

Half past 8 *Evening—Mr. Clay's Bill.*

In the Senate, Mr. Smith, in the evening session, finished his speech against the bill.

Mr. Bell, of N. H. gave his reasons for voting for the measure.

Mr. Dickerson moved to recommit the bill from the Committee from which it was reported, with instructions so to amend it as to regulate the reduction of duties on articles now subject to a specific duty in such a manner that the reduction should not be more unfavorable to those articles than to articles subject to an advalorem duty.

Mr. Mangum spoke in favor of the bill.

Mr. Holmes made sone remarks on the same side.

Mr. Dickerson spoke at considerable length against the bill.

Mr. Clay then rose and *supposed a case* of the passage of this identical bill to an engrossment in the other House, in which case, it would be admitted that it would be unnecessary for the Senate to deba e the matter longer at this time. He also suggested that those gentlemen who were prevented by constitutional scruples from giving their votes for the bill would, probably, be reconciled to its support in case it should come to us from the House of Representatives.

[It was known to the Senate some minutes before Mr. Dickerson closed his remarks, that the bill had passed to a third reading in the House, and there was a general expression of gratification at the intelligence. The House took the matter up in this informal way or rather hasty way, in order to rid the bill of the objection which had been raised against it as a Revenue Bill which could not be originated in the Senate. It was learned therefore that those members of the House of Representatives who oppose the bill, would raise the question of privilege against it.]

The Senate, on motion of Mr. Clay, then adjourned.

Tuesday, February 25.—IN SENATE.

On motion of Mr. Hendricks, the Senate proceeded to consider the bill for the continuation of the Cumberland Road, in the States of Indiana and Illinois.

Mr. Hendricks moved to amend the bill by inserting an additional appropriation of $125,000, for repairing the Cumberland Road east of the Ohio.

The amendment was agreed to.

Mr. Hendricks moved to amend the bill, by adding a section authorizing the Secretary of the Treasury, with the approbation of the President, to change a part of the location of the road.

The amendment was agreed to.

The bill having been reported, the amendments were concurred in. The bill wes then ordered to be engrossed and read a third time.

The bill from the House to modify the act of the 14th of July, and other acts imposing duties on Imports, was read a first time, and ordered to a second reading.

The bill of the Senate on the same subject was then laid on the table.

The Senate then adjourned.

HOUSE OF REPRESENTATIVES.

The Tariff Bill.

As amended by inserting the whole bill of Mr. Clay, in the shape in which it has been ordered to a third reading in the Senate, was read a third time, and the question being on its passage—

Mr. Huntington, after a few remarks on the great importance of this question, moved a call of the House.

The House was called accordingly.

It appeared that 201 members were present.

Mr. Burges moved to suspend further proceedings on the call, but the motion failed—Ayes 69, Noes 78.

The doors were then closed, and the excuses of absentees received. Proceedings were then suspended, and the doors of the hall again opened.

Mr. Burges remonstrated very warmly against the passage of the bill; and in the course of his remarks adverted with some severity to the agency of Mr. Clay, in originating the measure.

Mr. Jenifer replied with warmth to this part of the speech, and vindicated the purity of Mr. Clay's motives and purposes.

Mr. Foster said his constitutional objections to the bill had been removed by a closer examination of its provisions. Still he did not like the bill, but was willing to take it as an experiment.

Mr. Denny delivered at considerable length the reasons that would induce him to vote against the bill.

Mr. Daniel replied to the remarks of Mr. Burges, in respect to Mr. Clay, and vindicated the general objects of the bill. He demanded *the Previous Question;* but withdrew his motion at request of

Mr. Burges, who briefly, but severely rejoined.

Mr. Sutherland then made a highly animated speech in opposition to the bill.

Mr. Carson demanded the Previous Question; but the motion failed, only 65 rising to second it.

Mr. Bates, of Maine, then gave the reasons why he should vote for the bill; and

Mr. Pendleton stated the grounds upon which he should vote against it.

Mr. McDuffie, though not believing the bill proposed to make to the Soulh all the concession to which they were justly entitled, yet he believed, such as it was, it would give peace to the country, and therefore would vote for it.

Mr. Speight moved the Previous Question, but immediately withdrew the motion.

Mr. Huntington asked the Yeas and Nays on the passage of the bill, which were ordered.

Mr. Bates, of Mass. made his protest against the bill. as a total surrender of the principle of protection.

Mr. Williams now moved for the previous question.

The motion was seconded—Ayes 93, Noes 65.

Mr, Dickson called for the yeas and nays on the previous question, and they were ordered.

The previous question was then put as follows:

Shall the main question be now put?

The yeas and nays being taken, stood—Yeas 118, Nays 85.

The main question, viz; Shall this Bill pass? was then put, and decided by yeas and nays, as follows:

YEAS.—Messrs. Adair, Alexander, Chilton Allen, Robt. Allen, Anderson, Angel, Archer, Armstrong, Arnold, J. S. Barbour, Barnwell, Barringer, James Blair, John Blair, Boon, Bouck, Bouldin, Branch, John Brodhead, Bullard, Cambreleng, Carr, Carson, Chinn, Claiborne, Clay, Clayton, Coke, Connor, Corwin, Coulter, Craig, Creighton, Daniel, Davenport, W. R. Davis, Doubleday, Drayton, Draper, Duncan, Felder, Findlay, Fitzgerald, Foster, Gai-

ther, Gilmore, Gordon, Griffin, Thomas Hall, Wm. Hall, Harper, Hawes, Hawkins, Hoffman, Holland, Horn, Howard, Hubbard, Irvin, Isacks, Jarvis, Jenifer, Richard M. Johnson, Cave Johnson, J. Johnson, Kavanagh, Kerr, Lamar, Lansing, Lecompte, Letcher, Lewis, Lyon, Mardis, Mason, Marshall, Maxwell, Wm. McCoy, McDuffie, McIntire, McKay, Mitchell, Newnan, Newton, Nuckolls, Patton, Plummer, Polk, Rencher, Roane, Root, Semmes, Sewall, Wm. B. Shepard, Augustus H. Shepperd, Smith, Speight, Spence, Stanbery, Standifer, F. Thomas, Philemon Thomas, Wiley Thompson, John Thomson, Tompkins, Verplanck, Ward, Washington, Wayne, Weeks, Elisha Whittlesey, Campbell P. White, Edward D. White, Wickliffe, Williams, Worthington, James Bates, Bell, Bergen, Bethune —118.

Nays.—Messrs. Adams, Heman Allen, Allison, Appleton, Ashley, Babcock, Banks, N. Barber, Barstow, Isaac C. Bates, Beardley, Briggs, John C. Brodhead, Bucher, Burd, Burges, Cahoon, Chandler, Choate, Collier, Lewis Condict, S. Condit, E. Cooke, Bates Cooke, Cooper, Crane, Crawford, John Davis, Dayan, Dearborn, Denny, Dewart, Dickson, Ellsworth, George Evans, Joshua Evans, Edward Everett, Horace Everett, Ford, Grenell, Hiland, Hall, Heister, Hodges, Hogan, Hughes, Huntington, Ihrie, Ingergoll, Kendall, Kennon, Adam King, John King, Henry King, Leavitt, Mann, McCarty, Robert McCoy, McKennan, Mercer, Milligan, Muhlenburg, Nelson, Pearce, Pendleton, Pierson, Pitcher, Potts, Randolph, John Reed, Edward C. Reed, Russel, Slade, Southard, Stephens, Storrs, Sutherland, Taylor, Vinton, Wardwell, Watmough, Wilkin, Wheeler, Frederick Whittlesey, Young—85.

So the bill was passed, and sent to the Senate for concurrence.

LEGISLATURE OF NEW YORK.

Saturday, February 23—In Assembly.

The Governor informed the House he had signed the bill to construct the *Chenango Canal.*

SUMMARY.

[*From the United States Gazette.*]

Philadelphia.—Washington's Birth Day.—Yesterday, the One Hundred and First Anniversary of the birth of Washington, was celebrated in this city, by the laying of a corner stone for a Monument to the Father of the Nation. Notwithstanding that only a few days were taken to make preparation for the ceremonies, the procession was remarkably long, and besides most of the banners which distinguished the different trades on the centennial celebration, several very splendid ones, particularly appropriate to this occasion, were borne in the procession. The troops were commanded by Major General Cadwallader; the whole civic procession was under his honor John Swift, Mayor of the city, acting as Chief Marshal, having several aids.

The Philadelphia Gazette thus remarks on the day and the celebration:

We hope that many thousand minds reverted to his history and example yesterday, and gathered from a consideration of them, new feelings of patriotic ardor, and new devotion to our noble Union. Should difficulties similar to those which beset our country in its infancy ever arise, where shall we look for his like again?

"His was Octavius's prosperous star,
The rush of Cæsar's conquering car
At battle's call;
His Scipio's virtue; his the skill
And the indomitable will
Of Hannibal.
His was a Trajan's goodness; his
A Titus' noble charities,
And righteous laws;
His the Archæan arm; the might
Of Tully to maintain the right
In Truth's just cause.
The clemency of Antonine,
Aurelius's countenance divine,
Firm, gentle, still;
The eloquence of Adrian,
And Theodosius' love to man,
And generous will.
In tented field, and bloody fray,
An Alexander's vigorous sway,
And stern command;
The faith of Constantine; aye more,
The famous love Camillus bore
His native land."

Liberia.—The Philadelphia papers of Saturday contain extracts from the Monrovia Herald of the 7th of December. Things were going on prosperously with the colony. The editor of the Herald had recently paid a visit to the Bassa Country, South of Liberia, where the slave trade was still carried on vigorously. A French vessel of only 25 tons was lying at anchor off the coast, waiting for the completion of her human cargo. The number intended to be taken on board is said to have been 120. The schooner was from Martinique, but the slaves were to be landed at St. Thomas.

A Board for the examination of Midshipmen, whose warrants bear date prior to the first of January, 1828, will be convened at Baltimore on the first Monday in May next.

Compliment to New England.—The following beautiful compliment to New England was pronounced by the Hon. William B. Shepard of North Carolina, in the the course of a speech delivered in the U. S. House of Representatives:—

"Did I believe it essential to the prosperity or welfare of the Southern States, that the manufactories of the North should be levelled with the dust, it would be an unpleasant duty to vote a benefit to myself which would be the entire ruin of another. A few summers ago, while flying from the demon of ill health, I visited New England. I found the towns and villages crowded with an industrious and enterprizing population, her hills and vallies redolent with health, prosperity and contentment; every mind seemed to be intent, every hand was occupied; the world does not contain a more flourishing community. There the advantages of education are extended to the poorest individual in society, and that society receives its renumeration in his sober, industrious and economical habits. If the divine Plato were alive he would no longer draw upon his imagination for a specimen of a perfect republic; he would there find a community, in which the humblest individual had the same voice with his more wealthy neighbor, in laying the public burdens for the public welfare. I asked myself if it were possible that the prosperity of this people could be the hot-bed production of an artificial system, or rather if it were not the result of a long continued toil, of an industry that never tired, of an economy that never slept. I looked upon the scene around me with no feelings of murmuring discontent; I felt the more rejoiced that it was a part of my country.

Mr. Lent, of Queens county, L. I., member from the first congressional district of this State, died at Washington after a short but violent illness on Friday.

The House of Representatives, on communication of the melancholy intelligence, immediately adjourned, after passing the usual votes of respect.

Mission to France.—It has been for some time a settled point in the public belief, that the Secretary of State, Mr. Livingston, was to be the successor of Mr. Rives at the Court of France. By accounts from Washington to-day, however, it seems no Minister is to be sent; and that *Leavitt Harris*, long Consul-General in St. Petersburgh, has been nominated to the Senate as *Chargé d'Affaires* to France

United States Senator for New Jersey.—The Legislature of New Jersey, now in session at Trenton, on Saturday made choice of Samuel L. Southard, the present Governor, as United States Senator for the ensuing six years, in the place of Malon Dickerson, whose term expires on the 4th March. The vote stood—S. L. Southard, (National,) 37; Captain R. Stockton, (Jackson,) 23. Mr. Dickerson was not a candidate. The State will be ably represented in the Senate.

The Vestry of St. Ann's Church, Brooklyn, have called the Rev. Benjamin C. Cutler to the rectorship of that church, to be vacated the 1st of May next, by the right Rev. Dr. McIlvaine, Bishop of Ohio. Mr. Cutler has accepted the call. While we cannot but regret the loss of our respected brother's services in the City Mission, we feel bound to acquiesce in his decision, from the knowledge that it was guided by counsel from some of the best friends both of the Mission and of the Church.—[Churchman.]

Militia of Maine.—By the report of the Adjutant General it appears that the militia of Maine, according to the last annual return, are in number 40,006, exclusive of seven companies, from which no returns were received. They are divided as follows:—Cavalry, 1592; Artillery, 1767; Infantry, 32,092; Light Infantry, 3286; Riflemen, 1269. Seventeen Courts Martial were held during the last year at an expense of $936 06.

Commerce of Cincinnati.—During the past five years there have arrived at the public wharf in Cincinnati 6852 steamboats, laden with produce, their aggregate burthen being 766,513 tons. During the year 1833, there were landed there, among other merchandize, the following, with the annexed estimated value t—97,578 brls. Flour, at $4 25 per brl. $414,656; 40,425 do Whiskey, at $9, $363,825; 19,758 Pork, at 10, $197,580; 30,960 kegs Lard, at $2 75 per keg, 85,140; 1,156 brls. do, at 15 per brl. 17,340; 1,877,240 lbs. Bacon, 4 1-2 cts per lb. 84,475; 53,539 do Butter, 9 cts. do, 4,818; 99 brls. Linseed Oil, $35 per brl. $3,465—Total value, $1,171,299.

Fire at Charleston.

Engineer Department, Charleston, Feb. 17, 1833.

To the Hon. Henry L. Pinckney, Intendant:

Sir,—After a lapse of nearly seven years, our city was visited last evening with a conflagration of more than ordinary character. At seven o'clock a small wooden building, occupied by Henry Lovett, a dealer in old iron and rags, situated on East Bay, a few doors north of Market street, was discovered to be in flames. The wind at this time blowing from N. E. directed the fire towards Market street, and from thence to the lower or small meat market, a long brick arched building, covered with shingles. The fire at this time began a rapid and alarming progress westward, towards Meeting street, and from the nature of the materials which formed the buildings in that street, great apprehensions were entertained that the squares on each side of the market would be involved in one general conflagration. The very prompt and efficient exertions of the Axemen soon brought the long wooden vegetable stall attached to the lower market to the ground and arrested the progress of the flames, so far as the market was calculated to extend them in that quarter. The fire, however, on the South side of the street, making rapid strides in a Westwardly direction.—In the mean time, three large wooden buildings on the south side of the street took fire, and threatened to lay the whole southern section of that part of the city in ashes. At this moment the wind fortunately changed to S.E. and drove the flames back, and confined them to the buildings already on fire to the North, and by the vigorous exertions displayed by those who were aiding, the front of the houses on fire were driven out, and the flames entirely arrested.

Orders were given to make a breach by blowing up the large three story wooden building at the corner of Anson street, occupied by Anson & Munro as a grain store, in order to prevent the fire crossing Anson street. This order was promptly executed, although the whole roof of the building was enveloped in flames, and certainly had the tendency of arresting the fire in that direction, and confined it to the Eastern side of the street, although Mr. Johnson,s Corn Store and Mill on the Western side of the st. were several times on fire, and was composed entirely of wood, yet the firemen succeeded in savingit. At this point the fire stopped. It progressed a short distance up Anson st. and destroyed a very fine large three story brick building, occupied by Mrs. Lusher, as a boarding house, and owned by the Misses Ross —an attempt was made to save this house by blowing up a two story building near it, occupied by Mrs. Hutchinson, but this latter building was so completely enveloped by flame, that although it was levelled to the ground, yet the object in view was not obtained. At this point the fire may be said to have been arrested. Several buildings at a great distance from the conflagration, were set on fire by the flakes, but the vigilance of the neighbors prevented any disasters from this source.

Connected with this subject, it affords us much pleasure to communicate to you the important aid rendered us on the occasion by Col. Bankhead of the army, and Capt. Zantzinger of the Natchez. As soon as it was discovered that our city was in flames, the former, with Major Henman and Captain Ringgold, manned their boats with 100 men and repaired to the spot. A detachment from the Natchez, with buckets, and their officers, also made their appearance, and exerted themselves manfully and efficiently.—Those gentlemen deserve our gratitude for repairing to our succour with such promptitude, and rendering services that cannot be too highly appreciated.

The number of buildings destroyed are between 30 and 40, and the value estimated at $30,000.

Martin Staobel, Principal Engineer.

[*From the London Court Journal, Jan.* 12.]

The Comte de Survilliers (Joseph Buonaparte) is constantly surrounded by the members of his family now in town; his residence in Park Crescent is the scene of continual hospitality. His visit to Europe for the chance of an interview with the Duke of Reichstadt having been undertaken too late, it is his intention to pass one year in England, and then return to the magnificent seat he has created in the neighborhood of Philadelphia.

The Marchioness of Wellesley has resumed her attendance upon her Majesty at Brighton, as Lady of the Bedchamber. The Marchioness is at present in deep mourning for the death of her venerable grandfather, Carroll, of Carrollton, the last surviving individual of those who signed the celebrated Declaration of American Independence.

NEW-YORK AMERICAN.

FEBRUAEY 23, 25, 26, 27, 28, MARCH 1—1833.

LITERARY NOTICES.

Sense and Sensibility, by *Miss Austin*. Philadelphia: *Carey & Lee.*—Of the novels of Miss Austin, so justly characterized as "family novels," we have spoken on several previous occasions, so much in commendation, that we need do no more now than notify our readers that the Philadelphia publishers have just issued this one, not the least popular of the series.

Records of my Life, by *John Taylor*, author of *Monsieur Tonson*. New-York: *J. & J. Harper.*—An amusing volume, certainly, though redundant, and one which judicious pruning would render much more attractive. We quoted, in our last Saturday's Review some extracts from this book, as given in Littel's Museum; and we will not therefore now occupy our columns, burthened as they are with other claims, with many additional ones.

We give the annexed letter from Mrs. Inchbald, an actress and an authoress, though much more known in the latter than the former character—as remarkable for the moral courage, honorable affection, and sense of true independence which it exhibits. Mrs. Inchbald, who was supposed to be in the receipt of large profits, lived in obscure lodgings and with great regard to economy. This was made a reproach against her by some acquaintances, and her friend Taylor apprized her of the fact. She thus replied:

My dear Sir—I read your letter with gratitude, because I have had so many proofs of your friendship for me, that I do not once doubt of your kind intentions.

You have taken the best method possible, on such an occasion, not to hurt my spirits; for had you suspected me to be insane, or even nervous, you would have mentioned the subject with more caution, and by so doing might have given me alarm.

That the world should say I have lost my senses, I can readily forgive, when I recollect that a few years ago it said the same of Mrs. Siddons.

I am now fifty-two years old, and yet if I were to dress, paint, and visit, no one would call my understanding in question; or, if I were to beg from all my acquaintance a guinea or two, as subscription for a foolish book, no one would accuse me of avarice. But because I choose that retirement suitable to my years, and think it my duty to support two sisters instead of one servant, I am accused of madness. I might plunge in debt, be confined in prison, a pensioner on "The Literary Fund," or be gay as a girl of eighteen, and yet be considered as perfectly in my senses; but because I choose to live in independence, affluence to me, with a mind serene and prospects unclouded, I am supposed to be mad. In making use of the word affluence, I do not mean to exclude some inconveniences annexed, but this is the case in every state. I wish for more suitable lodgings, but I am unfortunately averse to a street, after living so long in a square, but with all my labor to find one, I cannot fix on a spot such as I wish to make my residence for life; and till I do, and am confined to London, the beautiful view from my present apartment of the Surry hills and the Thames, invites me to remain here, for I believe that there is neither such fine air nor so fine a prospect in all the town. I am, besides, near my sisters here; and the time when they are not with me is so wholly engrossed in writing, that I want leisure for the convenience of walking out. Retirement in the country would perhaps, have been more advisable than in London, but my sisters did not like to accompany me, and I did not like to leave them behind. There is, besides, something animating in the reflection that I am in London, though partaking of none of its festivities.

In the midst of the serenity I have been boasting, I own that I have one sorrow that weighs heavy upon me. Much as it is supposed that I loved money, I would gladly give up all that I am at present earning, and something added to it, that I had never engaged in those unwieldly Prefaces. I have had my Memoirs, in four volumes, for years lying beside me. A large sum has been offered for them, yet, though I have been charged with loving money, I never hesitated when I conceived that my reputation was in the balance. I accepted the offer made to me to write these things as far as the less evil of the two, indeed as no evil; but now I fear that I should not have encountered more odium had I published my life; and yet a great deal of difficulty might have been avoided in arranging the former for publication to my advantage, by a proper assortment of subjects. As it is, I must submit, for I am bound in honor to obey. E. Inchbald.

Mr. Taylor adds these remarks on the letter—

It may be thought that I was officious in giving occasion for the foregoing letter; but, as I have said, hearing her character arraigned for avarice and meanness among the theatrical commumunity, I deemed it right to adopt an intrepid sincerity, such as friendship demanded. I remember that my friend Mr. Richardson, whom I have before mentioned, soon after we became acquainted, on his leaving St. John's College, Cambridge, exacted a promise from me that I would tell him whatever I might hear to his disadvantage, that he might reform if the charge was just, or defend himself if false. This rule I have always observed with those dear to me.

Mrs. Inchbald lived at the time on the south side of the Strand, opposite the New Church, and her apartment was an attic; and thus did she deny herself many of the comforts of life from motives of affection to relations who required pecuniary assistance. Such a letter does honor to her feelings, and I am proud of having tempted her to write it. The Prefaces which she mentions, were to accompany a new edition of "The British Drama," and they prove her pure taste and sound judgment in her critical remarks on the respective productions. Her novels of a "Simple Story," and "Nature and Art," manifest a full knowledge of the depth of the human heart and of the changes of disposition to which it is so frequently subjected by the vicissitudes of fortune. The novels will live like those of Smollet and Fielding, though of a very different description, and with respect to profound knowledge and moral tendency, more in analogy with the works of Richardson.

The following extracts are taken at hazard:

Kings, Lords, and Commons, at a dinner party in the Fleet prison.

'Colonel Frederick, whom I have mentioned before, as the son of Theodore, King of Corsica, was a particular friend of mine. He told me he was once in so much distress, that when he waited the result of a petition at the Court of Vienna, he had actually been two days without food. On the third day a lady in attendance on the Court, whom he had previously addressed on the subject of his petition, observing his languid and exhausted state, offered him a dish of chocolate, with some cakes, which rendered him more able to converse with her; in a short time they conceived a regard for each other, and were afterwards married. * * *

He said that while his father was in the Fleet prison for debt, Sir John Steward was a fellow-prisoner on the same account. The latter had a turkey presented to him by a friend, and he invited King Theodore and his son to partake of it. Lady Jane Douglass was of the party. She had her child, and a girl with her as a maid servant, to carry her child; she lived in an obscure lodging at Chelsea. In the evening Colonel Frederick offered to attend her home, and she accepted his courtesy. The child was carried in turn by the mother, the girl and the colonel. On their journey, he said there was a slight rain, and common civility would have induced him to call a coach, but that he had no money in his pocket, and he was afraid that Lady Jane was in the same predicament. He was therefore obliged to submit to the suspicion of churlish meanness or poverty, and to content himself with occasionally carrying the child to the end of the journey.

'The colonel used to consider that child as the rightful claimant of the property on which he was opposed by the guardians of the Duke of Hamilton.

* * * *

'The colonel related to me another curious anecdote, on which I rely, as I always found him consistent in his narrations. When Prince Poniatowski, who was afterwards Stanislaus, the last King of Poland, was in this country, his chief, I might truly say, his only companion, was Colonel Frederick.—They were accustomed to walk together round the suburbs of the town, and to dine at a tavern or common eating-house. On one occasion the prince had some bills to discount in the city, and took Frederick with him to transact the business. The prince remained at Batson's Coffee House, Cornhill, while Frederick was employed on the bills. Some impediment occurred, which prevented the affair from being settled that day, and they proceeded on their usual walk before dinner, round Islington. After their walk they went to Dolly's in Paternoster row. Their dinner was beefsteaks, a pot of porter, and a bottle of port. The bill was presented to the prince, who, on looking over it, said it was reasonable, and handed it to Frederick, who concurred in the same opinion, and returned it to the prince, who desired him to pay. "I have no money," said Frederick.—"Nor have I," said the prince. "What are we to do," he added. Frederick paused a few moments, then desired the prince to remain until he returned, left the place, pledged his watch at the nearest pawnbroker's, and thus discharged the reckoning. * *

'The prince, after he became monarch of Poland, occasionally kept up an intercourse with Frederick, and in one of his letters asked the latter if he remembered when they were in pawn at a London Tavern.'

It will be but a melancholy termination to these anecdotes to add, that Colonel Frederick became involved in some bill transactions, and apprehensive of the consequences, borrowed a pistol of a friend and shot himself one evening in St. Margaret's churchyard.

Of the late Lord Erskine—

"Here I may relate a circumstance which manifests an extraordinary revolution in the life of a conspicuous character. A lieutenant in the royal navy had written a political pamphlet, but being called to his duty, was not able to see it through the press.—He therefore placed it in the hands of a bookseller, desiring that he would give it to some literary man, who, for duly preparing it for publication, should have half the profits. The bookseller gave it to Mr. Cooke, who soon discharged his duty. The work was published and the profits were thirty pounds, all of which were given to Mr. Cooke, who took his portion, and reserved the other half for the author whenever he should call for it. Many years elapsed, and he heard nothing of him. At length a gentleman called on him, told him his name, and declared himself to be the author of the pamphlet, telling him he knew that fifteen pounds were due to him on account of the pamphlet, and adding, he was ashamed to take it, but that 'his poverty, and not his will,' consented, as he had a wife and an increasing family. Mr. Cooke had the money ready for him, which the stranger took, and expressed his gratitude at parting. This necessitous author was the late Lord Erskine."

Jack Taylor, as he was familiarly called. who was an occulist by profession and descent (both father and grandfather being of that profession), seemed to be the *friend* of every one he knew. All the persons, almost, of whom he speaks (and they are numerous and in every walk of life), he refers to as "my particular friend." He shared in their successes—aided, as far as limited means would allow, their adversities—and, above all, was never absent at their burial. He must, by his own showing, have attended more funerals than any man in England, not an *undertaker* by trade. Of the pertinacity with which he adhered to doing funeral honors, a singular and (notwithstanding the melancholy occasion) amusing proof is related at page 332, where he and Sheridan, having to attend the remains of an old and valued friend to the grave, at some twenty miles distance from London, arrived after the ceremony was over, and all but the clergyman were dispersed. Grieved at the disappointment, our mourning autobiographer "asked the clergyman if the ceremony could properly be repeated, as we were all bitterly disapointed that we were prevented from testifying our grief by partaking in the last offices of respect to the remains of a valued friend." After consideration it was repeated, partly in the church, partly at the side of the grave! and in consequence' Mr. Sheridan and Mr. Taylor felt "a mournful exultation," at not having "failed in any respect to do honor to a departed friend." We know no parallel for this story, but that of the French *petit maitre*, who, going with some ladies to an astronomer's, to observe an eclipse, and arriving after it was over, assured his fair friends it was of no consequence, for the astronomer was "a particular friend" of his, and would cheerfully repeat it for his sake.

With all its repetitions and frivolities, Jack Taylor's "Records" is a capital book for half an hour at a time.

A HISTORY OF KING'S CHAPEL, BOSTON, by F. W. P. GREENWOOD, *Junior Minister of the Chapel:* Boston, *Carter, Hendee & Co.*, and *Allen & Ticknor.*—All who have visited Boston remember the old Stone Chapel. We have in the pages of the little volume before us its history, as embodied in several discourses preached before the congregation worshipping there, by its junior minister; the venerable Dr. *Freeman*, who was ordained to that Church in 1787, being still its senior minister. This was the first Episcopal Church in New England; and the narrative of its early struggles against the intolerance of the Puritans, of its gradual progress, and of the change of doctrine which took place on the induction of Dr. Freeman, will interest antiquarians certainly, and probably Episcopalians. It is a very neat and well printed little volume.

EARLY LESSONS FOR LEARNING FRENCH—selected from approved authors: *Boston*, ALLEN & TICKNOR.—A well imagined and well executed little work, intended for children of from eight to ten years of age, learning French, and for whom the ordinary class books, such as Telemachus and Charles XII., are uninteresting, and, for the most part, unintelligible. The selections are of little incidents and stories fitted to arrest the attention of the child, and give the zest of curiosity to the labor of translation. The compiler proposes to continue the series for those of more mature years. We hope he may be encouraged by the success of this first part to do so.

FINDEN'S LANDSCAPE ILLUSTRATIONS OF LORD BYRON'S WORKS: Part IX.: London, Murray; New York, Disturnell, No. 155 Broadway.—The present number of this beautiful publication excels if anything those that have preceded it. Cape Leucadia is the subject of the first plate, which is a picture of much spirit. The cliffs in the back ground are wrapped in heavy mist, and the light of a troubled sky strikes from a single quarter upon the famous rock whence the "blue-eyed Lesbian" made her fatal leap. A couple of polacres scudding before the breeze in the foreground, and a brig with another craft bearing away in the distance, give animation to the scene. "Venice from the entrance of the Grand Canal," is the title of the next engraving, which is executed with delicacy and finish. "Cork Convent near Cintra," which follows, is not so good. But the effect of light and shade is beautifully shown in the bold architectural features of the Castle of Ferara, on the next leaf. The most interesting plate of all, however, is IANTHE, from the original picture painted at the request of Lord Byron. The face of the noble child has all that poetic expression which the poet so glowingly attributes to it in his introduction to the second canto of Childe Harold: the chiselled nose, the curved and beautifully parted lips, and above all

"The eye, which wild as the gazelle's,
Wins where it wanders, dazzles where it dwells."

IMPROVED ARITHMETIC, *newly arranged, &c.* by DANIEL PARKER, A. M. New York: *R. Bartlett & S. Raynor.*—A larger treatise by the aame author on the science of numbers, was received with so much favor, as to induce him to make an effort to extend its usefulness by diminishing the bulk of the volume. Hence the little school book now before us, which is well stereotyped, and well recommended by Teachers.

POEMS, by *Miss H. F. Gould.* Second Edition, with Additions. Boston: *Hilliard, Gray & Co.*—They who have been charmed with the freshness, delicacy, and vivacity of imagination displayed in Miss Gould's fugitive verses, when travelling through the country in the corners of newspapers, will not be the less pleased with them when read anew as collected here. There is a youthful sensibility of heart, a juvenescence of feeling, a keen susceptibility to whatever is beautiful and striking in nature, about these poems, that in this *ennuyant* age, when *nil admirari* seems to be the motto of all, come with a refreshing and quickening influence upon the senses. Miss Gould does not belong to that numerous and most respectable class of poetesses, the female Byrons, who wither the leaves of Albums by the "blighted feelings" they inscribe upon them, and rend the hearts of all the young bachelors in the country, by the revelation they make in Magazines of their lovelorn and pitiable condition. Nor yet does she belong to that other equally hopeful family, the Violas and Rosas who escape from the city to ruralize in a turnip field in the suburbs, and prate about "running brooks" after pattering through a gutter in India rubbers. She has neither the affected callousness of the first to the sense of objects in which every well regulated and refined mind feels an interest, nor does she betray the mawkish sensibility of the last. Hers is a heart where a high moral sense and solid understanding seem not the less to be present, because she yields it up to the full impulses of warm and vivid poetic feeling.

But we are cut short in our observations when but just fairly embarked in them, to make room for the contents of the southern mail, but now arrived; and we can only conclude by giving several extracts from this pleasing volume already in type, each of which, though selected to illustrate some particular comment we intended to make, rather than as a favorable specimen of the writer's powers, has yet merit enough to reommend itself.

THE SNOW-FLAKE.

"Now, if I fall, will it be my lot
To be cast in some lone, and lonely spot,
To melt, and to sink, unseen, or forgot?
And there will my course be ended?"
'Twas this a feathery Snow-Flake said,
As down through measureless space it strayed,
Or, as half by dalliance, half afraid,
It seemed in mid air suspended.

"Oh! no," said the Earth, "thou shalt not lie
Neglected and lone on my lap to die,
Thou pure and delicate child of the sky!
For, thou wilt be safe in my keeping.
But then, I must give thee a lovelier form—
Thou wilt not be part of the wintry storm,
But revive, when the sunbeams are yellow and warm,
And the flowers from my bosom are peeping!

"And then thou shalt have thy choice, to be
Restored in the lily that decks the lea,
In the jessamine-bloom, the annemone,
Or aught of thy spotless whiteness:—
To melt, and be cast in a glittering bead,
With the pearls, that the night scatters over the mead,
In the cup where the bee and the fire-fly feed,"
Regaining thy dazzling brightness.

"Then I will drop," said the trusting Flake;
"But bear it in mind, that the choice I make
Is not in the flowers, nor the dew to wake;
Nor the mist, that shall pass with the morning.
For, things of thyself, they expire with thee;
But those that are lent from on high, like me,
They rise and will live, from the dust set free,
To the regions above returning.

THE SIAMESE TWINS.

Mysterious tie by the Hand above,
Which nothing below must part!
Thou visible image of faithful love,
Firm union of heart and heart;
The mind to her utmost bound may run,
And summon her light in vain
To scan the *twain* that must still be *one;*
The *one* that will still be *twain!*

The beat of this bosom forbears to reach
Where the other distinctly goes;
Yet, the stream that empurples the veins of each,
Through the breast of his brother flows!
One grief must be felt by this twofold mark,
As the points of a double dart;
And the joy lit up by a single spark,
Is sunshine in either heart.

O wonder to baffle poor human skill
In clay of the human mould!
But a greater mystery of all must still,
In the union of souls, behold.
Ye are living harps, by your silken strings
In a heavenly concord bound;
And who o'er one but a finger flings,
Awakens you both to sound.

DAWN ON THE SEASIDE.

The sun has thrown his morning beams
Against the cliffs that fence the waves,
And down his mellow glory streams,
Through narrow clefts and widening caves.

The mossy rock, the foamy surge,
The pebbly beach and grasey height,
And site and cot, on ocean's verge,
Are in a flood of Sabbath light.

THE GENIUS OF SIR WALTER SCOTT.

It parted the sable waves that sweep
Across oblivion's sea,
And brought up to light from that fearful deep,
The things that for ages it had to keep,
In their primal identity.

It broke the seal of the silent tomb!—
It opened the graves of men,
It made their ashes their fire resume,
And touched them with beauty, and life, and bloom,
Till they breathed and moved again!

Time! what hast thou to do with one,
Who knew not a wasted hour—
Whose pen with the sands of thy glass could run,
And show at each turning a miracle done,
A work that defies thy power?

MARRIAGES.

At Weathersfield, (Vt.) on the 14th instant, by the Rev. J. Wheeler, D. Everett Wheeler, Esq. of this city, to Eliza Bath B., daughter of the Hon. William Jarvis, of Vermont.

DEATHS.

This morning, after a short illness, Ellen, consort of Henry Marshall, aged 30 years.

This morning, Eliza Ann, wife of Joseph A. Perry, in the 28th year of her age.

On Thurday evening, Mrs. Mary Robins, in her 90th year.

Report of Deaths—Week ending Saturday, Feb'y 23.

Between the ages of

90 and 100—	1	50 and 60—	8	10 and 20—	3
80 and 90—	1	40 and 50—	8	5 and 10—	2
70 and 80—	2	30 and 40—	18	2 and 5—	11
60 and 70—	5	20 and 30—	17	1 and 2—	5

Of and under one year, 35—Total, 116.

Diseases.

Apoplexy	2	Inflammation of chest	3
Burned or scalded	1	Insanity	2
Casualty	1	Intemperance	3
Childbed	1	Marasmus	2
Consumption	27	Measles	1
Convulsions	8	Mortification	2
Cramp in the stomach	1	Old age	2
Dropsy	1	Peripnumony	7
Dropsy in the chest	2	Pleurisy	2
Dropsy in the head	9	Pneumonia typhodes	1
Drowned	3	Spina bifida	1
Dysentery	1	Sprue	2
Epilepsy	1	Stillborn	8
Fever, scarlet	1	Suicide	1
Hives or croup	3	Unknown	5
Inflammation of bowels	7	Worms	1
Inflammation of brain	4		

ABRAHAM D. STEPHENS, City Inspector.

SALES AT AUCTION OF REAL ESTATE.

James Bleecker & Sons.

The 3 story house and lot, No. 5 St. Marks Place, lot 26 by 120 ..... $12,000
The frame house and 15 years lease of lot, No. 15 Eldridge street 635
Three lots on West street, near Troy street each 1200, each 92 by 80 3,600
One lot on Troy street, near West street, 22 by 89 .. 1,100
Two story house and lot 71 Oliver street, 24 by 100 5,500
Two story house and lot 370 Cherry street, 28 by 72 4,450
Lot of ground 372 Cherry street, 21 by 72 1,250
Three story brick house and lot 508 Greenwich-st. 15 by 80 4,875
Five lots S.W. corner 4th and M'Dougal streets, each 26 by 109 17,700
One lot in rear on M'Dougal street, 28 by 78 2,000
Two story house and lot 77 Amity street, 25 by 90 .. 9,900
Two story house, and 20 years lease of lot, No. 173 Madison street 4,000
Two story house and lot 296 Greenwich st., small lots. 5,000
Two story building and lot 187 William street, lot 25 by 50 8,950
A piece of ground, 25 feet on Washington, 50 feet on West and extending on Hubert street 195 feet, with the bulk head of 50 feet on West street 17,900
Four lots on 8th Avenue, corner of 42d street, hermitage, each 25 by 100 1,280
One lot on 8th Avenue, near 36th street, hermitage, 25 by 100 380
Two story house and lot No. 103 Mott street 3,800
Two story house, and 12 years lease of lot 22 Clarkson street 2,200
1 lot on Monroe, near Clinton street, 26 by 100 3,225
1 do. do. do. do 3,200
Frame building and lot 62 Pitt street, 25 by 100 1,900
Do. do. 191 Elizabeth st., 26 by 100 .. 2,300
4 lots on 4th Avenue, Harlaem, each 25 by 110 370
6 years lease of No. 131 Anthony street 760
A gore lot on Chambers street, near Chatham, with buildings No. 14, 16, and 18, lot 51 by 40, running to a point 8,800
1 lease lot on 8th street, corner of Mercer, 25 by 80.. 425
1 do. do. adjoining, do..... 300
1 do. do. do. do..... 290
1 do. do. do. do..... 300
1 do. do. do. do..... 305
2 do. do. do. do each 280
1 do. do. corner Greene, do..... 400
1 do. do. on Mercer, do..... 260
1 do. do. on Greene, do..... 290
1 lot on Stanton street, neap Chrystie, 24 by 100 1,800
1 do. do. do. do 1,750
2 do. do. do. do. each.. 1,750
1 do. do. do. do..... 1,800
Two story house and lot No. 50 North st., 25 by 70. 2,900
Do. 52 do. do.... 3,500
Do. 54 do. do.... 3,350
Store and lot 5 Exchange street, 25 by 56 14,300
Lot No. 2 Laurens st. subject to a lease 1,675
Three story house and lot 55 Bleecker st. 27 by 100. 14,800
2 lots on 9th street, between 2d and 3d avenues, each 21 by 75 2,300
Two story house and lot 104 Mott st. 25 by 95 5,400
Two story house and lot 11 Fourth st. 22 by 110 6,500
Do do 13 do do 6,900
Do do 15 do do 6,200
Lot on Fourth street, 33½ by 96½ 1,900
6 lots on Sullivan st. near Bleecker, 25 by 95 each ... 2,756
House and lot S. E. corner Bowery and Bayard st. 20 by 75 8,000
Lot on Gouverneur st. near Monroe, 24 by 102 1,550
Lot on East Broadway near utgers st. 25 by 85 2,950
Two story house and lot 184 Prince st. 20 by 77 6,350
Do do 115 Fourth st. (small lot)... 4,500
Do do 182 Forsyth st. 20 by 100.. 3,000
Do do 17 Howard st. 35 by 100.. 5,200
3 lots and two story houses corner Laight street and St. John's lane, each 25 by 99 19,500
Two story house and lot 101 Delancy st. 22 by 66½.. 3,075
2 two-story houses and lease of lot 250 E. Broadway, near Montgomery street 6,750
Two story house and lot 146 Elm street, 25 by 100.. 4,300

Under Frederick Depeyster, Jr., Esq., Master in Chancery.

Store and lot 506 Pearl street, 23 3 by 28 8 19,200
House and lot 81 Sixth avenue, 22 by 80 4,325
Do do 79 do do 4,250
Lease of property corner of Oliver and Henry streets 2,000

Under Samuel Cowdry, Esq., Master in Chancery.

House and lot corner of Prince and Sullivan streets, 36 by 70 5,800
Store and lots on West and Wash'n sts. 22 by 215 11,350
Lot 103 Orchard street, near Broome, 25 by 87 6 3,970
Lease of house and lot 554 Grand street 1,500
House and lot 128 Centre st. 24 by 74 6 3,510

Estate of Thomas Burling, deceased.

A piece of ground on Union place, 48 8 in. front, 83 2 in. rear, and 141 feet 10 in. on 16th street $10,200
1 gore lot on Union Place, 22 9 in front and 100 3 on 16th street, running to a point in rear 2,400
1 lot on 16th street, 25 feet by about 86 1,250
1 do do 25 do 91 1,250
1 do do 25 do 170, with a piece out of the centre 1,750
1 lot on 16th street, 25 feet by about 175 2,150
1 do do 25 do 182 2,150
1 do do 25 do 188 2,150
1 do do 25 do 193 2,150
3 front lots on 16th st. 39 6 in front, 75 rear by 103, together 4,150
3 front lots on 15th st. 29 9 in front, 75 rear by 103, together 3,200
1 lot on 15th st. 25 feet by 103 1,600
1 lot, cor. 5th avenue and 15th st. 26 by 100 2,600
5 lots on 5th avenue, each 26 by 100, each $2200, is gore lot on 5th avenue 11,000
1 lot cor. 5th avenue and 16th st. 25 3 by 100 2,850
2 lots on 5th avenue and a house, 52 2 by 100 2,700
1 lot on 5th avenue, 25 10 by 100 7,350
1 piece of ground on 5th avenue, 42 3 front, 82 10 rear, by 100 2,400
1 gore of ground, without a front 3,225
1 lot on 15th street, 25 by 103 440
1 do do do 1,800
2 lots on 15th st. and stable, 50 ft by about 100 1,650
1 lot do 25 do 95 3,050
1 do do 25 do 89 1,400
1 do do 25 do 84 1,175
1 do do 25 do 78 1,000
1 do do 25 do 72 925
1 do do 25 do 66 850
1 do do 25 do 60 775
1 do do 25 do 54 730
1 do do 25 do 48 690
1 do do 50 do 40 680
1 gore lot on 15th st. 146 ft. 4 by about 54, running thence to a point 1,410
1 gore lot on 15th st. 46 feet front, 107 deep, running to a point 2,775
1 lot on 15th street, 25 feet by about 136 1,050
1 do do 25 do 167 1,250
0 do do 25 do 166 1,825
1 do do 23 do 160 1,825
1 do do 25 do 154 1,800
1 do do 25 do 143 1,700
1 do do 25 do 137 1,625
1 do do 25 do 131 1,525
1 do do 25 do 125 1,475
1 do do 25 do 119 1,425
1 do do 25 do 113 1,375
1 do do 25 do 108 1,400
1 do do 25 do 102 1,350
1 do do 25 do 96 1,225
1 do do 25 do 90 1,125
1 do do 25 do 84 1,050
1 do do 25 do 78 1,000
1 do do 25 do 72 925
1 do do 25 do 67 800
1 do do 25 do 61 800
1 do do 25 do 55 750
1 do do 25 do 49 625
1 do do 50 do 40 1,225
1 gore on 15th street, 148 7 front, and 34 9 deep, running to a point 1,275

$121,325

The 4 story store 142 Pearl street, and the store in the rear, 108 Water street, lot 21 ft. on Pearl street 101 ft. in depth to Water st. $45,500
Two story brick front house and lot on 18th street, near Union Place, lot 25 by 92 ft. 3,000
Three story house and lot, No. 161 Greenwich st. lot 22 by 55 10 6,550
Three acres of land fronting on the 3d avenue opposite Hamilton square, between 66th and 68th street 7,600
The two story house and lot, No. 1 Carlisle street, lot 33 by 60 6 4,600

In Chancery, under the direction of F. Depeyster, Jr., Esq.

Three story brick house and lease of lot 57 Grand st. 5,100
Do do do 59 do.... 4,900
Do do do 61 do.... 4,600
Do do do 63 do.... 4,900
Two story house and lot cor. avenue D. and 4th st. lot 20 by 80 2,000
Two story house and lot adjoining on Av. D, 22 by 80 1,950
Do do do do 1,900
Do do do do 1,950
Do do do do 1,950
Do do do do 1,950
Do do do do 1,975
Do do do, cor. 6th street, 19 by 80.... 2,150

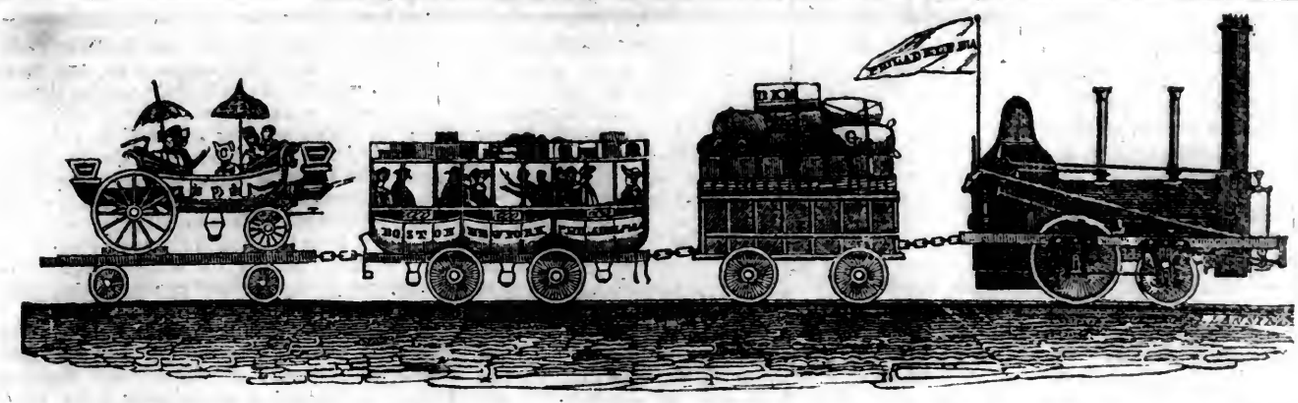
Harlem Property—Feb. 14.

4 lots on 3d Avenue and 112th street, each $170 680
6 do on 112th street, each $90 540
16 do on 113th street and Railroad, each $100 1,600
16 do on 114th street, each $100 1,600
4 do on 115th street and Railroad, each $110 440
4 do on 110th street, each $70 280
5 do on 111th street, each $100 500
10 do on 114th street, each $107½ 1,075
17 do on 114th and 115th streets, each $105 1,085
30 do on 111th and 112th streets, each $115 3,450
4 do on 109th street, each $120 480
4 do on 110th street, in the rear, each $110 440
36 do on 110th and 111th st. and Railroad, each $100 3,600
4 do on 111th street, each $100 400
10 do on 112th street and Railroad, each $127½ 1,275
12 do on 113th street and Railroad, each $117½ 1,410
8 do on 111th street, near Harlem road, each $102½ 820
8 do on 112th street, each $95 760
4 do on 109th street, near Harlem road, each $102½ 410
8 do on 112th street, each $95 760
4 do on 109th street, near 5th avenue, each $85... 340
4 do on 109th street, each $75 300
4 do on 110th street, each $75 300
4 do on 110th street, near Harlem road, each $75. 300
24 do on 2d av. and 110th and 111th sts. each $100. 2,400
11 do on corner 5th avenue and 102d st. each $125.. 1,375
4 do on 118th street, between 4th and 5th avenues, each $40 160
4 lots on 10th avenue and 109th st. each $58½ 290
Two story brick front house and lot 84 John street, lot 25 by 100 ..... $10,540
Two story brick front house and lot 27 Muar street, 25 by 100 7,050
Do. do do 29 Muar street, do 7,500
2 Lots on Avenue A, near 3d street, each 22 by 120.. 2,250
Lot and 2 houses No. 137 Cherry street, extending to Water street 7,250
House and lot 197 Adams street, Brooklyn, 25 by 63. 2,800
Two story brick house and lot 246 Division street, lot 24 by about 80 4,725
Two story brick front house and lot, on lease of 7 years, 529 Broome street 1,000
4 lots on 42d street, Hermitage, each 25 by 100 735
4 do on 41st street, do do do 660
12 years lease of house and lot 45 Crosby street.... 2,300
1 lot on Forsyth street, near Stanton street, 30 by 100 2,250
9,000 acres of land in Hamilton county, township N. 38, varying in price from 15 to 25 cents per acre... 825
12 years lease of a lot in the Bowery near Bayard st.
Farm of the late Geo. Codwise, Jamaica, L. Island, (60 acres) 8,000
Brick front house and lot 141 Delancey street 3,300
11 years of a house and lot 120 Cherry street 1,600
Lot on East Broadway, near Rutgers street, 25 by 60 3,350
House and lot 59 Thompson street, 33 by 100 4,400
Two story brick front house and lot 188 Duane street 25 by 54 3,900
Do do do 289 Duane street, do..... 2,800
House and lot 442 Pearl street, 25 by 108 13,250
House and lot 86 Mulberry street, 25 by 100 4,100
Do do 76 do do 3,125
4 lots on 60th street, (Mt. Vernon,) 25 by 100 480
1 lot on 59th street, Hermitage, 25 by 100 200
16 years lease of N. W. corner of Madison and Rutgers streets 4,250
House and lot No. 158 15th street, between 7th and 8th Avenues 2,000
1 lot on Pierpont street, Brooklyn 1,650
1 lot on Lewis street, between Broome and Delancey 2,000
2 lots, with bulk head, between 18th and 19th streets 2,000
1 lot in the rear on 18th street 700
1 do adjoining 700
4 lots S. W. corner of 7th Avenue and 42d street.... 900
1 lot on Elizabeth street, between Prince and Spring 630
4 lots on 4th Avenue, near 117th street, each $122... 488
7 do on 117th street, each $75 525
2 do on 118th street, each $62 50 125
5 do on 119th street, each $60 300
5 do on 4th Avenue, each $150 750
6 do on 119th street, each $90 540
6 do on 120th street, each $90 540
5 do on 120th and 121st streets, each $105 525
9 do on do do do do 945
6 do on 116th street, each $70 420
1 do on 114th street 70
4 do on 115th street, each $90 360
4 do on 114th street, each $80 320
6 do on 115th street, each $75 450
8 do on 116th street, each $75 600
3 do on 5th Avenue, each $75 225
4 do on 116th street, each $65 50 332
1 lot S. E. corner Chambers and Chapel sts, 25 by 100, 12,700
1 do adjoining, on Chambers street 11,000
1 do do do do 11,550
1 do do do do 10,300

Sale of Real Estate, situate at Brooklyn, (late the farm of Salah Strong, Esqr.) at the Merchants' Exchange, Feb. 25th, 1833.

F. Pell & Co., *Auctioneers*,

1	Map numbers, made by Wm.	28	130, 20,		130
		29	400, 22,		400
	$5,000		" 375, 28, 26, 25, 24, 23, 22, 21,		375
2	420, 115, 114, 113, 112, 111, 110,		420	30	575, 8.	575
3	520, 91,		520		" 425, 9,	425
	" 475, 92, 93, 94,		475		" 425, 10,	425
4	440, 95,		440		" 425, 11,	425
	" 435, 96, 97,		435		" 400, 12,	400
	" 440, 98, 99, 100,		440		" 350, 13,	350
	" 430, 101,		430	31	" 300, 14,	300
5	335, 102, 103, 104,		335	32	300, 15, and 16—one lot.	300
6	420, 105,		420		410, 4,	410
7	275, 106,		275		" 405, 5, 67,	405
8	305, 107,		305	33	260, 3,	260
9	380, 108,		380	34	455, 184,	455
	" 370, 109,		370		" 395, 185, 186, 187,	395
10	530, 121,		530		" 365, 188, 189, 190, 191,	365
	" 460, 122,		460	34	360, 192,	360
	" 410, 123, 124,		410		" 335, 197, 198,	335
11	495, 125,		495	35	340, 193, 194, 195, 196,	340
	" 470,		470		" 325, 202, 201, 200, 199,	325
	" 450, 138,		450	37	320, 219,	320
12	1550, 129, 130, 131, 133,	1550		38	395, 207,	395
13	530, 132,		530	39	350, 206, 205, 4,	350
14	220, 134,		220	40	410, 203,	410
15	310, 135,		310	41	255, 209,	255
	" 310, 136,		310		" 250, 210,	250
16	350, 137,		350		" 250, 208,	250
	" 350, 138, 139, 140,		350	42	230, 211,	230
17	520, 145,		520		" 210, 215, 214, 213, 212,	210
	" 420, 144,		420	43	180, 218, 217, 216,	180
	" 390, 143, 142, 141,		390	44	520, 87, 88, 89, 90,	520
18	550, 29,		550	45	425, 54, 53, 52, 51,	425
	" 500, 30, 31, 32,		500	46	405, 82, 83, 84, 85, 86,	404
19	600, 33, 34,		600	47	405, 75 a 81, inclusive,	405
20	515, 35, 36, 37, 38,		515	48	420, 71 a 74,	420
21	445, 39,		445	49	355, 67 a 70,	355
22	230, 40,		230	50	330, 55 a 66,	330
23	220, 41,		220	51	395, 18 a 183,	395
24	280, 42,		280	52	385, 140 a 149,	385
25	260, 44,		260	53	375, 171, 72, 73, 74,	375
	" 260, 43,		260		" 380, 175 a 179,	380
	" 210, 45,		210	54	340, 18, 170 a 165, and 17,	340
26	340, 46, 47—one lot,		340	55	355, whole of the parcel—	
27	350, 48 49, 50—one lot..		350		10 lots, at	355



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MARCH 9, 1833. [VOLUME II.—No. 10.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 9, 1833.

Paterson Railroad.—In our columns today will be found the Report of a Committee of the Paterson Railroad Company. From this report, it appears that the prospects of the company are in truth, as we have ever believed them to be, very flattering to those who have engaged in the enterprise. We have no doubt but that the work will prove equally as profitable to the Stockholders as convenient to the public. The Engineer's Report will appear in our next.

We have received, and shall publish in our next, the Report of the Ohio Canal Commissioners.

We acknowledge the receipt of a description of the Carbondale Railroad, for which we are indebted to J. B. Jervis, Esq. Engineer of the Mohawk and Hudson Railroad Company. It will appear in our next.

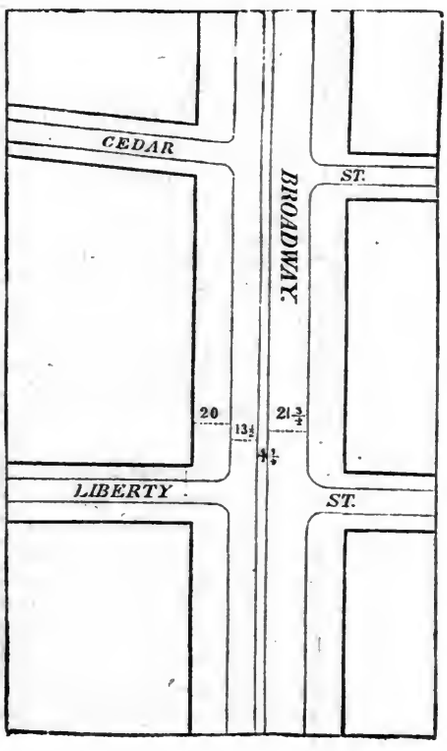
For the Information of Travellers.—We are requested to state, that there has not been a day since the opening of the Camden and Amboy Railroad, that the Philadelphia and New York passengers have not been taken over the Road, each way, with the exception of Saturday and Monday last, notwithstanding the recent heavy falls of snow. On those days, there were no passengers from Philadelphia, owing to the Company's not being able to procure coaches to convey passengers from Philadelphia to the Railroad. The passengers that left New York on the above-mentioned days, were taken over the Railroad in cars, and forwarded to Philadelphia the same evening in sleighs. The stage arrangements being now completed, passengers will be conveyed from the Railroad to Philadelphia in coaches, until the River Delaware opens.—[Communicated.]

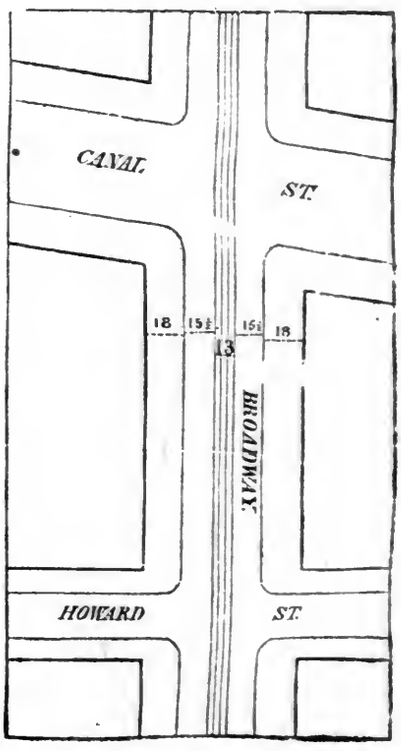
Harlaem Railroad Controversy.—In this number of the Journal will be found "a statement of facts," made by the Directors of the Harlaem Railroad Company, in reply to a publication of the proceedings of a meeting of citizens held at Tammany Hall, sometime since, for the purpose of expressing their disapprobation of the continuation of the Railroad through the streets of our city. Efforts have been made by some of our most respectable citizens to prevent the continuance of this road below, and even *to*, its present termination. We pretend to doubt their right or their candor in doing so; although we cannot feel the force of their reasons, for opposing a measure which, we believe, will tend greatly to the convenience and prosperity of a large portion of our citizens. That Railroads *can* be introduced into cities without endangering the lives, or interfering with the convenience of the inhabitants, we have not a doubt, nor do we hesitate to predict that a few years will render them as popular with a vast majority, as they are now unpopular with a part of our inhabitants.

By a reference to the acts of the Legislature and the Common Council, it will be seen that the railroad is to be entirely under the control of the city authorities, and may be removed by them in one month—even after it is completed—should it be found dangerous or to interpose with the privileges of the citizens.

This being a subject, however, like most others, which will admit of strong arguments on both sides—our columns are open to both parties. And we are as ready to publish the proceedings of the opponents as of the friends of the railroad.

The annexed diagrams show the space which would be required, both for a double and single track, as well as that which would remain for ordinary uses.





HARLAEM RAILROAD.—The Board of Directors of the Harlaem Railroad Company have published a statement of facts in relation to their undertaking, in which they endeavor to answer all the objections made by the opponents of its introduction into the more crowded parts of the city. After giving a detailed account of the progress they have made, they thus proceed:

The frightful predictions of steam-carriages furiously propelled through the street upon rails elevated above its service, overturning and demolishing travellers and carriages, had all proved to be groundless and visionary. The people can examine this for themselves, and will find only a thin plate of iron, lying so near the surface of the pavement as to be hardly visible. They will find the street newly paved, newly graded, every impediment removed, the frequent cross-gutters, formerly so inconvenient and uncomfortable, now arched over and covered; and, in fact, the whole carriage-way incomparably improved in ease, comfort, and safety. Upon these thin rails they find only a few beautiful carriages, moving without dust or danger, and occupying less space than is now required for the same purpose by the omnibus coaches. After this practical exhibition, the company did hope that they would be allowed to finish their enterprise without further molestation; but their just expectations have been disappointed. For several weeks an anonymous map or diagram has been most industriously circulated, fraught with the most palpable misrepresentations. Instead of the space, actually less than *five feet*, lying between the rails, this fanciful picture represents the company as monopolizing twenty-three feet of the road, and excluding from the street all other vehicles, and the most persevering efforts have been made by exhibiting this deceptive representation, to kindle in the public mind feelings hostile to our enterprise. Let the rail-track now laid down in the Bowery be examined. Let it be measured. Their single rail-track does not obstruct any part of the street, and never will. It occupies less than six feet. It does not occupy 23 feet, and never will. A double track would occupy but 13 feet, and will not, if laid down, in the slightest degree obstruct the free use of the road, and the cars will occupy much less space than is now occupied by the unwieldy omnibus coaches, which virtually monopolize the street. The company have not laid a double track south of Prince street, and they do not intend to do so until the people themselves, through their representatives in the Common Council, shall declare that the public convenience demands it. The Company, therefore, request only that their track may be measured, and compared with the anonymous diagram now circulated through our city, and will cheerfully submit the diagram and its inventors to the justice of the public.

A large map or diagram of a double and single track of the proposed railway in Broadway accompanies the Report, illustrative of the facts advanced in the pages. The following enumeration of the advantages likely to accrue to the inhabitants of New-York, by the completion of the undertaking, will be perused with interest:

The whole body of our citizens has a large pecuniary interest in maintaining this Harlaem railroad. The city now owns nearly two hundred acres of land in the twelfth ward, intersected by the Fourth avenue, and divided into about 2,500 building lots of full size. To excavate the Fourth avenue and grade it to Harlæm would have cost the city at least $300,000. By the continuation of this avenue, to be made at the sole expense of the company, the 2500 building lots belonging to the city have been doubled in value, making a present actual gain of upwards of $200,000, in addition to the $300,000 saved in grading the avenue.

Again—the city has another deep interest in maintaining this road. The great object of supplying our citizens with pure water from the county of Westchester is rapidly approaching its final execution. The recent able report made by the committee of the Common Council, places it beyond a doubt that the necessary aqueduct across the Harlaem river must be west of the Fourth avenue. In that event its channel, by means of pipes, may be easily and cheaply laid under the surface of this avenue, which will be greatly preferred by reason of its great uniformity of graduation.

Again—this company are bound to keep more than half of the carriage-way in the streets through which their rails may be laid in constant repair, and the city treasury will thereby annually save a large sum now disbursed in repairing the ravages committed by the heavy loaded omnibus coaches.

To our mechanics the railroad will yield the most valuable facilities. The upper part of our island, being speedily and cheaply approached, will become the seat of numerous and extensive manufacturing establishments; and the labor and capital now employed at Newark and other neighboring villages, will be concentrated in our own city.

But the advantages of this railroad do not stop here; it opens other and wider prospects of incalculable value to our metropolis. We take pride in predicting that it is to form the main trunk of a mighty system of internal communication, whose branches are to extend throughout our own state, throughout New-England, and the whole interior of the West. Already the great plan is beginning to develope itself. Branches commencing at Albany have already extended to Saratoga, and are to be forthwith continued to Lake Champlain. Another branch from Troy to the state of Vermont; another from the Harlaem river to Albany and Troy; and the New-York and Erie railroad, commencing at the Hudson river near the north end of our island, and extending to Lake Erie, and thence through the valley of the upper lakes.

And where must all the passengers, borne on these gigantic avenues of internal communication, be finally concentrated? Is not the whole of the accumulated wealth of our vast interior to be poured into this its great commercial emporium? And will not this our city railroad become the great central conduit through which these rich streams of prosperity are destined to flow?

Already we are behind the age. Liverpool, our commercial rival, has brought her railroad not only into her city, but along her docks. Baltimore, public-spirited, enterprising, and liberal, has introduced her railroad into her leading streets, and has fostered the enterprise by a donation of two blocks of land, and a subscription to the stock from her city treasury of half a million of dollars. With noble ardor she has already marched 70 miles towards the Ohio river, and is now penetrating the Alleghanies in quest of the rich commerce of the West. Virginia, too, has commenced a similar work; and South Carolina has united her capital with the Savannah river, by a railroad one hundred and forty miles in length. Philadelphia, aroused by the spirited efforts of her sister cities, has graded her railroad to the Susquehannah river, and, discarding at once all antiquated prejudices, has admitted the double tracks of her railway into the heart of her city.

The charter granting this railroad is entirely under the control of the Corporation, and may at any time—at a *month's* notice—be removed by it, should it be found to interfere with the "future regulations of the city, *or the ordinary uses of any street or avenue*, of which the said Mayor, Aldermen, and Commonalty shall be the *sole judges*," as will be seen by the following ordinances and resolutions of the Common Council, and of the Act of the Legislature:

"1st, Be it ordained, &c. that the New-York and Harlæm Railroad Company be, and they are hereby permitted to construct and lay down, in pursuance of their act of incorporation, a double or single track or railroad, or railway, along the Fourth avenue, from Twenty-third street to the Harlæm river, in conformity to a map now on file in the Register's office, and a branch thereof along One hundred and twenty-fifth street, from the Fourth avenue to the Hudson river, provided that the width of such double railroad or way shall not exceed twenty-four feet.

"2d, And be it further ordained, that at any time after the construction of the aforesaid railways, by the said New-York and Harlæm Railroad Company, it shall appear to the Mayor, Aldermen, and Commonalty of the city of New-York, that the said railways, or any part thereof, shall constitute an obstruction or impediment to the future regulation of the city, or the ordinary uses of any street or avenue, of which the said Mayor, Aldermen, and the Commonalty, shall be the sole judges, the said Railroad Company, or the Directors thereof, shall, on the requisition of the said Mayor, Aldermen, and Commonalty, forthwith provide a remedy for the same, satisfactory to the said Mayor, Aldermen, and Commonalty; they shall within one month after the requisition proceed to remove such railway, or other obstruction or impediment, and to replace the street or avenue in as good condition as it was before the said railway was laid down; and should the said Directors decline or neglect to obey such requisition, the said Mayor, Aldermen, and Commonalty, may, upon the expiration of the time limited in such notices, cause the obstruction or impediment to be removed, and the avenue or streets restored as aforesaid, at the expense of the Railroad Company.

"3d, That the right of regulating the description of power to be used in propelling carriages on and along said railways, and the speed of the same, as well as all other power, reserved to the said Mayor, Aldermen, and Commonalty, by the act of incorporation of the said Company, or any part thereof, be, and the same are hereby expressly retained and reserved.

"4th, That it shall especially be incumbent on the said Harlæm Railroad Company, at their own cost, to construct stone arches and bridges for all the cross streets now or hereafter to be made, (which will be intersected by the embankment or excavations of the said railroad,) and which, in the opinion of the Common Council, the public convenience requires to be arched or bridged; and also to make such embankments or excavations as in the opinion of the Common Council may be required, to make the passage over the railroad and embankments at the intersected cross streets easy and convenient for all the purposes for which streets and roads are usually put to; and also that the said Company shall make, at their own like cost and charges, all such drains and sewers as their embankments or excavations may, in the opinion of the Common Council, make necessary; all which work to be done under the like requisitions, and under like liabilities as in the second section of this ordinance mentioned. And further, that the said Company shall make their railroad path from time to time conform to what may hereafter be the regulation of the avenue and road through which said railroad passes.

"5th, That it shall be incumbent on the said Harlæm Railroad Company to commence their said railroad in the respective times allowed for that purpose in their act of incorporation, and unless they commence and complete the same in the periods of time for the said commencement and completion in said incorporation specified, that then the consent of the Common Council and all the powers and privileges given in the ordinance shall cease and be null and void.

"6th, That in case the said railroad should not be completed within the time for that pur-

pose in their charter mentioned, or if at any time after the construction of the said railroad, the same shall be discontinued or not kept up and in repair as a good and sufficient railroad, that then the strip of land to be taken for the said railroad should be thrown open and become a part of the street or public avenues, without any assessment on the owners of the adjoining lands or the public therefor.

"7th, That no building shall be erected on the said strip of land to be taken for the said railroad; and that such a railing, or other erections, shall be made on the outer edges of the embankments or railroad path, and also such railing or fences on the edges of the excavations, as the Common Council shall, from time to time, deem necessary to prevent accidents and loss of lives to our fellow citizens.

"8th, That this ordinance shall not be considered as binding on the Common Council, nor shall the said ordinance go into effect, until the said Harlaem Railroad Company shall first duly execute (under their corporate seal) such an instrument in writing, promising, covenanting, and engaging, on their part and behalf, to stand to, abide by and perform all the conditions and requirements in the ordinance contained, as the Mayor and the Counsel of the Board shall by their certificate approve, and not until such instrument shall be filed, so certified in the Comptroller's office of this city.

"Passed by the Board of Aldermen December 16, 1831.

"Passed by the Board of Assistants December 19, 1831.

"Approved by the Mayor December 22, 1831.

On the first of February, 1832, the following resolution passed in Common Council:

Resolved, That the New-York and Harlæm Railroad Company be, and they are hereby authorized, to take possession of the ground owned by the Common Council over which the line of said railroad is ordered to be constructed, and that they be permitted to use the same during the continuance of the present charter, for the purpose of a railroad, and *that* only; and when they cease so to use it, it shall revert to the Corporation, provided always, that the said land shall be so used as not to interfere with the use of the cross streets, and on condition, however, that if the said Corporation shall not commence the said railroad, and complete the same, within the time limited by their charter, then the privilege hereby granted shall cease and be void.

Adopted by the Board of Aldermen and Board of Assistants, January 30, 1832.

Approved by the Mayor, February 1, 1832.

Upon a subsequent application to the Legislature, by the New-York and Harlæm Railroad Company, the following Act was passed, April 6, 1832.

The People of the State of New-York, represented in Senate and Assembly, do enact as follows—

Sec. 1. The President and Directors of the New-York and Harlæm Road Company are hereby authorized and empowered, with the permission of the Mayor, Aldermen and Commonalty of the City of New-York, to extend their railroad along the fourth avenue to Fourteenth street in said city, and through such other streets in the said city as the Mayor, Aldermen and Commonalty of said city may from time to time permit, subject to such prudential rules as are prescribed by this Act, and as the said Mayor, Aldermen, and Commonalty in Common Council convened, may prescribe.

Sec. 2. The President and Directors of said Company are hereby authorized to increase their capital stock to such sum as may be necessary for the purpose aforesaid, and to issue scrip therefor; but their capital stock shall not in the whole exceed the sum of five hundred thousand dollars.

Sec. 3. After obtaining the consent of the said Mayor, Aldermen and Commonalty, the said Company shall not construct any railway in any street of the City of New-York below Prince street, until they shall have completed four miles of their road above said street.

Sec. 4. No carriage or vehicle shall be drawn or propelled by any other than horse power, through any street of said city south of Fourteenth street.

Sec. 5. Every carriage or vehicle, drawn or propelled on said railroad, shall be provided with suitable safe-guards, projecting in a descending direction near the surface of the rails, in front of each forward wheel, in such manner as to ensure the greatest safety against accidents.

Sec. 6. No such carriage or vehicle shall be drawn or propelled at a greater speed than at the rate of five miles an hour in any street of said city below Fourteenth street.

State of New-York, Secretary's Office.

I certify the preceding to be a true copy of an original Act of the Legislature of this State on file at this office.

ARCHIBALD CAMPBELL.
Deputy Secretary.

Albany, April 6, 1832.

Report of a Committee to the President and Directors of the Paterson and Hudson River Rail Road Company.

The committee appointed to prepare and make an exposition of the present state of the road, and its future prospects, report:

That, in the execution of their duty, they have obtained from the Chief Engineer of the Company a report of the present situation of the road, as to its construction and cost, with a statement of the further amount of money that will be required for its completion; which report is hereunto annexed. By this report it appears that there has been expended in the construction of the road, and charges incident thereto, the sum of $228,252 16, and that it will require the further sum of $133,066 67 to complete it to its junction with the Newark road; and that it will be finished to that point in the course of the next autumn.

Of the amount expended, there has been appropriated,		*And there is required to finish the same,*
For grading the road from Paterson to end of 11th section, distance 7¼ miles,	$57,200 63	19,451 49
Grading road over meadows, including foundations, distance 5¼ miles,	45,578 15	20,378 00
Constructing road from Paterson to western base of Bergen hill, including all materials, distance 13 miles,	45,049 32	27,625 95
Building bridges over Passaic River, Berry Creek, Hackensack River, and smaller creeks, and Culvert, and masonry,	31,668 81	27,761 23
Building depot at Paterson, stables, car house at landing, purchasing passenger cars, and burthen cars, horses, &c.,	15,017 71	850 00
For land, including lot for depot in Paterson,	13,645 23	2,000 00
Surveys and boring on salt marshes, and on Bergen ridge,	2,199 65	
Engineer Department, including surveys, location, and wages of assistants and workmen, and purchase of instruments,	12,404 02	8,000 00
Incidental expenses of direction, salaries of officers, counsel fees, office rent, furniture, fuel, printing, &c.,	5,488 64	2,000 00
Two locomotive engines,	.....	8,000 00
Making road from western base of Bergen ridge to junction, 1 mile,	.....	17,000 00
	228,252 16	133,066 67
		228,252 16
		$361,318 83

For a more minute detail of those expenditures, the committee refer the board to the annexed report of the Engineer.

The committee further report:

That the committees on the part of the New-Jersey Rail Road and Transportation Company, and of this Company, have entered into a provisional arrangement, subject to the confirmation of the board, as to the formation of the road, from the point of junction on the west side of Bergen hill to the Hudson river: by which arrangement that part of the road is to be the common property of the two Companies, with equal privileges in all respects, and to be constructed under the New-Jersey Rail Road and Transportation Company, who have already put the same under contract, and a strong force is now employed in its construction, with the hope that it will be finished to Jersey City during the next autumn, and with full confidence that its final completion will not be delayed beyond the succeeding spring.

The committee have also procured from E. Beach, Esq., the Chief Engineer of that Company, a statement of the expense of graduating that part of the road, amounting to $115,529 96, to which must be added the sum of $22,400, for the expense of a double set of tracks on the same, making the amount of $137,929 86; of which amount, this Company is bound by the arrangement made between the two Companies, to pay two-fifth parts, equal to $55,171 98; which, added to the said sum of $361,318 83, the cost of the road to the point of junction, gives as the total amount of the cost of the road from Paterson to Jersey City, including all the necessary locomotive power, cars for passengers and burthen, and land for road and depot, the sum of $416,490 81, equal to $26,030 per mile. But of this amount, it is to be observed, that the sum of $88,547 75 is applicable to the building of bridges, and purchasing the lands for and building the depot, and purchasing the moving power; leaving a balance of $327,943 06, which is strictly applicable to the grading and formation of the road, including the land for the same, equal to $20,049 43 per mile.

This amount exceeds the original estimate of the cost of the road. But when we consider the nature of the country traversed by this road, overcoming two hills as formidable as Berry's hill and the Bergen ridge; crossing the Hackensack and Passaic rivers, besides other smaller streams, by a line of bridges, altogether more than 2,100 feet long, and those built in the most permanent manner; passing over about five miles of salt marsh, and connecting the town of Paterson with Jersey City, by a line of road 16 1-8 miles long; exceeding the length of a straight line by only about 513 yards, and securing the use of that road by locomotive engines, without the aid of stationary power,—it is confidently believed that the work will have been finished with as small comparative expense as any in the country.

And the novelty of the formation of the road over the salt marshes, and the unexpected intervention of quicksands on Berry's hill, furnish a satisfactory reason for the difference in the original estimates of the Engineer and the result: and although the cost of the road exceeds the original estimate, it is highly satisfactory to the committee to be enabled to state with confidence to the board, that a careful investigation has resulted in a firm conviction, that the income of the road will greatly exceed the amount originally anticipated, so much so as to render it much more productive than was then expected; and upon that subject they submit such facts as have led them to their conclusion, in order that the correctness of those conclusions may be tested by the judgment of others interested in the success of the road.

As to the number of passengers, it is to be observed, that the road was finished from Paterson to Acquackanonk, a distance of 4 1-2 miles, and the cars of the Company commenced running over that part of the way early in June last, and have continued so to run until this time. During two months of this period, one half of the Paterson stages withdrew from the road, and carried their passengers through, from New-York to Paterson. The Owego stage, which passes from New-York through Paterson three times a week, did not use the rail road, as they probably will when it is finished. And during a considerable part of the season at which the greatest travelling is expected, the intercourse between Paterson and New-York and other towns was nearly suspended by reason of the cholera, which then prevailed in Paterson and New-York.—These facts alone, connected with the increased

facility of travelling on a rail road, warrant the committee in estimating the immediate regular travelling of the road when finished, at double the amount which has passed over it upon an average since it has been in operation. But there are other circumstances which should be taken into view in considering this subject. There is a regular line of stages running from New-York on the west side of the Hudson river, and passing from Hoboken through Hackensack, Hoppertown, and Ramapo, to Albany. It is believed that this line will pass over our road when finished. Because from Hoppertown (a point common to both routes) it is but about 7¼ miles to Paterson, and from thence by the rail road to Jersey City it is 16 1-8 miles, and from Hoppertown through Hackensack to Hoboken it is about 21 miles, which is but 2 7-8 miles less than through Paterson to Jersey City. If we suppose the rate of travelling on the common or turnpike road to be six miles an hour, and on the rail road 16 miles an hour, the route through Paterson will be passed over in 1h. 17m. less time than that through Hackensack; and this difference in favor of the rail road route will be increased in the season of bad roads.

There is a large amount of travelling from the north and west, passing by the route of the Caldwell turnpike, and the Newark and Pompton turnpike, through Newark to New-York. Much of this travelling would pass thro' Paterson but for the bad roads between Paterson and the Little Falls, and between Paterson and New-York.

A Company has been incorporated during the present session of the Legislature, to form a turnpike road from Paterson to the Little Falls; and it is confidently believed that a very considerable proportion of this travelling will pass over our road when finished, and the carrying of the mail between New-York and Paterson will without doubt be an item in the receipts of the Company.

The foregoing remarks apply chiefly to the probable effect which will be produced by changing the direction of the present travelling; but in presenting a view of the prospects of the road, we should anticipate the probable increase of travelling, by reason of the increase of the population and business of Paterson and the neighboring towns. By reference to a census of Paterson, taken by the Rev. Samuel Fisher in June, 1824, it appears that there were at that time in Paterson 4,737 inhabitants. And by a census taken by the same gentleman in July, 1832, it appears that there were 9,085 inhabitants, the population having nearly doubled in eight years. And the same causes which produced this rapid increase continue to operate, and will probably continue to produce similar effects. And in viewing the geographical situation of the country, the committee cannot overlook the fact, that this road may, and probably will, form the first section of that rail road which is destined to connect the western country with the city of New-York.

As to the tonnage, the committee have procured statements from the two experienced merchants of Acquackanonk, who have for many years past been engaged in freighting goods from New-York to that place: by one of those merchants, the tonnage is stated at $15,650 a year, including the business of the regular wagons that ply between New-York and Paterson. By the other it is stated at 11,200 tons a year, exclusive of the business done by those wagons.

In addition to this, there are six regular boats on the Hackensack river, plying between Hackensack and the city of New-York, and it is stated by one of the principal merchants of Hackensack, that the business direct from there to Paterson employs at least one of those boats; and the others, besides supplying the town of Hackensack and its vicinity, are employed in freighting the goods for fourteen manufacturing establishments, besides stores, situated in the vicinity of Hoppertown, Godwinville, and Paramus, which establishments are nearer by some miles to Paterson than to Hackensack.

The price of the freight of goods from New-York to Aquackanonk and Hackensack respectively, is $1 25 per ton, and the transportation from either of these places by the common or turnpike road is also $1 25 per ton, making the price of delivering goods from New-York to Paterson $2 50 per ton, which is increased to $6 25 in the winter season, when the navigation of the rivers is closed. The transportation of goods on the rail road is estimated at one dollar per ton from Paterson to the Hudson River. With these facts before them, and taking into consideration that goods will be delivered not only cheaper, but with greater certainty and dispatch by the rail road than in any other manner, the committee have estimated the tonnage of the road at 15,650 tons a year, as the minimum quantity which will pass over it.

In estimating the current yearly expense of the road, it will be observed that we allow $16 per day for the moving power: in this respect we have formed our conclusions from the last annual report of the Baltimore and Ohio Rail Road Company, (see 6th Annual Report, page 53,) who from actual experience have ascertained that $16 per day is sufficient to cover all the expenses incident to a locomotive power that is adequate to perform a much greater business than is assumed as the business of our road. In this estimate of the moving power there is allowed for

1 Engine man per day, -	$2 00
1 Assistant, - - -	1 50
1 Ton Anthracite Coal, -	8 00
Oil, - - - - - -	50
Repairs and renewal of engines,	2 50
Interest on cost of engines,	75
Contingencies, - - -	75
	$16 00 per day.

With these views the committee submit the following estimate:

The amount of travelling from the 5th of June to the 31st of December, 1832, as appears by a statement of the Secretary of the Company, was 18,036, being an average of 86 passengers per day. This being doubled, gives 172 passengers a day at 75, equal per year to - -		$47,105 00
Tonnage, 15,650 tons a year, at $1,		15,650 00
		$62,755 00
Annual expense and renewal of road, moving power at $16 per day, - - -	$5,840	
Salaries of the officers of the Company, - - -	2,000	
Agents, one conductor at $2,	730	
One at each end of road, at $500, - - - -	1,000	
Eight common laborers, at $250 each, - - -	2,000	
For repairs and renewal of road, - - - -	3,750	
		15,320 00
Leaving a balance of - - -		$47,435 00

Which amounts to more than 11 per cent. on the estimated cost of the road, to be divided. In ascertaining the last charge of $3,750 for the repairs and continued renewal of the road, the committee have assumed that the sills of the road, which are all of red cedar or locust, will last twenty years. That the rails, which are of Georgia pine, will last nine years. That the piles of the bridges, which are all of thrifty white oak, will last but twelve years, and that the bridges which are composed of white pine, will last twenty years, and that the materials of the whole road, including the bridges, will be entirely renewed as to the several parts thereof, within the said periods of time respectively, and it is believed that the allowance is very ample for the object proposed.

By the charter of the Company, the original capital stock is limited to $250,000, with the privilege however of increasing the same to $500,000. From the foregoing statement, it appears that to complete the road to the junction with the Newark road, it will cost the sum of $361,318 83, and if this Company confirm the provisional agreement made with the New-Jersey Rail Road and Transportation Company, which course the committee recommend. It will cost, according to the estimate of the Engineer of that Company, the further sum of $55,171 98 to complete the road to Jersey City, making an excess over and above the capital stock subscribed of $166,490 71.

The committee further report, that they consider it highly expedient that a branch of this road should be made in conjunction with the Newark Rail Road and Transportation Company, from near the eastern base of Bergen Ridge to Harsimus, and from thence to Hoboken, altogether a distance of one and a half miles; involving an expense to this Company of a very small amount in comparison with the advantages of that route, and therefore they recommend that the sum of $200,000 be obtained, either by an increase of the capital stock, according to the provisions of the charter, or by a loan, as may be thought most expedient. All which is respectfully submitted.

PH. DICKERSON,
MARK W. COLLET,
ROBERT CARRICK,
} *Committee.*

Paterson, Feb. 14, 1833.

At a meeting of the Board of Directors, held on the 14th of February, 1833, the foregoing report having been read, it was unanimously resolved that the same be accepted, and recorded; and that Samuel F. Mott, Ph. Dickerson, and Mark W. Collet be a committee with authority to borrow, for the purposes expressed in said report, any sum not exceeding the said sum of $200,000. E. B. D. OGDEN, *Secretary.*

Feb. 14, 1833.

CONTROVERSY *between the Chesapeake and Ohio Canal Company and the Baltimore and Ohio Rail Road Company.*

A very long report was made in the Maryland house of delegates on the 11th inst. upon certain memorials which involved all the points of controversy between the Chesapeake and Ohio Canal and the Baltimore and Ohio Rail Road. From it we learn, *officially*, some facts and circumstances which we have thought might not be uninteresting to our readers.

It is known that the great point in controversy is the passage along the Point of Rocks below Harpers' Ferry, the impression being very general that the ground there is not sufficiently wide to permit both the canal and rail road to pass; and it is further known that the priority of right has been adjudged to the Canal Company. In order to understand the difficulties of this passage, the committee of the Maryland house of delegates made a visit to the Point of Rocks, and returned with *the full conviction that both the works might even now be carried along the difficult passes mentioned,* "at no unreasonable sacrifice of the interest, convenience, or public utility of the canal." The committee say that "it was in full proof in the cause lately decided between the two Companies, upon the evidence of competent men, the engineers of both, that through these passages there was sufficient room to conduct both works, allowing to each its full capacity—that is to say, to the rail road a breadth of thirty feet, and to the canal a breadth of fifty-six feet three inches, with its full cross section of three hundred and six feet." The cause, however, having been decided in favor of the Canal Company, its directors "chose to depart from previous locations, (say the committee,) and to jam the canal close against the hills, so that the passage of the rail road beyond the point at which it is now barred up, is rendered morally, if not physically impracticable, unless by a sacrifice of a small portion of the redundant advantages which the Canal Company holds but by the bounty of Maryland."

The canal having thus been *made* in this manner at the places mentioned, the committee suggest that the best means of carrying on the rail road is, to take a strip of fifteen feet of the breadth of the canal on the land side (next the rocks), leaving for the canal a width of thirty-five feet, at the places mentioned. These places are four in number, and amount in all to two miles and a tenth in length. The dimensions thus left

to the canal are said to be "manifestly more than sufficient to permit the passage of two boats, whose breadth can never exceed that of the lock chamber, fifteen feet." "The fifteen feet so given up, together with five feet of additional excavation on the rocky side hills, will afford a passage sufficient for the rail road." All the expense attending these contractions of the canal to be paid by the Rail Road Company.

The Canal Company are offered some inducements to grant the privileges asked for the rail road, such as extending the time for completing the first hundred miles, which it may be impracticable to do within the charter, and some latitude in the use of water privileges.

The report seems to have been drawn up with much candor, and the propositions it makes to the Canal Company seem to be fair and reasonable. We hope they will be met in a corresponding spirit, and that both these splendid works of improvement may be happily consummated.

We have read the report, of which we have thus given an outline, with the more interest, as our own rail road to the Potomac is greatly dependent upon the success of the enterprize of our Maryland neighbors. The question is very frequently asked, Why is the Baltimore Rail Road delayed, and what is the state of the controversy with the Canal Company? We have given above the latest information on the subject, and have laid aside the report itself for the perusal of those who wish to examine it at length.

DANVILLE AND POTTSVILLE RAIL ROAD.—We have the pleasure to announce, that it is confidently believed that the proposition which has been made to the commonwealth for the subscription of stock to this rail road, will be acceded to by our Legislature. We have learned that a bill recommending the investment, has been reported in both houses. That the great work of internal improvement which has been constructed under the authority and at the expense of the commonwealth, the Pennsylvania canal, is destined to receive a considerable amount of tonnage from the completion of the western division of this rail road, will scarcely admit of a doubt. And that consequently the State will be a great gainer on this ground alone, without estimating the intrinsic value of the stock of the rail road, is equally obvious to every understanding. It is erroneous to infer, that because rail road stocks have not been productive property before the roads themselves were in complete operation, that they should always continue so. The contrary has been recently proved in a very satisfactory manner. Not more than a week since, thirty shares of the stock of the West Branch Rail Road were sold in the city of Philadelphia, at seventy-five dollars a share, originally purchased at fifty dollars—the advance being equivalent to fifty per cent. This was a fine opportunity for investment, when the stock was selling at par only a few months ago, which the prejudiced doubted at the time, but are now nolens volens compelled to admit. Without any immediate interest to be promoted, whatever ultimate benefit may be conferred by the completion of the western extremity of this rail road, our inhabitants nevertheless are well pleased to witness, in common with all other sensible citizens, the anticipated successful result of the application to the commonwealth. For ourselves, we have no hesitation in repeating what we have all along confidently asserted, that when the *intermediate distance* on this rail road is finished, or in other words, when the whole route is accomplished, the value of the stock will go beyond that of any similar work in the country.—[Miner's Jour.]

ON THE PROBABLE APPLICATION OF STEAM POWER TO VARIOUS PURPOSES.—It is not improbable, that in nothing will greater changes be effected before the close of the year which has just commenced, than in the purposes to which this tremendous agent will be applied. Every day brings to light some new form in which its irresistible energies may be employed. Ten years ago the idea of substituting a steam engine for a horse as propelling power upon a turnpike, would have been thought chimerical; and the projector who should have talked of travelling from New-York to Philadelphia and back again between sunrise and sunset, would have found his schemes listened to with most ominous shakes of the head and shrugs of the shoulders. Yet these things are done daily before our eyes, and nobody seems astonished.

Most of the London presses are worked by steam; logs and marble are sawed, and chickens are hatched by steam; potatoes are boiled, money is coined, whiskey distilled, water is pumped, bullets are driven, gun-barrels bored, watch cases turned, foul clothes washed, tortoise shell combs mended, anchors hammered, ships' cables twisted, linen is bleached, sugar refined, jellies and soups are made, and houses warmed, by steam; in short, there is scarcely an object of human necessity, comfort or luxury, in the production of which some use is not made of this universal and most accommodating of all agents.

No man can set bounds to its utility and the modes of its application. We shall not be surprised to find it, before the year is out, employed to extinguish fires, to blast rocks, or in excavating the earth for canals; some of us may live to see men enabled, by its assistance, to traverse the air, or explore the depths of the ocean; and who knows even but that its energies may in some future age, when man's knowledge and ingenuity shall have reached their highest state of perfection, be successfully directed to the discovery of the philosopher's stone, the north-west passage, and the long-sought for "perpetual motion?"

CAPE FEAR AND YADKIN RAILROAD.—It affords us much pleasure to announce, that in obedience to the instructions of a very large majority of the Freeholders and voters of this Town, that the Commissioners have resolved to contract for a loan of $200,000 to be invested in the stock of this Company; this, with the individual subscription already made, will be more than sufficient for the organization of the Company; and the commencement of the work during the spring, may be reasonably calculated on. We hope to be able to show that the probable amount of transportation of produce, merchandize, &c. over this road will be so great as to demonstrate that the stock in this Company will be as profitable, if not more so, than the stock of any other company in the Union.—[Fayetteville Journal.]

ACCIDENT ON THE RAIL ROAD.—As rumor has greatly magnified an accident which occurred lately on the rail road, we have been at some pains to collect a statement of the facts. It appears that, on Monday last, as the locomotive and train approached the bridge over the Three Creeks, about three miles from Belfield, a young man who was sitting on one side of the tender, carelessly attempted to draw in his legs, which were hanging over on the outside, but projecting them too far across the road, he struck against one of the posts of the bridge, and was knocked off and fell on the rails, the cars passing over one of his arms from the shoulder to near the wrist, mangling it in a shocking manner. He was immediately placed in one of the coaches, and the train proceeded on to Belfield at a velocity increased by the desire of the Engineer to procure medical assistance as speedily as possible. On arriving at the Belfield depot, either from a sudden order to change the direction, or from some other cause, the turn-outs had not been properly placed, and, before the error could be corrected, the engine and tender, under a heavy press of steam, were precipitated off the rails. The Engineer and attendants were thrown out, but escaped with no other injury than a few trifling bruises. The engine does not appear, from a hasty examination, to have been materially injured. The tender had her supply pipe broken, and the reservoir much shattered. The passenger coaches escaped without the least injury. It is a remarkable circumstance, that the only personal injury of any consequence caused by this accident, was that sustained by the black man who was endeavoring to arrange the turn-out, but not being able to get out of the way in time, the engine knocked him down, and the wheels passed over the ends of the fingers of one hand.

The transportation of produce and passengers will suffer no interruption from this accident, the Company having immediately placed on the line a sufficient number of horses, by which means the communication will be kept up until the locomotive is repaired, or the arrival of others, two of which are daily expected from Liverpool.—[Petersburg Intel.]

Illinois Canal.—We understand that in the Report of the Canal Commissioners to the Legislature, the cost of this proposed work is estimated as follows:—If the Lake is made a feeder for the Canal, $4,043,036; if the Lake is not made a feeder, $1,601,695. To construct a Rail Road on the same route, the cost is estimated at $1,052,488: a turnpike road, on the M'Adamised plan, $1,041,624. From the acknowledged qualifications of the engineer, J. M. Bucklin, Esq. these estimates are believed to be as accurate as the nature of the case will admit. With these estimates before the Legislature, that body will undoubtedly give a preference to the Rail Road as a means of communication from Lake Michigan to the navigable waters of the Illinois river. A bill to incorporate a company for the construction of a Rail Road on this route, is now before the Legislature. No vote has yet been taken which gives any indication of its fate. If it should become a law the present session, we shall be very agreeably disappointed.—[Sangamo Journal, Springfield, Illinois.]

[*From the Albany Argus.*]

CANAL TOLLS.—The report of the Commissioners of the Canal Fund, communicating a statement of all the tolls collected upon all the canals of the state, during the season of navigation of 1832, was made to the legislature on the 19th ult. The aggregate result is as follows:—

Erie Canal	$1,085,612 28	
Champlain Canal	110,191 95	
		$1,195,804 23
Oswego Canal		10,786 20
Cayuga and Seneca Canal		13,893 04
Making a total of		$1,229,483 47

Notwithstanding the prevalence of the cholera during last season, and the consequent derangement and diminution of the business of the canals, the tolls on the Erie canal are only less by $6,101 98 than they were the preceding year: and on the Champlain canal there is an increase of $7,295 72; so that on these two canals the tolls collected in 1832 exceed those of 1831, by the sum of $1,193 74. There is an increase on the Oswego canal of $3,515,10; and on the Cayuga and Seneca canals of $272 65. This makes the increase on all the canals $5,681 49.

☞GREAT CANAL OF GOETHA.—This magnificent water-line, which passes through the heart of Sweden, and unites the North Sea and the Baltic, was opened with great solemnities on the 26th of September last. It will admit vessels drawing nine feet and a half water, and two and twenty feet in width; and they may make the passage into the Baltic in eight days, with the aid of steamboats across the lakes which occur on its line. It has been two and twenty years in construction, and cost rather more than 10,430,000 dollars (£1,285,000), of which 6,378,334 dollars were contributed by the state.—[Athenæum.]

Extraordinary Railway performances.—On the occasion of a scientific gentleman visiting the Liverpool and Manchester Railway, some very extraordinary performances were effected. On two occasions, a load amounting to one hundred tons was drawn by one engine from Liverpool to Manchester, a distance of above thirty miles, in an hour and a half, being at the average rate of twenty miles an hour. An eight horse wagon on a common road, is capable of carrying only eight tons a day. Consequently it would take one hundred horses working for one day on a turnpike road to perform the same work as was here accomplished by a single steam engine in an hour and a half on the railroad. It is said that no former performance on the railroad had come near this result.—[Liverpool paper.]

AGRICULTURE, &c.

[*From the New York Farmer and American Gardener's Magazine.*]

AGRICULTURAL SCHOOL.—*State Agricultural Society.*—We take pleasure in laying before our readers the following important document. We hope they all will read it, reflect on it, and firmly resolve to *act* in accomplishing this great object in view.

The committee appointed at the first meeting of the Society, to report a plan for an Agricultural School, with an estimate of the expense necessary to establish and put the same into operation, together with their views of such an establishment, beg leave to submit the following Report:

The main objects of the proposed school are, to impart to agriculture the efficient aid of the sciences, and to furnish it with the best models of practice; to teach, simultaneously, in the period of youth devoted to academic studies, the practical operations of husbandry, and such branches of useful knowledge as may tend to elevate its character, and increase its products. The *plan*, therefore, should embrace,—

1. A Farm, of sufficient extent to afford room for the diversified operations of tillage, cattle and sheep, husbandry, and of orcharding and gardening—on a scale that will admit a fair comparison being made of crops, or breeds of cattle and sheep, and of the varieties of hardy fruits;—and sufficiently diversified in soil and surface as to admit of satisfactory experiments:

2. A Farm House and Farm Buildings, which may serve as models of convenience, taste and economy, and accommodate the head farmer and his assistants:

3. A School Building, for the accommodation of teachers and scholars:

4. A Library and Philosophical Apparatus:

5. Stock and Implements for the farm: and,

6. Shops for the construction of farm implements and machinery, for the use of the farm, for the illustration of mechanical science, and to afford practical instructions to the pupils in mechanics.

These items of expense, which may be considered preliminary and permanent, together with the cost of the furniture required for the school building, are estimated at $7,500.

1. The plan of Education might embrace,—Practical instructions in the various operations and labors of the farm, the garden, the orchards and the shops: and,

2. The study of the natural sciences generally, mathematics, mechanics, chemistry and drawing, so far as these may conduce or become subservient to agricultural improvement,—together with such other branches of knowledge as will qualify the students for the higher duties of civil life,—such as will fit them to become independent electors, discreet jurors, faithful magistrates, and wise legislators.

As prerequisites to admission to the school, the pupils might be required to possess a good common school education, to be at least fourteen years of age, and of good moral character. Four years might constitute a course of studies; and the internal regulations and police of the school might be conformed, in a measure, to those of our military academy.

A department of the farm should be set apart for experiments in husbandry, and the details and results of these experiments accurately registered. The garden and the orchard should contain all the good hardy fruits, and specimens of all hardy plants, that may be useful on the farm, in the arts, in commerce, or that are ornamental,—in order that the relative value of different species and varieties may be determined, and their mode of culture, and process of curing, taught to the pupils,—and the approved kinds furnished for public distribution.

To put the School into operation there will be required,—a principal, professors and teachers,—a steward and servants, for the school;

A manager, laborers and assistants, for the farm;

Machinists and assistants for the shops; and

A practical and scientific manager for the garden and orchard.

The number of officers and assistants which will be required, must depend upon contingencies: and of course the committee do not pretend to state with precision, in their estimate, the amount of their salaries and pay.

The proceeds of the school and the farm may be expected to increase for some years, and will materially depend on the terms of tuition. The committee have assumed, as reasonable data, that the number of pupils would average 200, and the average produce of the farm amount to $4,000 per annum, for the first four years. Upon the assumed data, then, the estimate would exhibit the following result.

PRELIMINARY EXPENSES.

Farm of 400 acres, at $30,	-	12,000
Farm buildings,	- - -	6,000
School buildings,	- -	25,000
Library and apparatus,	- -	7,500
Stock and implements,	- -	3,150
Shops and tools,	- -	1,250
Furniture for school,	- -	1,150
Incidental,	- - - -	1,500
Total preliminary expense,	-	$57,550

ANNUAL EXPENSE.

Salaries of officers and teachers of the school,	- 5,100	
Do. of manager and laborers on farm,	- - - 1,000	
Do. of machinists,	- - 600	
Do. of gardener,	- - 300	
Expense of boarding 200 pupils at $1.50 per week,	14,400	
Servants for the establishment,	2,000	
		23,400
Estimated annual expense,		$80,950

The Annual Receipts are computed as follows:

Board and tuition of 200 pupils, at $150 per annum,	- -	$30,000
Produce of farm,	- - -	4,000
		$34,000

Thus the total expense of establishing the school, and of maintaining it the first year, is estimated at $80,950, and the income, after the first year, it is believed, will be amply sufficient to defray all expenses. Yet to meet contingencies that may occur, and to make up for any deficiency in the estimate, the committee think that an appropriation of $100,000, the surplus to be invested for the benefit of the institution, will insure usefulness and permanency to the school, and prove amply sufficient to meet all its wants. This sum, if equalized among the population of the state, would operate as a tax of about *five cents* to each inhabitant.

Your committtee have thus complied with the requisitions of the society, in submitting the plan of an Agricultural School, and an estimate of the expense necessary to establish and put the same into successful and permanent operation. It only remains for them to state their opinion of its utility.

The agriculture of a country affords the best criterion of its prosperity. Whether we compare kingdoms, states, counties, districts or farms, the condition of this branch of labor, which they severally exhibit, is a sure index, not only of the pecuniary, but of its moral condition. It is no less an axiom founded in truth, that agriculture prospers or languishes in proportion to the science and skill of the men who manage its labors. It is not the natural fertility of the soil, so much as the intelligence and industry of those who till it, which gives to husbandry its interests and its rewards. The man who devotes the energies of a highly cultivated mind, to the improvement of this primitive and all important branch of labor, is a public benefactor. Cincinnatus did more to immortalize his name, and to command our applause, by his love of rural labors, than by his military exploits. Washington, amid all the honors that irradiated his brow, sought his highest pleasures in the business and retirement of the farm. And it was the first remark of our present chief magistrate, to the writer, after introduction, that he would not forego the pleasures of the farm for all the honors and emoluments that this nation could confer upon him. Education enables man to appreciate the wonderful provisions which God has made for his happiness in rural life, and imparts to him the ability of diffusing instruction and happiness to multitudes around him.

It should be the policy of government, therefore, which watches over the interest of all, to infuse into the labors of husbandry all the lights of science and knowledge—to take care to expand and elevate the minds of those who are to give it efficiency and character, and to call forth skill and industry by proffered rewards. With us these considerations possess peculiar force. Our population and business are emphatically agricultural, and every aid which is extended to this class, benefits, indirectly, every portion of the community. Agriculture constitutes the fountains of the thousand rills, which, swelling and traversing every part of the state, propel the spindle and the hammer of the artizan and the manufacturer, and finally, by their union, make up the mighty stream of commerce which unceasingly flows into the Atlantic.

That our agriculture is susceptible of improvement—that the products of its labors may be doubled, nay quadrupled, must be apparent to those who have compared our husbandry with that of some European countries, or who have contrasted, at home, the well cultivated district, or farm, with those which are badly managed. How is the desired amelioration to be effected? How can a better husbandry be so well promoted, as by teaching it to our youth—by sowing our seed in the spring-time of life? Prejudice no where retains a stronger hold than among farmers who have approached or passed the meridian of life. While some retain old practices, for want of confidence in their knowledge to guide them in better ones, others lack the first requisites to improvement—a consciousness that their system is not the most useful; while not a few are influenced, in their hostil-

ity to public means of improvement, by the desire to keep things to their own level. If we would efficiently improve this great branch of business, and elevate its character, as well as the character of those who are engaged in its operations, we must do what universal experience has shown to be the only sure method:—we must lay our foundation in the rising generation—we must teach the young idea how to shoot—we must instruct the head to help the hands. Our physical and mental powers are twin sisters. They lighten each other's labor, and mutually impart a zest to each other's enjoyments. And as it is becoming common to introduce manual labor into literary schools, it is courteous that literature and science should requite civility, by associating with the inmates of schools of labor.

Agricultural Schools, although of modern date, have nevertheless been established in most of the states of Europe, and their utility has been fully demonstrated. Who has not heard of the school of Fellenburgh, at Howyl, or of Von Thayer, at Moegelin—to which young men are sent from every part of Europe, and even from America? In France and Prussia, Agricultural Schools have been founded and maintained by the governments. If they are found to be beneficial, and worthy of governmental support, in countries where power is vested in the few, how much more salutary must they prove here—where our institutions receive the impress of their character from the many, and where the perpetuity of these institutions depends emphatically upon the intelligence and virtue of the agricultural population. Despotism will never flourish in the American soil, but through the ignorance, and we may say consequent depravity, of its cultivators.

Your committee recall to recollection, with feelings of pride, the munificent benefactions of the legislature, to advance the literary character of our state; and the fact, that comparatively nothing has been done, legislatively, to improve our agriculture, which employs five-sixths of our population, can only be ascribed to the fact, that nothing has been asked for—nothing thought of. Our public colleges and academies, for literary instruction, are numerous and respectable. They meet our eye in almost every village. But where are our public schools of labor? Where is the head taught to help the hands, in the business which creates wealth, and which is the grand source of individual and national prosperity and happiness? Our literary and professional schools have been reared up and sustained by the expenditure of more than two millions of dollars from the public treasury, and they continue to share liberally of the public bounty. It will not, however, be denied, that the benefits which they dispense are altogether partial—that the rank and file of society, destined by heaven to become the conservators of civil liberty, are virtually denied a participation in the science and knowledge—in the means of improvement and of happiness, which they are calculated to dispense. Is it not a mandate of duty, then, as well as of expediency, that the benefits of public instruction should be more generally dispensed? We hazard not the fear of contradiction in assuming, that if a moiety of the public monies, which have been appropriated to literary schools, had been judiciously applied, in rendering science subservient to the arts, and in diffusing the higher branches among the laboring classes, the public benefits from the appropriation would have been far greater than they are at the present day. How many hundreds may now be pointed out, of liberal education, who are mere cyphers in society, for want of the early habits of application and labor, which it is the object of the proposed school to form and to infix! And how many, for want of these habits, have been prematurely lost to their friends, and to a purpose of usefulness for which man seems wisely to have been created—that of doing good to his fellows.

From a full conviction, that the interests of the state not only warrant, but require, an appropriation of public monies to this object, your committee beg leave to recommend to the consideration of the Society the following resolution:

Resolved, That a respectful memorial be presented to the Legislature, in behalf of this Society, and of the great interest which it represents, praying that suitable provision be made by law, for establishing a School of Agriculture, on the plan recommended in the preceding report; and that the co-operation, in this application, of societies and individuals, friendly to the object of the petition, be respectfully solicited.

Albany, Feb. 14, 1833.

ALBANY HORTICULTURAL SOCIETY.—At a meeting of this Society, on Friday, 1st February, 1833, the following Gentlemen were elected as Officers for the ensuing year:—

JESSE BUEL, President.
AMBROSE SPENCER, 1st Vice President.
JOHN TOWNSEND, 2d do.
JAMES STEVENSON, 3d do.
D. B. SLINGERLAND, Treasurer.
R. V. DE WITT, Corresponding Secretary.
B. P. STAATS, Recording Secretary.

COUNSELLORS.

E. Corning, John S. Walsh, E. C. Delavan, Joel A. Wing, G. V. Denniston, V. P. Douw, C. R. Webster, Jno. Willard, John Woodworth, Alfred Conkling, H. G. Wheaton, Peter Wendell, Richard Yates, Agustus James, Jno. W. Bay, B. F. Butler, J. T. Norton, G. W. Ryckman, John E. Lovett, George McPherson, William Barney, H. L. Webb, M. French, and Jno. I. Godfrey.

ON FODDER.—There are none of the farming operations that require more attention than feeding cattle through the winter, and yet by many no one thing is more neglected. We do not mean that farmers neglect to feed their cattle, but that they neglect making calculations as to the profit and loss attending it. We have remarked that in this vicinity a good milch cow, in the spring, bears the same price as two tons of hay. Most good farmers, we believe, will allow, that a cow fed upon hay alone, will consume two tons during the winter, or from the time when they commence feeding them until they are turned out to grass in the spring. The inquiry then arises, is not the loss equal to the worth of the cow in the fall, when so fed? We answer yes, together with the trouble of feeding them. In the neighborhood of large towns, where hay commands a great price, we consider it bad policy for farmers to keep more cows than they can winter upon such kinds of food as are produced from the farm, and will not command ready cash. This observation will not always apply to farms distant from market, nor to the keeping of dairies near large towns for the purpose of supplying them with milk. There are many kinds of feed which may be prepared both for horses and cows, by labor during the winter, wherewith they may be fed at less expense, or will consume less of the merchantable produce of the farm, than when fed on hay, by which the labor of winter becomes more valuable than when this is omitted.—Straw, when chopped fine and soaked or boiled with a small quantity of meal, potatoes, pumpkins, carrots or cabbage, makes an excellent feed for cattle or horses, and milch cows fed with such food will give more milk than when fed with hay alone.

In our long northern winters, sheep require some food of the kind, otherwise they are apt to become costive and feverish, which never fails to give their wool that yellow cotted appearance, which is commonly called the effects of being hide bound. We call the attention of farmers to this subject, wishing them to take such notes the present winter as will enable them hereafter to pursue that course which shall be found profitable. From the price hay bears in the country, it cannot be transported by land to any considerable distance to market without loss, but the same amount of property may be driven at a small expense. We would ask, why is there not a sure profit attending the selling of cows in the fall and purchasing in the spring, equal to the difference between driving a cow or transporting two tons of hay the same distance, allowing the prices of both were regulated by the same market?

BONE MANURE.—This most valuable article, which is extensively used in England, has only recently become known to American agriculturists. Bones collected in the towns and cities are reduced to various degrees of fineness, and in that state applied to the ground. The last number of the New-York Farmer contains some information on the subject, which we shall hereafter insert in the Star. We would, however, inform our readers that the article is now sold by Mr. JOHN L. WARD, of Brooklyn, at from 30 to 40 cents per bushel. We hope our Gardeners will give it a fair trial.—[L. I. Star.]

[From the New-York Farmer.]

AMERICAN SILK.—Through Dr. Pascalis we have been presented, from D. C. Wallace, Esq. Secretary of the Hamilton County Agricultural Society, of Ohio, specimens of American silk, of various colors. The thread is even and fine, and the colors beautiful. It was manufactured by Mrs. Hannah, of Wayne county, Indiana, and obtained the premium of the Hamilton Agricultural Society. The worms were fed on the leaves of the native mulberry. Mrs. H. is deserving of credit, not only for having produced a handsome specimen of silk, but should be considered as a public benefactor for the example she has set to our fair countrywomen.

PIEDMONTESE REEL.—The American Institute of this city has obtained one of the celebrated Piedmontese silk reels. It is in the possession of Dr. Pascalis, and in a short time will be exhibited in reeling American cocoons.

SWEET APPLE PUDDING.—Take one pint of scalded milk, half a pint of Indian meal, a tea cupful of molasses, a tea spoonful of salt, and six sweet apples cut into small pieces—should be baked not less than three hours—the apples will afford an excellent rich jelly. This is truely one of the most luxurious yet simple Yankee puddings made.

[*From the New-York Farmer.*]

Suggestions relative to Gardeners' Work for March. By the Editor.

Although winter may linger and weary, like the prolonged stay of a dull prating visitor, yet this is the month of some activity. The gardener should recollect that the "powerful king of day" is about returning, bringing again under his calorific sway the northern half of his kingdom, and that preparations should be made for his august and most desirable presence.

"Where'er he treads, heat gladdens every plain;
Delight on tip-toe bears his lucid train,
Sweet hope with conscious brow before him flies,
Anticipating wealth from summer skies."

Potatoes.—This important and useful vegetable may be planted in boxes, pots or beds, in a warm cellar, and then forwarded in a hot-bed or transferred into a warm suitable soil in the open air. Towards the latter end of the month they may be planted in the open ground and covered with straw, leaves, or other litter.—Those that do not produce large tops are considered the best for early growth.

Peas.—The following are some of the most esteemed early varieties—Early Washington or May Pea, 2½ feet high; Early Double Blossomed Frame, 3 feet; Early Nimble Dick, 2½ feet; Early Frame, 2½ feet; Early Golden Hotspur, 3 feet; Early Charlton, 3 feet; Early Petersburgh, 2½ feet. The earliness of peas depends, in some measure, when the seed was gathered. If those that are first ripe are picked off for seed, they will ripen from five to fifteen days the sooner.

Parsnips may be sowed in some seasons as early as the middle of March.

Peppers.—The seeds of this plant may be put in a hot-bed this month.

Lettuce.—Sow the seeds of the tender kinds in a hot-bed: the more hardy in warm open borders.

Leeks.—On a bed of rich earth sow the seeds of this hardy plant in the latter part of the month.

Garden Burnet, Poterium sanguisorba.—Sow the seeds in drills, ten or twelve inches wide and one inch deep, in this month or April.

Purple Egg Plant, Solanum melongena.—Near the first of March sow in a hot-bed.

Cucumber.—Sow the seeds, which should be more than one year old, in boxes or pots that are to be put in a hot-bed. This being a monœcious plant, and not having the aid of the wind and insects to scatter the farina, the male flowers should be taken off and the farina applied to the stigma of the female flower.

Chives, Alium schœnoprasum.—This species of onion is propagated by off-sets from the roots.

Celery, Apium graveolens.—The seeds of White Solid are sown in a moderate hot-bed, the first weeks in March; or in a warm situation in the latter part of the month, near which time the seeds for a general crop are sown in a rich moist soil.

Among other useful vegetables that should be forwarded either in hot-beds or warm borders are carrots, cabbages, cauliflower plants under hand glasses, beets, spinnage, tomatos, and turnips. Transplant hardy lettuce, and dress asparagus and artichoke beds.

Rhubarb, Rheum rhaponticum.—This valuable plant for tarts is obtained from seeds sown in March, or from off-sets. The plant should be covered by a barrel or box, and heating manure put over the barrel. Very early in the spring the leaves of a rooted plant will be sufficiently large for use.

Cabbage Stumps should be taken up and put in favorable situations for producing greens.

Coverings may be removed about the end of this month, from semi-hardy flowering plants. Spring weather, however, should be well set in before many of them are uncovered.

Seeds.—Many kinds of plants designed for seed should be brought forward as early as possible.

Transplanting.—Fruit and forest plants may be set out at any time during this month, provided the ground be thoroughly commuted.

Flowers of the most hardy kinds, that are designed to flower early, may be sown the latter part of this month, in warm situations. Many that are tender may be sown in boxes or pots, placed in sitting-rooms, green-houses, or hot-beds, and in April or May put in the open ground, with the balls of earth adhering to them.

Temperature.—As the season advances, air should be more frequently given to all housed or protected plants, especially in warm, clear days.

Insects.—Plants protected with foliage often are invested with insects at this season. Tobacco smoke is generally used by florists to destroy them.

Propagating.—Plants may be propagated by cuttings, off-sets, and layers.

Massachusetts Agricultural Society.—The Committee of the Massachusetts Agricultural Society, "On Vegetable and Grain Crops," having attended the duty assigned them, award as follows:—

To William Carter, of Fitchburg, in the county of Worcester, for his crop of Potatoes, being 691½ bushels to the acre, the premium of twenty dollars.

To Adam Knight, of Newbury, in the county of Essex, for his crop of Winter-rye, 45⅝ bushels the acre, twenty dollars.

To Hooker Leavitt, of Greenfield, in the county of Franklin, for his crop of Winter-wheat, being 38 bushels and 22 quarts on an acre—or rather on 3 rods short of an acre, twenty dollars.

To Henry Sprague, of Princeton, in the county of Worcester, for his crop of Barley, being 54¾ bushels to the acre, twenty dollars.

The Committee, in justice to other claimants, and thinking it may be useful, deem it proper to notice the applications for premiums of the following persons, and to recommend that the several statements, as to the mode of culture, not only of those to whom premiums have been given, but of the unsuccessful candidates, be published as part of this report. In the judgment of the Committee they are all of them well deserving the attention of farmers.

Gideon Foster, of Charlestown, county of Middlesex, 38 1/16 bushels of Winter-rye the acre.

Tristram Little, of Newbury, county of Essex, 45 bushels and 20 quarts of Winter-rye the acre.

Nathan Smith, of Roxbury, county of Norfolk, 43½ bushels of Winter-rye the acre.

Payson Williams, of Fitchburg, county of Worcester, 613⅜ bushels of Potatoes on an acre.

All which is respectfully submitted.

P. C. Brooks, per order.

Boston, January 12, 1833.

Fitchburg, January 4, 1833.

Hon. Peter C. Brooks,—Sir, yours of the 25th ult. requesting information respecting my crop of potatoes, is received.

The soil upon which the potatoes were raised is a warm deep loam, sloping to the south-east, and for five years previous to the last has been grass-land, and mowed each year. The land was ploughed in the month of November, 1831, harrowed and cross-ploughed in the month of May, 1832. I then spread forty cart loads of horse manure upon the furrows and ploughed it in; and then furrowed two and a half feet apart, and planted the seed in rows or drills. The seed was twenty bushels of the long red potato, and twenty-five bushels of common blue. The planting was quite the last of May. As soon as the tops appeared, the land was ploughed and hoed; and when they were about 12 inches high, ploughed and hoed again. I kept no minutes of the expense of cultivation, and am therefore unable to state it particularly. There was no further labor or manure expended, than as above stated, and no extra expense, or more pains taken, than in ordinary cases.

Very respectfully, your obedient servant,

W. Carter.

I, Joseph Smith, of Fitchburg, in the county of Worcester, and Commonwealth of Massachusetts, of lawful age, do depose and say that I was present and assisted to dig and measure the potatoes raised on one acre of land the present season, situate in said Fitchburg, and owned and cultivated by Mr. William Carter, of said town, being the same acre measured and surveyed by P. F. Cowdin, as appears by the certificate hereto annexed, and the whole quantity of potatoes raised on said acre of land was six hundred and ninety-two and one-half bushels. Joseph Smith.

Fitchburg, November 19, 1832.

Commonwealth of Massachusetts.

Worcester, ss. Nov. 19, 1832.

Then the above named Joseph Smith, personally appeared and made oath that the above written affidavit by him subscribed was true.

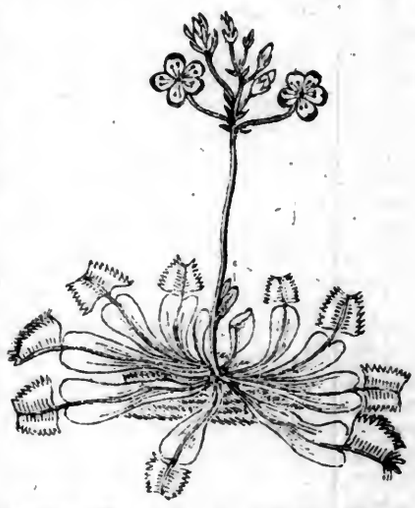
Before me, Ebenezer Torry,
Justice of Peace.

Newbury, Oct. 29, 1832.

To Jonathan Winship, Esq., Secretary of the Massachusetts Agricultural Society.

Sir,—I send you a statement of my method of raising a crop of winter-rye, on one acre of land the present year, which I wish to enter for a premium. The soil is a gravelly loam, rather dry than otherwise. The land was planted with corn in the spring of 1831, and manured in the hills with about six cords of manure to the acre, of common quality. In the month of August following, said acre was sown with three pecks of seed, and hoed in the usual manner. In the month of August of the present year, the rye was reaped and threshed, and found to measure forty-five bushels and five eighths of a bushel. There is standing on said acre of land seventy-five apple-trees, from two to six inches through at the root. Adams Knight.

I hereby certify, that I assisted in reaping, threshing and measuring the above-mentioned rye, and there was forty-five bushels and five-eighths, as above stated. Timothy K. Noyes.



Dionœa Muscipula, Venus' Fly Trap. By Q. Z. For the New-York Farmer.

This singular plant is considered one of the most remarkable and curious productions of the vegetable world. It belongs to the class Decandria, order Monogynia of Linnæus. The leaves are radial, lying upon the ground, and consisting of two parts. The lower, which is strictly speaking the leaf, is long, cordate, or heart shape, and is terminated by a single conservative appendage, which forms the upper half. This part consists of two lobes, the margins of which are terminated by cilicate divisions, like the teeth of a rat-trap, to which this singular anomaly is thought to bear a close

METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, MARCH 4, 1833.
KEPT IN THE CITY OF NEW-YORK.
[Communicated tor the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Feb. 26	6 a. m.	30.45	21	wsw	moderate	w by s	fair
	10	.47	31	sw—s by w	fresh	..	..
	2 p. m.	.38	35	sw	strong	..	..
	6	.27	36	..	fresh	..	..
	10	.17	34	..	moderate	wsw	.. —at 12, bank of clouds from wsw
Wednesday, 27	6 a. m.	29.98	38	wsw	fresh	..	cloudy—fair
	10	.95	43	sw to w	strong	..	fair—equally—wind strong and irregular
	2 p. m.	.90	48	w	fresh	..	fair
	6	30.08	36	nnw	moderate	..	..
	10	.16	32	nw	..	..	..
Thursday, 28	6 a. m.	.31	21	ne	light		cloudy—(snowy haze supposed from wsw)
	10	.39	26	ne to se	..		..
	2 p. m.	.35	27	se	moderate		.. —light snow
	6	.33	24	..	..		snow— ..
	10	.28	22	..	..	wsw	light snow—(moon visible)
Friday, Mar. 1	6 a. m.	.16	20	ne	fresh		snow
	10	.07	20	..	..		..
	2 p. m.	29.99	24	..	..		..
	6	.95	24	..	..		snowy
	10	.90	22	..	moderate		..
Saturday, 2	6 a. m.	.89	20	wsw-wbys-w	..	wnw	fair—scuds from wnw
	10	.84	28	wsw—w by n	st'g—gale	w and wnw	.. —hard snow squalls
	2 p. m.	.98	16	nw	gale	wnw	fair
	6	30.13	11	..	strong	..	..
	10	.23	8	..	..	..	..
Sunday, 3	6 a. m.	.28	8	wsw	fresh		..
	10	.26	21	..	..	wsw	.. —cloudy
	2 p. m.	.08	22	sw by w	..	..	cloudy
	6	29.90	22	..	..	..	..
	10	.89	23		moderate	..	..
Monday, 4	6 a. m.	30.04	19	nw—nnw	..—fresh	nw	fair—scuds from nw
	10	.10	22	nw	strong	nw by n	..
	2 p. m.	.18	24	nw by n	fresh	..	..
	6	.27	21	..	moderate		clear
	10	.35	15	..	..		..

Average temperature of the week, 26°.15.—Maximum elevation of the barometer in February, 30.47—Minimum, 29.47.—Range, 1 inch.

Observations of Northeasterly winds for February, (including N.) 22; of Southeasterly, 5; of Southwesterly, 48; of Northwesterly, 57.

Observations of the higher atmospheric currents as indicated by the clouds: from the Northeastern quarter, 1; from the Southeastern, 1; from the Southwestern, 45; and from the Northwestern, 48.

N. B.—The heavier part of the snow which visited us on Friday, the 1st of March, was experienced at Baltimore on Thursday night.

resemblance, both in its appearance and its manner of operation. These lobes, particularly in dry weather, possess in a remarkable degree the vegetable irritability which has long been a source of wonder among naturalists, and which is very distinct in the well known sensitive plant and some others. If a fly or any other insect happens to alight upon one of these lobes his fate is almost certain. It closes immediately—the teeth lock themselves together and the poor insect is a prisoner. The greater the struggling the firmer the clasp, and it is either crushed or starved to death; when, the irritation having ceased, the lobe expands itself as before. Irritation with any substance, as a straw, stick, &c. produces the same effect.

It is a native of the swamps and marshes of Georgia and the Carolinas, and bears a profusion of beautiful white flowers in July and August, on stems five or six inches in height.

Q. Z.

Newburgh, January, 1833.

RECEIPT FOR GOOD HOUSE SOAP, &c.—Having lately returned from the sea shore, where the house-keeper had but twenty bushels of ashes, he informed me that he made a barrel of superior soft soap with ten bushels of clam shells burnt, added to the above quantity of ashes. Clam shells not only make good soap but the whitest and the best cement, and the best of lime for mortar and whitewash for ceilings.—[New England Farmer.]

FOREIGN INTELLIGENCE.

FROM TRIESTE we have dates to-day of 20th Dec. The Bavarian troops destined to accompany young Otho of Bavaria to Greece had arrived, and their martial appearance excited general admiration. The whole, about 4000 in number, were to embark in five divisions, and sail immediately. Admiral Miaulis, and the Greek Commissioner, appointed to meet their young King, had also reached Trieste, and were well received by his juvenile Majesty.

Further from Canton.—A letter via., Mexico and New Orleans, September 4th received at Boston, says: "The brig Spartan that went to sea in the gale of 3d August returned without loss of a stick, having picked up 40 men from a sinking Dutchman. A Dutch ship went on shore near Macoa on the 31st August and was lost, vessel and cargo. The British barque Sylph arrived at 17 1-2 days from Calcutta with 500 chests opium. Accounts from Bombay and Bengal state that from the ontlay and thrifty appearance of the plant 18000 chests of Malway and 9000 of Patna opium are to be produced the present season; should this be the case prices here must come down to nearly half the present price.—Malway selling at $486; Patna $800. The only arrivals of American vessels since our last are the Italy from Cadiz; Superior from Liverpool, and Nile from New York."

MR. WOLFF, THE MISSIONARY.—Letters from Simlah have been received in Calcutta, which mention that Mr. Wolff, the well known Missionary, has arrived at Peshawur, having travelled alone, it is said, from Arabia. The route he has pursued is not described, but he has encountered all kinds of dangers and sufferings. He has been made a slave, has been repeatedly plundered and stripped; has otherwise undergone great personal hardships, and has finally reached Peshawur in a state of great destitution. He has been expected in that quarter for some time past, and Runject Singh has directed every attention to be shown to him. Letters had been received from him at Loodiana, requesting a suit of clothes, and the Governor General, we learn, has invited him to Simlah. The object of his present journey is understood to be the discovery of the tribes of Israel, who were carried away captive, and whose descendants are supposed still to exist as a separate and independent people in some of the yet unexplored regions of Asia. According to the sacred historian, they were placed by the Assyrian King "in Halah and in Habor, by the river Gozan, and in the cities of the Medes." Mr. Wolff, it is said, purposes to visit Thibet, Japan, and Timbuctoo, taking Calcutta in his way!—[India Gazette.]

FROM LA PLATA.—From a correspondent at Buenos Ayres we have received our file of the British Packet to the 22d of December.

Gen. Rosas having refused another election, Brigadier General J. R. Balcarce was chosen Governor and Captain General of the Province of Buenos Ayres. He was installed December 17. He has published the following decree, appointing a ministry:

BUENOS AYRES, Dec. 11, 1832.
23d year of our Liberty and 17th of the Independence of the Republic.

The Governor and Captain General of the Province has ordered and decreed:—

Art. 1. The citizen Victorio Garcia de Zuniga is appointed Minister of the Home Department: Brigadier General Enrique Martinez to that of War and Marine; Dr. Manuel Vicenta Meza to that of Grace and Justice, holding at the same time, ad interim, that of Foreign Affairs; and D. Jose Maria to that of Finance.

2. Let this be published. BALCARCE.
AUGUSTIN GARRIGOS.

Gen. E. Martinez has accepted the office of Minister of War and Marine. M. V. Maza declined his appointment on account of bad health, but his refusal was not admitted. Signor Zuniga also begged leave to decline on the same ground, but it was not accepted, yet he was authorized to transfer the business of his department on the other departments for three months. Senor Roxas also declined, but on the ground that he was in debt to the Treasury, but this objection was overruled, as the time for returning the money had not arrived.

A pardon is offered, by the government, to all deserters who shall return in a given time.

A plan for a reformation of the administration of justice will be submitted to the next legislature.

The new British minister plenipotentiary, Mr. Hamilton Hamilton, was expected soon at Buenos Ayres.

FALKLAND ISLANDS.—It it stated, on the authority of letters from Rio Janeiro, that H. B. M.'s ship Clio was to sail from Rio Janeiro on 27th ult. for Montevideo and the Falkland Islands, in order to take "sovereign possession" of those Islands in the name of His Britannic Majesty.

Another report avers that the Clio's visit to the Falkland, is merely to examine into their present condition, and report thereon.

Lt. Col. Sebastian Oliveira, the new Commadant of Patagonia, sailed in the Jacianta, in order to relieve Col. Crespo. A piquet of artillery and cavalry also proceed in the same vessel.

In the middle of the last month a body of Indians invaded the north part of the province of Cordova, and in the first encounter the Cordova troops were unable to repel the invaders. The post office courier from Chili with difficulty escaped falling into their power. A few militiamen from San Luis, combined with the dragoons of Cordova, obliged the Indians at last to retreat, with the loss of 70 odd killed, and a number wounded. The loss on the part of the Cordova and San Louis troops is stated to be about 50, killed and wounded.

NEW-YORK AMERICAN.

MARCH 2, 4, 5, 6, 7, 8—1833.

LITERARY NOTICES.

LEGENDS OF THE LIBRARY AT LILIES, BY THE LORD AND LALY THERE; 2 vols: Carey, Lea & Blanchard, Philadelphia.—Story writing, as distinguished from novel writing, we apprehend to be the most difficult of the two. So far as the faculty of invention is concerned—of contriving characters, scenes, and incidents, they are much upon a par: but while a good novel may be completely made up of these materials, and these only, a tale must, like a play, have some particular plot, to the development of which, every incident must tend; while the interest, instead of being sustained as it may be in longer productions, by desultory observations upon a variety of incidental subjects, must hang entirely upon one main adventure. The great charm of good story telling is to make all the relation so adhere together, that there is no point where the narrator can break off; for a perfect tale cannot, like a novel, be broken up into chapters; but is hardly more susceptible of division than is a sonnet. This species of composition, however, we apprehend, is as yet by no means brought to the degree of perfection of which it is capable. The contributors to periodicals, by whom it is most practised, content themselves generally with striking sketches of par-

ticular scenes and events, or else they set a number of incidents in some kind of frame-work, which serves the purpose of binding them together, while it does not necessarily concentrate and determine their interest to one point. Few, like Marmontel or Washington Irving, (in his Dolph Heyleger, and Legend of the Sleepy Hollow,) arrange their materials in such simple symmetry that when all are surveyed together, they present to the mind a natural and perfect figure. A story composed after these models bears the same relation to an ordinary recital as does a poem, in the true sense of the word, to the "fragments and "sketches" in blank verse now so much in vogue among newspaper and magazine scribblers—things that have neither beginning, middle or end, but like those insipid gelatinous substances which float around the docks at midsummer, may be divided in any part and yet preserve their integral form—"if form it may be called which form has none." Of the ease with which these affairs are manufactured, the reader is probably sufficiently convinced from the over-abundant supply with which our light publications are glutted, while so few finished lyrics, decent odes, or tolerable songs, ever get into print through the same medium. The truth is, that while scholarship is not in particular esteem, it is the fashion of the day for every one to aspire to a reputation for talent; not by putting forth some gem, however small, polished to the uttermost in the workshop of his mind, but by thrusting in our eyes the chippings of some diamond in the rough, which he has stumbled upon without knowing its value or having the art to set it. The eclat of what is called "off-hand talent" is all that is aimed at by these laymen of literature, who generally make a point of telling us that the performances which they have the modesty to think will strike and dazzle our minds, were produced with no effort of theirs. An amusing piece of impertinence of which the literary correspondence of a newspaper affords daily instances; for half of those who address an editor upon subjects requiring most thought and skill in their treatment, will recommend their communications with an assertion that "the observations submitted, &c., were flung off in an idle moment," &c. &c.; as if a want of study, research, and reflection, qualified one particularly for enlightening the public upon questions of moment. Poetical correspondents, above all others, are given to parading this elegant nonchalance in their literary efforts, and they speak generally of engaging the smiles of the Muses as if these ladies were the most arrant flirts in town, and would look kindly upon whoever wasted a moment's thought upon them. If a thing be too long to call an *impromptu*,—which tells the whole story of their "off-hand talent," in a single word,—they are sure to state that it was "the production of an idle moment," "written with a pencil," "thrown off to amuse a vacant hour," or "produced only for their own amusement"; contingencies, which, however interesting they may be to papa when he pats his son on the head for making a ready reply to a question in the multiplication table, convey no very strong recommendation for a crude and slovenly copy of verses. A similar affectation, it is true, is usual among public speakers, when they commence an oratorical infliction of six hours by observing that "they approach the subject unexpectedly," &c., but then as "shall not therefore detain but a few moments," almost invariably follows, the whole mode of expression may be viewed merely as a *ruse* to enlist attention: and yet how much more impressive and effectual is the style of Burke's exordiums, for instance, who commences his most famous speeches by declaring that he has for years given his study and reflection to the subject under discussion, and therefore as one speaking advisedly, claims a hearing. To this affectation of ready talent, we conceive may be attributed much of that want of body which critics pretend distinguishes the luxuriant literature of our generation from the hardy growth of those which preceded it. Writings are brought into the world "scarce half made up," and their authors, eager rather to create a sensation than solicitous to add to the enduring stores of knowledge and taste—like one who, without capital, would get a reputation for wealth, give a loose to extravagance of every kind. The result is various. Some flash in the public eye for a season or two, and then, like those short-lived bucks who figure for one summer on the road to Cato's, and sink the next into sober citizens, are seen no more; while others break down even sooner in the race of renown, by trying to win a cup without any previous training.

The book whose title is placed at the head of these desultory observations, derives its greatest charm from being free from the prevailing air of pretension to which we have alluded. There is nothing in it very striking; at the same time, there is nothing overdone. The writers (there is more than one) seem to have aimed at amusing the reader rather than raising themselves in his estimation by a parade of cleverness; and the result has been an agreeable collection of tales, which, without exhibiting much power in any particular one, yet, from their number and variety of character, form quite an agreeable book; from which it is but just to say, that the following paper is selected only on account of its brevity, and not as a particularly favorable specimen of the collection.

NOTIONS OF CONVENIENCE.

How often does an unexpected dun, who has gained admission to the presence under the vile pretence of "some little general business," and the specious sanction of an unremembered name, and a better blue frock and gray mixture trouser's than one's own, —how often, I say, does such a man desire, and not without a hint of action at law, that his "small account" (three long narrow rolls of arithmetical addition, adorned at the beginning with the gorgeous blazon of the English monarchy, and disfigured at the end with an unquestionable sum total, equal to the half of one's yearly income,) shall be settled at one's earliest "convenience" in the course of the present week!

"I'm of opinion that gay fellow is sitting a mighty deal too convenient to my blood cousin jarmin, Miss Theodosia," said an Irish gentleman of distinguished extraction.

"Convenience" was scarcely the right expression here. For who would have thought, from the wording of this observation, that the very pretty person who was in this formidable degree of consanguinity to the Irish gentleman, of distinguished extraction, was doing all she could to edge away her chair from the close persecution of a minor poet—

"A wretch who had within him undivulged rhymes
Unwhipt of justice"—

and who was then in the very fact of urging upon her an epigram of sixteen lines, of his own making!

During the siege of———, in the year 18—, the French were endeavoring to throw up a work behind the ruins of a dismantled house, on the other side of a broad river, and directly opposite to an English battery, within the extreme distance at which it is practicable to carry on an unfriendly conversation by means of thirteen inch shells.

For several weeks this conversation was carried on entirely on the English side. Two large mortars were in the battery, so adjusted, by painted lines, to give them due aim, and, by the sextant, to give the due elevation, that, with a proper charge of powder, every shell which was fired from each was sure to fall just behind the tenement, in the possession of the French, and in the very centre of where it was known that the workmen were carrying on their impeded operations.

Regularly, therefore, at intervals of about ten minutes, but with sufficient variation of time to render the compliment always unexpected, did the two English mortars keep up their alternate fire, night and day, to prevent the continuance of the work.

This occupation, which was matter of tedious and unwearied duty to the gunners, became matter of amusement to the idlers of the army to visit.

Eugenio was an idler. He was on the staff, and often, with other young gentlemen who consider it unfit to obtrude themselves, by their constant personal attendance, on the commander-in-chief during his hours of severe meditation in quarters, would he steal forth to this battery, to watch, with his glass, the movements on the enemy's outposts; and, now and then, to give his advice touching the pointing of a gun, or such other urgent matters of the war.

"What can that fellow be doing on the top of the wall there?" said Eugenio, with his eye at the glass. "Methinks he is looking at us rather audaciously," continued he, turning to the Irish sergeant of artillery: "it would be for the honor of the service to give him a hint to be off. What do you think of giving him a shell? It's seven minutes since No. 2 was fired. It's almost time again with No. 1."

"It's my opinion we ought to have him out of that," said the Irish artillery sergeant.

"Come, tackle to, my lads, and get ready," was the word; and the men tackled to in right earnest, for the practical joke of frightening a French idler from a post which he had assumed with, probably, no better reason for doing so than the English idler had for observing him.

A practical joke is always the best of jokes, if one may judge of its quality by the alacrity with which it is undertaken, and by the applause with which it is always received by every party concerned, except the one at whose expense it takes place. And the but is a party who can never estimate fairly the merits of any joke.

To adjust the heavy engine to its bed, so that every mark should fit its fellow—to drive in each choque, till the elevation was just and true—to charge the yawning jaws of the gun, and to deposite the cumbrous shell within its chamber, was the work of but a few moments; and, tickled by the match, the whole machine bellowed forth the jest to the heavens.

Every eye watched the round black ball as it took its curving course through the sky—watched by every eye but that of the Frenchman, who, probably saw it not coming; for he stood still, firm and erect, on the wall.

"Confound it! he *must* have seen the gun fire.—He *must* hear it in a moment more," muttered Eugenio, beginning to doubt that the pleasantry had gone too far, as he tracked the shell towards its destination, and screwing both body and face to the contortion with which the billiard-player often screws both body and face, after the ball has parted, as tho' that action could give it a bias to evade the threatening pocket.

The shell descended, and, as it reached about the level and near the place on which the figure stood, a small white rising smoke showed that it had exploded, and hid for a moment the objects immediately nigh.

When it dispersed, the man was seen no more.

Whether he had jumped behind a traverse, or whether he had thrown himself flat to escape the bursting havoc, or whether—worse, was matter of rapid but useless speculation to the inmates of our battery.

"Devil take it," cried Eugenio; and he stamped his foot, and bit his nail; "devil take it, he *could* not have stood there to be killed. He *must* have seen it coming;" and he turned to the artillery sergeant to confirm this opinion.

"By my soul, it fell mighty convanient to'm!" said the Irish artillery sergeant.

SOLECISMS IN LANGUAGE.

"Is it your *pleasure*," now and then asks a dentist, "is it your *pleasure* to have your tooth out to-day?"

"I do not care a pin," is a very ordinary figure of speech, but of doubtful propriety; for one's indifference, it appears to me, must very much depend on the position of the pin. In the cushion of one's chair, for instance, it is absolutely disagreeable, and what one should care very much about.

The word "poor," is an epithet in very common misuse. It is often brought into play, especially in its plaintive sense, in situations where, poor thing, it scarcely knows itself, and where there is not the slightest provocation to account for the use of it. It is degrsded to the condition of a mere expletive; and, where there is a real good call for it, how often is it thrust upon the wrong person, the one who, were he consulted, would disclaim compassion.

"*Poor* Mr. ——, only think of him, *poor* fellow! How very odd! I believe he was not in joke. He told me of a distant connexion of his, of another name, whom he never knew till after he heard that the thing happened, who had been transported to New South Wales, a matter of sixteen years ago, is to be hanged to-morrow, by way of a secondary punishment, for coming back from transportation."

The audience were profuse in the repetition of the epithet—generous to excess in the free gift of it to Mr. ——. They did not happen to consider it appli-

cable to him who, for an unlawful love of native country, was to undergo a violent and disgraceful death.

This, to be sure, might be attributed to the feeling that so many good regular people have, that it is highly blameable to pity any man who suffers capitally for a breach of the law; that it would be, in some sort, to question the justice of the laws themselves. And the ten or a dozen honest souls that formed the company were probably so good themselves as to be justly scandalized at the notion of holding so much communion with guilt, or to sympathize with it in its sufferings. But I believe, after all, it was rather a flow of idiom than an effort of principle.

Mr. Small, a farmer, well to do, in ——shire, fell ill of an acute and dangerous disorder. (By the by, every one was anxious to know if "poor" Mrs. Small's husband was better.) He died,—Mrs. Small was, of course, in decent affliction. But the word of pity was always transferred from the principal sufferer to her, till he was beyond suffering. Then first it was bestowed on the "poor" corpse, which every one came to visit, and flattered as looking "pleasant."

Mrs. Small, herself, in the first letter of her widowhood, addressed to an intimate female friend, did not make a more judicious application of the favorite epithet. To this friend it was her habit to write once a quarter. We insert three passages; one extracted from each of these quarterly epistles, which followed, in due succession, after her sad bereavement:—

"*Dear Nelly*,—My brother-in-law has given the direction of the funeral to a good economical undertaker, by name Peebles, I have not seen him, and am not like; for he is in too large a way to attend himself, and he sends his man for orders, and to see all done handsome, but cheap.

"*Poor* Mr. Peeble's man came here last night, and the funeral will be to-morrow. I am in much trouble, as might be expected. My *poor* new black bonnet is not come home, and keeps me fretting; but *poor* Peeble's man says I shan't be disappointed, even if he has to go for it himself. *Poor* Peeble's man! he is up early and down late, to see all right. He was in my room this morning before I was out of bed, that all might be decent, &c. &c. &c.

"Yours, to command, dear Nelly,
"MARY SMALL."

"*Dear Nelly*,—* * * * It is now three months and better since that *poor* coffin was put under ground, and I declare I feel quite queer and lonesome without it. But business goes on quite well and brisk. *Poor kind* Peeble's man! he is off and on; almost always about the house, doing some kind job or other. He *is* a *very* decent body; but, I don't know how it is, I'm not to say comfortable. There's a sad noise with my sister's family. You know I never *could* bear children. My late husband, that's gone, was the only one of the family that could. I am sure I don't know what I could do without *poor dear* Peeble's man.

"Yours, to command, dear Nelly,
"MARY SMALL."

"*Dear Nelly*,—* * * * *Poor dear kind* Peeble's man has never left here; he's my right hand, and he *is* a *very* decent body indeed. It is now six *good* months since that *poor* funeral took place. I find I am not fit to live alone: I was married this morning to *poor* Peeble's man.

"Your sincere friend, dear Nelly,
"MARY MERRIMATE.

P. S.—Excuse my change of name."

THE KNICKERBACKER, or *New York Monthly Magazine*, No. 3.—The March number of this periodical consists, like those which proceeded it, of original papers only. The Hebrew Language and Literature forms the subject of the leading article, which is followed by others with the following titles, Les Vètèrans, from the French of Berenger—The Art of being Happy—Running against Time, by J. K. Pauling—Vagaries of a Humorist, No. 1—The Ruins of Ipsara—A Chapter on Offers, by a young Man about Town—"I will love thee no more"—*Stock-am-eisen*, or the Iron Trunk, a tale of the Confederation of the Rhine—To an imprisoned Lion—A Peep at the Powwow, by a Member—Editor's Table—Literary and Critical Notices of New Editions of Lord Byron's Works, Evenings in Greece, by Thomas Moore, Esq., The Ghost Hunter, by the O'Hara Family, Bennie's Alphabet of Insects, &c., Taylor's History of Ireland, Life of a Sailor, Flint's Lectures on Natural History, Notices of the Fine Arts, &c.

VIEWS IN THE CITY OF NEW YORK, AND ITS ENVIRONS. Dedicated, by permission, to Philip Hone, Esq. Part VI. London, *O. Rich:* Paris, *Engelmann & Co.;* New York, *Peabody & Co.*—The engravings of this number, which are executed under the immediate superintendence of Mr. Dick, and are illustrated by the pen of Mr. Fay, consist of four public buildings, among which those of the Exchange and Masonic Hall are perhaps most neatly finished though the Deaf and Dumb Asylum is the only one that makes a passable picture. We would recommend to the foreign and American Publishers the Colonnade in Lafayette Place, with the trees in the distance, when viewed from the South, as a more striking subject for this publication than any in the number before us. *

THE AMERICAN MONTHLY MAGAZINE, No. I; published by Jno. Wiley, No. 22 Nassau street. This new periodical reaches us barely in time to mention its reception, and state that the proprietors have in their specimen number amply accomplished that part of their plan in which they aim, while exhibiting "sound matter in approved styles," at giving "*correct execution upon a good material.*" The work is beautifully printed on hard white paper; and so far as we can venture an opinion upon the most cursory glance at the contents, they seem to be prepared with taste and judgment. The introductory, that most embarrassing of literary tasks, is accomplished in a straight-forward, manly way; while it is enriched with some good observations on periodical writing, and its business complexion is relieved by a pleasing vein of fancy gleaming through it occasionally. The other articles we have not yet looked over, except the commencement of the translation of M. De Lamartine's reply to Sir Walter Scott's Farewell Address, in the opening of which we find the following beautiful and highly finished lines:

One festive eve o'er Adria's glorious sea
I traced a bark, which far from pleasure's throng
Pealed its wild concerts of rejoicing song;
From cape to cape, from creek to creek, careering
Now far, now near, its freight of music steering;
Now low it breathed, now warbled high and clear
Its sea-borne numbers to the listener's ear,
And, as the landscape was attuned around,
Poured forth its modulations of rich sound;
At times the quavering notes in whispers died
Blent with the murmurs of the wanton tide,
At times from echoing caves in loftier strain
Rang out to heaven the harpings of the main;
Whilst I, with oar upraised, and ear intent,
Down to the margin of the waters bent,
In trembling keenness not a note to miss
Which rapt my soul in deep harmonious bliss.

We take leave of this number of the American Monthly with sincere respect for the ability of those who have embarked in the arduous task of starting the publication; and welcoming this effort to give a new impetus to the reading public, by furnishing a work which will exhibit "sound matter in approved styles," we shall look with interest for the appearance of its successive numbers, in the hope that each may tend in its turn to give solidity to our judgment while it refines our taste. The following are the contents of the March number:—Introduction: Sonnet; Cockburn's Diary; The Fountain Head; Lamartine's Reply to Sir Walter Scott's Farewell; America and England; Hero and Leander; The Wanderer's Return; Muller's Dorians; Lines; Notices of Literature, Arts, &c., &c.

This new publication at five dollars, the Knickerbacker at four dollars, and the Mechanics' Magazine, just started by the enterprizing Editor of the Railroad Journal, at only three dollars, (not to mention another said to be in contemplation,) make a goodly cluster of Monthlies, to be produced within three months, where there was not one previously for twice the number of years; and we cannot but congratulate the town upon having its long neglected taste thus profusely catered for at last. *

POETRY.

An Address spoken by Mrs. Sharpe, at the Park Theatre, on the evening of the Dramatic Festival in honor of William Dunlap, Esq., written by George P. Morris.

WHAT gay assemblage greets my wondering sight!
What scene of splendor—conjured here to-night!
What voices murmur, and what glances gleam!
Sure 'tis some flattering, unsubstantial dream.
The house is crowded—every body's here
For beauty famous, or to science dear;
Doctors and lawyers, judges, belles, and beaux,
Poets and painters—and heaven only knows
Whom else beside—and, see, gay ladies sit,
Lighting with smiles that fearful place, the pit—
(A fairy change—ah, pray continue it.)
Gray heads are here too, listening to my rhymes,
Full of the spirit of departed times;
Grave men and studious, strangers to my sight,
All gather round me on this brilliant night.
And welcome are ye all. Not now ye come
To speak some trembling poet's awful doom;
With frowning eyes a "want of mind" to trace
In some new actor's inexperienced face,
Or e'en us old ones (oh, for shame!) to rate
"With study good—in time—but—never great:"
Not like yon travel'd *native*, just to say
"Folks in this country cannot act a play,
They can't, 'pon honor!" How the creature starts!
His wit and *whiskers* came from foreign parts!
Nay, madam, spare your blushes—you I mean—
There—close beside him—oh, you're full sixteen—
You need not shake your flowing locks at me—
The man, your sweetheart—then I'm dumb you see;
I'll let him off—you'll punish him in time,
Or I've no skill in prophecy or rhyme:
Nor like that knot of surly critics yonder,
Who wield the press, that modern bolt of thunder,
To "cut us up," when from this house they lollop,
With no more mercy than fair *Mrs. Trollope!*
A nobler motive fills your bosoms now,
To wreathe the laurel round the silver'd brow
Of one who merits it—if any can,
The artist, author, and the honest man.
With equal charm his pen and pencil drew
Rich scenes, to nature and to virtue true.
Full oft upon these boards hath youth appear'd,
And oft your smiles his faltering footsteps cheer'd;
But not alone on budding genius smile,
Leaving the ripen'd sheaf unown'd the while;
To boyish hope not every bounty give,
And only youth and beauty bid to live.
Will you forget the services long past,
Turn the old war-horse out to die at last?
When, his proud strength and noble fleetness o'er,
His faithful bosom dares the charge no more?
Ah, no—the sun that loves his beams to shed
Round every opening flowret's tender head,
With smiles as kind his genial radiance throws
To cheer the sadness of the fading rose:
Thus he, whose merit claims this dazzling crowd,
Points to the past, and has his claims allowed;
Looks brightly forth, his faithful journey done,
And rests in triumph—like the setting sun.

THE MAN WITHOUT A SOUL.

My next door neighbor, beats the tabor,
His children beat the drum;
There's Mr. Morgan, plays the organ,
With one eternal hum:
There's no more music in my ear
Than in a horse's foal;
My sister says, she's sure that I
Must be without a soul!

I have no pleasure in the notes
Of Braham and Rossini:
In vain, alas! the time to pass,
I visit Paganini;
And pretty Inverarity,
Her prettier tones may roll;
They bring no vision of spot Elysian,—
I am without a soul!

I never have heard Malibran,
And only once heard Pasta;
Fast as old Orpheus moved the brutes,
He would have moved me faster:
I once heard half an Opera,
But could not stop the whole;
Alas! it is a mournful thing
To be without a soul!

Oh! Music,—let my father talk
Himself into a passion;
Oh! Music,—let enthusiasts rave,
Because—it is the fashion:
Let amateurs the trumpet sound
Till they're as black as coals:
I don't believe, for all their boast,
That they themselves have souls!

The bagpipes play outside my house,
My cousin plays within;
My brothers shout their songs about,
To the piano's din;
Where'er I go, it's always so,
And if from pole to pole
I wander, there is music still
For one without a soul!

I never played a single tune,
I never sang a song;
I very seldom go to church,
I know it's rather wrong.
Oh! would that every instrument,
And every music scroll,
Might never, never more offend
The Man without a soul!

[*From London papers.*]

EPIGRAM ON THE CHOICE OF A SPEAKER.

Should *Charles resume the Speaker's Chair,
All would the House forever blame;
Expect no reformation there,
Its *Manners* will be still the same.

* Mr. Charles Manners Sutton.

EPIGRAM.

You ask me why *Pente-fract* Borough should sully
Its fame by returning to Parliament GULLY?
The Etymological cause I suppose is,
His *breaking* the *bridges* of so many noses.

SPECIMEN OF A MALTHUSIAN

My dear do pull the bell,
And pull it well,
And send those noisy children all up stairs,
Now playing here like bears.
You George and William go into the grounds,
Charles, James and Bob are there—
and take your string—
Drive horses, or fly kites, or any thing,
You've quite enough to play at hare and hounds
You little Mary, Caroline, and Poll,
Take each your doll,
And go, my dears, into the two back stair,
Your sister Margaret's there—
Harriet and Grace, thank God, are
both at school,
As far off as Ponty Pool.
I want to read, but really cant get on—
Let the four twins—Mark, Mathew,
Luke and John,
Go—to their nursery—go—I never can
Enjoy my Malthus among such a clan.

SUMMARY.

On Sunday forenoon, the Rev. Mr. Brackenbridge preached a sermon in the Cedar street Church, under the pastoral charge of the Rev, Cyrus Mason; and notwithstanding the inclemency of the weather, 400 dollars were collected for the benefit of the Female Assistance Society; and in the evening, Mr. B. preached a sermon in the Wall street Church, and a similar sum was collected for the indigent widows.—Total 800 dollars.

By a statement in the Philadelphia Commercial Herald, it appears that the chartered capital of Banks in that city, 16 in number, amounts to $26,600,000—the sum paid in, is $18,935,000. The Insurance Companies, 14 in number, have a capital of $5,080,000.

The Louisville Journal of Feb. 21st, speaking of the letter from Cantonment Gibson, which stated that Capt. Ford's Company of Rangers had been attacked and destroyed by 500 Indians, says, "We have full and satisfactory evidence that it is an imposition.—The whole story, therefore, goes for nothing."

The National Intelligencer of Monday, says—"We are happy to observe that a bill has passed the House of Delegates of Virginia, appropriating $18,000 annually, for five years, for the purpose of colonizing in Africa, the free people of color in that State. A Board, consisting of the Governor, Lieutenant Governor, &c., is constituted for making the proper arrangements with the Colonization Society—turning over the fund to them, obtaining the proper vouchers, &c."

Wonderful Preservation.—On monday evening, the 18th instant a Mr. Smith drove up to the Grist Mill of Mr. S. Leonard, in this village, leaving an old lady 84 years of age in the cutter to hold the horse while he went into the mill. The horse commenced backing, and, notwithstanding the exertions of the old lady, they were all precipitated down the Gulf, a perpendicular fall of more than 40 feet. And, strange to tell, neither the old lady, nor the horse, were in the least injured. The cutter was dashed to peices. On some one calling to the old lady if she was alive she replied she was, but that she had lost her *candles!!* —[Louisville Gazette.]

STEAMBOAT SUPERIOR.—Extract of a letter from a gentleman on Board the Superior at the time of the accident, dated "Monday, February 11, 2 o'clock, P. M. one mile above Point Checo, about 500 miles from New Orleans, on her passage down."—[Pittsburg Statesman.]

"This day, at a quarter before 12 A. M. our starboard boiler collapsed with a most tremendons explosion. There were thirteen scalded, most of them slightly, five or six seriously; John Abner, the blacksmith, cannot possibly recover.

Mr. Carnes, the Chief Engineer, was very seriously scalded but we have hopes of his recovery; two or three others are almost as bad. The Steward is very much injured: but will recover. Not one cabin passenger is hurt, although several were on the boiler deck at the time. William Smith has been, and is now, actively engaged in attending those who are wounded.

The exertions of Captain Green, Mr. Goodelow, a German Physician, a Pole, and the mate of the Boat, are truly praiseworthy. We expect to-morrow morning to be able to proceed on our voyage, with the remaining five boilers."

A letter from the Captain, dated on the 14th, states that Messrs. Abner and Carnes, with three others are dead.

INDIAN WAR.—We received last evening (says the Louisville Journal of 19th February) the following letter, which contains information of considerable moment:

CANTONMENT GIBSON, Jan. 12, 1833.

Dear Friend: I take this opportunity of informing you of our situation. Capt. Ford's Company of U. S. Rangers left this place on the 5th instant by order of Colonel Arbuckle, on an expedition against the Pawnees, but to their surprise, they were attacked on the 9th by a band of Camansha Indians, 500 in number. They fought with great bravery for the space of an hour and a half, but they were surrounded and overpowered, and compelled to surrender themselves prisoners of war. I was at the Fort when the express came in. One of the Lieutenants made his escape, and brought information that the savages, at the time of his leaving them, were massacreing their prisoners. It is supposed that all have been put to death. Five companies of regulars, on the receipt of the intelligence, immediately started to rescue such as might be still alive. There is every probability of a bloody war with the Camansha Indians.

JAMES SMITH,
A Ranger under Capt. Boon.

Two granddaughters of Count *Rochambeau*, and two officers who served in our War of Independence, have, it will be seen, presented petitions to Congress for compensation for services rendered by the grandfather, in the instance of the first petitioners, and by the petitioners themselves in the second:

HOUSE OF REPRESENTATIVES—*Monday, Feb.* 25.

A message, in writing, was received from the President of the United States, by Mr. Donelson, his private Secretary, as follows:—

WASHINGTON, 22d Feb., 1833.

To the House of Representatives:

I transmit herewith, for the consideration of the House, a letter from General LAFAYETTE, to the Secretary of State, with the petition which came enclosed in it of the Countess d'Ambugers, and Mde. de la Gorce, granddaughters of Marshal Count Rochambeau, and original documents in support thereof, praying compensation for services rendered by the Count to the United States during the Revolutionary War; together with translations of the same. And I transmit with the same view, the petition of Messrs. de Fontaville de Jerumont, and de Rossignal Grandmont, praying compensation for services rendered by them to the United States in the French Army, and during the same war, with original papers in support thereof; all received through the same channel, together with translations of the same. ANDREW JACKSON.

The said message, with the petitions and papers accompanying the same, was referred to the Committee on Revolutionary Claims.

The lot of land on the N. W. corner of Wall and Nassau sts., opposite the site of the Custom-house, sold yesterday by auction at $31,500. The lot is 25 by 74 feet—making the price a little over $17 a foot.

Major General Henry Lee, in his funeral Oration on the death of Washington, delivered at the request of Congress, supposes the immortal patriot to address this admonition to his countrymen:—"Cease, sons of America, lamenting our separation: go on, and confirm by your wisdom the fruits of our joint councils, joint efforts, and common dangers. Reverence religion, diffuse knowledge throughout your land; patronize the arts and sciences; let liberty and order be inseparable companions; control party spirit, the bane of free Governments; observe good faith, and cultivate peace with all nations; *shut up every avenue to foreign influence;* contract rather than extend national connexion; rely on yourselves only; *be American in thought, word and deed.* Thus will you give immortality to that Union, which was the constant object of my terrestrial labors; thus will you preserve undisturbed to the latest posterity the felicity of a people to me the most dear, and thus will you supply (if my happiness is now ought to you) the only vacancy in the round of pure bliss high Heaven bestows."

The City of Boston has been complained of, indicted, tried and found guilty of a nuisance, against the peace and dignity of the Commonwealth of Massachusetts, for depositing in the neighborhood of Merrimack street, divers large quantities of offal, and decayed animal and vegetable substances, and divers large quantities of offensive, putrid and putrifying liquid substances and liquors, whereby the air was greatly filled and impregnated with vapors, smells and stenches, and was rendered and became cort rupted, offensive and unwholesome, to the greadamage and common nuisance of all the citizens of said Commonwealth, there inhabiting, being and residing, and going and returning, and passing through the same neighborhood—*and fined in the sum of three hundred dollars.* Let this be a warning to the good city of Gotham!—[Gazette.]

Disgraceful Conduct.—Mr. Van Benthuysen, the agent for the Journal of Commerce, and who rode the express the last stage, we regret to state, was most inhnmanly attacked by the person having charge of gate No. 3, of the Lancaster Turnpike, and so serioasly injured that it was with much difficulty he was enabled to reach this city.—[Philadelphia U. S. Gazette.]

Serious Calamity.—A colored woman who was cook in a respectable family in State street, was left in the kitchen on Saturday night last; and at a very late hour the family was alarmed by screams of distress. No time was lost to discover the cause. The cook was found with her clothes all on fire. The back door was opened, and the flames which surrounded her body were extinguished with the snow from the yard; but the suffering cook was so badly burned, that she survived but a few hours, although she had medical aid and the kindest attentions from the family.—[Gazette.]

SUPREME COURT OF THE UNITED STATES.—*Feb.* 28. —Exparte: Juan Madrazo.—On motion of Mr. White, on behalf of libellant for process against the State of Georgia. Mr. Chief Justice Marshall delivered the opinion of the Court, overruling said motion; it being a mere personal suit against the State to recover proceeds in its possession; and in such a case no private person has a right to commence an original action in this Court against a State.

B. Sampeyrac et al. appellants, vs. The United States.—The argument of this cause was continued by Mr. Prentiss for the appellants, and by Mr. Fulton for the appellee.

Fortunate Rescue.—Mr. Ketteltas, master of the Schr Daniel Barclay, arrived yesterday, Tuesday morning, from Nansemond, (Va.) was knocked overboard by the main boom, Monday afternoon, off Squam, during a heavy gale from N. W.—but was fortunately rescued by Wm. Vreeland, one of his men, who launched the boat, and just reached him as he was going down.

The National Intelligencer, of Saturday, states, that the nomination of *Leavitt Harris*, as Chargé d'. Affaires to France, has been confirmed by the Senate.

It is also said that *Henry Toland*, of Philadelphia, has been appointed Navy Agent of that Station, *vice* George Harrison

Fire.—The building erected the last season, and nearly completed by the Bangor Theological Seminary was, on Monday of last week, discovered to be on fire. Before any assistance could be afforded by the fire department, the building was enveloped in flames and consumed, together with all the tools of the mechanics, and a considerable amount of lumber. The loss is estimated at $2000; $1000 insured.—[Eastern Republican.]

Commendable.—A number of the colored inhabitants of Philadelphia have organized an institution under the title of "The Philadelphia Library Company of colored persons," and solicit donations of books.

Practical Advantage of Science.—The following illustration of the utility of science, in the common occurrences of life, is from the Genesee Farmer:

A penknife by accident dropped into a well 20 feet deep. A sunbeam, from a mirror, was directed to the bottom, which rendered the knife visible; and a magnet, fastened to a pole, brought it up.

Cholera.—The Nashville Banner, of the 16th ult., says—"We are happy to inform our friends in the country, that there is no cause to apprehend danger from visiting Nashville at this time. We believe the Cholera does not exist here."

COMMISSIONERS UNDER THE TREATY WITH NAPLES. —We learn from Washington that John R. Livingston, Jr., of this city, has been appointed one of these Commissioners.

We learn through the Newark Daily Advertiser, of yesterday, that the Governor of New Jersey has appointed Theodore Frelinghuysen, James Parker, and L. Q. C. Elmer, Esqs., Commissioners to treat with those of New-York respecting the boundary between the two States.

Painful Accident.—We learn that Mr William B. Townsend, one of the publishers of the Daily Adverliser, met with a serious accident yesterday morning omewhere between two or three o'clock, which, we fear, will forever deprive him of the use of one of his legs. Mr. Townsend had in his house a lad employed in the office of the paper, who has for some time past been the victim of a nervous disorder, and more re.

ily of mental alienation. In this condition he left bed about the time mentioned, and raising one of back windows in the second story of the house, cended upon a roof below, whither Mr. Townsend owed him, with the humane intention of rescuing n; but owing probably to the snow which was then ing, they both slipped and fell. Mr. Townsend precipitated upon the curb of a cistern, and had knee pan broken, his face badly cut, and received eral severe contusions.—[Mercantile.]

rom the Litchfield (Conn.) Enquirer of Thursday last.]

FIRE AT WATERBURY, AND DISTRESSING LOSS OF ES!—A gentleman at Waterbury writes us, and information is too fearfully confirmed through ner sources, that on Monday morning last, about o o'clock, the wind blowing violently from the rthwest, and the cold intense, a fire broke out in dwelling house of Mr. Israel Holmes, which in few minutes was entirely consumed, and with it ree of its inmates. "The fire was discovered by rs. Holmes, who with two children slept below.— being impossible to make her escape through the or, on account of the smoke and flames she dash- out the window, threw one child out, took the her in her arms, and jumped out of the window so. In the chambers, there were two other child- n, one 7 and the other 5 years old, a young man med John Tuttle, aged 27, and a young woman.— uttle was aroused by the falling of the stairs—he mediately rushed to where the young lady was, nd told her to jump out of the window, (which she id without much injury,) and said he would take are of the children: he took one child under each rm, and made an effort to get to the window with em, but before he was able to reach it, the floor ave way under him, and they all fell through to the ellar, and were *burnt to death*; and before the bodies ould be taken out, they were almost entirely con- umed. There were two other females in the house, who were taken out of the windows without injury." Mr. Holmes was absent on a journey to Philadel- hia. The house has been for many years known s the Judd Tavern, though at this time no tavern was kept there.

LITCHFIELD, Ct. Feb. 28.—*Electa Seymour vs. Le- eritt Tuttle.*—This was an action brought by the plaintiff for a breach of promise of marriage, and ame on for trial on Wednesday of last week before he Circuit Court holden in this village, Judge Will- ams presiding. From the evidence introduced on the part of the plaintiff, it appeared that Mr. Tuttle, who is a respectable and wealthy farmer in Torring- ton, commenced paying his addresses to Miss Sey- mour, who resides in New-Hartford, some time in the year 1823; that he continued his addresses with a few short intermissions, until the year 1829—that during that period, preparations were made by the young lady for house-keeping, and one or more times set for the marriage to take place—but that the de- fendant finally broke off, and married another lady. The defence set up (that the lady was of an unhappy irascible temper, that her affections were previously fixed upon a young man who died some years before &c.) was of so frivolous a nature, and so feebly sus- tained by testimony, that so far from mitigating, we apprehend it only tended to aggravate the offence in the mind of the jury. The case was submitted to the jury on Thursday night—and on Friday morning they brought in a verdict of *Fifteen Hundred Dollars* dam- ages, and the costs of suit.

Suicide.—General William C. Butler, of Fairfax county, Va., we regret to learn, put a period to his existence, by shooting himself through the head, last week. He was the acting General of the three counties of Loudoun, Fairfax and Prince William. The duty of filling the station will probably devolve upon the present Legislature.—[Alexandria Phenix.]

Steam Boat Lost.—The Steamer Consort was snaged on her way down the river, between this port and Fort Adams, and sunk within six minutes after she struck. The passengers saved themselves with much difficulty. Boat aud cargo totally lost.—— [Natchez, 8th Feb.]

Singular Conflict.—The following very singular event occurred in the town of Madison in this county about three weeks since. Mr. Benj. Smith had a place on his farm where he baited foxes for the purpose of shooting them. One morning soon after day break he started for the place for this purpose, when on reaching his covert or bough house, he discover- ed a large animal near the fox bait. He at first took it for a large dog belonging to one of his neighbors, but a shift of position by the animal, satisfied him at once that it was not a dog but an enormous black *Wolf*, whereupon he discharged his gun at him which was loaded with large shot. Immmediately the wolf fell with his legs under him and appeared as if dead, which Mr. Smith supposed to be the case, and laying down his gun advanced towards him.— When he had approached within ten or fifteen feet of him the wolf rose and sprang upon him, seizing him by the leg near his ancle. Immediatejy a sort of "rough and tumble" commenced, each striv- ing to get the other under, the wolf all the while re- taining his grip upon Mr. Smith's leg. At length Mr. S. succeeded in throwing the wolf upon its side and holding him in this position with one hand and his knee, he got out his jack knife which he fortu- nately had with him, and plunged it into the throat of his ferocious assailant, who continued his hold upon Mr. Smith's leg, biting and growling, until he bled to death. Mr. S. received but very little in- jury in the conflict, his thick boot protecting his leg from the teeth of the wolf, who was only able just to scratch the skin a little. The wolf was full grown and very large, measuring nearly five feet from snout to tail.—[Somerset Me. Journal.]

We find the following unpleasant paragraph in the last Ithaca Chronicle:—

"We learn, with regret, that Mr. Swartwood, one of our members of Assembly, left Albany on Thurs- day evening last to return home, in a state of partial mental derangement. At Truxton he left the stage and company with whom he had thus far travelled, and subsequently left the public house where he had stopped, with the declared intention of proceeding to Cortland on foot. And, what is more afflicting, we are informed that he could not be traced or found by his friends who had proceeded for the purpose of meeting and conveying him home."

[*From the Journal of Commerce of Friday.*]

COLONIZATION.—A numerous meeting of the friends of the African Colonization was held on Wednesday evening, in the Masonic Hall. The audience was addressed by R. S. Finley, Esq. general agent of the Society. A variety of most interesting facts were presented, relative to the Colony at Liberia, the fer- tility of the soil, the building of vessels, the esta- blishment of Sunday, day, and common Schools, the colonial newspaper, the arrivals which are announc- in its columns, of vessels from all parts of the globe, &c. &c. The Speaker, in reply to a question asked as to the intention of the Society to *coerce* the free colored people to emigrate, declared that there was no such intention. That if the Colony continued to prosper, as at present, it would be impossible to pre- vent them from going; and that none but good men were wanted for those regions. In regard to the possibility of accomplishing the objects of this Soci- ety, the ultimatum of which is to abolish slavery, the Speaker said that if the annual increase of the color- ed population (which at present were from 50 to 60 thousand,) were removed, the number would be kept stationary; and that if any more than that annual in- crease were removed, the parent stock would then be gradually diminishing. He had adverted to the immense yearly importation of foreign emigrants in- to this country, with a view to put to flight the theo- ries which had been set on foot, as to the impossi- bility of accomplishing the object of the Society. A million of dollars would be required for the purpose alluded to; this would impose on the white popula- tion of the United States ten cents a head, and a total of twenty thousand dollars for the city of New York. Mr. Finley spoke at length on the manner in which the proposed objects were to affect the question of slavery, and proceeded to argue that there was no intention of denying the validity of the law which re- cognized the black as the property of his white mas- ter. The Society wished alone to address itself to the moral convictions of the people,—to the patriot, the philanthropist, and the christian.

A subscription was then taken up; after which the Society was further addressed by Samuel A. Foote, Esq. of this city, and Rev. Mr. Breckenridge of Philadelphia.

CHARLESTON, FEB. 21.—We learn, and it gives us much pleasure to state, that the prompt and very effi- cient movement of the United States troops from fort Moultrie, to afford assistance at the late fire in our city, was made under the immediate eye of Major General Scott; and that the officers who volunteered for the occasion, having despatched their companies with expedition, were desired by him to report to the Intendant of the city, to be employed wherever their services might be required.

We further learn that the officers who commanded the companies were Captains Munroe and Ringgold. —[Courier.]

NASHVILLE, Feb. 12.—The Cholera has nearly dis- appeared from our town: we hear of one or two cases spoken of, but of a light kind. No report from the Board of Health since the 8th inst. until this morn- ing, when a single case is reported.

The last Boston Advocate heads one of its columns with the effigy of a huge snail leisurely creeping a- long with a large bag strapped on his capacious back, with the title "U. S. Mail" conspicuously printed thereon; below is the following announcement — "The southern mail arrived this morning a few min- utes past 1 o'clock."

NEW JERSEY.—*Elias P. Seely*, the Vice President of the Council, was on Wednesday elected on joint ballot of the Legislature, *Governor of the State*, vice *Samuel L. Southard*, recently appointed to the Se- nate of the United States. On the same day, *John Moore White* was chosen Attorney General of the State. The Jackson party voted for *C. L. Harden- burg* as Governor, and *G. D. Wall* as Attorney Ge- neral.

SICKNESS AT KEY WEST.—The Charleston Patriot of 22d ult. gives the following particulars:—

There died at Key West, between the 10th and 16th instant, four soldiers belonging to the garrison, and a number previous to this date. Also, Miss Green, Mrs. Appleby, Mr. Johnson, Mr. Paddock, and two others, names not recollected. A number had left for Havannah and Mobile, who were unwell of the fever. Mr. Folger had been also sick of the fever since he left here, and who would not have re- turned had it not been for the sickness. A number were complaining of the debility which precedes the fever when our informant left.

[FOR THE NEW YORK AMERICAN.]

Mr. Editor,—By inserting the annexed paragraph from the Boston Daily Advertiser and Patriot, you may render a service to a distinguished countryman; you will, at all events, gratify

ONE OF YOUR CONSTANT READERS.

Mr. Audubon.—A resolve for the purchase of a copy of the great work of this eminent ornithologist was yesterday reported to the Senate by the Com- mittee on the Library; and we presume there can be no doubt that it will be readily adopted in both branches of our Legislature. There seems to us to be an obligation resting on all public bodies to for- ward the execution of an enterpsize which will do much to advance the honor of our country. It was the remark of Baron Cuvier, after examining the portions of the work which are already completed, that Europe had been entirely vanquished by the United States in this department of science. And it may certainly be regarded as a peaceful victory, not less renowned than those of war, that one of our countrymen, animated by a fervid enthusiasm for his delightful pursuit, and in full possession of the talent and skill which it requires,—though with little of that encouragement which is derived from a kindred taste in others,—should have executed a work en tirely unparalleled in the same department for accu- racy, extent, and brevity.

The U. S. ship Lexington.—The Philadelphia Ga- zette informs us, that Captain Brooks of the schooner Bee, from Buenos Ayres, states that at Montevideo, on the 2d January, he went on board the U. S. ship Lexington, and found her in good order and her crew in health. He has authority for stating that the Lex- ington would proceed to the Falkland Islands as soon as the U. S. schooner Enterprize arrived from Rio Janeiro, to take her place in the river. The latter vessel had been written for, and was shortly expected.

The following is a list of the officers and crew of the Lexington:—Isaac McKeever, Esq., comman- der; Joseph Myers, 1st Lieut.; John Bubler, 2d do; Wm. D. Newman, 3d do; John H. Little, 4th do; Joseph Stattings, 5th do; Peter Christie, Surgeon; A. J. Watson, Purser; G. G. Williamson, Paymas- ter; Wm. L. Vanhorn, Assistant Surgeon; Joseph R. Brown, Midshipman; Francis E. Joyner, do; Jas. H. Strong, do; William Pope, do; Edwin J. De Ha- ven, do; John M. Mason, do; William Carter, Jr., do; Edward H. Lawndes, do; Benjamin F. Shattuck, do; John D. Mendenhall, School-master; Frederick J. Poor, Captain's Clerk; William Burgin, Boat- swain; James M. Cooper, Gunner; Nicholas S. Lee, Carpenter; William Ward, Sail-maker.

Melancholy Accident.—The house of Mr. John D. Crane, near Montezuma, with all the contents, were destroyed by fire on the 26th ult. Five children were in it at the time, and two of them were burnt to death. The parents were absent at the time. It is a fearful warning against such an exposure of life and property.

Acquittal.—Judge Wm. C. Carr, of Missouri, has been acquitted of the charge on which he was lately arraigned before the Legislature of that State.

HOME AFFAIRS.

[*Reported for the Journal of Commerce.*]

CONGRESS.

Wednesday, Feb. 27.—In Senate.

The Senate resumed the consideration of the Bill from the House of Representatives "to modify the Act of July 14th, 1832, and all other Acts imposing duties on imports."

The Bill (i. e. Mr. Clay's Tariff Bill) was reported to the Senate without amendment.

Mr. Robbins of R. I., rose to speak in opposition to the principle of the bill.

Mr. Clay suggested that it was not his intention to press the bill to its passage before to-morrow. The Senator from Rhode Island would have an opportunity to address the Senate to-morrow on the question of the passage of the bill.

Mr. Robbins gave way—and the question being taken on the engrossment of the bill, it was *ordered to be engrossed, without a division.*

On motion of Mr. Benton, the Senate proceeded to the consideration of Executive business.

When the doors were opened,

The Bill making appropriations to carry into effect certain Indian Treaties, was considered, amended on motion of Mr. Robinson, and ordered to a third reading.

The Bill making appropriations for the Indian Department for the year 1833, was considered, reported without amendment, and ordered to a third reading.

The Joint Resolution for subscribing to a certain number of copies of the Documentary History of the American Revolution, to be compiled and published by Peter Force and Matthew St. Clair Clarke, was ordered to a third reading.

The Joint Resolution subscribing for five thousand copies of a stereotype edition of the laws and treaties of the United States [to be published by Duff Green] was ordered to a third reading.

After some other minor business, the Senate took a recess till five o'clock.

House of Representatives.

On motion of Mr. Adams, the Committee on Manufactures were discharged from the further consideration of all subjects referred to that Commttee.

The bill from the Senate further to provide for the collection of duties on imports, came up.

Some discussion ensued, in the course of which Mr. McDuffie declared that he believed South Carolina would receive as a measure of conciliation and peace the bill which had passed the House, modifying the Tariff; *but if the Enforcing Bill was sent out with it, he would not be responsible for the consequences.* If the motion to postpone should be adopted, he would view it as a determination not again to take up the bill.

Mr. Carson, of North Carolina, then spoke about three quarters of an hour in opposition to the general principles of the bill.

Mr. Clayton of Georgia, next rose; but gave way to a motion for a recess untill 6 o'clock, which was carried.

Thursday, Feb. 28.—In Senate.

Mr. Kane, from the Committee on the Public Lands reported a bill from the Honse of Representatives to prevent settlements on the Public Lands West of the Mississippi, till authorized by law, with various amendments, which were concurred in, and the bill ordered to a third reading.

On motion of Mr. King, the Senate then proceeded to the consideration of Executive business.

House of Representatives.

The further reading of the Report made by the minority of the Committee on Manufactures, adverse to the views of the President, in his late Message, on the subject of manufactures, &c., was dispensed with, and the report laid on the table.

The House proceeded to the consideration of the bill from the Senate further to provide for the collection of duties on imports.

Mr. McDuffie being entitled to the floor, gave way a moment to Mr. Bell, who stated that in consequence of the shortness of the time and the urgency of the public business, he trusted the House would this day dispose of the bill which had been announced.

Mr. M'Duffie then rose, and in a speech of three hours length, opposed the general provisions of the bill.

Mr. Wayne obtained the floor, but gave way to a motion for a recess until five o'clock, which was carried,

At 5 o'clock the House again met, and Mr. Wayne commenced a speech in favor of the Bill, which he had not concluded at half past 9.

Friday, March 1—In Senate.

The bill to modify the Act of the 14th day of July, 1832, and all other acts imposing duties on imports as received from the House of Representatives, was taken up, and passed.

House of Representatives.—*Friday.*

After some minor business—

Mr. Verplanck, under instruction from the Committee of Ways and Means, made the following Report:

The committee conclude by respectfully recommending the adoption of the following resolution—

"Resolved, That the Government deposits may, in the opinion of the House, be safely continued in the Bank of the United States."

The Report was accompanied by sundry documents.

Mr. Watmough moved the printing of 10,000 extra copies of the report and documents, which was agreed to. (Mr. Horn, who had objected to the motion, having withdrawn his objection.)

Mr. Polk then made a Report from the minority (three members) of the Committee, of which the same number was ordered to be printed.

Mr. Daniel, from the Select Committee to which was referred so much of the President's Message as relates to the exereise of doubtful powers, made a verbal report, stating that there was not a single point on which the committee could agree; and he had therefore been directed to move that the Committee be discharged from the further consideration of the subject; which was, after some jocular conversation, agreed to.

The bill from the Senate *further to provide for the collection of duties on imports* came up on its final passage, (the Previous Question thereon having been last night ordered.) The Bill was finally passed.

The bill concerning the Virginia military land warrants being reached, Mr. Russell withdrew the amendment he offered thereto some days ago, and the bill was ordered a third reading.

The bill to establish the territory of Wisconsin, and the bill authorizing a subscription to an edition of the Laws of the United States, were severally ordered to lie on the table.

All the succeeding orders of the day were then, by successive motions of Mr. Wickliffe, postponed to to-morrow, until the Land Bill was reached; when, on motion of Mr. W.,

The House resolved itself into a Committee of the Whole on the state of the Union, the Speaker calling Mr. Polk to the Chair.

Mr. Verplanck moved that the Committee take up some appropriation bills, but the motion was negatived; and then, by a decisive majority, took up the bill from the Senate

To Distribute the Proceeds of the Public Land.

The bill having been read through—

An amendment was offered by Mr. Duncan to set apart 20 per cent. of the value of the Public Land in certain of the new States, before the division of the proceeds should be made, instead of 12 1-2 per cent. as in the Bill. But it was negatived.

Mr. Wickliffe moved to amend the second section thereof, by striking out the words which restrict the application of the funds accruing to the several States to three specified objects, (internal improvement, education, and colonization,) and to leave it the States to apply the funds in such manner as the Legislatures thereof shall direct.

The amendment was adopted, without a count.

Mr. Wickliffe also added a Proviso postponing the effect of the Bill, until the Public Debt should have been paid. This was adopted, Yeas 67, Nays 42.

Friday Evening March 1.—In Senate.

On motion of Mr. Black, the Senate proceeded to the consideration of Executive business. At 9 oclock the doors were re-opened.

The various bills on the table, ordered to a third reading, were read a third time and passed.

The Senate then took up the bill for removing the obstructions and improving the navigation of certain rivers in the territories of Florida and Michigan, and for certain surveys; which, being ordered to be engrossed, was read a third time and passed.

Public Lands.

The Senate then took up the amendment made by the House of Representatives to the bill authorizing the distributiou of the proceeds of the Public Lands.

Mr. Clay said that, although the objects to which these proceeds were to be applied were a favorite point with him, yet as he had found that he was differing on this topic with some of his friends, and as it had been suggested that there might be difficulty in another quarter, if the words struck out by the House were retained, he would move to concur in the amendment.

Mr. Clay wished to take the question to-night, in order that the Executive might have time to act upon the bill.

So the amendment was concurred in.

At 11 o'clock, the Senate adjourned.

House of Representatives.

The bill to distribute the proceedings of the Public Lands being under consideration, in Committee of the Whole.

On motion of Mr. Wickliffe, the committee rose, and reported the bill and amendments to the House.

In the House, the amendments were read and concurred in, with the exception of Mr. Wickliffe's proviso, which he himself, after examination, thought ought not to be adopted, inasmuch as the contingency for which he intended it would not exist.

The bill was read a third time, and the question on its passage, it was decided by yeas and nays as follows:

Yeas—Messrs. Adams, C. Allan, Heman Allan, Arnold, Babcock, Banks, N. Barber, J. S. Barbour, Barringer, Barstow, Beardsley, Briggs, Bucher, Bullard, Burd, Eleutheros Cooke, Bates Cooke, Cooper, Corwin, Coulter, Crane, Crawford, Creighton, D. J. Davis, Dearborn, Denny, Dewart, Dickerson, Ellsworth, George Evans, Joshua Evans, Ed. Everett, Horace Everett, Gilmore, Grennell, H. Hall, Heister, Hodges, Hogan, Hughes, Huntington, Ihrie, Irvin, Jenifer, J. Johnson, Kavanagh, Kendall, Kennon, Adam King, Henry King, Kerr, Leavitt, Letcher, Marshall, Maxwell, McCarty, Robt. McCoy, McKennon, Mercer, Milligan, Muhlenberg, Nelson, Newton, Pearce, Pendleton, Pierson, Pitcher, Potts, Randolph, John Reed, Root, Russell, Au. H. Shepperd, Slade, Smith, Southard, Stanbery, Stewart Southerland, Taylor, P. Thomas, J. Thomson, Tomkins, Verplanck, Vinton, Wardwell, Washington, Watmough, Wilkins, Elisha Whittlesey, Frederick Whittlesey, E. D. White, Wickliffe, Williams—96.

Nays.—Mess. Alexander, Archer, Ashley, Barnwell, Bethune, John Blair, Boon, Cambreleng, Carr, Chinn, Claiborne, Clay, Coke, Duncan, Felder, Gordon, Griffin, William Hall, Hawkins, Horn, Isacks, Jarvis, Rich. M. Johnson, Lecompte, Lewis, Lyon, Mardis, Mason. Wm. McCoy, McIntire, McKay, Plummer, Roane, Sewall, Standefer, Wiley Thompson, Ward, C. P. White, Worthington—40.

So the bill was passed, and returned to the Senate.

It was now near 11 o'clock; when the House went into Committee of the Whole on the state of the Union, and took up

The Harbor Bill.

[Making appropriations for carrying on certain works heretofore commenced for the improvement of harbors and rivers, and also for continuing and repairing the Cumberland road and certain territorial roads.]

Mr. Coke moved that the Committee rise, believing the House to be too much exhausted to proceed.

The motion was promptly negatived, and the Committee proceeded to read and amend the bill.

The most important of the amendments were an item of $35,000 for the continuation of surveys under the act of 1824, and $34,000 for the repairs of the Cumberland road in Virginia.

The bill was then laid aside, and the Committee took up the

General Appropriation Bill.

On motion of Mr. Everett, items were added to provide for arranging the papers in the State Department and making an index to the whole of them. Also, for completing the publication of the Diplomatic Correspondence, and the printing of the last census.

Mr. Verplanck proposed an item to cover certain arrearages which had improperly accrued in the Land Office. He did it with great reluctance, and merely because the United States must of course pay debts contracted by its authority. But the expenditure had the decided disapprobation of the Committee of Ways and Means.

Mr. Wickliffe concurred in this sentiment, and hoped that this instance might prove a warning to all subordinate officers in the Government against exceeding the limits of the expenses they were authorized to incur.

Saturday, March 2.—In Senate.

The Senate considered and passed the bill to establish a port of entry at Fall River, Mass. &c.

Several private bills from the House of Representatives were considered, ordered to a third reading, and subsequently passed.

The bill from the House, to improve the condition of the non-commissioned officers and privates in the army of the U. States was read a second time.

Some amendments reported from the committee were adopted, and the bill ordered to a third reading, and subsequently passed.

The following bills and resoluaions were then considered and passed :

A resolution in relation to the execution of an act supplementary to an act entitled "An act for the relief of certain surviving officers and soldiers of the revolution."

An act to authorize the President of the United States to exchange certain lands belonging to the Navy Yard at Brooklyn for other lands contiguous thereto.

An act in addition to the act for the gradual improvement of navy of the U. S.

An act to place thirty copies of the Diplomatic Correspondence of the Revolution at the disposition of the Secretary of State, was read a third time and passed.

At three o'clock the Senate took a recess till five o'clock.

Senate Evening Session.

The Senate re-assembled, and went into consideration of Executive business.

HOUSE OF REPRESENTATIVES.—*Saturday, March 2.*

Bank of the United States.

The resolution reported by the Committee of Ways and Means, expressive of their opinion that the Government deposites might with safety be continued to be deposited in the Bank of the United States, coming up for the action of the House,

The previous question was then put and carried, and the main question, on the adoption of the resolution, was decided by yeas and nays. Yeas 110, Nays 46.

So the House resolved, That the Government deposites may, in the opinion of the House, be safely continued in the Bank of the United States.

The House then took up the General Appropriation Bill, with the amendments reported from the Committee of the Whole.

Some desultory debate occurred on one or two of the items—particularly on an amendment offered by Mr. E. Everett, to extend the franking privilege, by giving it to members from the period of sixty days before their entering Congress, to the first day of the Congress succeeding. This amendment was agreed to, and the bill was then ordered to its third reading.

The House then took a recess from 4 to 6 o'clock.

Evening Session.

At 6 o'clock, the House again assembled.

The bills making appropriation for the Engineer department, and for the civil end diplomatic service, for the year 1833, were read a third time and passed.

Various bills from the Senate were passed.

After passing various acts from the Senate without debate, the House went into a Committee of the Whole on the state of the Union.

The bill making appropriations for the Indian Department, was taken up.

Mr. Everett moved for an amendment providing for the valuation and payment for the property of the American Board of Commissioners of Foreign Missions in the Choctaw Nation, which was agreed to.

Mr. Ashley moved an amendment, appropriating $100,000 for the expense of an expedition against the western Indians, which was agreed to.

The Committee then rose and reported the bills to the House, and the amendments were concurred in.

The Neapolitan Treaty bill was read the third time and passed.

The House again went into Committee, and took up the following bills:

The bill explaining the 18th section of the act of 14th July 832.

The bill making appropriations for the public buildings.

The bill to explain and amend the several acts imposing duties on hardware.

The bill was amended on motion of Mr. Adams, by adding to it the bill of the Senate relating to certain manufactures of copper, called Brazier's copper.

The bill for improving the navigation of certain rivers in the Territories of Florida and Michigan.

The light house bill.

All of which were reported to the House.

The first named act was amended so as to confine its provisions to merchandize entitled to debentnre, when all the foregoing bills were ordered to be engrossed.

After disposing of a variety of Senate bills.

Several engrossed bills were read the third time and passed; when,

Mr. Taylor being in the Chair, in the absence of the Speaker.

Mr. Howard offered the following resolution:

Resolved, That the thanks of this House be presented to the Hon. Andrew Stevenson, Speaker, for the firmness, dignity, skill and impartiality with which he has discharged the duties of the Chair during the 22d Congress

Which was adopted.

Messrs. White, of New-York, and Polk were appointed a Committee to wait on the President, on the part of the House, and inform him that the House were ready to adjourn.

Mr. C P. White, from the Committee appointed to wait on the President, reported that the Committee had informed the President that the House were ready to adjourn, and had been informed by the President that he had no further communication to make to the House

Mr. J. S. Barbour, at 5 o'clock, A. M., moved the House now adjourn; agreed to.

Inaugural Address of the President of the U. States. 4th March, 1833.

FELLOW CITIZENS:—The will of the American people, expressed through their unsolicited suffrages, calls me before you to pass through the solemnities preparatory to taking upon myself the duties of President of the United States for another term. For their approbation of my public conduct, through a period which has not been without its difficulties, and for this renewed expression of their confidence in my good intentions, I am at a loss for terms adequate to the expression of my gratitude. It shall be displayed, to the extent of my humble abilities, in continued efforts so to administer the Government, as to preserve their liberty and promote their happiness.

So many events have occurred within the last four years, which have necessarily called forth, sometimes under circumstances the most delicate and painful, my views of the principles and policy which ought to be pursued by the General Government, that I need on this occasion but allude to a few leading considerations connected with some of them.

The foreign policy adopted by our Goverment soon after the formation of our present Constitution, and very generally pursued by successive administrations, has been crowned with almost complete success, and has elevated our character among the nations of the earth. To do justice to all, and submit to wrong from none, has been, during my administration, its governing maxim; and so happy has been its result, that we are not only at peace with all the world, but have few causes of controversy, and those of minor importance, remaining unadjusted.

In the domestic policy of this government, there are two objects which especially deserve the attention of the people and their representatives, and which have been, and will continue to be, the subjects of my increasing solicitude. They are, the preservation of he rights of the States, and the integrity of the Union.

These great objects are necessarily connected, and can only be attained by an enlightened exercise of the powers of each within its appropriate sphere. in conformity with the public will constitutionally expreased. To this end, it becomes the duty of all to yield a ready and patriotic submission to the laws constitutionally enacted, and thereby promote and strengthen a proper confidence in those institutions of the several States and of the United States which the people themselves have ordained for their own government.

My experience in public concerns, and the observation of a life somewhat advanced, confirm the opinions long since imbibed by me, that the destruction of our State governments or the annihilation of their control over the local concerns of the people, would lead directly to revolution and anarchy, and finally to despotism and military domination. In proportion, therefore, as the general government encroaches upon the rights of the States, in the same proportion does it impair its own power and detract from its ability to fulfil the purposes of its creation. Solemnly impressed with these considerations my countrymen will ever find me ready to exercise my constitutional powers in arresting measures which may directly or indirectly encroach upon the rights of the States, or tend to consolidate all political power in the General Government. But of equal, and indeed of incalculable importance is the union of the States and the sacred duty of all to contribute to its preservation by a liberal support of the General Government in the exercise of its just powers. You have been wisely admonished to "accustom yourselves to think and speak of the Union as of the palladium of your political safety and prosperity, watching for its preservation with jealous anxiety, discountenancing whatever may suggest even a suspicion that it can in any event be abandoned, and indignantly frowning upon the first dawning of any attempt to alienate any portion of our country from the rest, or to enfeeble the sacred ties which now link together the various parts." Without Union our independence and liberty would never have been achieved—without Union they can never be maintained. Divided into twenty four, or even a smaller number of separate communities, we shall see our internal trade burdened with numberless, restraints and exactions; communication between distant points and sections obstructed, or cut off, our sons made soldiers to deluge with blood the fields they now till in peace; the mass of our people borne down and impoverished by taxes to support armies and navies; and military leaders at the head of their victorious legions becoming our law givers and judges. The loss of liberty, of all good government, of peace, plenty and happiness, must inevitably follow a dissolution of the Union. In supporting it, therefore, we support all that is dear to the freeman and the philanthrophist.

The time at which I stand before you is full of interest. The eyes of all nations are fixed on our Republic. The event of the existing crisis will be decisive in the opinion of mankind of the practicabtlity of our Federal system of Government. Great is the stake placed in our hands; great is the responsibility which must rest upon the People of the United States. Let us realize the importance of the attitude in which we stand before the world. Let us exercise forbearance and firmness. Let us extricate our country from the dangers which surround it, and learn wisdom from the lessons they inculcate.

Deeply impressed with the truth of these observations, and under the obligation of that solemn oath which I am about to take, I shall continue to exert all my faculties to maintain the just powers of the Constitution, and to transmit unimpaired to posterity the blessings of our Federal Union. At the same time, it will be my aim to inculcate, by my official acts, the necessity of exercising, by the General Government, those powers only that are clearly delegated; to encourage simplicity and economy in the expenditures of the government; to raise no more mouey from the people than may be requisite for these objects, and in a manner that will best promote the interest of all classes of the community, and of all portions of the Union. Constantly bearing in mind that, in entering into society "individuals must give up a share of liberty to preserve the rest," it will be my desire so to discharge my dnties as to foster, with our brethren in all parts of the country, a spirit of liberal concession and compromise; and, by reconciling our fellow-citizens to those partial sacrifices which they must unavoidably make, for the preservation of a greater good, to recommend our invaluable Government and Union to the confidence and affections of the American people.

Finally, it is my most fervent prayer to that Almighty being before whom I now stand, and who has kept us in his hands from the infancy of our Republic to the present day, that he will so overrule all my intentions and actions, and inspire the hearts of my fellow citizens, that we may be preserved from dangers of all kinds, and continue forever a UNITED AND HAPPY PEOPLE.

Two granddaughters of Count *Rochambeau*, and two officers who served in our War of Independence, have, it will be seen, presented petitions to Congress for compensation for services rendered by the grandfather, in the instance of the first petitioners, and by the petitioners themselves in the second:

HOUSE OF REPRESENTATIVES—*Monday, Feb. 25.*

A message, in writing, was received from the President of the United States, by Mr. Donelson, his private Secretary, as follows:—

WASHINGTON, 22d Feb., 1833.

To the House of Representatives:

I transmit herewith, for the consideration of the House, a letter from General LAFAYETTE, to the Secretary of State, with the petition which came enclosed in it of the Countess d'Ambugers, and Mde. de la Gorce, granddaughters of Marshal Count Rochambeau, and original documents in support thereof, praying compensation for services rendered by the Count to the United States during the Revolutionary War; together with translations of the same. And I transmit with the same view, the petition of Messrs. de Fontaville de Jerumont, and de Rossignal Grandmont, praying compensation for services rendered by them to the United States in the French Army, and during the same war, with original papers in support thereof; all received through the same channel, together with translations of the same. ANDREW JACKSON.

The said message, with the petitions and papers accompanying the same, was referred to the Committee on Revolutionary Claims.

APPOINTMENTS.—The following Collectors of the Customs have been re-appointed by the President, with the advice and consent of the Senate, the term of their respective commissions being about to expire. —[Jour. of Commerce.]

John Chandler, District of Portland and Falmouth, Denny McCobb, Waldoborough, Me. [Maine.
Mark Bennet, York, Me.
John F. Scammon, Saco, Me.
Barnabas Palmer, Kennebunk, Me.
Schuyler Sampson, Plymouth, Mass.
Wm. H. Ellis, New Haven, Conn.
Noah A. Phelps, Middletown, Conn.
Geo. W. Tucker, Little Egg Harbor, N. J.
James N. Barker, Philadelphia.
Thomas Forster, Presque Isle, Pa.
John Willis, Oxford, Me.
Nathaniel Holland, Cherrystone, Va.

Also, the following Surveyors of Ports:

Joshua Prentiss, Marblehead,
J. B. Barton, Providence,
Geo. Brown, Paucatuck, R. I.
Charles Durfee, Tiverton, R. I.
James Mosher, Baltimore.
John Prentiss, Suffolk, Va.
Robert Butler, Smithfield, Va.
Daniel Foster, Naval Officer, Newburyport.

LEGISLATURE OF NEW YORK.

Wednesday, Feb. 27.—IN ASSEMBLY.

Mr. I. C. Baker reported a bill to incorporate the Whitehall and Rutland (Vt.) Railroad Company.

IN SENATE—*Feb.* 28.

Mr. Edwards reported a bill to amend the act incorporating the great Au Sable Railroad Company.

The committee of the whole had under consideration the bill to amend the charter of the New York and Erie Railroad Company. [Authorizes the company to commence operations whenever $500,000 of their capital of $10,000,000 shall have been subscribed.] The bill was opposed by Messrs. Dodge and Edwards, and supported by Messrs. Westcott, Van Schaick and Mr. Sherman. Mr. Birdsall also made some remarks, but not being in possession of the necessary information to act upon the subject, he moved that the committee rise and report, which was agreed to.

The committee passed the bill to incorporate the New England Society in the city of New York.

ASSEMBLY.

Mr. Farrington gave notice of his intention to introduce a bill directing a survey of a canal from Oswego to Binghampton.

March 1—ASSEMBLY.

Mr. I. C. Baker, from the Railroad committee, to whom was referred the bill from the senate, relative to the Rochester and Charlotte turnpike company, reported the said bill, without giving any opinion thereon. Committed.

Bills read a third time and passed: Authorizing the improvement of Flushing Bay and Creek.

MARRIAGES.

On Thursday evening, Feb. 28, at the Mission Church of the Holy Evangelists, Vanderwater street, by the Rev. B. C. Cutter, ALFRED BARRING, of Berkshire, England, to JANE, daughter of William Cochrane.

On Thursday evening, (28th ult.) by the Rev. Dr. Wainwright, ALFRED S. LIVINGSTON, of Rhinebeck, to JUSTINA, daughter of the late JOSEPH BLACKWELL, of this city.

On Tuesday evening, by the Rev. Dr. Spring, L. G. CURTISS, to HELEN MARIA COUCH, daughter of William Couch, Esq., all of this city.

At Burlington, New-Jersey, on the 25th of February, by the Rev. Dr. Wharton, WILLIAM BEEKMAN VERPLANCK, Esqr., of Verplanck's Point, State of New-York, to MARIA MERSEA MACOMB, daughter of Mrs. Isabella Bloomfield, of the former place.

At New Hope, (Penn.) on Thursday morning the 28th ult. by the Rev. Mr. Studdiford, Mr. EZRA R. BUTLER, of Hudson, to Miss REBECCA P. MELDEM, of the former place.

DEATHS.

On Wednesday afternoon, Feb; 27, of consumption, in the 29th year of her age, ELIZABETH DAVIDSON, wife of JOHN EVERS, and eldest daughter of Thomas Swords.

This morning, (Feb. 28) at 1 o'clock, in the 45th year of his age, WILLIAM GALLAGHER.

On Thursday evening, 21st Feb. ELIZABETH HAFF, infant daughter of GEORGE B. HARLESTAN; aged 7 months.

This morning, EMMA, the infant daughter of Mr. A. J. Mason, of Brooklyn, aged 8 months.

On Sunday evening last, Mr. Louis Doyle, Builder, aged 50 years.

On Tuesday morning, March 5, 1833, at half past 4 o'clock, in the morning, of consumption, Mrs. SALLY FIELDS, aged fifty nine years and eight months, for many years a respectable member of the Methodist Episcopal Church.

At Brooklyn, on Monday morning the 4th March, ANDREW, infant son of A. T. Coodrich, aged sixteen months.

On the 22d February, at Columbia, S. C., where she had gone for the benefit of her health, Miss MARY B. GARDINER, daughter of the late John L. Gardiner, Esqr., of Gardiner's Island, New York, aged 23 years.

At New Orleans, on the 3d ultimo, MR. JOSEPH WATSON, sen. aged 50—formerly a resident of this city.

At New-Orleans, on the 17th ult., after a short and severe illness, Mr. ENOCH B. HYDE, aged 31, of the firm of W. F. & E. B. Hyde & Co. of that place, and formerly of Stonington, Conn.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 2.

Between the ages of

90 and 100— 0	50 and 60— 2	10 and 20— 2
80 and 90— 4	40 and 50— 6	5 and 10— 4
70 and 80— 1	30 and 40—10	2 and 5— 7
60 and 70— 6	20 and 30—10	1 and 2—10

Of and under one year, 20—Total, 82.

Diseases.

Aneurism	1	Fever typhus	1
Apoplexy	2	Hives or croup	4
Burned or scalded	1	Inflammation of bowels	1
Casualty	1	Marasmus	2
Catarrh	1	Old age	4
Childbed	1	Peripneumony	4
Consumption	21	Pleurisy	1
Convulsions	5	Pneumonia typhodes	1
Cramp in the stomach	1	Rheumatism	1
Dropsy	1	Spruc	1
Dropsy in the head	6	Stillborn	6
Epilepsy	1	Syphilis	1
Fever	1	Teething	2
Fever bilious remittent	1	Unknown	4
Fever remittent	1	Whooping cough	1
Fever scarlet	2	Worms	1

ABRAHAM D. STEPHENS, City Inspector

PRICES OF RAILROAD STOCKS.

Mohawk and Hudson	asked 129½	offered 128½
Do. (Branch)..	125 —	120
Paterson and Hudson	98 —	96½
Canajoharie and Catskill	— —	97
Ithaca and Owego	87 —	82
Saratoga	110½ —	110
Harlaem	98 —	96½
Boston and Providence	111 —	110½
New-York and Albany	— —	—
N. J. Railroad & Transp. Line..	— —	—

MECHANICS' MAGAZINE,
AND
Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan.

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

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☞ NEW-YORK AMERICAN, *Daily*, VOLUME 13—an *evening* paper, which gives the latest news of the day, both foreign and domestic, up to the hour of departure of the mails, south and north. It also contains Literary and Miscellaneous Selections, from the best Foreign and American journals, together with a Review or Notice on Saturdays of most of the new Publications that have issued from the Press during the week; it has also a liberal patronage as an advertising paper, and therefore unites the advantages of *Business*, *Instruction*, and *Amusement*. Those who advertise in the daily paper, have the privilege of advertising also in the TRI-WEEKLY AMERICAN, if they desire it, *without any additional expense.*

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D. K. MINOR.

PAPER.

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☞ NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE. *Whole number, Vol.* 6. NEW SERIES, VOLUME FIRST. No. 1, for January 1833, is just published. This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture*, *Horticulture*, &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to disseminate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

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35 Wall street, New-York.

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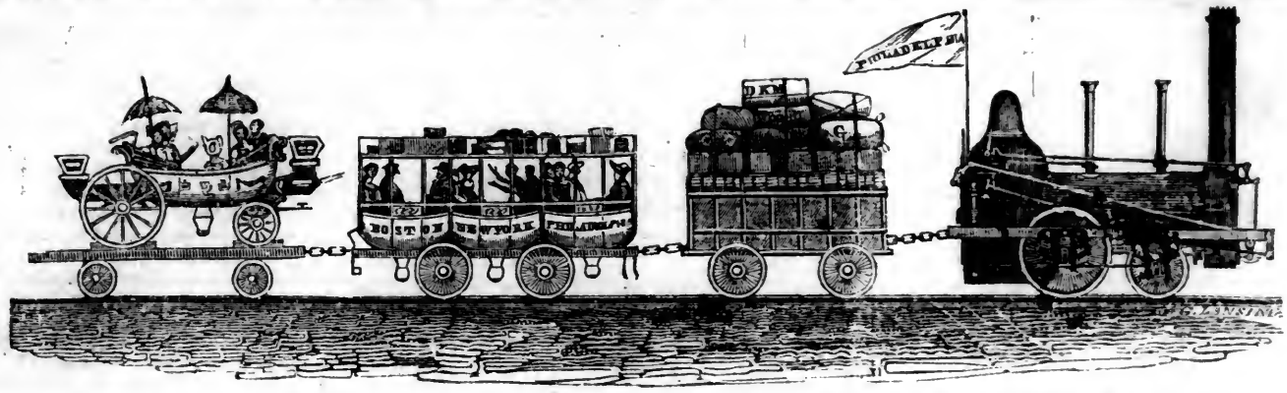
☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the U. States. As to the quality of Rope, the public are referred to J. B. JERVIS, Eng. M. & H. R. R. Co., Albany; or JAMES ARCHIBALD, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne County, Pennsylvania.

Hudson, Columbia County, New-York,
January 29, 1833. f31 tf



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, MARCH 16, 1833.** [VOLUME II.—No. 11.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 16, 1833.

Meteorology.—It is unnecessary in order to call attention to our Meteorological Record, for this city, (which however is omitted this week,) for us to say more than that it is kept by Wm. C. Redfield, Esq. To the man of science, it will commend itself. We should be greatly obliged by similar favors from other cities on the seaboard.

An apology is due to our readers for the long omission of the Meteorological Records kept in other places. Those for Troy and Mobile have not been received as was expected, and those for Montreal and Charleston were delayed in order to keep them together—the two latter will now be brought up, and hereafter given regularly once a month, together with one furnished by P. G. Voorhees, Esq., of Avoylle Parish, on Red River, Louisiana.

We some time since announced that Mr Williams, Engineer of Cincinnati, proposed publishing a practical treatise upon road making. We consider the subject of so much importance to the community, that we again call the attention of our readers to it. Mr. W. proposes to illustrate his book with about 100 engravings, and deliver it to subscribers at the low price of $3, bound and lettered. Such a work is a great desideratum in this country; of Mr. Williams' fitness for such a task there can be no doubt. With his prospectus he has printed letters from some of the most distinguished individuals in the United States, including Engineers, Presidents of turnpikes and railroads, and Statesmen, friends of internal improvements—among the latter we find the names of H. Clay and J. C. Calhoun,—all agreeing that Mr. W.'s practical experience on such subjects render him peculiarly qualified for such an undertaking. We subjoin a portion of his address to the public.

"In writing and compiling the proposed work, it shall be my aim neither to be tediously particular, nor obscurely brief; but as the safer, I intend to fall into the former rather than the latter error. My endeavors shall be to write a plain practical treatise, and not to make any unnecessary display of science or skill. The book most needed is one that might enable any person with a tolerable education, by close application, to make a first rate road, or to improve in the best manner those already made. Such a book, it is hoped, the proposed one may be. It will embrace nothing but what is connected with the laying out, the construction, the use, or the repair of those kinds of roads upon which every one may be his own carrier, or travel in the way his fancy or circumstances may point out to him. Nevertheless it is presumed, that the Canal and Railroad maker may be interested, if not instructed by a perusal of it.

The matter in the work will be treated in something like the following order :—Introduction, Road Companies, Charter, By-Laws, Engineers, Mapping, Superintendants, Directors, Lettings, Contracts, Masonry, Bridging, Graduation, M'Adamizing, Repairs, Tolls, Artificial roads generally, Substitutes for stone in the construction of artificial roads, Common Roads, Street pavements, Wharves, Landings, Ferries, Viaducts, Yards, Walks, Vehicles, &c. &c. Believing that no man of observation is so ignorant that he cannot teach, nor so wise that he may not learn, a request is made to all who can communicate any useful matter, on any of the above subjects, to do so; but at the same time, the necessity of their paying the expense of sending their communications will appear to them, and be cheerfully borne by those who have the prosperity of the country at heart."

We understand that the Loan to the Paterson and Hudson River Railroad Company has been taken by a company of gentlemen at a premium of 2 1-2 per cent.

We are also informed that several offers were made at a higher premium, but on conditions not embraced in the proposals, and that the committee did not therefore feel authorized to accept them.

New-York, Boston and Providence Railroad.—The books of the New-York, Boston and Providence Railroad Company were closed in this city on Wednesday evening. The stock apportioned, by the charter, to this state, was all subscribed for, a fact sufficiently indicative of the confidence felt in, and the value of the enterprize.—[Providence D. Journal.]

Canals and Railroads.—The Legislature of Kentucky, at its late session, passed an Act making it *Felony*, punishable by confinement in the Penitentiary, for any free person, and death to any slave, convicted of maliciously injuring or obstructing the Louisville and Portland Canal. The Legislature of Virginia, at its present session, has enacted a similar Law, in relation to the Petersburg and Roanoke Railroad.

We have had another proof of the promptness with which the obstruction caused by a deep fall or drifting of snow is removed on the Baltimore and Ohio Railroad. The snow which fell on Friday last was blown on the Railroad, in drifts, in many instances from two to three feet deep, during that night and the next morning—yet it was so promptly cleared off the whole distance of sixty miles between Baltimore and Frederick, that not a single trip of the cars was omitted; and the passenger cars on Saturday were only detained about six hours beyond the usual time. This has been at all times the case since the first opening of the road for travel, and furnishes most gratifying evidence of the energy with which the business of the company is prosecuted.—[Baltimore Republican.]

To the Editor of the American Railroad Journal.

Carbondale Railroad.—Perhaps you may think the following brief description of the Carboudale Railroad will be interesting to the readers of your Journal. If so, it is submitted for publication.

This railroad extends from the head of the Delaware and Hudson Canal at Honesdale, Pa., to the coal mining belonging to the Delaware and Hudson Canal Company at Carbondale. It was hinted at in the report of John S. Sullivan, Esq., on the projected Delaware and Hudson Canal, dated January 7th, 1824. No surveys were made at that time, and nothing definite was done until the autumn of 1826, when the Directors of the Delaware and Hudson Canal Company instructed Benjamin Wright, Esq., (at that time Chief Engineer of the company,) to report to them a plan for the railroad, with an estimate of expense. Surveys were made to determine the elevation to be overcome, but not sufficient to locate the line. The ascent from Carbondale to the summit was found to be about 850 feet in a fraction over four miles, and the descent from

thence to Honesdale about 950 feet, making an elevation of 1,800 feet to be overcome in 16 miles. Mr. Wright submitted a report during the autumn above referred to. This report was general in its character, and did not go into any particulars in relation to machinery to facilitate transportation over the elevation.

On the 4th of April, 1827, the undersigned was instructed by the board of managers of the Delaware and Hudson Canal Company to make a location of the railroad, and to submit a report of such plan as he should recommend, with an estimate of the cost of the same. In consequence of the irregularity of the country, and the dense forest that covered it, the greatest part of the season was occupied in surveys, before a location could be settled. On 22d October, a report, in obedience to the instructions above mentioned, was submitted to the board of managers, embracing a plan and an estimate of the cost of construction. The plan was essentially adopted by the board, and on the 25th November the work was put under contract.

At a time when there was no experience of moment in this country in surmounting great elevations by railroads, it will readily be conceived that, to rise 850 feet in about three miles, (this being the length of road from the mines to the summit,) by a method that would be safe, regular, and economical in its operations, was no easy task. The plan of machinery in general use at the time in England, on which to wind the ropes that drew up the waggons, was the large drums. This was considered in several reports objectionable, and a new plan was designed, which was supposed to obviate the objections alluded to. This plan substituted a horizontal sheeve wheel, on which was worked an endless chain. It permitted the engine to run constantly in the same direction, and the loaded carriage to uniformly occupy the same side of the road, thereby avoiding the necessity of changing the waggons at head and foot of the inclined plane, as is required by the reciprocating plan. The machinery worked in all respects well, except that the chains were not able to bear the service. They frequently parted, particularly after they had worked about one month. It was also found that the chain was very severe on the sheeve wheel and friction rollers. After hauling over about 10,000 tons of coal, the interruption and damage occasioned by the breaking of the chain, and the severity with which it wore the other parts of the machinery, induced its abandonment. It now became an important question to determine in what manner the machinery could be most economically altered so as to adapt it to the use of ropes. They were not known at that time to have been used for ascending planes, on any other plan than by winding up on large drums. It was decided, however, to adopt a plan by which the horizontal sheeve could be used, so as to allow the engine and all other machinery to remain as it had been placed for the use of chains. This was done by substituting a double for a single sheeve wheel; and by the aid of an extra sheeve wheel, the rope was made to pass twice round, or fill both grooves in the main sheeve. The object of this arrangement was to obtain more hold, to prevent the rope from slipping, which proved to be completely successful. The ropes work much more kindly on all parts of the machinery than chains. This plan of machinery was put in operation in the spring of 1830, and with some improvement has been adopted on the inclined planes of the Mohawk and Hudson Railroad. Experience has thus far proved it to be a convenient and economical plan for ascending planes, and it is equally efficient for descending when there is a large preponderating force to regulate. This road has five ascending inclined planes between Carbondale and the summit of the mountain, each worked by a stationary steam engine.

After ascending the mountain, the road is nearly level 1 1-2 miles, the descent being one in 1500, which was given to favor the motion of the loaded waggons to the head of the first descending plane. The descent of the mountain in the direction of the line of road was very rapid for the first mile and a half, being near 500 feet.—This was divided into two inclined planes, (with a small declivity from the foot of the first to the head of the second,) the first having a descent of 353 feet, and a horizontal line of 4,260 feet; the second has a descent of 127 feet, and a horizontal line of 1,524 feet. The great bulk of the freight contemplated was coal, by which the loaded waggons would descend these planes, and the empty ones ascend. It was an object of great importance to provide some plan of easy management and regulation, to control the great preponderating power of the loaded waggons in descending the planes.

The following extracts from the report of the undersigned, above alluded to, will give an idea of the method adopted:

"The usual, and I believe the only method that has been adopted to effect this object, is the application of friction by means of the brake. This is convenient when the preponderance is small, but when as great as will be required for our purposes, I consider it very imperfect, and liable to the following objections: In the first place, the application of so much friction as will produce the required resistance will rapidly cut and wear away any material that may be used, and consequently require frequent repairs. In the second place, it will require constant attendance from the time carriages commence their descent until they reach the foot of the plane; and any neglect of the attendant, or accident, that may prevent the proper application of the brake, will be likely to produce disastrous consequences.—Reducing the number of carriages will lessen the difficulty, but, as before observed, will produce delay, and increase the expense of the operation."

"In view of the objections to the plan in use, I have invented a pneumatic convoy, which will effectually answer our purpose. To obtain a satisfactory test of the principle, I had an apparatus constructed, by which I made 76 experiments on the resistance of atmospheric air, with sails of different area, and moving at different velocities. The results gave a greater resistance than the experiments made by Rouse, or those by Borda: but their experiments were comparatively on very small surfaces, and Borda says, by increasing the area, he found the resistance to increase in a greater ratio; which was also proved by my experiments. The largest sails I used had each an area of 21 square feet, and I consider the different results accounted for on this principle."

"With a velocity of 40 feet per second, the resistance on a sail containing an area of 40 square feet, will be 6 lb. per foot. Now, to provide for a resistance equal to the preponderating power, will require 2239÷6=373.16 square feet of sail. I propose to divide this into eight sails, to be attached to two vertical shafts; the motion to be communicated by a spur wheel on the shaft of the engine sheeve, driving a pinion on each of the sail shafts. This is all the machinery required for the convoy."

"By this method, when the carriages begin to descend the plane, the machinery being attached to the engine sheeve, will be put in operation, and produce the requisite velocity for the sails to equilibriate their preponderance; and as the adjustment is permanent, no attention will be required but to fasten and unfasten the carriages, and check them on their arrival at the foot of the plane. The machinery will be very simple, and may be constructed with such strength as to leave scarcely any hazard of accident by derangement, and it will hardly be exposed by any from inattention."

The machinery was put up on the plan described in the preceding extracts, and it is difficult to conceive how the descent of heavy trains of waggons could be better controlled.

From the foot of the second descending (or self-acting engine) plane commences a descending road quirally inclined 1 in 120 for near six miles. The loaded waggons, in trains of from 20 to 30, descend this section by their own gravity, being kept in proper control by the friction brakes attached to them, which are managed by from two to four men, according to the number of waggons in the train. There are several small waggons attached to the train, on which the horses ride down with the loaded waggons to draw up the empty ones. This method of transporting the horses has proved very advantageous in economising the expense. Experience has shown that the best declivity for a descending trade, when animal power is used, is that on which the loaded carriages will just descend with proper velocity, by their own gravity. The extra power required to return the empty waggons being more than compensated by the advantage the animal obtains in riding down with the load.

At the termination of the section above mentioned, commences the third descending plane, which is supplied with the same kind of machinery as that in the two planes first descending from the summit of the mountain. From this plane the road descends at 1 in 200 a distance of near four miles to the head of the Delaware and Hudson Canal at Honesdale, when it terminates at an elevation of about 16 feet above its level. This elevation admits of a convenient arrangement for slide docks, by which the coal is discharged from the waggons on an inclined platform, down which it is moved with great facility into boats that lay alongside.

The construction of the road was for the greatest part through a dense forest, and over a country of great irregularity. It was considered advisable to construct the road in as cheap a manner as practicable, and leave to future experience and more enlarged means the construction of a more substantial and permanent work. In accordance with this view, the ridges that fell in the line, and were elevated above the grade of the road, were excavated; but the valleys, instead of being filled by permanent embankments of earth, were crossed by bridgework of different kinds, according to the height of the work.—Where the height did not exceed three or four feet, posts were set in the ground to support the road; where the elevation was higher, framed tressles were put up, standing on blocks or pillars of stone.

The waggons used on this road weigh empty about 22 cwt., and carry 2 1-2 tons of coal.

In the year 1830, about 42,000 tons of coal were carried over the road; in 1831, about 55,000 tons, and in 1832, about 90,000 tons. The economy of transportation is therefore fully settled; and notwithstanding the great elevation being more than an average of 100 feet per mile, by the aid of machinery and stationary steam power, it is effected for 35 cents per ton over the whole length of the road, (16 miles,) being less than 2 1-2 cents per ton per mile, including the use of waggons. This, it must be recollected, is a transportation entirely in one direction, and consequently costs about two fifths more than if the loading could be equal in both directions. It is

about the same cost of transportation as would be incurred for the same distance on a level railroad by animal power, showing the superior economy, in situations where it is available, of mechanical over animal power.

On a road subject in its operations to so many changes from moving to stationary power, it was apprehended there would be many accidents and delays, that would seriously embarrass and increase the expense of transportation. Experience has, however, shown this apprehension to have been groundless. The men engaged in conducting the business of the road soon acquire the skill that is necessary, and the work is conducted with the greatest regularity and certainty. Heavy trains of carriages, loaded with the mineral productions of the valley, ascending with celerity and certainty the successive planes, until they reach the summit of the mountain, present a scene gratifying and interesting to a high degree.

This work, in connection with the Delaware and Hudson Canal, opens an easy communication between the coal in the valley of the Lackawana and the Hudson river. The whole work, in view of the circumstances of the country at the time of construction, was a bold and hardy enterprize, and by many intelligent men was considered as entirely chimerical. Its completion and subsequent success has dissipated the apprehensions of its failure, and placed it among the most valuable and important improvements of the day. Respectfully, your ob't serv't,

JOHN B. JERVIS, Civil Engineer.

Albany, 26th February, 1833.

Report of the Engineer of the Paterson and Hudson River Railroad Company.

Office of the Paterson and Hudson River Railroad Company, January, 1833.

To the President and Directors of the Company:

Gentlemen—In pursuance of the object of a recent Resolution of your Board, I have the honor to submit to you the following statement of the progress which has been made in the construction of the Paterson and Hudson River Railroad, the amount of money which has been appropriated to that purpose, and an estimate of the sum required for the completion of the Railroad.

In my first Annual Report to your Board, on the 1st of April last, the opportunity was embraced to lay before you a general summary of all the operations of the Engineer Department of the Company, from its first organization to that date; and, referring to the report alluded to, it will be seen—that, while at that time the *location* of the Railroad had been definitely established from the Company's Depot in the town of Paterson, to the western base of *Weehawken*, or *Bergen Ridge*, (which stretches along between the Hackensack and Hudson Rivers,) or to a point two miles distant from the then proposed termination of the Railroad at Hoboken Ferry—the manner of passing that ridge by the several modes suggested, (to wit, in the direction of Hoboken, either by means of a Tunnel, or Inclined Planes requiring stationary power, or in a more southwardly direction, so as to interseet the route of the then proposed Railroad from Newark to the Hudson,) remained undetermined; and the actual construction of the road was limited to the graduation and masonry on about half that portion which had been located—(or to the first eleven sections contiguous to Paterson, and extending seven miles and three-quarters to the marshes which lie between Berry's and Bergen Ridges)—and to the formation of an artificial foundation for the road-bed across those marshes.

The expectations which were then entertained have very generally been realized; although the graduation could not progress during the past summer with all the rapidity which was desired and anticipated, in consequence of the then prevailing pestilence, which in a great degree dispersed the force which had been concentrated, and caused for a time the suspension of most of our operations.

The completion, however, of the road-bed, with the laying of a single track of rails from Paterson to Aquackanonk, was duly effected, at a cost very generally within the estimated cost; the graduation of the 10th and 11th sections, which extend from the Passaic River to the Hackensack marshes, and include the passage of Berry's Ridge, is in rapid progress towards completion—as is also the formation of the road-bed across those marshes; the construction of the Viaducts over the Passaic and Hackensack Rivers is successfully advancing; a satisfactory location has at length been established, and the formation of the road-bed been begun on the short remaining portion (1.1 miles) by which *a junction is to be effected with the Railroad now being constructed from Newark towards Jersey City*. In fine, the progress and condition of all parts of the work fully justify the expectation, which continues to be confidently entertained, that the actual use of your road will have been secured during the coming autumn, *throughout its extent*, from Paterson to its intersection with the Newark Railroad—at which point it will probably be concluded to consist best with the interests of your Company, that the Paterson and Hudson River Railroad should unite with that of the New-Jersey Railroad and Transportation Company.

The location of your Road to the western base of Bergen Ridge having, however, been adapted as well to the alternative which has been embraced—to wit, its prolongation in the direction of Jersey City—as to the passage of that ridge in the direction of Hoboken, either by a Tunnel, or by Inclined Planes, the proposed junction with the New-Jersey Transportation Company in no wise precludes the choice, which will be optional at a future day, to avail of the more perfect avenue to be afforded by a Tunnel, in the event of its construction.

Meanwhile, it may not be otherwise regarded than as highly advantageous to the interests of this Company, that, at but the small expenditure of $17,000, a junction with the Newark Railroad is to be effected, and the passage of Bergen Ridge accomplished, agreeably to the present plan of the Newark Railroad Company, on an inclination presenting but comparatively slight obstruction; and on which, as well as throughout the Paterson and Hudson River Railroad, Locomotive Engines may be employed with such advantage, that through their agency the entire distance, of say sixteen and a quarter miles, between Paterson and the Hudson River, may economically, as well as safely, be traversed, certainly, within the limited period of but a single hour.

Plan of the Road:—Referring the Board, generally, for detailed descriptions of the mode of construction originally proposed, which will be found embodied under this head in the first Annual Report before alluded to, I have the satisfaction to state that, in accordance with the original plans, which with few exceptions have been rigidly adhered to, all parts of the work have, so far, been successfully executed.

The Road bed, which will be uniformly graduated to a sufficient width for a double railway, has, as we have before stated, already been completed, with the addition of a single track of Rails, and occasional passing places, from Paterson to the Passaic River; and in the condition of this portion of the Road, (the foundations of Railway having been subjected to the unusual severity of the past winter,) we have ample assurance, not only of the efficacy of the system which has been pursued, but of the faithful manner in which the contracts have been executed.

The Culverts and Bridges from Paterson to the Marshes, as well as the abutments of the Passaic Viaduct, have all been built of substantial masonry; and the construction of the extensive Viaducts over the Passaic and Hackensack Rivers, and Berry's Creek, (which alone include an aggregate length of 2152 feet,) is progressing in all respects agreeably to the plans described in the Annual Report, with the exception of the substitution which it proved expedient to make of White Oak Piles, in lieu of the stone piers, on which it had been intended to sustain the Passaic Viaduct. This substitution resulted from the difficulty and expense which would have attended the attempt to secure the foundations of the piers in the *quicksands*, which it was discovered composed the bed of the river; but it, perhaps, is hardly necessary to dwell upon this fact, since in the alternative resorted to, the objection to the original plan was to be so readily obviated, without in any wise impairing the efficacy of the structure.

The framing of these Bridges, the Board is apprised, is agreeably to the plan devised by Colonel Long, of the U. S. Topographical Engineers, and denominated in his specification of the same, the *Jackson Bridge*; and, as was stated by me, on its adoption by your Board, I continue to regard it, on a comparison with other descriptions of wooden bridges, to be scarce equalled in its combined qualities of strength, simplicity and economy.

The completion of these bridges, before the close of the past year, was not to be effected, in consequence of the interruption which ensued in the delivery of materials, during the prevalence of the cholera; but their construction is rapidly advancing, and they will certainly have been entirely completed by the time the road-bed between the Passaic and Hackensack Rivers shall have been graduated, or by the coming autumn, by which time, as has been stated, all parts of the P. and H. R. Railroad will have been completed.*

The peculiar formation of *Berry's Ridge*, the passage to which, on the desired inclination, involves a long and deep excavation, has presented difficulties which could not well have been foreseen. *Quicksands* of the most unfavorable character were to be encountered, the removal of which has unavoidably enhanced the cost of graduating the 10th and 11th sections; but the present condition of this part of the work shows that, although serious obstacles tended to impede its progress, they have in a great degree already been surmounted, and neither the time nor cost of completing these sections remain longer doubtful.

The mode of construction, as explained to the Board on former occasions, for the support of the Road-bed across the Hackensack marshes, I have the satisfaction to state, there is every reason to suppose will prove to be entirely effectual. A permanent and stable foundation for the embankment will have been secured by means of the *Grillages*, consisting of cedar trees, or hemlock plank, and on the extensive portion throughout which this system was to be resorted to, an artificial support of the Road-bed has thus been obtained. The whole of the embankment between the Hackensack river and Bergen Ridge has been completed; and the remainder, which lies between Berry's Ridge and the Hackensack River, is so rapidly progressing, that the completion of every part of the road-bed will certainly have been effected at an early period of the ensuing summer.

Having thus summarily stated the progress which has been made in the construction of the Railroad, I now submit the following statement, which has been prepared by Lieutenant Whistler, who has co-operated with me in all the duties of your Engineer, and on whom, assisted by Lieutenant Canfield, has generally devolved during the past year the more immediate direction and superintendence of all the operations—exhibiting the amount of money which has been expended, and the objects to which it has been appropriated, with an estimate of the sum required to complete the Paterson and Hudson River Railroad, to its junction with the Newark Railroad.

* Of the most important of these structures, to wit: the Hackensack Bridge, the length of which is 1700 feet, it may be further stated, that at this time it has been entirely completed (with the exception of the flooring) for 600 feet in length; that an additional 400 feet of the truss-framing is now in readiness, or 1000 feet of the Bridge could be completed in a fortnight, and that all the Piles (the lengths of which vary from 35 to 75 feet) have been driven.

STATEMENT of Money expended on account of the Paterson and Hudson River Railroad, with an estimate of the amount required to complete the same, to its junction with the Newark Railroad. *January 1st*, 1833.

ON WHAT ACCOUNT.		*Expended.*	*Required.*	*Total.*
Sections 1 to 9 inclusive, extending from the depot in Paterson to the Passaic Viaduct, being 5.37 miles.	Excavation and embankment,	$29,933 49	500 00	30,433 49
	Masonry,	6,331 19	.....	6,331 19
	Single track of railway, with turn-outs, and portions of the 2d track, as passing places, including all materials and workmanship,	30,635 18	.....	30,635 18
Sections 10 and 11.	Excavation and embankment,	27,267 14	18,951 49	46,218 63
	Masonry,	2,778 83	.....	2,778 83
Hackensack marshes; or from section No. 11, to Bergen ridge.	Timber for grillages, and cost of laying them as foundations for the embankment,	24,542 82	.....	24,542 82
	Embankment,	21,035 33	20,378 00	41,413 33
Viaducts.	Passaic,	4,216 15	8,563 85	12,780 00
	Hackensack,	16,613 80	13,246 54	29,860 34
	Berry's Creek,	1,728 84	3,450 84	5,179 68
	Minor Creeks,	.....	2,500 00	2,500 00
From Passaic river to Bergen ridge.	Single track of railway, with turn-outs and passing places, including workmanship and materials,	11,724 39	26,925 95	38,650 34
Junction branch, on from the marshes to the Newark Railroad.	Excavation, embankment, masonry, and single track of railway, all expenses being included,	.....	17,000 00	17,000 00
Town of Paterson.	Depot house, car house, and stables,	8,117 38	.....	8,117 38
	Land for depot, lot 500 by 300 feet,	5,250 00	.....	5,250 00
Cars and moving power.	Passenger and burthen, with lumber and iron for construction of do.,	5,297 83	850 00	6,147 83
	Two locomotive steam engines, to be used in lieu of horses, and deducting value of horses now on hand, say,	.....	8,000 00	8,000 00
	Horses,	1,602 50	.....	1,602 50
Land for roadway,		8,395 23	2,000 00	10,395 23
Purchase of mining tools and experiments on Bergen ridge and the Hackensack marshes,		2,199 65	.....	2,199 65
Transportation of materials,		2,689 75	700 00	3,389 75
Salaries of Engineers, with purchase of instruments, cost of surveys, &c.,		12,404 02	8,000 00	20,404 02
Incidental expenses of direction, salaries of officers, office rent and furniture, &c. &c.,		5,488 64	2,000 00	7,488 64
		228,252 16	133,066 67	361,318 83

It would appear, then, that there may be required for the purposes specified, the sum of $361,318 83, which exceeds the amount of the capital of the company already subscribed and paid by the stockholders, in the sum of $111,318 83, a portion of which should be provided to be paid during the month of March next, when the funds which have been supplied will have been exhausted; and to meet existing contracts and contemplated expenditures, arrangements should be made for the payment of the remainder, by instalments during the coming spring and summer.

Negotiations now pending between this company and the Newark Railroad Company will determine the cost to either of the extension of the railroad, from the junction of the two roads on Bergen ridge to Jersey City; and as the board will have been apprised of the result thro' another medium, an estimate can then be formed of the additional sum which must be appropriated to this object.

The difference between the total cost of construction, as deduced from the foregoing statement, and that anticipated in my original estimate, as exhibited in the last annual report to your board, will be seen to amount (as per the accompanying statement, marked A, wherein the items in each estimate are compared, and the cause difference, where any exists, explained —) to the sum of $41,037 86; but I would remark, that the difficulties which have been alluded to, from the unexpected occurrence of quicksands, in the passage of Berry's ridge, alone enhanced the cause of graduation, on the 10th and 11th sections, $16,561 46; and that, to maintain an elevation of the road-bed across the marshes, secured from inundation, it has been found necessary to increase the quantity of embankment, to an extent which, in itself, involved an expenditure beyond that which it was at first hoped might be adequate, of $18,824 83.

While, however, as we think will be conceded, if, from the novel and various character of the work, an estimate of its cost must, in the absence of experiment, be quite conjectural, the present condition of the work, with a careful consideration of all the circumstances attendant on its past and future progress, enables us now to present an estimate, which we have no hesitation in assuring you is fully adequate to the completion of this railroad; and its successful execution within this amount will exhibit its eventual cost, in no wise unfavorably, whether it shall be contrasted with that of several works, or viewed with reference to the amount of trade which, there would seem to be sufficient reason to believe, will yield an adequate return on the capital invested. Which is respectfully submitted by, gentlemen, your ob't serv't,

WM. GIBBS M'NEILL,
Capt. T. Eng. & Eng. of the Comp'y.

Report of the Board of Canal Commissioners to the Honorable General Assembly of the State of Ohio.

The board of canal commissioners, in presenting their present report, have the pleasure of stating, that the important works committed to their charge by the act of February 4, 1825, "to provide for the internal improvement of the State of Ohio by navigable canals," are now finished, with the exception of the lower lock at Portsmouth, the southern termination of the Ohio Canal, and the locks by which the Miami Canal is to be connected with the Ohio river at Cincinnati.

The cut stone for the lock at Portsmouth are prepared and delivered, and part of the stone for the locks at Cincinnati are also prepared. It is expected that the whole amount of materials for the locks at the latter place will be delivered as soon as the proper season for laying stone shall have arrived, or soon after, so that the prosecution of the work will not be delayed on that account.

As the foundation of the lower locks which are to connect the canals with the Ohio, are required to be laid five feet below the surface of the river at its lowest stage, the work on these foundations can only be prosecuted advantageously at times of very low water. In some seasons, this state of things does not occur. We cannot therefore predict with certainty the time when these locks will be finished. Should the Ohio subside to its lowest stage, or near to that point, and so remain for a few weeks, both these locks can be founded and completed during the ensuing season. If not, a further delay must be the necessary result, unless great expense is incurred in contending with the serious difficulties attending the excavation of pits in porous earth far below the level of the water in the adjacent river.

If it be recollected that these lower locks will only be brought into use when the Ohio is below its ordinary business stage, the inconvenience resulting from a delay in their completion will be considered of less importance.

The unexampled flood of February last occasioned some damage to the Ohio canal, and the dams and feeders on which it depends for its supply of water. As the repairs were so ultimately blended with additional works considered necessary to guard against the effects of similar occurrences in future, the precise amount of damage cannot be stated. Such a statement would gratify the curiosity of the inquirer, but it is not perceived that it would subserve any valuable purpose. It is however believed that the total amount of damage sustained from the flood on the whole length of the Ohio canal does not vary materially from seventeen thousand dollars.

The repairing of these injuries did not materially retard the opening of navigation in the spring; and since its commencement, it has been subject to few and trifling interruptions from breaches.

The annual occurrence of a sudden and considerable flood in the Scioto in August last occasioned a breach in the feeder dam across that river below Chilicothe; and an unavoidable delay in filling the new division of the canal extending from thence to the Ohio, then ready to receive the water, was the consequence. The most efficient means were however adopted to repair the injury, and the canal was filled so that boats passed to the Ohio on the 15th day of October last.

The gross amount of tolls collected on the Ohio canal during the year ending November 30, 1832, is	$ 79,982 48
On Miami canal during same period,	36,841 47
Total,	$116,823 95
During the year ending December 31, 1832, the gross amount collected for tolls and water rents on the Ohio canal, is - - -	82,867 40
On the Miami canal, - -	$40,926 81
Making the gross sum collected from the canals during the year, -	$123,794 21

Navigation on both canals was suddenly closed by the unusual severity of the frost in the latter part of November, 1831, which materially diminished the transportation and tolls for that month, and entirely prevented navigation during the succeeding December. This circumstance will account for the great deficiency in the amount collected within the year ending November 30, compared with the revenue of the whole year as above stated.

The greater amount of the staple productions of our soil in one year than in another—the variation in the price of these productions, at different times, in the markets to which they are sent for sale, as well as the greater or less activity in commerce, are circumstances which separately or collectively operate to affect the amount of revenue collected on the canals in any given year. We cannot therefore anticipate an equal increase of transportation and tolls, though there may be a constant advance each successive year compared with the preceding.

The extensive prevalence of any alarming epidemic will also operate to produce a serious depression of business, or its prevalence in one commercial city to a greater extent than in others, may drive commerce from the one to the others, and thus operate to diminish the transportation on one thoroughfare, while it is increased on others.

Thus a general stagnation in commercial business was produced to a greater or less extent in almost all parts of our country during a large portion of the past season, by the prevalence of the cholera; while its more early appearance and longer continuance in New-York than in Philadelphia or Baltimore induced many western merchants to resort to the latter cities to make purchases and sales, who, under other circumstances, would have resorted to New-York.

As most of the merchandize purchased in New-York for the interior of our State, and also a large proportion of these destined to various parts of the Ohio valley below Portsmouth, are transported by way of the Erie canal, the Lake,

and the Ohio canal, and most of the surplus produce of the same country which seeks a market in New-York or Canada, passes through the Ohio canal to the Lake—while merchandize purchased in Philadelphia and Baltimore for the same region pursues other routes, it is evident that the state of things to which we have alluded has operated to diminish materially the amount of transportation and revenue on the Ohio canal.

The prevalence of the same disease in the city of Cincinnati nearly suspended business on the Miami canal during the month of October, which, in ordinary seasons, is one of the best months for transportation in the year.

It is impossible to estimate with accuracy the amount of reduction attributable to this cause. We shall however be within bounds if we say that the prevalence of the cholera has diminished the revenue of our canals for the past year twenty thousand dollars. Notwithstanding these occasional fluctuations, the constant and rapid increase of transportation to and from places to which canal navigation has for several years been extended, gives strong assurances that both the business and income of the canals will continue to increase as the resources of our fertile, and, as yet, comparatively new country are developed. The confidence which previous to the commencement of the work we felt in the benefits which would result from the canals to the commercial and agricultural interests of the State, and their productiveness as sources of revenue, so far from being diminished, is confirmed by the experience we have already had.

The total amount of payments on contracts, including sums paid to superintendents of repairs during the year ending November 30th, 1832, is on the Ohio canal, - -		$310,404 68
On the Miami canal, - -		52,085 95
Total disbursements for work on the canals, - - - - - -		$362,490 53
For wages, subsistence, and incidental expenses of engineers, assistants, and others, engaged in superintending work on the canals, including wages of acting commissioner,	$18,178 58	
For expenses of the board of canal commissioners, other than acting commissioner, including salary of clerk,	667 68	
For damages awarded to individuals on account of injuries sustained from the canals,	4,988 80	
For purchase of real estate for the accommodation of water power on the Miami canal,	300 00	
		23,135 06
Making the total disbursements on account of the canals for the year ending November 30, 1832,		$385,625 59
To which add total disbursements on account of the canals, (including surveys ordered by the General Assembly connected with the canals,) to November 30, 1831, as stated in the last annual report of the board,		4,778,099 65
Making the total disbursements of the board to December 1, 1832,		$5,163,725 24

The aggregate length of the navigable canals, constructed and owned by the State within her limits, is *four hundred miles;* comprising 184 lift locks, overcoming a total amount of ascent and descent of 1,547 feet, 9 guard locks, 22 aqueducts, 242 culverts, 182 of which are of stone masonry, and 60 of wood, 9 dams for crossing streams, and 12 feeder dams.

The main trunks of the Ohio and Miami canals have each a minimum breadth of 40 feet at the water line, and 26 feet at bottom, with four feet depth of water. A large proportion of both, particularly of the Ohio canal, is of much larger dimensions, having a breadth at the water line varying from 60 to 150 feet, and a depth of from 5 to 12 feet. In many places it even exceeds, for considerable distances, these dimensions, both in breadth and depth. It has been a standing rule in the construction of the canals, to increase their dimensions beyond the minimum, in all places where it could be done without materially enhancing the cost.

Report of the Commissioners of the Canal Fund, February 7th, 1833, to the Honorable the General Assembly of Ohio.

The commissioners of the canal fund, in accordance with the requisitions of the law defining their duties, beg leave to submit the following statement relative to the fund placed under their charge, together with a relation of some facts incidental thereto.

When the commissioners made their last annual communication to the General Assembly, from the state of forwardness to which the construction of our canals had then advanced, and the considerable unexpended balance then on hand, they had strong reasons to believe that said balance on hand, together with the resources of the State by taxation, &c., would be more than sufficient to meet the expenditures on the canals and pay the interest on loans for the past year; but, in this hope, they found themselves mistaken; and to avail themselves of the necessary funds, they were obliged to go to the stock market in New-York in the month of October last, at which place they disposed of to Messrs. Prime, Ward, King & Co. an additional hundred thousand dollars of six per cent. stock, at the rate of 124 dollars money for each one hundred dollars of stock, producing a premium on the amount of twenty-four thousand dollars, making the whole amount to be received one hundred and twenty-four thousand dollars, for which they have authorized their agent in New-York to issue stock certificates on or before the 31st day of December last, redeemable at the pleasure of the State after 1850. This sum, connected with the previous loans made, swell the foreign debt due by the State to four million five hundred thousand dollars; four millions one hundred thousand dollars of which is bearing an interest of six per cent., and four hundred thousand dollars an interest of five per cent., making the whole amount of foreign interest to be provided for and paid in New-York, two hundred and sixty-six thousand dollars per annum, in semi-annual payments of one hundred and thirty-three thousand dollars each.

Your commissioners would fondly cherish a hope that no further loans will be necessary to complete the canal improvements of the State, at the same time they feel justified in saying that the credit of our State in the money market seems not to have in the least diminished, but on the contrary to have advanced in an equal ratio with her vast improvements.

By the necessary withdrawal of the whole amount of our deposites kept in New-York, an early arrangement between this board and the Manhattan Company, for the transacting of all business there pertaining to the fund, was so materially interfered with as to require immediate provisions on the subject. Your commissioners, therefore, during their last visit to New-York, entered into a contract with the Manhattan Company, by which said company agrees in future to keep the transfer books, pay the interest semi-annually, as it falls due, and transact all other business incident to the fund there, and to pay an interest to this board at the rate of three per cent. per annum on all moneys placed in their hands when the same shall exceed five thousand dollars; for which your commissioners have agreed to pay said company two thousand dollars per annum, in semi-annual instalments of one thousand dollars each, which arrangement takes effect from and after the first day July last.

In order to explain the item of premiums contained in this exhibit, your commissioners would state, that at the commencement of the past year, they found it necessary to provide for the payment of the following July interest, and that there was a considerable amount of paper in the treasury which had been issued by the local banks of the State, and that it was necessary to convert it into funds for New-York; and after ascertaining the amount of paper held by the treasurer on each bank, they issued a circular containing proposals to the several banks, granting each the opportunity of redeeming the amount held on them, by drafts at sight on New-York, allowing for the same a premium of one half of one per cent., to which arrangement a number of the banks acceded.

Beyond the amount thus obtained, the sum of thirty-eight thousand five hundred dollars were required at New-York, which sum was furnished to your board there by the Lancaster (Ohio) Bank, without charge or premium.

It is with feelings of deep regret that we have cause to state to the General Assembly, that a vacancy has occurred in this board during the past summer, occasioned by the death of our late worthy and efficient colleague, *Ebenezer Buckingham*, Esq., whose unimpeachable integrity and honorable principles, combined with a business character, rendered him, in every respect, worthy of public confidence, and the loss of whom to this board, and to the State, must be very sensibly felt.

Your commissioners deem it proper here also to inform the Legislature, that the term of service of one of their number will expire on the 4th of February next.

The following statement exhibits an unexpended balance in the hands of the Manhattan Company, of one hundred and thirty-one thousand three hundred and four dollars and forty-eight cents, a fraction rising one hundred and thirty thousand dollars of which has been required to pay the interest due to stockholders in New-York on the first of the present month; the payment of which as yet we have no evidence, and it cannot consistently appear in this exhibit.

Statement of the Canal Fund, Dec. 25, 1833.

Balance on hand as per report, December 13, 1831, - - -		$242,913 12
Received from the Auditor of State,		434,143 50
Received loan of 1832, and premium,		124,000 00
Received interest on deposites in Manhattan Company, 1831, -		5,131 24
Total amount of receipts,		$806,187 86
Disbursements.		
Interest paid to stockholders in New-York, January and July, 1832,		$260,000 00
Expenses, paid Simon Perkins his account, -	$394 16	
" S. F. Maccracken, -	494 90	
" E. Buckingham, -	462 89	
" S. Sturges, clerk hire, 1831 and 1832, -	200 00	
" Do. sundry expenses,	112 87	
" Manhattan Co. do. -	27 00	
		1,691 82
Premium paid on drafts for $31,000, at half per cent., -		155 00
Payments made through the Lancaster (Ohio) Bank, for expenditures on canals, viz.—		
Contracts, - -	$374,716 32	
Contingencies, -	28,094 22	
Awards, - -	3,913 80	
Expenses of canal board,	605 18	
		407,329 52
Balance remaining on hand,		137,011 52
		$806,187 86
Deposited as follows:		
Manhattan Company, New-York,		$131,304 48
Lancaster (Ohio) Bank, - -		3,607 63
Western Reserve Bank, - -		1,756 17
S. F. Maccracken, - - -		205 10
Simon Perkins, - - -		138 14
		$137,011 52

SIMON PERKINS,
SAM. F. MACCRACKEN.

Columbus, Jan. 7, 1833.

[*From the Mechanics' Magazine and Register of Inventions and Improvements.*]

In offering to the notice of the public the first number of the "Mechanics' Magazine, and Register of Inventions and Improvements," we feel that we are rendering a service to that important and intelligent part of the community, the Mechanics of the United States, by introducing to them a journal so cheap as to be within the reach of all,—and so useful, that we trust few will be satisfied to be without it.

We look with confidence to the artisan for that patronage which it shall be our constant aim to merit. Our Magazine will consist of a digested selection of the best articles from numerous scientific and literary works published in Europe, accompanied by graphic illustrations on wood, many of which are almost unknown in this country. Its pages will always be open for the communications of the intelligent of all classes, but to the practical artisan we trust we shall be indebted for many useful accounts of their experiments, inventions, and discoveries; and we most earnestly solicit their friendly aid and correspondence. It shall be our constant endeavor to be useful, but where we can blend information with amusement, we shall not fail to embrace the opportunity. We are convinced that science can be conveyed in an interesting and amusing form, to a much greater extent than has yet been attempted in this country; and our readers, we are sure, will concur in that opinion after they have perused with attention the following eloquent remarks from the pen of Henry Brougham, *Lord High Chancellor of England*, on the "Pleasures and Advantages of Science." These remarks are so congenial with our own feelings, and so well describe the principles upon which it is our wish and intention to be guided in conducting this journal, that we insert them with much pleasure —convinced that they will form a far better introductory notice to our readers, than any arguments that we could possibly advance.

On the Pleasures and Advantages of Science.—Man is composed of two parts, body and mind, connected indeed together, but wholly different from one another. The nature of the union—the part of our outward and visible frame in which it is peculiarly formed—or whether the soul be indeed connected or not with any particular portion of the body, so as to reside there—are points as yet wholly hid from our knowledge, and which are likely to remain forever concealed. But this we know, as certainly as we can know any truth, that there is such a thing as the *Mind;* and that we have at the least as good proof of its existence, independent of the Body, as we have of the existence of the Body itself. Each has its uses, and each has its peculiar gratifications. The bounty of Providence has given us outward senses to be employed, and has furnished the means of gratifying them in various kind, and in ample measure. As long as we only taste those pleasures according to the rules of prudence and of our duty, that is, in moderation for our own sakes, and in harmlessness towards our neighbors, we fulfil rather than thwart the purpose of our being. But the same bountiful Providence has endowed us with the higher nature also—with understandings, as well as with senses—with faculties that are of a more exalted order, and admit of more refined enjoyments, than any to which the bodily frame can minister; and by pursuing such gratifications, rather than those of mere sense, we fulfil the most exalted ends of our creation, and obtain both a present and a future reward. These things are often said, but they are not therefore the less true, or the less worthy of deep attention. Let us mark their practical application to the occupations and enjoyments of all branches of society, beginning with those who form the great bulk of every community, the working classes, by what names soever their vocations may be called—professions, arts, trades, handicrafts, or common labor.

1. The first object of every man who has to depend upon his own exertions must needs be to provide for his daily wants. This is a high and important office; it deserves his utmost attention; it includes some of his most sacred duties, both to himself, his kindred, and his country; and although, in performing this task, he is only influenced by a regard to his own interest, or by his necessities, yet it is an employment which renders him truly the best benefactor of the community he belongs to. All other pursuits must give way to this; the hours which he devotes to learning must be after he has done his work; his independence, without which he is not fit to be called a man, requires first of all that he should have insured for himself, and those dependent on him, a comfortable subsistence, before he can have a right to taste any indulgence, either of his senses or of his mind; and the more he learns—the greater progress he makes in the sciences—the more will he value that independence, and the more will he prize the industry, the habits of regular labor, whereby he is enabled to secure so prime a blessing.

In one view, it is true, the progress which he makes in science may help his ordinary exertions, the main business of every man's life. There is hardly any trade or occupation in which useful lessons may not be learnt by studying one science or another. The necessity of science to the more liberal professions is self-evident; little less manifest is the use to their members of extending their knowledge beyond the branches of study with which their several pursuits are peculiarly conversant. But the other departments of industry derive hardly less benefit from the same source. To how many kinds of workmen must a knowledge of Mechanical Philosophy be useful! To how many others does Chemistry prove almost necessary! Every one must with a glance perceive that to engineers, watch-makers, instrument-makers, bleachers, and dyers, those sciences are most useful, if not necessary. But carpenters and masons are surely likely to do their work better for knowing how to measure, which Practical Mathematics teaches them, and how to estimate the strength of timber, of walls, and of arches, which they learn from Practical Mechanics; and they who work in various metals are certain to be the more skilful in their trades for knowing the nature of those substances, and their relations to both heat and other metals, and to the airs and liquids they come in contact with. Nay, the farm-servant, or day-laborer, whether in his master's employ, or tending the concerns of his own cottage, must derive great practical benefit—must be both a better servant, and a more thrifty, and therefore comfortable, cottager, for knowing something of the nature of soils and manures, which Chemistry teaches, and something of the habits of animals, and the qualities and growth of plants, which he learns from Natural History and Chemistry together. In truth, though a man be neither mechanic nor peasant, but only one having a pot to boil, he is sure to learn from science lessons which will enable him to cook his morsel better, save his fuel, and both vary his dish and improve it. The art of good and cheap cookery is intimately connected with the principles of chemical philosophy, and has received much, and will yet receive more, improvement from their application. Nor is it enough to say, that philosophers may discover all that is wanted, and may invent practical methods, which it is sufficient for the working man to learn by rote, without knowing the principles. He never will work so well if he is ignorant of the principles,—and for a plain reason: if he only learn his lesson by rote, the least change of circumstances puts him out. Be the method ever so general, cases will always arise in which it must be varied in order to apply; and if the workman only knows the rule without knowing the reason, he must be at fault the moment he is required to make any modification of it. This, then, is the *first* use of learning the principles of science: it makes men more skilful, expert, and useful, in the particular kinds of work by which they are to earn their bread, and by which they are to make it go far, and taste well, when earned.

2. But another use of such knowledge to handicraftsmen is equally obvious: it gives every man a chance, according to his natural talents, of becoming an improver of the art he works at, and even a discoverer in the sciences connected with it. He is daily handling the tools and materials with which new experiments are to be made; and daily witnessing the operations of Nature, whether in the motions and pressures of bodies, or in their chemical actions on each other. All opportunities of making experiments must be unimproved, all appearances must pass unobserved, if he has no knowledge of the principles; but with this knowledge he is more likely than another person to strike out something new which may be useful in art, or curious or interesting in science. Very few great discoveries have been made by chance and by ignorant persons, much fewer than is generally supposed. It is commonly told of the steam-engine, that an idle boy being employed to stop and open a valve, saw that he could save himself the trouble of attending and watching it, by fixing a plug upon a part of the machine which came to the place at the proper times, in consequence of the general movement. This is possible, no doubt, though nothing very certain is known respecting the origin of the story; but improvements of any value are very seldom indeed so easily found out, and hardly another instance can be named of important discoveries so purely accidental. They are generally made by persons of competent knowledge, and who are in search of them. The improvements of the steam-engine by Watt resulted from the most learned investigation of mathematical, mechanical, and chemical truths. Arkwright devoted many years, five at the least, to his invention of spinning-jennies, and he was a man perfectly conversant in every thing that relates to the construction of machinery: he had minutely examined it, and knew the effects of each part, though he had not received any thing like a scientific education. If he had, we should in all probability have been indebted to him for scientific discoveries, as well as practical improvements. The most beautiful and useful invention of late times, the safety-lamp, was the reward of a series of philosophical experiments made by one thoroughly skilled in every branch of chemical science. The new process of refining sugar, by which more money has been made in a shorter time, and with less risk and trouble, than was ever perhaps gained from an invention, was discovered by a most accomplished chemist,* and was the fruit of a long course of experiments, in the progress of which, known philosophical principles were constantly applied, and one or two new principles ascertained. But in so far as chance has any thing to do with discovery, surely it is worth the while of those who are constantly working in particular employments to obtain the knowledge required, because their chances are greater than other people's of so applying that knowledge as to hit upon new and useful ideas; they are always in the way of perceiving what is wanting, or what is amiss in the old methods; and they have a better chance of making the improvements. In a word, to use a common expression, they are in the way of good luck; and if they possess the requisite information, they can take advantage of it when it comes to them. This, then, is the *second* great use of learning the sciences: it enables men to make improvements in the arts, and discoveries in philosophy, which may directly benefit themselves and mankind.

3. Now, these are the *practical* advantages of learning; but the *third* benefit is, when rightly considered, just as practical as the other two—the pleasure derived from mere knowledge, without any view to our own bodily enjoyments; and this applies to all classes, the idle as well as the industrious, if, indeed, it be not peculiarly

* Edward Howard, brother of the Duke of Norfolk.

applicable to those who enjoy the inestimable blessing of having time at their command. Every man is by nature endowed with the power of gaining knowledge; and the taste for it, the capacity to be pleased with it, forms equally a part of the natural constitution of his mind. It is his own fault, or the fault of his education, if he derives no gratification from it. There is a satisfaction in knowing what others know—in not being more ignorant than those we live with: there is a satisfaction in knowing what others do not know—in being more informed than they are. But this is quite independent of the pure pleasure of knowledge—of gratifying a curiosity implanted in us by Providence, to lead us towards the better understanding of the universe in which our lot is cast, and the nature wherewithal we are clothed. That every man is capable of being delighted with extending his information upon matters of science, will be evident from a few plain considerations.

Reflect how many parts of the reading, even of persons ignorant of all sciences, refer to matters wholly unconnected with any interest or advantage to be derived from the knowledge acquired. Every one is amused with reading a story; a romance may divert some, and a fairy tale may entertain others; but no benefit beyond the amusement is derived from this source; the imagination is gratified; and we willingly spend a good deal of time and a little money in this gratification, rather than in resting after fatigue, or in any other bodily indulgence. So we read a newspaper, without any view to the advantage we are to gain from learning the news, but because it interests and amuses us to know what is passing. One object, no doubt, is to become acquainted with matters relating to the welfare of the country; but we also read the occurrences which do little or not at all regard the public interests, and we take a pleasure in reading them. Accidents, adventures, anecdotes, crimes, and a variety of other things, amuse us, independent of the information respecting public affairs, in which we feel interested as citizens of the state, or as members of a particular body. It is of little importance to inquire how and why these things excite our attention, and wherefore the reading about them is a pleasure: the fact is certain; and it proves clearly that there is a positive enjoyment in knowing what we did not know before; and this pleasure is greatly increased when the information is such as excites our surprise, wonder, or admiration. Most persons who take delight in reading tales of ghosts, which they know to be false, and feel all the while to be silly in the extreme, are merely gratified, or rather occupied, with the strong emotions of horror excited by the momentary belief, for it can only last an instant. Such reading is a degrading waste of precious time, and has even a bad effect upon the feelings and the judgment.* But true stories of horrid crimes, as murders, and pitiable misfortunes, as shipwrecks, are not much more instructive. It may be better to read these than to sit yawning and idle—much better than to sit drinking or gaming, which, when carried to the least excess, are crimes in themselves, and the fruitful parents of many more. But this is nearly as much as can be said for such vain and unprofitable reading. If it be a pleasure to gratify curiosity, to know what we were ignorant of, to have our feelings of wonder called forth, how pure a delight of this very kind does Natural Science hold out to its students! Recollect some of the extraordinary discoveries of Mechanical Philosophy. How wonderful are the laws that regulate the motions of fluids! Is there any thing in all the idle books of tales and horrors more truly astonishing than the fact, that a few pounds of water may, by mere pressure, without any machinery—by merely being placed in a particular way—produce an irresistible force? What can be more strange, than that an ounce weight should balance hundreds of pounds, by the intervention of a few bars of thin iron? Observe the extraordinary truths which Optical Science discloses. Can any thing surprise us more, than to find that the color of white is a mixture of all others—that red, and blue, and green, and all the rest, merely by being blended in certain proportions, form what we had fancied rather to be no color at all, than all colors together? Chemistry is not behind in its wonders. That the diamond should be made of the same material with coal; that water should be chiefly composed of an inflammable substance; that acids should be, for the most part, formed of different kinds of air, and that one of those acids, whose strength can dissolve almost any of the metals, should consist of the self-same ingredients with the common air we breathe; that salts should be of a metalic nature, and composed, in great part, of metals, fluid like quicksilver, but lighter than water, and which, without any heating, take fire upon being exposed to the air, and by burning from the substance so abounding in saltpetre and in the ashes of burnt wood:—these, surely, are things to excite the wonder of any reflecting mind—nay, of any one but little accustomed to reflect. And yet these are trifling when compared to the prodigies which Astronomy opens to our view: the enormous masses of the heavenly bodies; their immense distances; their countless numbers; and their motions, whose swiftness mocks the uttermost efforts of the imagination.

Akin to this pleasure of contemplating new extraordinary truths, is the gratification of a more learned curiosity, by tracing resemblances and relations between things which, to common apprehension, seem widely different. Mathematical science, to thinking minds, affords this pleasure in a high degree. It is agreeable to know that the three angles of every triangle, whatever be its size, howsoever its sides may be inclined to each other, are always, of necessity, when taken together, the same in amount: that any regular kind of figure whatever, upon the one side of a right-angled triangle, is equal to the two figures of the same kind upon the two other sides, whatever be the size of the triangle; that the properties of an oval curve are extremely similar to those of a curve, which appears the least like it of any, consisting of two branches of infinite extent, with their backs turned to each other. To trace such unexpected resemblance is, indeed, the object of all philosophy; and experimental science, in particular, is occupied with such investigations, giving us general views, and enabling us to explain the appearances of nature—that is, to show how one appearance is connected with another. But we are now considering only the gratification derived from learning these things.

It is surely a satisfaction, for instance, to know that the same thing, or motion, or whatever it is, which causes the sensation of heat, causes also fluidity, and expands bodies in all directions; that electricity, the light which is seen on the back of a cat when slightly rubbed on a frosty evening, is the very same matter with the lightning of the clouds; that plants breathe like ourselves, but differently by day and by night; that the air which burns in our lamps enables a balloon to mount, and causes the globules of the dust of plants to rise, float through the air, and continue their race—in a word, is the immediate cause of vegetation. Nothing can at first view appear less like, or less likely to be caused by the same thing, than the processes of burning and of breathing—the rust of metals and burning—an acid and rust—the influence of a plant on the air it grows in by night, and of an animal on the same air at any time, nay, and of a body burning in that air; and yet all these are the same operation. It is an undeniable fact, that the very same thing which makes the fire burn, makes metals rust, forms acids, and enables plants and animals to breathe; that these operations, so unlike to common eyes, when examined by the light of science, are the same—the rusting of metals—the formation of acids—the burning of inflammable bodies—the breathing of animals—and the growth of plants by night. To know this is a positive gratification. Is it not pleasing to find the same substance in various situations extremely unlike each other; to meet with fixed air as the produce of burning, of breathing, and of vegetation; to find that it is the choke-damp of mines, the bad air in the grotto at Naples, the cause of death in neglecting brewers' vats, and of the brisk and acid flavor of Seltzer and other mineral springs? Nothing can be less like than the working of a vast steam-engine, of the old construction, and the crawling of a fly upon the window. Yet we find these two operations are performed by the same means, the weight of the atmosphere, and that a sea-horse climbs the ice-hills by no other power. Can any thing be more strange to contemplate! Is there in all the fairy tales that ever were fancied any thing more calculated to arrest the attention and to occupy and to gratify the mind, than this most unexpected resemblance between things so unlike to the eyes of ordinary beholders! What more pleasing occupation than to see uncovered and bared before our eyes the very instrument and the process by which Nature works! Then we raise our views to the structure of the heavens; and are again gratified with tracing accurate but most unexpected resemblances. Is it not in the highest degree interesting to find, that the power which keeps this earth in its shape, and in its path, wheeling upon its axis round the sun, extends over all the other worlds that compose the universe, and gives to each its proper place and motion: that this same power keeps the moon in her path round our earth, and our earth in its path round the sun, and each planet in its path; that the same power causes the tides upon our globe, and the peculiar form of the globe itself; and that, after all, it is the same power which makes a stone fall to the ground? To learn these things, and to reflect upon them, occupies the faculties, fills the mind, and produces certain as well as pure gratification.

But if the knowledge of the doctrines unfolded by science is pleasing, so is the being able to trace the steps by which those doctrines are investigated, and their truth demonstrated: indeed you cannot be said, in any sense of the word, to have learnt them, or to know them, if you have not so studied them as to perceive how they are proved. Without this you never can expect to remember them long, or to understand them accurately; and that would of itself be reason enough for examining closely the grounds they rest on. But there is the highest gratification of all, in being able to see distinctly those grounds, so as to be satisfied that a belief in the doctrines is well founded. Hence to follow a demonstration of a grand mathematical truth—to perceive how clearly and how inevitably one step succeeds another, and how the whole steps lead to the conclusion—to observe how certainly and unerringly the reasoning goes on from things perfectly self-evident, and by the smallest addition at each step, every one being as easily taken after the one before as the first step of all was, and yet the result being something not only far from self-evident, but so general and strange, that you can hardly believe it to be true, and are only convinced of it by going over the whole reasoning—this operation of the understanding, to those who so exercise themselves, always affords the highest delight. The contemplation of experimental inquiries, and the examination of reasoning founded upon the facts which our experiments and observations disclose, is another fruitful source of enjoyment, and no other means can be devised for either imprinting the results upon our memory, or enabling us really to enjoy the whole pleasures of science. They who found the study of some branches dry and tedious at the first, have gen-

* *Childrens' Books* have at all times been made upon the pernicious plan of exciting wonder, generally horror, at whatever risk. The folly and misery occasioned by this error, it would be difficult to estimate. The time may come when it will be felt and understood. At present, the inveterate habits of parents and nurses prevent children from benefitting by the excellent lessons of Mrs. Barbauld and Miss Edgeworth.

erally become more and more interested as they went on; each difficulty overcome gives an additional relish to the pursuit, and makes us feel, as it were, that we have by our work and labor established a right of property in the subject. Let any man pass an evening in vacant idleness, or even in reading some silly tale, and compare the state of his mind when he goes to sleep or gets up next morning with its state some other day, when he has passed a few hours in going through the proofs, by facts and reasoning, of some of the great doctrines in Natural Science, learning truths wholly new to him, and satisfying himself by careful examination of the grounds on which known truths rest, so as to be not only acquainted with the doctrines themselves, but able to show why he believes them, and to prove before others that they are true; he will find as great a difference as can exist in the same being—the difference between looking back upon time unprofitably wasted, and time spent in self-improvement; he will feel himself in the one case listless and dissatisfied, in the other comfortable and happy: in the one caset if he do not appear to himself humbled, at leas, he will not have earned any claim to his own respect,—in the other case, he will enjoy a proud consciousness of having, by his own exertions, become a wiser and therefore a more exalted creature.

To pass our time in the study of the sciences, in learning what others have discovered, and in extending the bounds of human knowledge, has in all ages been reckoned the most dignified and happy of human occupations; the name of Philosopher, or Lover of Wisdom, is given to those who lead such a life. But it is by no means necessary that a man should do nothing else than study known truths, and explore new, in order to earn this high title. Some of the greatest philosophers in all ages have been engaged in the pursuits of active life; and an assiduous devotion of the bulk of our time to the work which our condition requires, is an important duty, and indicates the possession of practical wisdom. This, however, does by no means hinder us from applying the rest of our time, besides what nature requires for meals and rest, to the study of science; and he who, in whatever station his lot may be cast, works his day's work and improves his mind in the evening, as well as he who, placed above such necessity, prefers the refined and elevating pleasures of knowledge to the low gratification of the senses, richly deserves the name of a true philosopher.

One of the most delightful treats which science affords us is the knowledge of the extraordinary powers with which the human mind is endowed. No man, until he has studied philosophy, can have a just idea of the great things for which Providence has fitted his understanding—the extraordinary disproportion which there is between his natural strength and the powers of his mind, and the force he derives from them. When we survey the marvellous truths of Astronomy, we are first of all lost in the feeling of immense space, and of the comparative insignificance of this globe and its inhabitants. But there soon arises a sense of gratification and of new wonder at perceiving how so insignificant a creature has been able to reach such a knowledge of the unbounded system of the universe—to penetrate, as it were, through all space, and become familiar with the laws of nature at distances so enormous as baffle our imagination—to be able to say, not merely that the Sun has 329,630 times the quantity of matter which our globe has, Jupiter 308 $\frac{2}{1\,0}$, and Saturn 93$\frac{1}{2}$ times; but that a pound of lead weighs at the Sun, 22 lbs. 15 ozs. 16 dwts. 8 grs. and $\frac{3}{4}$ of a grain! at Jupiter, 2 lbs. 1 oz. 19 dwts. 1 gr. $\frac{7\,9}{1\,0\,0}$! and at Saturn, 1 lb. 3 ozs. 8 dwts. 20 grs. $\frac{1}{1\,0}$ part of a grain! And what is far more wonderful, to discover the laws by which the whole of this vast system is held together and maintained through countless ages in perfect security and order. It is surely no mean reward of our labor to become acquainted with the prodigious genius of those who have almost exalted the nature of man above its destined sphere: when admitted to a fellowship with those loftier minds, we discover how it comes to pass that, by universal consent, they hold a station apart, rising over all the great teachers of mankind, and spoken of reverently, as if Newton and Laplace were not the names of mortal men.

The highest of all our gratifications in the contemplations of science remains: we are raised by them to an understanding of the infinite wisdom and goodness which the Creator has displayed in his works. Not a step can we take in any direction without perceiving the most extraordinary traces of design; and the skill every where conspicuous is calculated, in so vast a proportion of instances, to promote the happiness of living creatures, and especially of our own kind, that we can feel no hesitation in concluding that, if we knew the whole scheme of Providence, every part would be found in harmony with a plan of absolute benevolence. Independently, however, of this most consoling influence, the delight is inexpressible of being able to follow, as it were, with our eyes, the marvellous works of the Great Architect of Nature—to trace the unbounded power and exquisite skill which are exhibited in the most minute, as well as the mightiest, parts of his system. The pleasure derived from this study is unceasing, and so various that it never tires the appetite. But it is unlike the low gratifications of sense in another respect: while those hurt the health, debase the understanding, and corrupt the feelings, this elevates and refines our nature, teaching us to look upon all earthly objects as insignificant and below our notice, except the pursuit of knowledge and the cultivation of virtue; and giving a dignity and importance to the enjoyment of life, which the frivolous and the grovelling cannot even comprehend.

Let us, then, conclude, that the pleasures of science go hand in hand with the solid benefits derived from it; that they tend, unlike other gratifications, not only to make our lives more agreeable, but better; and that a rational being is bound by every motive of interest and of duty, to direct his mind towards pursuits which are found to be the sure path of virtue as well as of happiness.

The Canal and Railroad Controversy again.—We noticed in our last the report of the committee of the house of delegates of Maryland touching the canal and railroad controversy, and gave the main features thereof. We since learn from the Maryland papers, that the committee were not unanimous in their views, but that a counter report has been made by the minority. Its drift may be learned from the following resolutions with which it closes:

Resolved by the General Assembly of Maryland, That the Chesapeake and Ohio Canal Company have not forfeited all claims to any future favors from this state.

Resolved, That it is the opinion of this Legislature, that the charter of the Chesapeake and Ohio Canal Company will not be liable to forfeiture, in case one hundred miles of the canal be not completed, as the charter provides, within the term of five years from its commencement; but that that company is entitled to an allowance for the completion of the same, of so much time, from the expiration of the said five years, as was unavoidably lost in litigation for the prior right of way about the point of Rocks, with the Baltimore and Ohio Railroad company.

Resolved, That it be recommended to the Chesapeake and Ohio Canal and Baltimore and Ohio Railroad Companies, to agree upon terms mutually acceptable, for a joint construction of the canal and railroad along the narrow and difficult passes between the Point of Rocks and Harper's Ferry, as an object desired by this state, and deemed promotive of the best interests of both companies under existing circumstances.

Gen. Mercer, president of the canal company, arrived at Annapolis on the 17th of February, and made application to be heard at the bar of the house in vindication of the course which the canal company had pursued. Much opposition was made to the request, but it was at length granted by a vote of 41 to 22.

The canal company has many strong friends in the Legislature, and their number seems to be increasing. The opinion is said to be gaining ground that the company has been harshly dealt with, and that the resolutions of the majority of the committee, which were referred to in our last, will not be adopted, at least without very material alteration, changing their whole character.

We shall keep our readers advised of the progress of this important collision.

Since writing the above we perceive in the Baltimore Patriot the following notice of the address of Mr. Mercer, in a letter to the editor, written on the evening of the 20th, after Mr. M. had concluded:

Mr. Mercer, in rising, said that had he known before he made the application, that the indulgence he solicited was not usual in our Legislature, he should not have asked it. The peculiarity of his situation, and his duty towards those he represented, must be his apology.—He then proceeded to give a rapid, elaborate, and lucid detail of the facts and circumstances connected with the formation, history, present condition, and claims of the canal company, and such an explanation of the origin and state of the controversy between the two companies, as in my humble judgment, to convince any unbiassed mind of the justice, at least in a moral point of view, of his cause. He repelled with some warmth the imputations of disrespect to the state. He spoke about three hours, and was listened to with great attention. —[Winchester Republican.]

Baltimore and Washington Railroad.—The supplement to the bill authorising the Baltimore and Ohio Railroad Company to construct a Railroad to the city of Washington, passed the House of Delegates on Wednesday, by a vote of 55 to 15, and will no doubt pass the Senate—as it is in accordance with the propositions of the Railroad Company, there is no doubt of the project progressing without delay —and we may look for its accomplishment at an early period. The state subscribe one third of the capital, and books are to be opened for individual subscriptions for the balance. The Railroad Company are authorised to take what stock may not be subscribed within thirty days after the opening of the books, and may borrow funds to a certain amount on the faith of the state, the payment of the principle and interest of which funds is secured by a pledge of the Railroad itself.—The maximum price for transporting passengers is fixed at $2 50, one fifth of which is to be paid into the State Treasury as a bonus for the charter. This will probably produce a revenue to the state, derived too principally from "birds of passage," of forty or fifty thousand dollars per annum; and increasing as the travel on that great thoroughfare, between the north and south, shall increase.

The period is rapidly approaching when the public treasury will begin to reap the product of the enterprizes of internal improvement, which the friends of the system have so manfully sustained in our legislature. Maryland already presents a new aspect, heart cheering to her citizens. Her statesmen now appreciate our natural situation and *adventure* to avail themselves of its advantages. The order of the day is to seek out, unravel, and actively improve our heretofore dormant resources—to suffer no sister state to outstrip us in the fair contest for trade, commerce or improvement—in short, to do the *statesman's duty*—look vigilantly for the public welfare, and march onward in the path. Little party and sectional feelings are not indeed expelled the legislative halls, but they are held and kept in pretty strict subordination by a loftier and more generous feeling that manfully predominates and furnishes

the fairest hopes for the state.—[Maryland Republican.]

After the preceding extract was in type, we received the following:

Railroad to Washington.—It affords us gratification to state that the bill from the House of Delegates, authorizing the Baltimore and Ohio Railroad Company to construct a railroad between this city and Washington, passed the Senate of Maryland unanimously on Saturday. Some amendments, in no way affecting the main objects of the bill, were added in the Senate, and these, there is no doubt, will be concurred in by the House. The State, no less than the cities which will be thus more closely brought together, will be immediately and greatly benefitted by the establishment of this important line of intercommunication.

We also learn from Annappolis that on Saturday the select Joint Committee, to whom had been referred the propositions of the Chesapeake and Ohio Canal Company and the various reports and documents touching the collision between the Canal and Railroad Companies, reported a Bill which is understood to be the result of a compromise between the parties interested. It provides for the passage of the railroad, with double tracks, along the north or inner side of the canal, to Harper's Ferry, and for crossing the canal at that point, on the terms therein specified. The leading condition is that the State shall subscribe for 2500 additional shares of canal stock. The bill is made the order of the day for to day, in the House. We cannot but hope that a question, in which the interest of the State as well as the welfare of both Companies is directly concerned, will be speedily brought to an amicable and mutually acceptable termination.

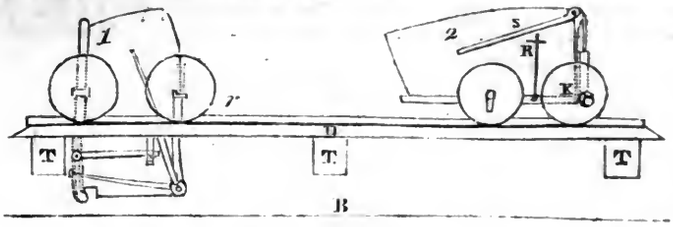
The Susquehanna Railroad Bill has also passed the Senate, with some amendments.—[Baltimore American, March 11.]

A Steam Coach Company is formed for the purpose of running steam coaches on the turnpike road between Boston and Salem. The carriages are to be in readiness as soon as possible, and will be from four to six in number. Their speed will vary from 15 to 17 miles an hour, and they will accommodate from twenty to thirty passengers per trip—making a trip in half the time and at half the expense of the present coaches.—[Utica Sentinel.]

To etch Designs on Glass.—Cover the glass all over with a thin coat of bees' wax, and trace the design with an etching needle; then spread the whole over as uniformly as possible with fluor spar (Derbyshire spar) to the depth of an eighth of an inch, and when this is done, pour sulphuric acid, diluted with three times its weight of water, upon the spar. After the acid has remained upon it three or four hours it is to be poured off, and the glass washed with oil of turpentine; the etching will then appear, and the parts that were covered with the wax will have remained untouched.

Observation.—By this means glass vessels are graduated and ornamented very easily.

New Diving Apparatus.—The Board of Admiralty lately sent down to Sheerness the invention of an ingenious apparatus, to make trial of, under the inspection of Sir J. Beresford. The diver descends into the water by a ladder, where he can remain for a length of time, and can walk about the "ocean's oozy bed" with perfect safety, and even without feeling any suffocating sensation. The apparatus consists of a metal cap or covering for the head, with two tubes or hoses affixed to it; these lead to an air pump which is kept constantly at work during the descent. Two glasses are fitted in the cap, by which he is enabled to see any thing, and to pick up the smallest article. His dress, including the gloves, is a preparation of Indian rubber, so that he is not exposed to wet or cold, for upon removing the dress and cap, the diver appears perfectly dry and warm.—[Rep. Pat. Inv.]



[*From the London Mechanics' Magazine.*]

Improved Excavator's Waggon.—Sir: The accompanying sketches represent an improved sort of waggon, which was used for removing the earth at the excavation of the new entrance to the London Docks. It is a well known fact, that if clay is mixed with water and a little sand, it forms so compact and cohesive a mass, that, when carted to a distance of two or three hundred yards, it is next to impossible to uncart it without the help of pickaxe and shovel. The soil to be excavated in the present instance being very much of this description, it was the general opinion that the ordinary kind of excavator's waggon would be of little use; and being in the employment of the contractor for the work, I therefore set about contriving such an alteration in the construction as might meet the difficulty of the case. After several trials, with different models, the one of which I now send you a description was found the most suitable. We had a good many waggons constructed on this plan; and I was very happy to find, that when the mode of using them came to be understood by the workmen, they answered our purpose admirably.

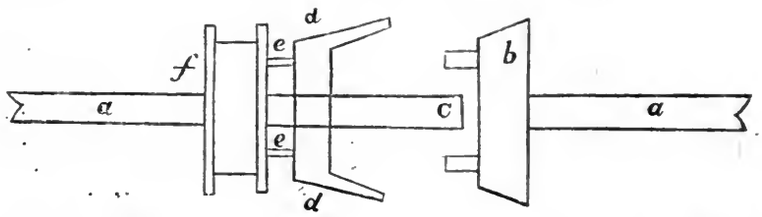
Description.—Fig. 1 is a side-view of the waggon when emptying. B, shows the line of the barge at high-water. T T T, are whole timbers. H, are half-timbers on each side of the waggon to secure the iron rail, *r*. The distance from T T, and also between the rails, are left open, to allow the tail of the waggon to drop through, as in fig. 1.

Fig. 2 shows the method of securing the tail-board at top and bottom. At J is a joint, to allow the wheels to run out, and at K a catch to secure the axle; *s*, is a strap, bolted to the side to secure the tail-board at the top.

The course followed on emptying the waggons was to push them forward to one of the timbers, as at T, and then to allow the bottom to slide down the timber gently. A man on each side then pulled up the rods, as at R, which lowered the catch K, when immediately the wheels went out, down went the waggon, and the earth dropped out. Nine times out of ten the clayey mass went down into the barge as solid as if it never had been dug. I had almost forgotten to add, that the waggons were about 4 inches wider at the tail than at the head. The drawings show the axles bent, but they were not all so: the more bent, however, the axles are, the more easily the waggons are managed.

Yours, &c.

J. Walker.



[*From the London Mechanics' Magazine.*]

Friction Clutch-box, for adjusting the Connection between a constant going Wheel and intermitting Machinery.—Some years since machinery was put up in a building adjoining a mill which often wanted going and stopping. Being driven by wheels with teeth, it was necessary, to prevent a fracture, that the water-wheel should be stopped. As this was found very inconvenient, after some thought, the following method was tried, and has answered ever since. Apprehending it might be useful in many cases, I take the liberty to request the insertion of this description of it in your Magazine. The machinery alluded to was driven by an iron square bar, and the improvement consisted in the introduction of a connector, which, in the absence of a better name, I shall call a friction clutch-box, which is different from any thing I have hitherto seen. The one-half of this box, with two studs, is fixed, as usual, at one end of the shaft to be connected, and the outer circumference is levelled about $\frac{1}{8}$ of an inch in an inch long, forming part of a cone; and the other half of the box has a broad hoop fixed thereon, and standing forward like a cup, which, when pushed forward on the cone, gradually produces friction sufficient to set the machine a-going; and then there are two bolts previously drawn back which are made to slide through this latter half box, and lay hold of the studs. The improvement will, however, be made clearer by reference to the prefixed sketch.

a a represents the bar cut in two at *c*; *b* the fixed half of the box, with the two studs fixed, and fixed on shaft; *d d* the other half of the box with hoop; *e e* two bolts fixed into *f*, and made to slide through *d*, far enough to grasp the studs in *b*.

As here represented, the bolts are withdrawn and out of work. Care must be taken that *f* with the bolts are not forced forward, until the motion is gained by pushing *d* on the cone.

N. B.—*d d* may have a groove as well as *f*, to put the lever into force backward and forward; and the end of the two bolts should be riveted enough to prevent their being withdrawn out of *d*; but they should be drawn back flush when disengaged.

W. S. S.

Blowing Glass.—Among the prizes awarded by the Paris Academy of Sciences, at their last sitting, was the following: "To Israel Robinet, workman, for the substitution of the action of a machine for that of the human lungs, in glass blowing, 8,000 francs. By means of this valuable invention, the health of the glass-blower will, in future, be preserved, and the product of his manufacture greatly improved, both as regards accuracy of form and the capability of making articles of greater dimensions than was formerly possible."

Geology of Massachusetts.—The Geological Map of Massachusetts is is an honor to the Legislature which ordered, and the Professor who executed it It is one step, and a very important step, towards extending a knowledge of the very interesting and very practical science of Geology through our whole community; and by this knowledge to acquaint our citizens with the productions and the resources of the mineral kingdom.—[Family Lyceum.]

NEW-YORK AMERICAN.

MARCH 9, 11, 12, 13, 14, 15—1833.

LITERARY NOTICES.

THE COMPLETE WORKS OF SIR WALTER SCOTT.—Whom, of all the myriads that read and feel, does this annunciation *not* concern? In what sequestered part of this land—in what valley or on what mountain, beats the heart which has not at some time beaten quicker beneath the inspiring pages of Sir Walter Scott? One of the most beautiful among the many beautiful thoughts of the French poet *La Martine's* Adieux to Scott, is that where, anticipating that the great Magician might perhaps visit France, he tells him that he could enter no hamlet, pass the threshold of no cottage, even in that to him a foreign land, where he would not be a familiar friend; where he would not find beings who had felt and acknowledged his spells; and who would be prepared to receive him as an honored guest; or, to give the thought more forcibly, in the spirited and poetical version of the French lines which the American Monthly Magazine furnishes:

> Where'er thou seest some castle's giant gloom
> Frown o'er the woodland's shade, the valleys bloom;—
> Or from our towns the vapors heaven-ward stream,
> Or cottage casements to the sunset gleam—
> Here, as thy heart expands, here mayest thou say,
> Friends from my feet will wipe the dust away:
> Here hath my spirit power—a century drinks
> Life from my thoughts, and by my genius thinks.

How much more true is that of this country, whose language is the language of Scott, and whose traditions run back to, and blend with, many of those, which have inspired some of his noblest efforts. It is then because *Scott* is the common property of all classes, that we announce with gratification the proposals for, and two numbers of, a new and cheap series of his complete works. This is to comprise all the author's last additions and illustrations as they shall appear in the edition now publishing in England, under the superintendence of Mr. Lockhart; and will be published in numbers, *each containing an entire work*, at the low price of 37 1-2 cents per number;—Waverley—Guy Mannering—for 37 1-2 cents!—well and legibly printed, too, though necessarily on a small type. The specimens now before us contain these two novels. Eight numbers will constitute a volume, and six volumes will complete the publication. The undertakers of this enterprise, which seems to us so especially considerate towards those whose means of purchasing books are not equal to their desire to do so, are Messieurs CONNER & COOKE, *Corner of Nassau and Ann streets, New York.*

A DISCOURSE ON LEGAL SCIENCE, before the New York Institute, at their Anniversary in May, 1832: by H. W. WARNER: New York, *G. & C. & H. Carvill.*—This is a discourse out of, and quite above, the common track. It is philosophical and comprehensive; it states, without disguising, the actual deficiencies in the existing state of jurisprudence, considered as a science; the little respect in which, even as a branch of literature, the important study of the law is held, and, in seeking to unfold the causes of such anomalies, aims to point out the sure remedies thereof. We have read this address with great attention, and frequent assent, though in its condemnation of codes, and its views in favor of what is perhaps justly characterized as "the judicial exercise of the law announcing power," our prepossessions are, we confess, roughly dealt with. We shall read it again; and think we cannot give general readers, and are sure we cannot to law students, a better counsel, than that they should read it too, once and again.

MECHANICS' MAGAZINE, OR REGISTER OF INVENTIONS AND IMPROVEMENTS: by D. K. MINOR, New York.—To this new enterprize of our most enterprizing publisher, we cheerfully say, God speed! for it is excellent in its design, and in the only number yet issued which comprises the contents of two, alike good in its execution. It is happily no longer a debateable point, whether those whose portion it is in this world to minister, by the toil of their own hands, to their own necessities and those of their families, should have placed within their reach the means of instruction. Those means *are* so placed—wisely, humanely, justly so placed; and among such appointed means, we know of none more likely to work unalloyed good, than just such a magazine as this before us. We cannot notice in detail the numerous and valuable contents of this double number; but must commend the happy selection, as an introductory article to such a publication, of *Lord Brougham's* admirable paper "On the Pleasures and Advantages of Science," which appeared originally, we believe, as a preliminary dissertation in the Library of Useful Knowledge. If there be any who yet doubt either as to the pleasures or advantages of knowledge to all classes, we commend this paper to their particular perusal.

The manner in which this work is printed, its low price, ($3 per annum) and the range of its subjects, which embraces all the mechanic arts, should insure to it a wide circulation.

THE NAVAL AND MILITARY MAGAZINE OF THE UNITED STATES, No. I: Washington, *Thompson & Homans.*—The success which the United Service Journal in England has met with, has doubtless suggested this similar enterprize here: and although with our comparatively limited naval and military establishments there cannot be found the variety and extent of adventure and experience which belong to the greatly more numerous forces of England, there is enough of both, if the two services will take up and adopt the Magazine, to make it an amusing miscellany. A higher object, too, than amusement, may be attained by such a publication—the giving to the two branches of military service, common feelings, by the habit of speaking through a common organ. The editor appears, by his preliminary address, to be a military man: the sentiments of that address are good in themselves, though the style is occasionally too labored and ambitious. The articles generally are appropriate and well selected; and we augur well of the future prospects of this new candidate for the favor of magazine readers.

HARPER'S FAMILY LIBRARY, No. LIII., N. York.—This volume is devoted to the "*Progress of Discovery on the more northern Coasts of America*," embracing a rapid but distinct summary of the chief adventures of all who have touched our northern shores, either in the Atlantic or Pacific Ocean, from John Cabot, down to Capt. Franklin and Dr. Richardson. It is an admirable volume, more attractive than romance, and more improving, too, because the sufferings and the heroism, as well as the skill and noble daring, are authentic, and relate to men, some of whom at least have lived and now live in the same age with ourselves. It would, for instance, be difficult for the most powerful imagination to represent a more striking picture of self-devotion, courage, fortitude, and unfailing reliance upon a gracious Providence, under circumstances of the most dreadful privation, suffering, and apparent hopelessness, than is furnished by the simple and affecting narrative by Capt. Franklin and Dr. Richardson, of the dreadful incidents of their return from their first journey to the shores of the Arctic Ocean.

The historical portion of the volume is compiled by Patrick F. Tytler, so well known for his historical publications. The natural history, geology, &c., which are thrown into a separate form and detached from the main narrative, are by *James Wilson*—a name that guaranties the accuracy of what it vouches. A critical dissertation, by way of *Appendix*, examines and seeks to shake the position, we think so triumphantly asserted in the *Memoir of Sebastian Cabot*, that Sebastian, and not his father John Cabot, first discovered the coast of North America. Our faith in the claim of Sebastian is still unshaken.

MISS FANNY KEMBLE.—A likeness of this accomplished person, more happily engraved than any other we have seen, has just been published by *Jackson*, Maiden Lane, from the picture of Sir Thomas Lawrence. As a work of art, it is very good; and in resemblance, as near, we suspect, as a face of such "infinite variety" will admit.

SAYINGS AND DOINGS AT THE TREMONT HOUSE, IN THE YEAR 1832—extracted from the Note Book of COSTARD SLY, Solicitor and Short Hand Writer of London, and edited by Dr. ZACHARY PHILEMON VAN GRIFTEN.

"Here are some score of good fellows. My master's primed with soft sayings,—wit-catches,—*discreet* laughers. Their *conversations* are worth attending to. The smallest man among them shall tell you a *story*, and you will not be made to yawn more than once over it.—[The Club Men of Clothero, 1705.]"—&c. &c. &c. &c. &c. &c. &c. &c.

Two volumes. Boston.

We unite cordially with the press in every part of the country in the judicious and discriminating praise they have so liberally bestowed upon these satirically witty, and elegantly humorous volumes. They display an acuteness in catching the peculiarities of individual character, and a tact in hitting them off, that is only equalled by the excessive drollery and elegant refinement of taste with which society at large, as it exists in one of the first cities of the Union is painted. We do in fact from our hearts congratulate our brethren of Boston, that the wits and fashionables of the American Athens should have been furnished with so bright a mirror to

> "Reflect their polish and reveal their point,"

as Mr. Rogers says in one of his penknife advertisements; and we compliment our countrymen generally that a picture of their manners has at last been drawn by a foreigner, which will prove to skeptical Europe that we are not only a great people, but a polished people and a refined people—if the following conversation, (among the others equally elegant, humorous, and spirited, here given,) be a fair sample of the general tone of society in our cultivated classes. We give it exactly as printed in the original, page, 143.

Bartholo. Nicks.—Well, I must say, I *antipathize* all water-drinkers.

Crump.—So do I.

Captain Parkenrath.—And I.

Walsinghom.—So do *not* I. The *ladies* are all water-drinkers.

Barnwell.—For "*are*"—read "*should be.*"

Gaultiman.—I shall read neither the one nor the other—I love the dear souls too well to debar them from any of their little creature comforts. A girl of spirit is always fond of her glass. 'Tis only prudes who drink milk and water.

Captain Parkenrath.—A *lady* should *breakfast* upon rose-leaves and dew, *dine* upon wafers and honey-water, and *sup* upon nightingales' throats (reduced of course to a fine powder) and violet's juice; she should be *dressed* in a stuff made of gossamer threads, her girdle should consist of butterflies' wings, and her sandals made of the down reaped from a *boy's cheeks;* her *voice* should be like a lark's whisper, sweet, clear and soft; her *eyes* like two little skies, with stars in them,—those stars the blest abodes of *Modesty* and *Love;* her *lips* should wear a smile of "good will towards *men;* her *step* should be so light, that, though she trod upon locusts and grasshoppers innumerable, not a hair of their heads should be injured; she should *write* nothing but *Poetry*, and *talk* of nothing but her *dreams.*—[Loud cheers.]

Gaultiman.—Oh, ay! that may be all very well, and very fine, but it passes *my* huckleberry! Give *me* a woman of good, fresh, honest flesh and blood—a woman, Sir, that is not afraid or ashamed to make use of her teeth when a handsome beef-steak is set before her. As for her dress, she may wear what gown she pleases, for me, provided she don't cover her neck,—for that looks suspicious; and for her looks (supposing she is pretty), a little sauciness about the eyes, nose and lips, is the thing I like most to see,—a sort of *come-kiss-me-if-you-dare* expression (you know what I mean); she should

walk firmly and briskly, as if prepared for action, and talk about love and ghost stories, Walter Scott and Lord Byron; she should sing all Moore's Melodies, have a proper stock of words to scold the cook with if necessary, and cultivate her nails to protect herself from rudeness; she should be able to mend my stockings and make a pudding; she should'nt be ashamed to laugh heartily at a good joke—and I should like her all the better if she screamed out lustily at the sight of a mouse or a spider, for that is so charmingly *feminine!* she should be fond of a cat, and keep two or three Canary birds;—in a word, she should be *all over* SPRIGHTLINESS!

Parkenrath.—Ha, ha! well said, Alcck!

Bartholo. Nicks.—Though I am but a little man myself, I love to look upon a tall woman. I don't mean one that is lean.

Crump.—For my part, I like plain women best: they are always *so* amiable—

Waring.—Well, give *me* a small foot and a well-turned ancle, and I'll forgive the possessor twenty defects in her visage,—provided only, that she don't squint!

Longcope.—Revenons à nos Moutons—we were talking of——

Walsingham.—Cherry cheeks, small lily-white hands, sloe-black eyes, flowing locks, and a dapper shape, for *me*. Nevertheless, I am far from being particular: for it is my fixed opinion, that there is no such thing to be found in the world as an *ugly* woman. At least, *I* have never *seen* one!

Bartholo. Nicks.—Oh, Gemini!

Crump.—Defend us from the Africans! Mercy, Isabella!!—[Roars of Laughter.]

That *Crump* must be an inimitable fellow—a perfect Liston in his way; his last joke is overwhelming. As an orator, however, or rather as a poet, *Captain Parkenrath* beats him hollow. What an exquisite play of fancy is there in his enumeration of the essentials of a lady's diet and dress; we do not wonder that it elicited such "*loud cheers*" from the ready appreciators of wit around him. *Gaultiman*, however, with all due deference to so discriminating a company, we think rather outdoes the Captain in eloquence. There is a refinement too in his expressions, an elegant assurance, a "*come.and*-criticise-*me.if-you dare*-ness" in his language, that when he tells you a lady should have "a little sauciness about the nose," and "be *all over* SPRIGHTLINESS," is irresistibly captivating. But, as the emphatic *Longcope* says *Revenons à nos Moutons*, for we would fain through the medium of our friend Capt. Parkenrath introduce our readers to "a Lord's nephew," and hear at the same time his opinion of a Boston tea party:

Parkenrath.—What put that into your head, Fenwick? You, *of all men*, to talk about the equality *of all men*. An Englishman, and a lord's nephew,—next in succession to a title, and I don't know how many thousand a year!

Fenwick.—Tut! tut!—I'm a *republican*, man!—Mrs. Emmerson has converted me. Charming woman!—delightful party!—excellent people! I'm new, man. *La langue* (Count, prompt me,) "*La langue des* FEMMES *est leur épée*,"——Count?

Ragusan.—"*Et elles ne la laissent pas rouiller.*"

Conti.—Ha, ha, ha! Goote!—goote!

Fenwick.—By Jove, that is always the way with the Count, when I ask him to *complete* a sentence for me. *Sarcastic* Ragusan!

Ragusan.—No, by my word.

Captain Parkenrath.—But the *party*, Fenwick? How did it go off? Who was there? What were the people like? And how did you enjoy yourself?

Fenwick.—Softly: First then, the party was a very *full* party, and went off very well. The company, however, *went off* too soon. A plague on your early hours, say I! From half-past nine to eleven! What *can* a man *do* in that time? Who was there, say ye? For want of knowing people's names, can't tell. However, I *did* see the amiable R. A. and his lovely wife, and they both looked uncommonly happy. Boston will be in tears at the loss of so lovely a flower. (Count, lend me your snuff-box.) Well, then, there were two or three Russian gentlemen, and an English gentleman, and some very pretty Boston ladies, and some very pleasant Boston gentlemen; and they were all alike disposed to be amiable and obliging, facetious and witty, and in love—with cakes, and creams, and *bon-bons* and champaigne! Then there was the charming hostess, surrounded, like Pope's Belinda, by fifty sylphs.

> "Some thrid the mazy ringlets of her hair;
> Some hung upon the pendants of her ear."

Methought I could hear them flapping their tiny wings for joy, at each lively sally of their favorite lady!!

Crump.—I guess, Sir, it was musquitoes that you heard.

Fenwick.—Go to, good Master Crump. Count, allow me to introduce you to my friend, Mr. Crump. So,—where was I? Mrs. Emmerson is a sort of Yorick, in petticoats;—a lady of "*infinite* jest,—of most excellent fancy:"—but what delights you most, is the *heart* that is shown in every thing that she says. Her laugh!—(in certain places one would almost say it was too loud)—yet by Jove, it is so joyous,—so full of fun (that's a vile phrase, by the way, but I can't think of another) that you find yourself crowing (like chanticleer) in *sympathy*, before you can see the point of the joke *she* is laughing at. By Heavens! a most exhilarating laugh!—a laugh that makes you unbutton your cravat, for fear of choking; *the* laugh of laughs!!

Captain Parkenrath.—"Oh heaven-born sisters! source of——"

Fenwick.—Cry you mercy! Captain,—Count, the Captain's glass is empty. That's right—fill it! I was coming to *the* SISTERS, when you took the words out of my mouth. "Most sweet ladies"—who "need not the painted flourish of our praise." But, by Jove! what a sumptuous woman is Mrs. Lumley! What a figure,—what a step! what an air! She reminded me of Lady G——, and that is saying as much as I could put into three closely printed volumes—Count, what think you of Mrs. Lumley.

The Count's reply, we must remark in passing, though not quite so full of point as the "Lord's nephew's" hits at character, is still racy enough to call out "*great applause*" from the company. Sig. di Ragusan, however, though very facetious, we by no means consider equal in pithiness of expression to "little Bartholo. Nicks," as the reader may judge by the capital set down Nicks gives the quizzical Crump at the conclusion of the following extract. *Fenwick* asks Parkenrath, "now that he has done clapping his hands," (quœre, at Fenwick's joke?) "to tell him if he were ever in love."

Captain Parkenrath.—Yes; I was born merely for the *purpose* of loving. First, I fell in love with my nurse, when I was only three years old. She was black, to be sure, but well featured; and, I saw Miss Dinah's "*visage* in her *mind*." Then ——

Fenwick.—No—no! Come, now;—seriously?

Captain Parkenrath.—Seriously? umph! Well, then, I solemnly declare that I was never *seriously* in love, in my life.

Crump.—Bartholomew Nicks, there, *has*, I guess; and can tell you all about it.

Bartholo. Nicks.—Get out!

Poor Crump, he shuts up his mouth after this, and we hear not a word more from him to the end of the chapter. Not so, however, with the gallant Parkenrath; (who, by the by, is here put forth as the portraiture of a Virginian gentleman!) he, poor fellow, is introduced again to be "thrown into convulsions of laughter" at a droll speech of the accomplished Englishman Fenwick. As to the Hon. Mr. Fenwick himself, he stays with us as long as the author does with the amiable object of patting his American acquaintance on the back, and telling his friend Mrs. Emerson and another lady, with an oath or two (a matter of moonshine in "a Lord's nephew,") that they are very nice people, and belong to a very nice country; and in fact, though "there is no place like OLD ENGLAND," yet "this is a land of liberty, by Jove!"!!

We know not who has tried to injure the fair fame of the Tremont House, by putting forth such "Sayings and Doings" as these, as a fair specimen of "fashionable life" within its walls; but if the harmless insipidity of the work prevents it from being libellous as regards the character of this far-famed Hotel in particular, we do not the less for American society generally protest against sketches of our manners so spiritlessly vulgar being received any where as authentic: at least, we are pretty sure that the Hon. Mr. Fenwick, if his manners and conversation be correctly reported by the humorous Mr. Sly, would hardly, though a "lord's nephew," obtain admission into a New-York drawing-room. The work, we ought to add, is printed with truly Boston elegance; but the fashion in which it is got up contributes about as much to give style and spirit to the contents, as would a St. John's beaver and a neat-cut Benton applied to the crown and heel of a kangaroo, qualify him for figuring in Broadway.

TALES AND NOVELS, by MARIA EDGEWORTH. Vol III. *Harpers.*—After reading the principal story in this volume through, and reviving all the agreeable impressions of a former perusal, we feel, upon comparing it with the class of popular novels, which so often have a claim upon us here, like one who, amid a crowd of smirking and grimacing acquaintances, yields his hand to the honest grasp of an old and cordial friend. The strong good sense and practical application which characterize Miss Edgeworth's writings, distinguish them for their usefulness above all modern works of fiction. Her characters and situations are those of real life—the 'sentimental comedy' of the actual world, in which both scenes and actors come so completely "home to our bosoms and business," that, while they command our interest and awaken our sympathies, our minds are quickened and our hearts are schooled. There is, however, a more distinctive feature in Miss Edgworth's novels, than that of the lesson of morality, conveyed in all her stories—it is their broad and general application, their comprehensive and philosophical view of life, which, compared with the contracted and *exclusive* pictures of society in what are called the fashionable novels, give her works, with those of Fielding and Smollet, the dignity and superiority over most others, which sentimental or genteel comedy has when compared with farce: the former, dealing with the foibles and striking characteristics of human nature generally, the latter with individual peculiarities only: the first treating of people of the world, the last of people of a coterie. The men of fashion of Miss Edgworth, like those of Miss Burney, are persons of taste and spirit, who, though often whimsical and absurd, are still gentlemen and men of breeding, who might figure as such any time within a century of the period for which their portraits are drawn. Clarence Hervey or Sir Sedley Clarendal, for instance, would have graced and enlivened alike a drawing room of Queen Anne's day, or a salon of William IV. Not so however with their successors in fictitious high life, whose pretensions to style are generally so identified with their dress, and whose claims to distinction so dependent upon some peculiar affectation, tolerated in some peculiar *clique* or set, that a change of fashion or a change of scene nullifies both. The coat that made them distingué in one month, makes them outré the next; and that which is considered *air* in one circle, is held to be puppyism in another; and in short, like the hero of a farce, who owes all his attractions to some prevailing or local absurdity, that is hit off in his person, our "Corinthian Tom," however "*accueilli*" for a time, soon gives place for ever to the Archers and Belcours whose room he has temporarily usurped. It is the same, too, with the rest of the dramatis personæ of these novels; and taking Bulwer's upon one side, and Miss Edgeworth's upon the other, as the most favorable specimens of their different schools, the different mode in which character is treated in both, may be traced down to the meanest individual introduced; and while Bulwer's, admirably drawn as many of them are, will be found to be all individual creations—the creatures of particular circumstances, whose conduct is often an exception to general rules,—Miss Edgworth's are generally fair representatives of whole classes, acting naturally under ordinary motives and impulses.

But our limits forbid us attempting further a parallel so much to the advantage of the authoress of the work before us, whose writings generally cannot be

too warmly commended to those not familiar with them; for, as we have already observed, she of all writers of fiction has best succeeded in blending amusement with instruction, and teaching a detestation of vice under the mask of gaiety. She beckons us with the nod of a syren into the severe paths of virtue, while the edge of her satire is not less sharp upon folly, that like the sword of the Athenian, it is wreathed with flowers. *

FOREIGN INTELLIGENCE.

The foreign news received by the Philadelphia from London, is a few days later only than that before received. We are indebted to Capt. Champlin for late London papers.

The British Parliament was soon to assemble for business; and among the subjects which will occupy its earliest attention, must be the situation of Ireland, where the greatest excitement existed. O'Connell was agitating with unbounded influence, and troops were going by thousands from England to maintain the supremacy of the Government.

The Dutch question seems to be drawing to a close. The Scheldt had been declared open to all nations but England and France. A speedy settlement of the question between Belgium and Holland would soon open it to them also.

The King of Spain has resumed his functions as sovereign, and has issued a Royal Decree, wherein he expresses his entire satisfaction of the administration of the Government during his illness, &c.

The French King was still occupied with his reviews at Lille, and with rewarding his troops.

There is nothing of interest from Portugal, unless it be the fact, that Lord Hervey, the British Plenipotentiary, had gone to Lisbon from Madrid, with a view, it was supposed, of inducing the contending parties to agree to an armistice, and ultimately settling their claims by negotiation, rather than the sword.

The Egyptians were still advancing successfully against the Turks. The safety of the Ottoman empire will next, it is conjectured, become the subject of Conferences and Protocols among the great powers.

LONDON, Jan. 17.—*American Stocks.*—Three per cents, 90; New York fives, 1846, 110—dividends from 1st Oct.; Pennsylvania fives, 1854, 109½; do do 1856, 110; do do 1860, 111½—dividends from August; Ohio fives, 1850, 106½; do sixes, 1850, 117; Louisiana State Loan, 1844, '47, '50, '52, 105; do Barings, 1833, '38, '43, 96½; Philadelphia city fives, 1846, 104; Mississippi sixes, 1841, '46, '51, '56, 112; United States Bank Shares, £22 5s a £22 10s—dividends from 1st January.

Jan. 19—Three per cent red. 87¾; Consols, 87 6/8.

LIVERPOOL, Jan. 17.—*Cotton Market.*—The sales to-day comprize 1000 bags Brazils and Egyptian, and 1000 Americans, all descriptions, from 6¾d to 8d—total, 2000.

SUMMARY.

APPROPRIATIONS FOR WORKS IN NEW YORK.—Among the appropriations for fortifications by the last Congress, and approved by the President, was one of $25,000 for a fort at Throg's Neck, Westchester county.

Towards improving harbors, &c., there is an appropriation of $31,700 for the pier at Buffalo.

15,000 for improving mouth of Genessee river.

15,000 for removing obstructions ni Big Sodus Bay.

8,400 for completing pier and mole at Oswego.

COLUMBIA COLLEGE.—At a meeting of the Board of Trustees, held on the 4th instant, OGDEN HOFFMAN, ESQ., was elected a member in the place of the REV. DR. SNODGRASS, resigned.

[*From the Albany Evening Journal of Monday.*]

DEATH OF GENERAL WADSWORTH.—Gen. William Wadsworth died at his residence, at Geneseo, Livingston County, on the 6th inst. Gen. W. was one of the Pioneers by whose industry and enterprize, Western New York has been converted from a "*waving forest*" into cities, villages, grottos and gardens.

It will be recollected that Gen. Wadsworth, whose Division was called into service to protect the Frontier, volunteered to cross the Niagara, ascended the Heights of Queenston in company with the Spartan Van Rensselaer, and gallantly participated in the dangers and honors of that sanguinary conflict.

STEAM BOAT LAUNCH.—On Saturday last, was launched from the Ship Yard at this place, the beautiful Steam Boat, "*Black Hawk*," of 110 tons burthen. This Boat has been built in about six weeks and finished ready to receive her Engine, under the superintendence of Mr. George S. Weeks, late of the city of New-York She is pronounced by competent judges, to be a fine model and a good specimen of naval architecture as any on the waters of the lake or river. She is about 125 feet in length, and 30 feet extreme breadth, and will, when ready for sea, draw not over two feet water. Her Engine is to be on the low pressure principle, and is building by Mr. Avery, of Syracuse, a gentleman favorably known as the builder of the Engine in the Steam Boat United States. She is intended to play between French Creek and Ogdensburgh, and French Creek and Kingston daily. She commences her trips on the opening of navigation. *French Creek, Feb.* 25, 1833.—[Watertown Gazette.]

STATE OF MAINE.—The Legislature of this State adjourned on Monday last, after passing one hundred and forty *acts*, and one hundred and one *resolves!!*

Among the resolves were the following, which refer any arrangement that may be made on the subject of the Northeastern boundary, to the votes of the people instead of to those of the Legislature.

Resolved, That so much of the resolve passed the 3d day of March, 1832, respecting the Northeastern Boundary, as provides for the submission to the Legislature, "for approval or rejection," of the agreement or treaty therein contemplated to be made by the Commissioners therein mentioned, be, and the same is hereby repealed.

Resolved, That no arrangement, provisional agreement or treaty, already made, or that may hereafter be made, under, or in pursuance of, the resolve to which this is additional, shall have any binding force, effect, or operation, until the same shall have been submitted to the people of this State, in their primary assemblies, and approved by a majority of their votes.

The ship Sagamore of Newburyport from Cronstadt for this port, with a cargo of Iron and Hemp, went ashore at Block Island on Monday. The ship it is expected will be lost. The cargo we understand was insured in this city.

THE NEW CUSTOM HOUSE.—It is stated in the Journal of Commerce, that an appropriation of *three hundred thousand dollars* was obtained through the instrumentality of Mr. Verplanck, for this object.

[*From the Albany Argus, of Wedesday.*]

We regret to announce the death of the Hon. Walter Cornell, member of the Assembly from Washington co. Mr. C. was a resident of Cambridge, about fifty years of age, an estimable and respected citizen, and a faithful and worthy representative. Mr. C. expired on Monday evening, of an inflammation of the lungs, after a confinement of a few days. The funeral ceremonies will be performed at half past ten o,clock this morning, at the Adelphi. His remains, we understand, will be conveyed to Cambridge, and members will accompany the body as far as Lansingburgh.

Northeastern Boundary.—Various reports appear to be in circulation in Maine on the subject of an arrangement made in relation to the disputed territory, by which it is proposed to give that State an indemnity in lands elsewhere, or in money, for her accession to the decision made by the King of Holland. The Legislature have in consequence applied to the Governor for information, who informs them he has come to the conclusion, that to impart it at the present time, could not fail to be prejudicial to the success of the negotiation instituted by the President with Great Britain in relation to the Northeastern boundary, and in that view, could not be consistent with the public good, but adverse to the interests of the State and of the United States.

[*From the Wilmington People's Press, Feb.* 27.]

Captain Flint, of the British schooner Brisk, from Nevis, reports, that on the night of the 8th, the islands of Nevis and St. Kitts experienced sixteen violent and distinct shocks of earthquakes, which very much alarmed the inhabitants, and on the 9th, after the Brisk was under way, at 4 o'clock, experienced a considerable shock. It is to be feared that dreadful accounts will be received from these Islands, or some of the neighboring ones, from the effects of these earthquakes.

Church burnt.—On the morning of the 28th ult. the Associate Reformed Church at Caledonia, of which the Rev. Donald McLaren is pastor, was destroyed by fire. It had recently undergone a thorough repair, and has cost $8000 or $9000. The loss will be severely felt by the Congregation.—[Geneva Gaz.]

THE WARREN COUNTY RAILROAD, the subscription books to the stock of which open to-day, is to extend ten miles in length from Caldwell, at the head of Lake George, to Glen's Falls, where it will intersect the northern canal, and thus supply a direct channel of conveyance for the immense resources of the northwestern part of this State to the city of New York.

There is a company incorporated to construct a Railroad from Saratoga, to connect with this, and thereby furnish a communication by means of a Railroad, the entire distance from Albany to Lake George, already a point of so much attraction to travellers, and which will give such vast additional facilities to those whom curiosity or recreation may induce to visit that interesting region. It will be seen by the advertisement, that pamphlets containing a minute description, and estimates and surveys of the work, are at Coster & Carpenter's, where the books will remain open to-morrow and next day. —[Communicated.]

NORFOLK, March 8.—*Loss of the packet ship William Drayton.*—The line packet ship Willism Drayton, Capt. Sutton, from New York, whence she sailed 21st Feb., with a valuable cargo on board, bound to Charleston, S. C., went ashore at New Inlet, Currituck county, N. C. at half past 11 o'clock on the night of the 24th Feb. During the night she thumped so violently, that in three hours after she struck, the water was up to the cabin floor, the sea breaking over the ship until next morning, and a heavy N. W. wind blowing, when the passengers and crew got ashore. In addition to her cargo, she had on board $100,000 for the U. S. Branch Bank at Charleston, which has been landed.

BALTIMORE, MARCH 8.—We regret to learn that the steamboat United States, which was recently converted into a floating saw mill, was consumed by fire on the 2d instant, while lying in Wye river, on the eastern shore of this State. The engine drove four mills, running twelve saws, and was owned by Messrs. P. Boyer & Co. of this city. The fire was discovered by those on board the boat about three o'clock in the morning, and had then made such progress, that the engineers and hands were forced to leap through the windows into the water, and the whole of them, fourteen in number, thus fortunately succeeded in getting on shore, but not without undergoing great suffering from their exposure to the cold. On reaching the shore, Mr. Ely, engineer, his son, Mr. Wardsworth, one of the proprietors, together with one or two others, started for Mr. W. H. De Courcey's house, about two miles distant, while the remainder awaited their return. The sufferings of Mr. Ely and his companions are said to have been intense. They were very nearly naked, destitute of shoes and stockings, and had to travel through snow six inches deep, exposed at the same time to a piercing wind. On their arrival, Mr. De Courcey immediately sent for the persons left on the shore, and had them conveyed to his house, where he and his neighbors administered in the kindest manner to their necessities. We learn that Mr. Ely and his son are so much frost bitten, that it is apprehended they will lose their feet. The remainder are more or less frost bitten, but it was hoped would speedily recover.

The loss of the mill is estimated at between twenty-five and thirty thousand dollars. There was no insurance.

Nonchalance under a severe accident.—On Wednesday a severe accident occurred, on board of one of the steamboats, while under way, about seven miles from the city. One of the hands, a mulatto fireman, after fixing some part of the machinery, in going back, stepped on the plate, when his foot slipped off the deck plate, and his leg caught between the wheel and the plate. His body fell on the deck, and his dismembered limb below. It was taken completely off just above the knee joint. He was taken up, and together with his "dismembered member," sent back to town in a boat, and during the whole distance, never uttered a complaint. The subsequent amputation of the stump, he bore with a stoicism worthy of Zeno himself. Describing the affair to a gentleman, he very coolly observed "I wouldn't have had it happen for a thousand dollars—no, sir, not for a whole steam boat,—no, not if you'd give me *all Savannah!*"—[Savannah Georgian.]

Accident.—On Saturday morning, as Mr. Edward Stanley, a resident of this city, was gunning at Williamsburg, L. Island, in company with some friends, a double barrelled fowling piece, which he was using, burst in both barrels, wounding him so severely that his life is despaired of. His face and right hand were also dreadfully lacerated.—[Standard.]

APPOINTMENTS BY THE PRESIDENT,
By and with the advice and consent of the Senate.

Levett Harris of New Jersey, to be Chargé d'Affaires of the United States to His Majesty, the King of the French.

Peter V. Daniel, of Virginia, Wylly Sillman, of Ohio, and John R. Livingston, Jr. of New York, to be Commissioners under the Treaty with Naples.

Thomas Swann, Jr. of the District of Columbia, to be Secretary to the Board of Commissioners, and George Breathitt of Kentucky, to be Clerk under the same Treaty.

Joseph Villamil, late of Louisiana, to be Consul of the United States at the Port of Guayaquil.

J. B. Ferrand, to be Consul of the United States at Panama in the Republic of New Gaenada.

Francis Thomassin, of South Carolina, to be Consul of the United States at Baracoa, in the Island of Cuba.

Obed Folga, of New York, to be Consul of the United States at Payta, in the Republic of Peru.

Henry Carleton, of Louisiana, to be Attorney of the United States for the Eastern District of Louisiana, in the place of John Slidell, whose Commission has expired.

John W. Livingston, of New York, to be Marshal of the United States, for the Northern District of New York, from the 19th day of February, 1833, when his Commission expired.

Jonas L. Sibley, of Massachusetts, to be Marshal of the United States, for the District of Massachusetts, from the 3d of March, 1833, when the commission of Samuel D. Harris expired.

Barrington Anthony, of Rhode Island, to be Marshal of the United States, for the District of Rhode Island, from the 3d of January, 1833, when his commission expired.

Andrew J. Donelson to be the Secretary authorized under the act "prescribing the mode by which patents for public lands shall be signed and executed," approved March 2d, 1833.

Thomas McCrate, to be Collecter of the Customs for the District and Inspector of the Revenue for the Port of Wiscasset, in the State of Maine, from the 11th of March, 1833, when his present commission will expire.

Isaiah L. Green, to be Collector of the Customs for the district and Inspector of the Revenue for the Port of Barnstable, in the State of Massachusetts, from the 3d of March 1833, when his late commission expired.

ACTS OF CONGRESS.—In the annexed list will be found the titles of all the acts passed at the session which has just closed, except private bills, and some few others of no general interest. The Land Bill is *not* included in the list, and cannot now become a law, even if the President was to sign it, as, in order to be so, it must be returned to the Congress that passed it.

[*From the National Intelligencer of Tuesday.*]

An act to explain an act, entitled "An act to reduce the duties on coffee, tea, and cocoa," passed the twentieth of May, 1830.

An act to establish a Land Office in the Territory of Michigan.

An act to improve the condition of the non-commissioned officers and privates of the Army and Marine Corps of the United States, and to prevent desertion.

An act making appropriations for the Engineer and Ordinance Departments.

An act granting an additional quantity of land for the location of Revolutionary bounty land warrants.

An act to amend an act, entitled "An act to alter and amend an act to set apart and dispose of certain public lands for the encouragement of the cultivation of the vine and olive," approved 19th February, 1831.

An act for the purchase of certain copies of Waterston and Vanzandt's Statistical Tables, and to authorize a subscription for the continuation of the same.

An act for making Calais and Pembroke, in the State of Maine, ports of delivery.

An act making appropriations in part for the support of Government for the year 1833, and for certain expenditures of the year 1821.

An act in addition to the act for the gradual improvement of the navy of the United States.

An act making appropriations for carrying on the fortifications of the United States during the year 1833.

An act making appropriations for the Indian department for the year 1833.

An act for the payment of horses and arms lost in the military service of the United States against the Indians on the frontiers of Illinois and the Michigan Territory,

An act to change the names of William B. Finch and Elizabeth B. Finch, to that of William Compton Bolton and Elizabeth Bolton.

An act to amend an act entitled "An act to grant a quantity of land to the State of Illinois, for the purpose of aiding in opening a canal to connect the waters of Illinois River with those of Lake Michigan, and to allow further time to the State of Ohio for commencing the Miami Canal from Dayton to Lake Erie.

An act prescribing the mode by which patents for public lands shall be signed and executed.

An act to authorize the President of the U. States, to cause the public surveys to be connected with the line of dimbarkation between the States of Indiana and Illinois.

An act to explain and amend the 17th and 18th sections of "An act to alter and amend the several acts imposing duties on imports," approved 14th July, 1833.

An act making provision for the publishing of the documentary history of the American Revolution.

An act further to provide for the collection of duties on imports. [This is what has been called the "Revenue Collection Bill.]

An act to revive the act entitled an "act supplementary to the several laws for the sale of the public lands.

An act for improving the navigation of certain Rivers in the Territories of Florida and Michigan, and for surveys, and for other purposes.

An act for the establishing a port of entry and delivery at the village of Fall River, in Massachusetts, and discontinuing the office at Dighton.

An act making appropriations to carry into effect certain Indian treatie, and for other purposes, for the year 1833.

An act to amend an act entitled "an act supplementary to the act for the relief of certain surviving officers and soldiers of the revolution.

An act making appropriations for the support of the army for the year 1833.

An act to authorize the President of the U. States to exchange certain lands belonging to the Navy Yard at Brooklyn for other lands contiguous thereto.

By act making appropriations for carrying on certain works hitherto commenced for the improvement of harbors and rivers, and also for continuing and repairing the Cumberland Road and certain Territorial Roads.

An act to establish a town at St Marks, in Florida.

An act authorizing an alteration in the election districts for members of the Legislative Council of the Teritory of Michigan.

An act prolonging the second session of the 5th Legislative Council of the Teritory of Michigan.

An act to authorize the Governor of the Teritory of Arkansas to sell the land granted to said Territory by an act of Congress approved the 15th June, 1832, and for other purposes.

An act to carry into effect the Convention between the United States and his Majesty the King of the Two Sicilies, concluded at Naples on the 14th day of October, 1832.

An act making appropriations for Indian annuities and other similar objects, for the year 1833.

An act to modify the act of the 14th July, 1832, and all other acts imposing duties on imports. [This is Mr. Clay's Bill.

An act making appropriations for the revolutionary and other pensioners of the U S. for the year 1833.

An act making appropriations for the naval service for the year 1833.

An act making appropriations for certain fortifications.

An act making appropriations for the civil and diplomatic expenses of the Goverment for the year 1833.

An act to explain and amend the act to alter and amend the several acts imposing duties on imports, passed July 14 1832, so far as relates to hardware, and certain manufactures of copper and brass and other articles.

An act for the relief of the widows and orphans of the officers and seamen who were lost in the United States schooner the Slyph.

Resolutions.

A resolution in relation to the execution of the act supplementary to the act for the relief of certain surviving officers and soldiers of the Revolution.

A resolution to place thirty copies of the Diplomatic Correspondence of the American Revolution at the disposition of the Secretary of State.

A resolution for the relief of sundry owners of vessels sunk for the defence of Baltimore.

Resolutions authorizing the delivery of certain papers in the Department of State to the Commissioners for several Claims under the treaty with France, of the 2d of February, 1832.

Resolution providing for the continuation of Gales & Seaton's Compilation of State papers.

Resolution authorizing the Secretary of War to correct certain mistakes.

LEGISLATURE OF NEW-YORK.

Monday, March 4.—IN SENATE.

Mr. Tracy introduced a bill to incorporate the American Seamen's Friend Society.

The Senate sat some time as a Court of Errors.

Tuesday.—IN SENATE.

The bill concerning interest on money, was referred to the committee on finance.

IN ASSEMBLY.

Mr. Stilwell called for the qustion on the final passage of the bill relative to the New York and Harlem Railroad Company. Mr. S. explained that he did so at the request of the applicants, and for the purpose of moving the indefinite postponement of the bill.

Mr. Morris was in favor of deciding the question definitively, believing that the mass of the citizens of New York were interested in the defeat of the bill, and were anxious that the matter should be put at rest, at least until after another charter election. He concluded by moving a postponement of the question until to-morrow.

On motion of Mr. McKeon the bill was laid on the table.

IN THE LEGISLATURE, on Wednesday, no business was done. The two Houses met at 10 o'clock, and immediately adjourned to attend the funeral of Mr. Cornell, of Montgomery.

Thursday, March 7.—IN SENATE.

The bill to incorporate the North River Whaling Company was introduced. Ordered printed.

IN ASSEMBLY.

Bills reported:—To incorporate the Squakie Hill bridge company.

ASSEMBLY—*March 8.*

Bills read a third time and passed:—To incorporate the Housecarpenters' Benevolent Society, Brooklyn.

To incorporate the New York Academy of Invention.

On motion of Mr. Spencer,

Resolved, That the comptroller report the amount of salary paid to Geo. W. Newell as comptroller's clerk, and for services as such to the canal board, and for all other services, since 1827, specifying the sums paid for different services, and the authority under which paid, and the laws authorizing such payments.

[Mr. Newell is the person who it is understood is to be appointed deputy comptroller of the canal department, provided the bill now before the house on that subject should pass.]

Mr. Van Duzer called for the question on agreeing with the committee of the whole, yesterday, on the bill for the appointment of a second deputy comptroller, to have charge of the canal department.

Mr. Spencer moved that the salary be $1200.

Messrs. Myers, Van Duzer, Stilwell and Burwell opposed the amendment.

The question was lost, 68 to 30.

The House then agreed with the committee of the whole in their report, and the bill was ordered engrossed.

Mr. Stilwell called up the bill to amend the charter of the New York and Haerlem Railroad Company. He said he would withdraw the motion for its postponement, and accede to the proposition of Mr. Morris, that the question should be taken on the final passage of the bill. The bill was rejected, 87 to 4.

Saturday—IN SENATE.

Bills introduced—To incorporate the Dutchess Whaling Company: concerning the Canals of this State. [Prohibits engineers from purchasing or holding any real estate in the vicinity of the canals for hydraulic purposes.]

IN ASSEMBLY.

The committee of the whole, took up the bill providing for an investigation of the extra accounts of contractors on the crooked lake canal, and passed the same, after amending it so as to include the Chemung canal. The committee rose, but before the question was taken on agreeing with the committee of the whole, the house adjourned till 11 o'clock on Monday.

Monday, March 11—In Assembly.

Upon the question of agreeing with the committee of the whole, in favor of the bill for the relief of the Contractors on the Chemung and Crooked Lake Canals, a long debate ensued. The report was at length concurred in, by a vote of 63 to 38.

[*From the Globe of March* 6.]

Yesterday the diplomatic representatives of the different foreign governments, waited upon the President to offer their congratulations on his re-election, and to assure him of the friendly disposition of their own countries towards the United States. They were received and introduced to the President by the Secretary of State, in the presence of the Heads of Departments, at one o'clock, and Mr. SERRURIER, Minister Plenipotentiary of France, made the following address on their behalf:

MR. PRESIDENT:

The Diplomatic Body accredited to the government of this Republic, hasten to offer to your Excellency their respectful felicitations on your second inauguration as President of the United States.—They feel assured that this new and flattering proof of the confidence of your fellow citizens cannot but greatly contribute to confirm those friendly relations which already exist between this Republic and the Governments represented at Washington—relations which your excellency has so happily preserved and extended during the four years of your first Presidency.

I esteem it, Mr. President, at once a happiness and an honor to be, on an occasion so interesting, the interpreter of the sentiments which animate the Diplomatic Body towards you, personally, and to offer you, in their name, the sincere wishes which every one of them truly entertains for the increasing prosperity of this Republic, for the firmness of its union, and especially, Mr. President, for every thing that can contribute to your own personal glory and happiness.

To this address the President made the following reply:

It gives me great pleasure, gentlemen, to receive by the organ of the eldest and highly respected member of the Diplomatic Body, near the government of the United States, the congratulations you are pleased to offer on my re-election, and above all, the assurances for my country of the friendly disposition of those which you represent.

It has been a principal object with me, to cultivate that disposition by the sincerest desire to cherish kindly feelings, extend the advantages of commerce, promote the interchange of every discovery in arts and science in peace, and lessen by humane stipulations, the evils of war. when, unfortunately, that scourge of the human race becomes inevitable.

Repeat these assurances, gentlemen,to the several governments you represent, as the invariable rule of my conduct towards them; and, for yourselves, accept the offer of the high respect and regard for you individually, with which your conduct during your residence here has inspired me.

THE CAUSE OF TEMPERANCE is one, in the progress of which every well regulated mind must delight;—not a forced and unnatural progress, but that which results from personal conviction, or the example or instruction of others. Among the many cheering indications that such progress is really making, and that over the whole surface of our wide country, kindred minds and hands are at work in so good a cause, we have pleasure in making public the annexed letter, recently received by a gentleman of this city from a friend in *Alabama*. It is dated last month.

Dear Sir: I will, in reply to your inquiry of "how comes on the cause of Temperance in Alabama?" state a few facts.

About twelve years ago, I connected myself in business with a country merchant residing in the middle part of South Alabama, and soon after settled my family at the same place. We kept a general assortment of goods: our customers were generally of the class called "first settlers," or "pioneers," enterprising men, with young but numerous families, who, being poor, and seeing but little prospect of bettering their fortunes in the land of their nativity, had the courage to attempt their improvement by removing to, and settling in, a new country. These people were industrious and liberal, but sadly addicted to the use of spirituous liquors. They were kind to each other and to strangers. If a stranger asked for a glass of water, it was their custom to offer whiskey with it; and the head of a family, although unable to pay for the land he occupied, would apologise with seeming mortification, if he was unable to offer his visiting neighbor a glass of grog.

It is the business of a country merchant to supply the wants of his customers; and to graduate his purchases to their wants, requires some experience, and much observation, and upon which depends, in some degree, the success of his business.

In 1824, we had been four years in business. and it required, about that period, 100 barrels of whiskey, with a large quantity of American and English rum, and American and French brandies, for one year's demand.

In 1825, nearly the same.
1826, 75 barrels whiskey, &c.
1827 40 do. do.
1828, 25 do. do.
1829, 10 do. do. and 2 pipes brandy.
1830, 5 do. do. 2 do. do.
1831, 5 do. do. 1 do. do.

And there is another fact as remarkable as the decrease of the consumption of spirituous liquors in that neighborhood, as shown in our purchase and sales above. The increase of the consumption of sugar and coffee, shown by our sales of the articles, was nearly as rapid. But the most interesting fact of all is the extraordinary change in the circumstances of this same population. From the period of giving up the extravagant use of spiritous liquors, these people began to save something from the proceeds of their little crops, and partly with these savings, and partly from aid given them by a gentleman of some monied capital who resided near, they have purchased the land they previously settled upon, and are now generally independent planters, making from five to fifty bales cotton each family, besides an abundance of bread stuffs, and almost every variety of vegetables, by means of which, with their ample stocks of cattle, hogs, sheep, and poultry, they are enabled to live in great comfort. Now, instead of offering the stranger whiskey, and the hospitality of their miserable cabins; they receive him in their comfortable houses, and in place of the shelf formerly to be seen in their cabins decorated with jugs and black bottles, he finds shelves or book cases stored with books; instead of ragged children, fine rosy cheeked girls and boys, neatly dressed, and ready to converse with him upon the subject of schools, agriculture, the cotton market, &c. &c.

Speaking of rosy cheeks, reminds me of another fact. We kept medicines, with our other wares, and our sales in that department, for the last six years, decreased every year.

I believe that Temperance Societies have done much good in Alabama, as well as in other States, but we had none in the neighborhood which I have been speaking of; yet we heard much of the reformation attributed to them, and may in that way have derived advantage from them. But it is to religion, to the *precepts taught in the good Book*, that we are mainly indebted for our escape from a state of misery and brutality; for the kind interference of an all wise Providence in our affairs and for our present prosperity.

[The law abolishing imprisonment for debt has been in existence a year, and is meeting opposition in various parts of the State. That law has been hailed among enlightened and intelligent men throughout the country, as a harbinger of the abolition of a feudal and barbarous custom in all the States of this confederacy. A correspondent of the United States Gazette, places the injustice of the practice of imprisonment for debt in a glaring light in the following article:—]

Imprisonment for Debt.—A gentleman who has given much time to the consideration of imprisonment for debt, and the collection of facts relative thereto, has furnished us with the subjoined statement. The suffering attendant on this mode of procedure can only be known to those who take pains to inquire closely into its operation. It is an aggregate of evil which all must deplore; and to increase the cause for lamentation, it appears that 13 of the sufferers were incarcerated for militia fines,

"——————a trifling sum of misery,
Now added to the foot of the account."

But we give the tabular statement—

Imprisonment for small debts, say less than $5 33 1-3, in the debtors' apartment of the city and county of Philadelphia, between the 1st of December, 1829, and the 1st December, 1830:—

Number of cases	433
Time—months	12
Total debts	$1488 13
Total days of confinement	3322
Number of debts paid	68
Amount of debts paid	$160 68
Days of confinement previously suffered	214

Of the 68 persons imprisoned who paid their debts, 13 were for militia fines, amounting to $26, after suffering about 28 days of confinement.

THE NEW CUSTOM HOUSE.—It is stated in the Journal of Commerce, that an appropriation of *three hundred thousand dollars* was obtained through the instrumentality of Mr. Verplanck, for this object.

We understand that the Loan to the Paterson and Hudson River Railroad Company—proposals for which have been advertised in our columns some days past—has been taken by a company of gentlemen at a premium of 2 1-2 per cent.

We are also informed that several offers were made at a higher premium, but on conditions not embraced in the proposals, and that the committee did not therefore feel authorized to accept them.

Northeastern Boundary.—Various reports appear to be in circulation in Maine on the subject of an arrangement made in relation to the disputed territory, by which it is proposed to give that State an indemnity in lands elsewhere, or in money, for her accession to the decision made by the King of Holland. The Legislature have in consequence applied to the Governor for information, who informs them he has come to the conclusion, that to impart it at the present time, could not fail to be prejudicial to the success of the negotiation instituted by the President with Great Britain in relation to the Northeastern boundary, and in that view, could not be consistent with the public good, but adverse to the interests of the State and of the United States.

We mentioned a few days ago that a boat had sunk in the Chesapeake Bay, during the squall on the 24th ult. and that nine persons had been drowned. We find in the Annapolis Republican of Saturday, the following notice of the same disaster, from which it appears that but one person was lost.

Sunday last was one of those days which we occasionally experience in this changeable climate, in which we have every aspect of every climate within the short space of a few hours. The morning was balmy, mild and calm with sun shine. Next we had the promise of a mild rain—then came April showers; and in the afternoon, the promise of a north east settled rain—then a tornado of wind, accompanied with hail and snow. About four o'clock, after a portentous calm, during which the clouds were moving rapidly and collecting in black columns to the north, the wind came suddenly out from that quarter and blew a fair hurricane. The Chesapeake which a few minutes before wore a mirror surface, was now in fretful foam, presenting a scene sublime and grand; every sail was doused to the blast. One row boat, which had left the wharf a few minutes before the change, having on board Mr. Jacob Winchester, of Wilmington, Delaware, and Miss Julia Ann Winchester, of Kent Island, her maid, and a boy of seven years, with six black men to work the boat home to Kent Island, was distinguished in the offing, in a very perilous situation. Every attempt to make land proving abortive, the boat was finally observed to float off until the surf hid her from view, and left our whole community in the most anxious suspense for their fate. Early next morning a vessel was despatched to ascertain whether they had reached the Island. It seems, that after finding the utter impossibility of making the shore, all on board seated themselves in the bottom of the boat, and suffered her to drift before the wind. She soon became nearly full of water, by the breaking of the waves and spray. In this situation a vessel came scudding before the wind, discovered them, and endeavored to take them up. On nearing them, one of the black men sprung from the boat on board: another made the attempt, but failed, and was drowned.* All further attempt was abandoned, and the vessel proceeded on her course down the bay.

Those large Chesapeake row boats are constructed so as to live in almost any sea. This one continued to float, though nearly filled with water, and having nine souls on board, until she reached the island, after four hours exposure, about eight o'clock. Miss Winchester remained unable to speak until some time on Monday; but hopes were entertained of her restoration. Mr. W. was recovering. The boy retained firmness throughout the trying scene, and was well.

The above is probably the boat alluded to in the Baltimore and Washington papers, as having been lost of this harbor, with nine passengers.

[*From the Wilmington People's Press, Feb.* 27.]

Captain Flint, of the British schooner Brisk, from Nevis, reports, that on the night of the 8th, the islands of Nevis and St. Kitts experienced sixteen violent and distinct shocks of earthquakes, which very much alarmed the inhabitants, and on the 9th, after the Brisk was under way, at 4 o'clock, experienced a considerable shock. It is to be feared that dreadful accounts will be received from these Islands, or some of the neighboring ones, from the effects of these earthquakes.

The famous musical statue of Memnon is still seated on its throne, dignified and serene as the plain of Thebes. It is a colossus, fifty feet in height, and the base of the figure is covered with inscriptions of the Greek and Roman travelers, vouching that they had listened to the wild sunrise melody. The learned and ingenius Mr. Wilkinson, who has resided at Thebes upwards of ten years studying the monuments of Egypt, appears to me to have solved the mistery of this music. He informed me that having ascended the statue, he discovered that some metallic substance had been inserted in its breast, which, when struck, emitted a very melodious sound. From the attitude of the statue, a Priest might easily have ascended in the night and remained completely concealed behind the mighty arms, while he struck the breast; or, which is not improbable, there was some secret way to ascend now blocked up, for this statue, with its companion, although now isolated, were once part of an enormous temple, the plan of which may yet be traced. Thanks to the Phoretic system, we now know that this musical statue is one of Amunoph the Second, who lived many centuries before the Trojan war. The truth is, the Greeks, who have exercised almost as fatal an influence over modern knowledge as they have a beneficial one over modern taste, had no conception of any thing more ancient than the Trojan war, except chaos.—Chaos is a poetic legend, and the Trojan war was the squabble of a few marauding clans.—[Egyptian Thebes.]

POETRY.

[*From the Traveller & Times.*]

ADAM AND EVE.

"A thing beyond all praise."—*Prior.*

Who can reproach thee, Adam, with the crime
That drove thee forth from Eden, if the brow
Of her who woo'd, and sued thee at the time,
Was heavenly as the record beaming now
From out the web before me? and if thou
Wert such as I am, thy degen'rate son,
Forc'd (reckless—fame—hope—reason—heaven,) to bow
When beauty claims her dower—believe me—one
Who, placed as thou wert placed, had done as thou hast done.

O thou! O thou! whose spirit's sight could peer
Into the heaven of beauty, and draw forth
Such lips—and eyes—and soul, as we have here,
Again to pout—and beam—and burn on earth—
Say, are they truly of immortal birth,
Or born within thy bosom? if the last,
I cannot find a word to speak thy worth,
But whichsoe'r they are, alike thou hast
The tribute of my heart, where e'er thy home be cast.

Perhaps by Chind'ra's* breathing fount he lay,
Sketching the glories of the mystic spring;
When the young Queen of Music came the way,
And bared her beauties to his penciling.
For oh! there's music in them—and to sing
Their sovereign triumph o'er the soul, should be
The task of some born monarch of the string!
Whose tongue could utter what his eye might see,
Weaving his glowing song from that rich drapery.

Milton has sung that of the heavenly race
Of women! Eve was heavenliest—true to this
There is a glory in that ming'd face,
Unknown to—mercy!—I have sang amiss—
But let it go—that peerless brow to kiss,
Were it invested with a soul as fair,
Man might forego th' anticipated bliss
Of fifty Edens, for a world of care,
Even heaven itself were such to light his exile there.

And see the father of our race is there,
Looking, as he should look before the fall,
Proud of his hopes, his home, and garden fair,
But prouder of his lady far than all,
His very pride bespeaks his spirit's thrall,
And woman all triumphant—still his eye
Looks wav'ringly to heaven—perchance to call
His God's assistance down—and now that sigh— [hye.
The very canvass breathes—'tis done—hope—heaven—good

Now turn we to the hour, when sin first flung
Her blight aroud creation—up my soul!
Mount on the storm which tears that scene among,
Proclaiming man's disgrace, and nature's dole—
Hark! how the lightnings hiss—the thunders roll—
The wounded pine tree groans, uptorn and rent,
The infant whirlwind rushes from its goal,
Curling the startled waters in its bent,
And all is storm, and gloom, and light, and beauty blent.—

And see the tawny monarch of the wood,
Claiming the sov'reignty, which after time
Awards to his descendants. Lo! the flood,
Adding its terrors to that hour of crime—
Storm, flood, and thunder, meet in war, sublime,
Hurling confusion round them—Earth groans out,
Mourning the havoc of her harvest prime,
The torrent meets the ocean with a shout— [out.
Hills totter,—mountains burst,—and horror reigns through-

But what is nature's bustle?—what the war
Of floods and whirlwinds—all that tongue can tell?
There's something more tremendous—deadlier far,
In the blanch'd cheek—strain'd eye, and torturing swell
Of Adam, on the moment that he fell.
O Heaven! what hand could trace such wild despair
The look is worthy of the loss—tho' hell
Had clos'd on him that moment, and laid bare
The ills of after time piled up in mountains there.

But still there is one feeling lingering yet
Of former joy—'tis love for her who kneels
In ruin at his feet—their eyes have met
In love's despair, and that wild glance reveals
What each conceives and dreads, and hopes, and feels
She looks alone to him for hope—and he,
Reckless of the wild whirl that round him reels,
And reckless of its cause, too, bends his knee,
Losing each other thought in his love's agony.

But this is not a picture—'tis the life
Leaping about the canvass—every track
Proclaims some novelty, with action rife,
Waters that lash and roar—the whirlwind's rack—
Hark! hear ye not the rocking pine-tree crack,
Split by a fire-shaft in its sweep of pride?
Lo, see the light kindling the lion's back—
Gilding the forms of Adam and his bride;
And bearing rage, and storm, and life, on every side.

J. M. M.

* "From Chindara's warbling fount I came."—[Moore.]

SALES OF REAL ESTATE AT AUCTION.

By James Bleecker & Sons, since 1st March.

The three story brick buildings and 8 years lease of 3 lots on Crosby street, between Grand and Howard streets, each 25x87½, sold for	$3,050
12 years lease of 102 Delancey street	315
The brick front house and lot at the north west corner of Church and Lispenard streets, lot 25x60 feet	5,000
The farm, late the estate of Wyrant Van Zandt, at Little Neck, L. I. containing about 200 acres	12,100
Two story brick house and lot 43 Ann street, lot 24:8 x125:3	8,900
The building and lease lot 183 Canal street	2,900
Three lots of ground on lease from Sailors Snug Harbor, on 8th street, 25x120—each $500	1,500
1 do do do 25x94	220
House and lot 223 Broome street, adjoining the corner of Essex street, lot 25x85	3,550
The two story brick house and lot 27 Mercer street, lot 24:8x100	7,250
1 lot on 3d street, near Avenue A	580
1 do adjoining on 3d street	570
1 do do do	570
1 do do do	565
1 do do smaller	550
1 do do do	480
1 do on 4th street, rear of the above	445
5 do adjoining, do do each $445	2,225
A gore on 3d street, rear of above	40
The house and lot 170 Hester street, near Mott street, 21:7x50	2,350
Do do do 172 do do adjoining, subject to a lease which expires in 1842	1,500
House and lot 57 Perry street	4,000
Do do 56 do do	3,975
The frame store and lot 164 Front street, lot 14 feet 8 in front, 16 feet rear, and about 58 feet deep	16,200
The lot at the north west corner of Wall and Nassau street, 25x74	31,500
Under the direction of Thomas Addis Emmet, Esq., Master in Chancery, the stores and 2 lots of ground on the south easterly side of Chatham street, each 25x100, sold together for	10,000
Under the direction of S. Cambreleng, Esq. Master in Chancery, 5 lots on Sullivan street, with 3 story brick house, between Amity and Bleecker streets, each 25x100	12,000
1 lot in the rear of the above, on McDougal street	1,950
1 lot on Willow street, Brooklyn	1,700

MECHANICS' MAGAZINE,
AND
Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan.

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, $3 per annum, *in advance.*

D. K. MINOR, 35 Wall street, New-York.

☞ NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE. *Whole number, Vol. 6.* NEW SERIES, VOLUME FIRST. No. 1, for January 1833, is just published. This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture, Horticulture,* &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to dissemmate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

Terms, THREE Dollars per annum, *in advance*; and will not be sent without, as, at its *present* price, it will not pay a commission for collecting, nor bear the loss arising from want of punctuality on the part of subscribers.

D. K. MINOR, Proprietor,
35 Wall street, New-York.

☞ THE AMERICAN PLOUGH-BOY.—This is an small agricultural paper, designed more particularly for those who do not choose to take a more expensive work, and yet are desirous to understand how others manage agricultural affairs. It will in a measure be confined to giving details of the *practical operations* of practical farmers, rather than the speculations of the more scientific. It will draw considerably upon the columns of the New-York Farmer and American Gardener's Magazine, as well as other agricultural publications. It will also give many interesting items of news and occurrences of the day, and devote one page out of four to advertisements, if required.

Terms, $1.50 per annum, in advance, to *single* subscribers; or twelve copies will be sent for $15, if paid *in advance.* All communications for the *American Plough-boy* may be addressed to the Proprietor, D. K. MINOR.

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT,
j31 6t 154 Water-street, corner of Maidenlane.

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the U. States. As to the quality of Rope, the public are referred to J. B. JERVIS, Eng. M. & H. R. R. Co., Albany; or JAMES ARCHIBALD, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne County, Pennsylvania.

Hudson, Columbia County, New-York,
January 29, 1833. f31 tf

PAPER.

THE SUBSCRIBERS, Agents for the Saugerties Paper Manufacturing Company, have constantly on hand an extensive assortment of Royal, Medium, and Imperial Printing Paper, all made from first quality Leghorn and Trieste Rags. All contracts made after this date, will be furnished with 480 perfect sheets to the ream; and all sales amounting to over $100, of Medium or Royal, out of that part of the stock which includes cassia quires, the purchasers will be allowed an extra quire of perfect paper to each double ream, with additional allowances to the publishers and the trade, who buy largely. The terms will be liberal. Apply to GRACIE, PRIME, & CO.,
J31 22 Broad Street.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ THE TROY IRON AND NAIL FACTORY keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

RAILROAD COMPANIES MAY BE SUPPLIED WITH SPIKES having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.
Troy, N. Y., July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. TOWNSEND, Albany, and the principal Iron Merchants in Albany and Troy; J. I. BROWER, 222 Water-street, New-York; A. M. JONES, Philadelphia; T. JANVIERS, Baltimore; DEGRAND & SMITH, Boston.

P. S. Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

j23 1am H. BURDEN.

[*From the Journal of Commerce.*]

RAILROADS.—We have been permitted to copy from the forth-coming New-York Annual Register of Mr. Williams for 1833, (to be published in April) the following schedule of Railroad Companies incorporated by the Legislature of this State.

INCORPORATED RAILROAD COMPANIES

Albion and Tonawanda—from Albion to Batavia, incorporated in 1832, capital	$250,000
Auburn and Erie Canal—from Auburn to Erie Canal, incorporated in 1832, capital	150,000
Aurora and Buffalo—from Aurora to Buffalo, incorporated in 1832, capital	300,000
Brooklyn and Jamaica—from Brooklyn to Jamaica, incorporated in 1832, capital	300,000
Buffalo and Erie—from Buffalo to Erie county, Pa. incorporated in 1832, capital	550,000
Black River Company—from Rome to Ogdensburgh, incorporated 1832, capital	900,000
Catskill and Canajoharie—from Catskill to Canajoharie, incorporated in 1830, capital	600,000
Dansville and Rochester—from Dansville to Rochester, incorporated in 1832, capital	300,000
Dutchess—from Poughkeepsie to Connecticut, incorporated in 1832, capital	600,000
Elmira and Williamsport—from Elmira to Pennsylvania, incorporated in 1832, capital	75,000
Fish House and Amsterdam—from Fish House to Amsterdam, incorporated in 1832, capital	250,000
Great Au Sable—from Great Au Sable to Port Kent and Peru, incorporated in 1832, capital	150,000
Harlæm—frem Prince street N. York, to Harlæm, incorporated in 1831, capital	350,000
Hudson and Berkshire—from Hudson to Massachussetts St. Line, incorporated in 1832, capital	350,000
Hudson and Delaware—from Newburgh to Delaware River, incorporated in 1830, capital	500,000
Ithica and Geneva—from Ithica to Geneva, incorporated in 1832, capital	800,000
Ithica and Owego—from Ithica to Owego, incorporated in 1828, capital	300,000
Lake Champlain and Ogdensburgh—from Lake Champlain to Ogdenburgh, incorporated in 1832, capital	3,000,000
Mayville and Portland—from Portland to Mayville, incorporated in 1832, capital	150,000
Mohawk and Hudson—from Schenectady to Albany, incorporated in 1826, capital	600,000
New York and Albany—from N. York to Albany, incorporated in 1832, capital	3,000,000
New York and Erie—from N. York to Lake Erie, incorporated in 1832, capital	10,000,000
Otsego—from Cooperstown to Collersville, incorporated in 1832, capital	200,000
Rensselaer and Saratoga—from Troy to Ballston Spa, incorporated in 1832, capital	300,000
Rochester—from Rochester to Genesee Port, incorporated in 1831, capital	30,000
Saratoga and Fort Edward—from Saratoga Springs to Fort Edward, incorporaed in 1832, capital	200,000
Saratoga and Schenectady—from Saratoga Springs to Schuylersville, incorporated in 1832, capital	100,000
Schoharie and Otsego—from Schoharie county to Susquehannah River, incorporated in 1832, capital	300,000
Tonawanda—from Rochester to Attica, incorporated in 1832, capital	500,000
Utica and Susquehannah—from Utica to Susquehannah River, incorporated in 1232, capital	1,000,000
Warren County—from Glenn's Falls to Warrensburg, incorporated in 1832, capital	2,500,000
Watertown and Rome—from Rome to Watertown, incorporated in 1832, capital	1,000,000
Total,	$27,555,000

The Railroads at present in operation are,

The Mohawk and Hudson from Albany to Schenectady - - - 15 miles.

The Saratoga and Schenectady, from Schenectady to Saratoga Springs - 21 do.

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These two Railroads form a continued line from Albany to Saratoga Springs.

The principal works under contract, or in progress, are, the Ithaca and Owego Railroad, length 29 miles.

Harlæm Railroad, from Harlæm, city of N. York, to the Bowery, near Prince street 7 do.

METEOROLOGICAL RECORD.

AVOYLLE FERRY, ON RED RIVER, LOU.

Latitude 31:10 N. longitude 91:50 W, from Greenwich, nearly.

[Communicated for the American Railroad Journal.]

Date. 1833.	Thermometer morning	noon	sun set	Wind.	Weather.
Tuesd, Jan 1	63	67	68	calm	cloudy morn'g—clear ev'g
Wednesday, 2	62	66	66	..	foggy morn.—cloudy all d
Thursday, 3	63	70	73	south	clear—calm evening
Friday, 4	65	73	74	..	cloucy—clear evening
Saturday, 5	64	68	68	calm	cloudy
Sunday, 6	64	68	67	..	..
Monday, 7	62	57	53	north	.. —very much rain.
Tuesday, 8	44	58	54	calm	clear
Wednesday, 9	46	51	48	n. w.	.. —high wind
Thursday, 10	34	50	42	calm	..
Friday, 11	32	52	49	..	..
Saturday, 12	42	59	56	..	cloudy
Sunday, 13	55	65	68	..	clear
Monday, 14	54	60	60	..	cloudy
Tuesday, 15	68	72	68	south	cloudy and rain
Wednesday, 16	51	51	48	north	clear
Thursday, 17	31	47	40	..	..
Friday, 18	31	57	52	calm	..
Saturday, 19	41	62	57	..	..
Sunday, 20	49	64	65	..	..
Monday, 21	54	69	69	..	..
Tuesday, 22	59	61	70	..	foggy morning—clear day
Wednesday, 23	61	67	63	w &n.w	clear—severe gale all day
Thursday, 24	42	65	58	calm	clear
Friday, 25	30	58	51	north	..
Saturday, 26	34	61	61	calm	.. —cloudy night
Sunday, 27	46	66	64	..	..
Monday, 28	48	56	60	..	cloudy, and rain all nigh
Tuesday, 29	61	68	64	south	cloudy, rain and thunder
Wednesday, 30	62	72	66	calm	cloudy in ev'ng—high w
Thursday, 31	50	61	59	n. w.	clear [ing

The range of the Thermometer (Fahrenheit's) has been regularly entered in the morning between day break and sun rise, at noon between 12 and 1 p. m., and at night between sun set and dark.

CHARLESTON, S. C

Date.	Thermometer 7 a. m.	2 p. m.	9 p. m.	Wind.	Weather.
December 1	58	63	61	W	cloudy
" 2	54	60	56	NE	..
" 3	46	59	49	NW	rain
" 4	47	59	49	..	fair
" 5	40	61	49	NE	..
" 6	49	56	51	..	cloudy
" 7	51	62	59	..	..
" 8	61	65	65	S	rain
" 9	56	63	54	NW	fair—cloudy afternoon
" 10	57	64	58	NE	cloudy—rain at night
" 11	54	58	54	S	..
" 12	48	58	56	W	fair
" 13	52	57	51	S	..
" 14	54	60	59	N	cloudy—rain in afternoon
" 15	52	58	49	NW	fair
" 16	50	55	54	SW	cloudy—rain at night
" 17	51	57	50	W	.. —light rain and very [cloudy
" 18	44	53	48	..	fair
" 19	45	52	44	..	..
" 20	40	58	44	..	..
" 21	36	45	38	..	..
" 2	42	45	44	E	.. —rain at night

The remainder of this month has not been received.

MONTREAL, L. C

Date.	Thermometer 7 a.m.	3 p.m.	Barometer. 7 a.m.	3 p.m	Remarks.
Dec. 1..	15 x	17 x	29.97	30.19	snow
" 2..	8	22	30.38	.21	fair
" 3..	15	23	29.97	21.35	..
" 4..	25	31	.97	.91	..
" 5..	4	15	30.37	30.43	..
" 6..	16	28	29.50	.41	..
" 7..	18	20	30.48	.46	..
" 8..	22	31	.12	29.75	snow
" 9..	32	36	29.78	.74	..
" 10..	10	22	.96	30.11	fair
" 11..	29	36	30.18	.15	..
" 12..	23	19	.03	.05	..
" 13..	7	12	.18	.15	fair—snow
" 14..	12	20	.16	.12	.. —..
" 15..	21	21	.16	.07	..
" 16..	19	24	.02	.05	..
" 17..	22	30	29.76	29.61	snow
" 18..	27	20	.19	.15	.. —fair
" 19..	15	19	.10	.18	fair
" 20..	5	14	.36	.33	..
" 21..	6	12	.38	.55	..
" 22..	10	18	30.03	30.18	..
" 23..	7	14	.35	.34	..
" 24..	11	25	.31	.24	..
" 25..	25	28	.02	.13	..
" 26..	0	9	.02	.13	..
" 27..	20	24	29.93	29.79	hail—fair
" 28..	9	11	30.07	30.13	fair
" 29..	4	15	.24	.63	..
" 30..	50	8	.79	.43	..
" 31..	28	33	.28	.02	.. —rain

MARRIAGES.

Last evening, March 12, by the Rev. Dr. Milnor, JOHN SMITH, of St. Louis, Missouri, to PENELOPE HEPBURN, daughter of the late Capt. Alexander McDougal, of this city.

Last evening, 12th of March, by the Rev. L. P. Bayard, Mr. JAMES WETHERSPOON, to ANN C., daughter of Dr. W. B. Palmer, all of this city.

At Staten Island, on Wednesday evening last, by the Rev. David Moore, Mr. EPHRAIM JOHNSON, to Miss ADDRA PERRINE, daughter of Richard Cocheron, Esq. all of that place.

In Washington, on Monday evening the 4th inst. by the Rev. Mr. Palfrey, Hon. JOHN KING, of New-York, to Mrs. SARAH S. BRANNAN, of that city.

DEATHS.

This morning, after a short but severe illness, Mr. THOMAS DRUMGOLD, in the 31st year of his age.

Yesterday afternoon, 12th March, after a short illness, in the thirteenth year of his age, JAMES, youngest son of James Cheeterman.

On Tuesday, the 12th inst., in the 41st year of her age, ALETTA, wife of William Ryley.

On Sunday, the 10th inst. MARTHA ANNIS, wife of Edward H. Neilson, and daughter of William Osborn, in the 23d year of her age.

On Sunday morning, 10th inst. in her 71st year, ANN, widow of Capt. George Hunter, formerly of this city.

On Sunday night, NICHOLAS W. STEVVESANT, in the 63rd year of his age

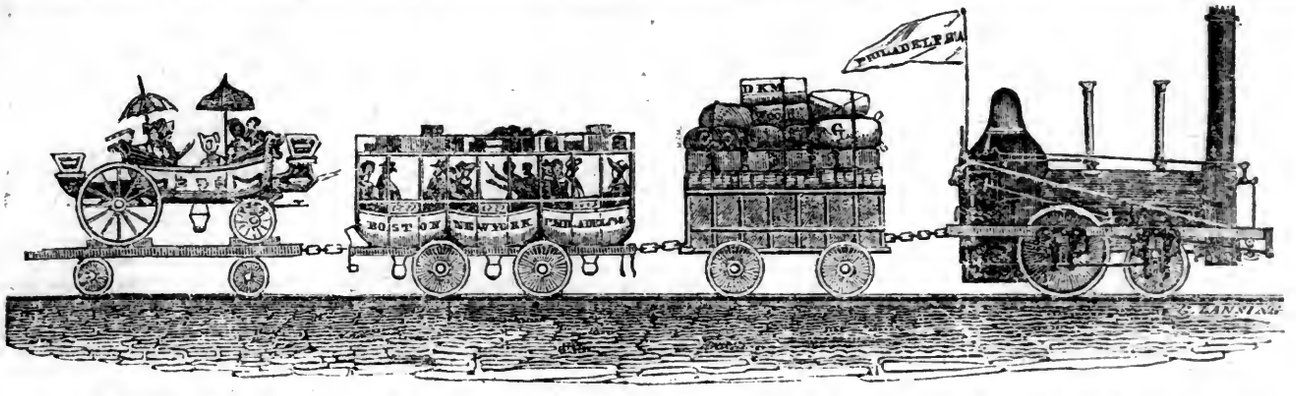
On Saturday afternoon, 9th March, GERTRUDE LIVINGSTON, wife of Maj. Gen. Morgan Lewis, in the 76th year of her age.

On Sunday afternoon, (10th inst.) ELLEN, wife of Alexander CHARTRES, aged 26 years.

In this city, on the evening of the 9th inst., in the 76th year of her age, Mrs. GERTRUDE LEWIS, wife of Gov. Lewis, formerly Governor of this State, and sister of the late Chancellor Livingston. In recording the death of this peculiarly humble-minded Christian, there is little to lament for her sake, since life had long lost its relish, thro' that "labor and sorrow" which so often waits upon advanced age, and which came upon her as she had just numbered her "three score years and ten: But a tribute to a life more than ordinarily marked by humility, cheerfulness, and disinterested benevolence, to recal its earlier and more pleasing recollections, and to connect them with that unaffected piety with which they were in her always united. Early attached to the Episcopal Church, she continued thro' life a regular attendant on its services—a tender-hearted hearer, and a zealous and faithful communicant. In the practical duties of the Christian life, few went beyond her in fidelity, none in humility—what she said was spoken in gentleness—what she did was done in kindness; and as her charities were always without ostentation, so they sometimes went beyond all ordinary measure.—Among the instances of that kind which fell within the knowledge of the writer, was that of a young foreigner, educated and highly talented, but sick and friendless, whom she incidentally met during a sickly season in the city. He was immediately removed to the country—in her house he found a mother; and for months was nursed and watched over as a son, till death released him from his sufferings; and he died with blessings on his lips towards her who had been to him in the place of a mother, in a strange land. On all occasions her religion was one of love and peace: towards the poor it displayed itself in charity; towards her friends in cheerful kindness; and towards those nearest to her in devoted affection. Such was her character thro' a long and happy life; and even when thro' disease and feebleness it was bereft of cheerfulness, its better parts, love and humility, remained—to do good was then her only anxiety—to think she had done no good, her greatest apprehension; but it is a blessed consolation that since, as a Christian, she relied not on her own merits, so neither shall she now be judged by her own self-condemnation. The feebleness and the fears of age are both the last sad trial of a long probation; and to affectionate survivors it is a gladdening thought that the day has now dawned on that night of sorrow; and that all fears and feebleness have been cast off with the worn out garment—a diseased body, which now even "as a vesture shall be changed." M.

At Woodville, Mississippi, on the 9th Feb. last, Mr. EDWARD FELTUS, aged 29 years, son of the late Rev. Dr. Feltus, of this city.

At Northampton, N. J., on the 22d of January last, SARAH, aged 17 years; and on the 3d of February, ELI, aged 28 years, daughter and son of Mr. Joseph Wells.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MARCH 23, 1833. [VOLUME II.—No. 12.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 23, 1833.

☞ A word to the *few* who have *not yet* complied with our terms: Do you not perceive by the *appearance* of the Journal that our expenses have materially increased? You may rest assured that *prompt* payment *only* will enable us to carry it through the volume with its present appearance. To those who have paid for the current volume, and especially to those who have so kindly sent us the amount of *two* or *more* subscriptions, we tender our thanks.

*** The Gentleman who returned *one* number, saying "my year is out," after *ten* numbers of the second Volume had been sent to him, is informed that it is received. He is also informed, that, under the circumstances where a particular request was made, that all who did not wish to be considered as subscribers would return the *first* number of the second Volume, he is in justice bound to pay for the Volume.

Canals in Great Britain.—We commence in this number of the Journal a brief account of the numerous Canals in Great Britain. It will be found highly interesting to those who are engaged in similar improvements in this country, as it gives the length, breadth, depth, and cost of each, as well as the present value of the stock.

Erratum.—In page 179, second column, and ninth line, for "1905," read "190."

New-York Canals.—We perceive by the Albany Evening Journal the New-York canal commissioners have reduced the tolls upon the Erie canal. The Journal says, that, "This reduction was demanded by considerations which deeply affected the prosperity of the state. Rival channels of communication are opening which threaten to divert the trade of the far West from our great commercial emporium."

The Canal Opened.—On Saturday night the water was let into the Pennsylvania canal opposite this place. The canal is now filled with water from its junction with the Union canal, at Middletown, to Pittsburg. The Susquehanna river has not been frozen over opposite this place during the season.—[Phil. Jubilee.]

The Commercial Herald, a new paper lately established in Philadelphia, has an excellent article on the public works of Pennsylvania, from which we extract the following facts:

	Miles.
State Canals in operation - - - - -	479½
" " to be finished this year - -	103½
Company Canals in use - - - - - -	280½
Grand Total of Canal Navigation in Pennsylvania in 1834 - - - - - - -	863½
Besides the State will finish this year two Railroads, whose length is - - - -	118
Total	981½

This does not include Railroads by private companies.

[*From the Boston Morning Post.*]

Railroad.—To merchants, men of capital, and all men of enterprise, interested in a good work both in New-York and in Boston.

Look on the map, and see the beautiful route for a railroad, and with comparative small expense, make a railroad from Providence to Stonington; then by 25 miles inland steam navigation (avoiding Point Judah) you arrive at the beautiful harbor of Greenport, where is good landing by a pier lately built for the accommodation of the whale fishery, and is a very flourishing place, situated on the east end of Long Island, (in New-York state,) and is a distance of about 100 miles from the city of New-York; and being of a most excellent soil, it may be called the garden of that city; is level, and for thirty miles there is scarcely a stone to be seen, nor a rise of ten degrees from a level of the sea, and a paradise to travel through, affording every comfort and convenience of life; with a railroad the most distant farmers might send their fine milk, butter, vegetables, &c. to the New-York market. The inhabitants of this island are a very moral and industrious people. The average height of the island to New-York city is about sixty feet above the level of the ocean, and forms a more favorable surface for the construction of a railroad, (it is believed,) than can be found of the same distance in any section of the United States. Can it be possible that this route can escape the notice of scientific men, and men friendly to improvement, public benefit, and their own interest. The good people of this favored island need waking up, and calling their county conventions for the purpose of obtaining a grant for a Railroad through the centre of the island—the extreme breadth of which is about 20 miles; the purpose of which is to unite the New-York and Boston travel through this most delightful land.

It is thought by a fair calculation that the speculation on the article of wood, (millions of cords may be bought) the profit of which would more than defray the whole expense of the railroad, were it to take place; and would be the straightest, nearest and cheapest, and best possible way to travel from New-York to Boston, summer or winter.

In addition to which, the produce of this rich soil, the most distant farmer or cultivator, may send fresh to market in the warmest weather.

No mortal ever witnessed a more beautiful scenery than may be found in traveling this route.

Then awake, New-York and Boston, and assist these good Islanders, that this good work may be accomplished, as it may be done, at an expence which would no doubt warrant great benefit to the stockholders; by a recent survey.

Pro Bono Publico.

We are indebted to a friend for a copy of the following bill, reported from the committee on internal improvements, to the house of delegates, and which we since learn has passed both houses.

A Bill, entitled a further supplement to the act entitled, An act to promote Internal Improvement by the construction of a Railroad, from Baltimore to the city of Washington, passed at December Session, 1830.

Whereas, it has been represented to the General Assembly of Maryland, by the Baltimore and Ohio Railroad Company, that there is a difficulty, in procuring the funds necessary to the construction of a Railroad from Baltimore to the city of Washington, under the original act to which this is a supplement, passed at December session, eighteen hundred and thirty, and the supplement thereto, passed at December session, eighteen hundred and thirty-one, arising from the option reserved to the State of Maryland, by the second section of the original act aforesaid, and by the third and ninth sections of the said supplement thereto, which option, so long as the manner of its exercise continues uncertain, deters individuals and corporations from embarking their funds in the undertaking—Therefore,

Sec. 1. Be it enacted by the Assembly of Maryland, That whenever the Treasurer of the

Western Shore of Maryland, shall be satisfied by the exhibition of the list of subscriptions, verified by the oath or affirmation of the President or chief officer of the Baltimore and Ohio Railroad Company, that the sum of six hundred thousand dollars has been bona fide subscribed to the stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of a Railroad from Baltimore to the city of Washington, upon books to be opened for that purpose by the said Company, agreeably to the first section of the act, entitled "A supplement to the act, entitled An act to promote Internal Improvement by the construction of a Railroad from Baltimore to the city of Washington," the said Treasurer of the Western Shore shall subscribe, on behalf of the State of Maryland, the sum of three hundred thousand dollars, to the stock of the said Company, to be applied to the construction of a Railroad, from Baltimore to the city of Washington; the instalments on which sum shall be paid as called for by the said company, in certificates of stock of the State of Maryland, bearing an interest of four and a half per centum per annum, in the same manner, and upon the production of such proof as is required by the act passed at December session, eighteen hundred and twenty-seven, entitled "A supplement to the act, entitled An act for the promotion of Internal Improvement," chapter 104.

Sec. 2. And be it enacted, That the whole amount which shall be subscribed by the State of Maryland, individuals, and corporations, to the Stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of the said Railroad from Baltimore to the city of Washington, shall be considered as a separate and distinct stock for and during the space of sixteen years from declaring and paying the second half yearly dividend of the nett profits derived from the use of the said Railroad from Baltimore to the city of Washington, as provided in the ninth section of the supplement passed at December session, eighteen hundred and thirty-one, to the original act authorising its construction.

Sec. 3. And be it enacted, That the capital upon which the nett profits derived from the use of the said Railroad shall be apportioned, and which is to be taken and held as separate and distinct for the construction of the said Railroad from Baltimore to the city of Washington, shall be ascertained and estimated as is provided for by the fifth section of the said supplement, passed at December session, eighteen hundred and thirty-one.

Sec. 4. And be it enacted, That the right heretofore reserved to the State of Maryland, to hold the sum subscribed by it to the stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of the said road from Baltimore to the city of Washington, as a separate and distinct stock, so far as the same is inconsistent with the provisions of this act, and the same is hereby repealed.

Sec. 5. And be it enacted, That the Baltimore and Ohio Railroad Company, be, and it is hereby authorised to subscribe to all such portion of the stock necessary to complete the said road from Baltimore to the city of Washington, which may remain unsubscribed at the end of thirty days after the books required to be opened by this act, and the acts to which it is a supplement, shall have been opened for general subscription; and the President and Directors of the said Baltimore and Ohio Railroad Company shall be, and they are hereby authorised to borrow, from time to time, any sum or sums of money which may be necessary to enable them to pay the instalments that may become due by them, on the stock so subscribed by them, for the construction of the said road from Baltimore to the city of Washington; and the said President and Directors are also hereby authorised to pledge the property and funds of the said company, as a security for the payment of any and every sum so borrowed, and the interest thereon.

Sec. 6. And be it enacted, That the subscription authorised to be made by the Mayor and City Council of Baltimore, under the act, entitled, "A supplement to the act, entitled an act to promote Internal Improvement, by the construction of a Railroad from Baltimore to the city of Washington," must be made within six months after the passage of this act; and the subscription authorised in like manner by the Corporations, owning the Turnpike Road between the cities of Baltimore and Washington, must be made within ninety days after the passage of this act:—or the right to make such subscriptions shall cease and determine.

Sec. 7. And be it enacted, That the Baltimore and Ohio Railroad Company shall be entitled to charge and take for conveying each person the whole distance between the cities of Baltimore and Washington, not exceeding one dollar and seventy-five cents.

Sec. 8. And be it enacted, That the Baltimore and Ohio Railroad Company shall pay to the Treasurer of the Western Shore of Maryland, on the first day of January in each and every year, for the use of the State, the sum of twenty-five cents for each person transported the whole distance between the cities of Baltimore and Washington, by the said Company, during the year last preceding; and it shall be the duty of the President or chief officer of the Baltimore and Ohio Railroad Company, to report on oath or affirmation, to the General Assembly, on the 1st day of January, or as soon thereafter as the said Assembly shall convene, in each and every year, the number of persons transported the whole distance between the cities of Baltimore and Washington during the preceding year.

Sec. 9. And be it enacted, That the times limited in the eighth section of this act, entitled, a supplement to an act to promote Internal Improvement, by the construction of a Railroad from Baltimore to the city of Washington, for the commencement of the actual construction of the said road from Baltimore to the city of Washington, be extended to eighteen months from the passage of this act.

Sec. 10. And be it further enacted, That all such parts of the original act, and the supplement thereto, as are at all inconsistent with the provisions of this act, be, and the same is hereby repealed.

[*From Partington's British Cyclopædia.*]

CANALS OF GREAT BRITAIN.—The English were a century after the French in commencing the construction of canals upon a large scale. The first considerable work of this description was the Sankey Canal, for which an act of parliament was passed in 1755; the object of the act being the improvement of the navigation of Sankey Brook; which plan was afterwards changed to that of a separate canal of 12 miles in length. While the work on this canal was in progress, in 1758, the Duke of Bridgewater obtained an act of parliament for making Worsley Brook navigable from Worsley Mill to the river Irwell, for the purpose of facilitating the transportation of coals from his estate to Manchester; but seeing the advantages of still-water navigation over that of a river, he conceived the project of a canal over dry land, passing the river Irwell by an aqueduct, and thus making a communication between his coal mines and the town of Manchester on one level. The plan was subsequently extended, and the duke, who lived 14 years after the commencement of the execution of his project (he died in 1772, at the age of 56), devoted his time and his fortune to the execution of this great work, with the assistance of an engineer distinguished for his genius. He diverted all his resources into this channel, and to enlarge his means for the undertaking, he limited his personal expenses to £400 a year, and is even supposed to have shortened his life in consequence of the toils and anxiety attendant upon so arduous an enterprise. It was a grand project, worthy of the sacrifices he made to it. And it is a stupenduous monument, whereby his memory is associated with the wealth and prosperity of our country. The works were projected by the celebrated engineer John Brindley, and executed under his direction, and constitute a lasting memorial of his genius and skill. The difficulties he had to encounter are of so interesting a nature, that we had better give a description of his labors somewhat more in detail. The principle laid down at the commencement of this business reflects much honour on the noble undertaker, as well as upon his engineer. It was resolved that the canal should be perfect in its kind, and that, in order to preserve the level of the water, it should be free from the usual obstructions of locks. But, in accomplishing this end, many diffieulties occurred, which were deemed insurmountable. It was necessary that the canal should be carried over rivers, and many large and deep valleys, where it was evident that such stupendous mounds of earth must be raised, as could scarcely, it was thought, be completed by the labor of ages: and, above all, it was not known from what source so large a supply of water could be drawn, as, even upon this improved plan, would be requisite for the navigation. But Mr. Brindley, with a strength of mind peculiar to himself, and being possessed of the confidence of his great patron, who spared no expense to accomplish his favorite design, conquered all the embarrassments thrown in his way, not only from the nature of the undertaking itself, but by the passions and prejudices of interested individuals: and the admirable machines he contrived, and the methods he took, to facilitate the progress of the work, brought on such a rapid execution of it, that the world began to wonder how it could have been esteemed so difficult. Thus ready are men to find out pretences for lessening the merit of others, and for hiding, if possible, from themselves, the unpleasant idea of their own inferiority.

When the canal was completed as far as Barton, where the Irwell is navigable for large vessels, Mr. Brindley proposed to carry it over that river, by an aqueduct of 39 feet above the surface of the water. This, however, being generally considered as a wild and extravagant project, he desired, in order to justify his conduct towards his noble employer, that the opinion of another engineer might be taken; believing that he could easily convince an intelligent person of the practicability of his design. A gentlemau of eminence was accordingly called in; who, being conducted to the place where it was intended that the aqueduct should be made, ridiculed the attempt; and when the height and dimensions were communicated to him, he exclaimed, "I have often heard of castles in the air, but never before was shown where any of them were to be erected." This unfavorable verdict did not deter the Duke of Bridgewater from following the opinion of his own engineer. The aqueduct was immediately begun; and it was carried on with such rapidity and success, as astonished all those who but a little before condemned it as a chimerical scheme. This work commenced in September, 1760, and the first boat sailed over it on the 17th of July, 1761. From that time, it was not uncommon to see a boat loaded with forty tons drawn over the aqueduct, with great ease, by one or two mules; while below, against the stream of the Irwell, persons had the pain of beholding ten or twelve men tugging at an equal draught: a striking instance of the superiority of a canal navigation over that of a river not in the tideway. The works were then extended to Manchester, at which place the curious machine for landing coals upon the top of the hill gives a pleasing idea of Mr. Brindley's address in diminishing labor by mechanical contrivances.

The following are the principal canals in Great Britain:—[Originally denotes the first assumed cost per share, where the actual cost is not ascertained:]

Aberdare—from Glamorganshire to Abernant; made 1793, length 7¼ miles, ascent and descent 40 feet, or 5.5 per mile. Length of the boats, 12 feet; breadth, 5. Number of shares, 221; originally, 100*l*.

Aberdeenshire—from Aberdeen Harbor to Don River, at Inverary Bridge; made 1805, length 19 miles, ascent and descent 170 feet, or 8.8 per mile, breadth 20 feet, depth 3½; 17 locks.

Andover—from Southampton Water to Andover; made 1790, length 22½ miles, ascent and descent 177 feet, or 7.8 per mile. Has been par-

tially abandoned. Number of shares, 350; originally, 100*l.*

Ashby-de-la-Zouch—from the Coventry Canal, at Marston Bridge, to an iron railway, 3½ miles long, at Ticknall; made 1805, length 40¼ miles, ascent and descent 224 feet, or 5.6 per mile. The first 30 miles are level, forming, with the Coventry and Oxford Canal, a level of 73 miles, without including the branches. It has tunnels at Ashby-de-la-Zouch and Snareton (the length of the two is 700 yards), and an iron railway, 6 miles in length, to the Cloudshill mines. It has 2 aqueduct bridges. At Boothorpe, a steam-engine is erected, to convey the water to a feeder for the summit-level. Number of shares, 1482; cost, 113*l.*; price in 1833, 74*l.*

Ashton-under-line, or Manchester and Oldham, and branches—from Rochdale Canal, at Manchester, to Huddersfield, at Duckenfield; made 1797, length 18 miles, ascent and descent 152 feet, or 8.4 per mile, breadth 33–15 feet, depth 5 feet; has 3 aqueduct bridges; boats of 25 tons burthen. Number of shares, 1760; average cost, 97*l.* 18*s.*; price in 1833, 120*l.*

Barnesley and branches—from river Calder, below Wakefield, to Barnby Bridge; made 1799, length 18 miles, ascent and descent 120 feet, or 6.7 per mile; has 1 aqueduct bridge and 20 locks. Number of shares, 720; cost, 160*l.*; price in 1833, 247*l.*

Basingstoke—from Wye to Basingstoke; made 1790, length 37 miles, ascent and descent 195 feet, or 5.3 per mile; has 72 bridges and 29 locks. Number of shares, 1650; cost 100*l.*; price in 1833, 5*l.* The Tingis branch is 5½ miles in length. The boats are of 45 tons burthen. It has a tunnel of ¾ mile.

Birmingham—commences in the Birmingham and Staffordshire Canal, and terminates in the Birmingham and Fazeley Canal; made 1772, length 22½ miles, ascent and descent 204 feet, or 9.07 per mile, breadth 40 feet, depth 4½ feet. The boats are 70 feet long, and 7 wide, and of 22 tons burthen. Number of shares, 4000; originally, 17*l.* 10*s.*; price in 1833, 239*l.* The tonnage is not to exceed 1½*d.* per mile.

Birmingham and Fazeley—from the Coventry Canal, at Whittington Brook, to Birmingham Canal, at Farmer's Bridge; made 1790, length 16½ miles, ascent and descent 248 feet, or 15 per mile, breadth 30 feet, depth 4½ feet; has 44 locks; boats, 22 tons burthen.

Brecknock and Abergavenny—from the Monmouthshire Canal to Brecon; made 1776, length 33 miles, ascent and descent 68 feet, or 2 per mile. There is, at Abergavenny, an iron railway a mile in length; at Wain Dew another 4¾ miles, and at Llangroney another 1¼ mile. It has a tunnel of 220 yards, and 3 aqueduct bridges. Number of shares, 958; originally, 150*l.*; price in 1833, 80*l.*

Duke of Bridgewater—from the tide-way of the Mersey, at Runcorn Gap; and at Longford Bridge divides into 2 branches, one terminating at Manchester, the other at Pennington, near the town of Leigh; made 1758, length 40 miles, ascent and descent 83 feet, or 2 per mile, breadth 52 feet, depth 5. The whole lockage is the 83 feet at the Mersey, in rising from tide-water, by 10 locks. This canal, with a part of the Trent and Mersey Canal connected with it, makes a level of 70 miles, 30 of which are on this canal. Mr. Cary states that there are about 16 miles of canal under ground within the mountains at Worsley. It has 3 principal aqueduct bridges, and several smaller ones. Arched branches pass off from it at considerable distances, under the town of Manchester, from one of which coals are hoisted up to supply the inhabitants, which the proprietors, successors to the Duke of Bridgewater, are bound to furnish them at 4*d.* for 140 lbs.: an advantage to which much of the prosperity of that town has been attributed. The embankment over Stratford Meadows is 900 yards long, 17 feet high, and 112 feet wide at the base; that at Barton Bridge is 200 yards long, and 40 feet high. The tonnage is 2*s.* 6*d.*

Bristol and Taunton—from Taunton Bridge to the mouth of the Avon, below Bristol; price in 1833, 70*l.*; length 41 miles.

Burrowstonness—made 1790, length 7 miles.

Caistor—from Anchole to Caistor; made 1793, length 9 miles.

Caldon and Uttoxeter—a branch of the Grand Trunk Canal, terminating at Uttoxeter; 28 miles in length, ascent and descent 126 feet, or 4.8 per mile.

Caledonian—made 1822, 21⅞ miles in length, ascent and descent 1905 feet, or 8.6 per mile, breadth 40 bo., depth 20. This stupendous canal passes through a chain of lakes, or locks, and narrow arms of the sea; and by making 21⅞ miles of canal, and deepening the beds of the rivers Lochy and Oich, and dredging to deepen a part of Loch Ness (in the whole a distance of 4⅛ miles, making the total length of excavation 25 miles, with a lockage, up and down, of 190 feet), an interior navigation of 250 miles is opened across the central part of Scotland, from the Murray Firth, on the eastern coast, to Cantyre on the western, and about opposite to the northern coast of Ireland; being one-half of the distance of the navigation between the same extreme points, round the northern coast by the Orkneys. It has 27 locks, including the tide locks, one of them 170, but most, if not all the others, 180 feet long, and all forty feet wide, thus opening a ship navigation through the midst of the country, rising, at the summit level, 94 feet above the tide-water of the eastern coast, and 96½ feet above that of the western, showing the ocean to be 2½ feet higher on the eastern. At Fort Augustus, where it leaves Loch Ness in a north-westerly direction, this canal is cut through the glacis of the fortification, thus adding to the military defences as well as to the appearance of the fort, which, with the five locks of masonry rising behind, presents a grand combination of civil and military engineering amid romantic mountain scenery. From Lock Ness, passing in the westwardly direction of the canal to Loch Oich, 1⅜ mile, the land is 20 feet above the water line, which, with the depth of water in the canal, makes an excavation, in this distance, of 40 feet in depth, with a bottom of 40 feet in breadth. To save rock-cutting, in descending, in the westwardly direction, as before, from Lock Oich to Loch Lochy, the natural difference of the surfaces of the two lakes being 22 feet, the whole area of Loch Lochy, which is 10 miles in length and 1 in breadth, is raised 12 feet. In the last 2 miles, before the canal in its westerly direction enters Loch Eil, there is a descent of 64 feet, which is passed by 8 connected locks, each 180 feet long by 40 in breadth. These locks are founded on inverted arches, exhibiting a solid and continuous mass of masonry 500 yards in length and 20 yards wide, in which no flaw has yet been discovered. The gates are of cast iron. This system of locks has received the fanciful appellation of *Neptune's Staircase;* and the appearance of large vessels, with their masts and rigging, descending these stupendous locks, from the hill towards Loch Eil, is most majestic and imposing, exhibiting a striking instance of the triumph of art. In the distance of 8 miles, from Loch Lochy to tide water in Loch Eil, the canal in passing along the north-westerly bank of the river Lochy, crosses, by aqueduct bridges, three large streams and 23 smaller ones. Since the construction of this canal, upwards of a million of forest trees have been planted along its borders. The cost of this great national work was, for

Management and travelling expenses,	£29,000
Timber, - - - - - - -	68,600
Machinery, cast iron work, &c. -	121,400
Quarries and masonry, - - -	195,800
Shipping, - - - - -	11,000
Labor and workmanship, - - -	418,000
Houses and buildings, - - -	4,600
Purchase and damage of land, -	47,900
Horse labor, - - - - -	3,000
Road making, - - - -	4,000
Incidental expenses, - - -	2,000
	905,300
Add, to complete the dredging, -	7,200
	£912,500

Assuming the number of miles operated upon to be 25, the canal cost 36,500*l.* per mile. It was constructed under the direction of Thos. Telford, Esq.

Cardiff, or Glamorganshire—from a sea-basin on the Severn, near Cardiff, to Merthyr; made 1775, length 25 miles, ascent and descent 600 feet, or 24 feet per mile; is connected with various railways, one of which is 26¾ miles long. Number of shares, 600; cost, 172*l.* 13*s.* 4*d.*; price in 1833, 290*l.*

Chester—from the Dee, at Chester, to Nantwich, where it communicates with the Whitchurch branch of the Ellesmere canal; made 1775, length 17½ miles, ascent and descent 170 feet, or 9.7 per mile.

Chesterfield—from the Trent at Stockwith, to Chesterfield; made 1776, length 46 miles, ascent and descent 380 feet, or 8.2 per mile; has 65 locks and 2 tunnels, together 2850 yards long, and 9½ feet wide. The lower part of the canal is navigable for boats of from 50 to 60 tons burthen, and the higher, being but 26 or 28 feet broad, is navigable for boats of only 20 or 22 tons burthen. These boats are 70 feet long and 7 feet broad. Number of shares, 1500; cost 100*l.*; price in 1833, 176*l.*

Coventry—a part of the line of canal between London and Liverpool; made 1790, length 27 miles, ascent and descent 96 feet, or 3.6 per mile; price in 1833, 680*l.*

Crinan—from Lake Gilp to Lake Crinan; made 1805, length 9 miles, ascent and descent 117 feet, or 13 per mile. Number of shares, 1851; cost, 50*l.*; price in 1833, 2*l.* 10*s.*

Cromford—from the Erewash canal at Langley, to Cromford; made 1794, length 18 miles, ascent and descent 80 feet, or 4.4 per mile, breadth 26 feet. It has several tunnels, and passes the river Derwent by an aqueduct 200 yards long and 30 feet high. The arch over the channel of the river is 80 feet broad. Another aqueduct over a branch of the Derwent is 200 yards long and 50 feet high. Each aqueduct cost about 3000*l.* Number of shares, 460; cost, 31*l.* 2*s.* 10*d.*

Croydon—from Grand Surry Canal to Croydon; made 1801, length 9½ miles, ascent and descent 150 feet, or 15.8 per mile. It has 23 locks. Number of shares, 4546; originally, 100*l.*; price in 1833, 1*l.*

Dearne and Dove—from the river Dove, between Swinton and Mexburgh, to Barnesley canal; made 1804, length 9½ miles, ascent and descent 125 feet, or 6.6 per mile. The boats are from 50 to 60 tons burthen. It has two branches of 3¼ and 1¾ miles in length.

Derby—from the river Trent to Derby; made 1794, length 9 miles, ascent and descent 78 feet, or 8.6 per mile, breadth 44–24 feet, depth 4 feet. Number of shares, 600; cost, 110*l.*; price in 1833, 140*l.* It has a branch, the Erewash, 8½ miles in length.

Dorset and Somerset—from the Kennet and Avon canal to the river Stour; made 1803, 42 miles in length; has a branch 9 miles long.

Dublin and Shannon—from Dublin, at the mouth of the Liffey, to the river Shannon, near the town of Moy; made 1776, length 65½ miles. It passes 24 miles across a marsh, in which the absorbing nature of the soil rendered the work enormously expensive.

Lawton branch—length 21 miles.

Miltoun branch—length 7 miles.

Bog of Allen branch—length 3 miles.

Edenderry branch—length 1 mile.

Kildare branch—length 6 miles.

Dudley—from the Worcester and Birmingham canal; made 1776, length 10½ miles, ascent and descent 35 feet, or 3.3 per mile, depth 5 feet. It has 61 locks; 3 tunnels, one 3776 yards in length, another 623 yards, and the other 2926 yards, all 13½ feet wide; and near one of them, the Laplat tunnel, it passes 9 locks, nearly contiguous. Number of shares, 2060; originally, 100*l.*; price in 1833, 147*l.*

Stourbridge branch—length 2 miles.

Dudley branch—length 1¼ miles.

Edinburgh and Glasgow—length 50 miles. This canal is proposed to commence at Leith, in

the Forth, and terminate in the Clyde at Glasgow.

Ellesmere, and Chester, and branches—made 1804, length 109 miles, ascent and descent 755 feet, or 6.9 per mile. This canal is said to be the first constructed in England for agricultural purposes, as well as trade. It has 1262 yards of tunnelling. Number of shares, 3575; cost, 133*l.*; price in 1833, 75*l.*

Erewash—from the Trent to Cromford canal; made 1777, length 11¾ miles, ascent and descent 181 feet, or 15.4 per mile; price in 1833, 75*l.*

Fazeley—made 1790, length 11 miles. Is a part of the Liverpool line, joining the Grand Trunk with the Coventry Canal. It is entirely level. The Fazeley and Birmingham, and the Birmingham, are continuations of this.

Forth and Clyde—from the tide-water, at the junction of the river Carron with the Forth, to Glasgow; made 1790, length 35 miles. It was the first considerable work of the kind undertaken in Scotland, having been commenced in 1777, and completed in 1790. It ascends, from the Forth to the summit, by 20 locks, 156 feet, in 10½ miles, and keeps this level 18 miles, to Glasgow, and, one mile beyond that city, terminates in the Monkland Canal basin. About 2¾ miles north of the port of Dundas, near Glasgow, a branch of the canal passes off 8¾ miles, crossing the Kelven by a magnificent stone aqueduct, to the tide-water at Bowling Bay, to which it descends by 19 locks, 74 feet in length, and 20 in breadth. When full, it has 8 feet of water; price in 1833, £540.

Glasgow, branch of the above, length 2¼ m.

Foss Dyke—from the Trent, at Torksey, to the Witham; length 11 miles. It is a level.

Glasgow and Saltcoats—made 1812, length 33¼ miles, ascent and descent 168 feet, or 5 per mile.

Glenkenns—from the Dee, at Kirkcudbright, to Dalry; made 1802, length 27 miles.

Gloucester—a channel for ship navigation, to avoid the windings of the Severn from Berkley Hill, where it leaves that river, to Gloucester, where it joins the river again; made 1793, length 18½ miles, depth 15 to 18 feet. Number of shares 1960; price in 1824, £100, and a loan of £60 per share, making the investment £160 per share.

Hockerib, branch of the above, length 2 miles, breadth 70 feet, depth 15 to 18 feet.

(*To be continued.*)

[*From the Philadelphia Commercial Herald.*]

PHILADELPHIA AND TRENTON RAILROAD.—In our paper of Friday we furnished a list of railroads in Pennsylvania actually finished, or in a train for early completion. Among others we mentioned the Philadelphia and Trenton Railroad, as one upon which operations were about to commence.

Frequent inquiries having since been made, in reference to that work, we have taken pains to ascertain the particulars as to its present situation, its prospects, and its probable advantages to the public and the stockholders. We have ascertained to our satisfaction that the work is certainly going on. That the grading of the Road for a double track the whole distance, and the construction of all the Bridges on the line is actually under contract, and to be completed ready for the laying of Rails by the first day of January next. The Engineers are now busily employed in staking out the work, which will be commenced as soon as the weather will admit. That the timber and stone are actually being procured for the Bridges, and that satisfactory arrangements have been made for damages, with a number of individuals owning property along the Line, and their several claims promptly paid by the Company; and that further agreements for damages are daily entered into, entirely to the satisfaction of all the parties concerned. That it is the intention of the Company to economize as far as consistent with utility, in the construction of the work, and in accordance with these views, they will lay a single track of wooden superstructure on the most approved plan and of the best materials, using the flat or plate iron Rail. That they have received several very advantageous offers to furnish Timber and Iron, and are hence enabled to ascertain, without the fear of being deceived in their estimate, that the whole cost of Road formation, and laying a single track, with a sufficient number of sidings or turn outs, including damages and all other incidental expenses, cannot exceed three hundred and fifty thousand dollars, or at the utmost four hundred thousand.

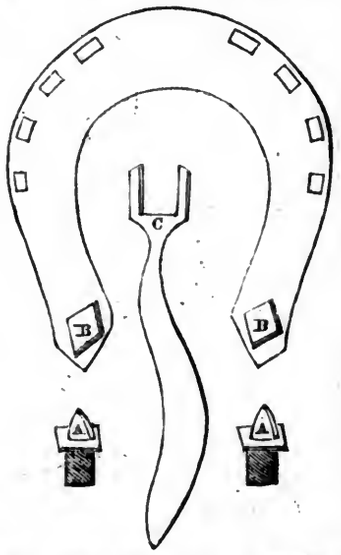
They hope also to have a portion of the Rails laid during the present season, and found their immediate expectations of realizing a reasonable income for the capital invested in the construction of the Road from calculations of this kind:

The amount received by the Union and Citizens Lines, jointly, during the year 1831, for way passengers alone, exclusive of through passengers and transportation of goods between Philadelphia and New-York, was about		$106,000
Suppose of that sum $40,000 was received for way passengers going eastward from New-Brunswick, and that the Union Line will take one half of the remainder, is		73,000
Leaves the balance for the Philadelphia and Trenton Railroad		33,000
Add for carrying the mail and mail passengers	7,000	
" for stage passengers in the Easton and New-Hope River Line	3,000	
" for stage passengers in the Newtown and Attleborough Line	1,000	
" for carrying all the passengers between New-York and Philadelphia in winter, say 50 each way or 100 per day for 63 days, allowing the steamboat to run 250 days (Sunday's not included) at $1 each	6,300	
Transportation during the same time	5,000	
*Pleasure excursions to Frankford, Holmesburg, Cornwell's, Bristol, Morrisville and Trenton	12,000	
Business Travel and Transportation of Goods between Philadelphia and Frankford, Holmesburg and other places on the Line, heretofore done by stages and waggons	8,000	
Probable aggregate Receipts		$75,300
From which deduct Expenses:		
Cost of Locomotives and Cars	$15,000	
20 per cent. interest on this sum is	3,000	
Expenses of running Locomotives at $20 per day	7,300	
Repairs and superintendence of Roads	5,000	
		15,300
		60,000
Deduct Interest on Capital of $400,000 at 6 per cent.		24,000
Surplus,		$36,000

Allowing a dividend of 15 per cent. on $400,000 of Capital.

The inducements for the Company to go on with the work, held out by this statement, so far exceeded our expectations, that our first impression was to doubt the whole of it, and set it down like some other calculations of the present day, as looking very well on paper, but having no practical reality. But after a careful examination of the several items of which it is composed, and from subsequent inquiries, diligently made of persons who have the best opportunity of knowing their correctness, we could not resist the conviction that if it contained any errors they were on the safe side. In addition to this, it may not be improper to observe, that with the exception of 63 days in winter, the whole calculations are based upon the supposition of carrying way passengers alone, not one through passenger between New-York and Philadelphia being taken into the account. Now as there will certainly be two routes between those two cities, and as it is as certain that the public will exercise their undoubted right of choice between them, it follows that a portion of the *through* travellers will take this route. If that portion be but one third of the whole, (judging from the amount heretofore received for through passengers,) this portion of the Line would receive $21,000 in addition to the above income, making an aggregate clear income of $81,000 a year, or over 20 per cent. on the Capital invested.

*This will be deemed a moderate estimate when the fact is known, that about $12,000 was received on the Philadelphia and Germantown Railroad during the first six months it was in operation, notwithstanding the alarm of cholera for about half the time, almost destroyed the pleasure travelling.



Improved Horse-Shoe. By T. P. [From the Voice of Humanity.]

SIR,—I was lately travelling in a coach, early in the morning; it was one of those mornings which are so distressing to smooth-shod horses. In the night there had been a considerable fall of sleet, with a little rain, and this fall was immediately followed by a very hard frost, so that the road was one complete sheet of ice. Coming on so suddenly, there was no time to get the horses rough-shod, and their consequent suffering was great. They were down and up, first one and then another, all the way.

In order to get up one little hill, all the passengers were asked to get out and off from the coach, and even then it was with the greatest difficulty that the coachman could force the horses up. He was obliged to "lash them into madness;" sometimes two were down together, and once all four were down at the same time, and when they had scrambled to the top, they were in a pitiable state of exhaustion, the sweat literally running from them as though warm water had been poured on their backs, although so cold a morning.

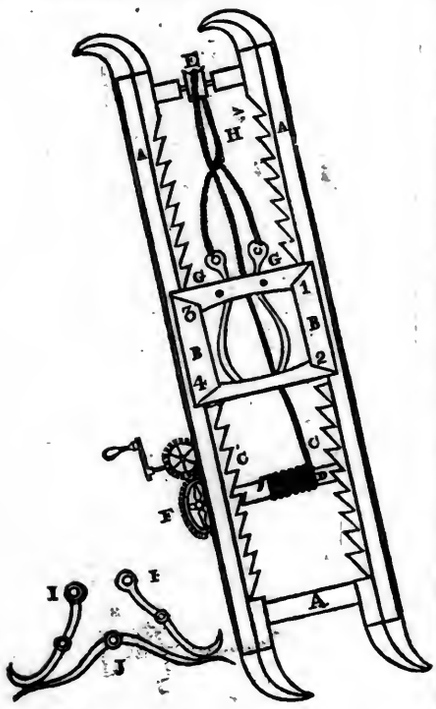
It struck me at the time that it would be easy to make horse-shoes which might be turned up, as it is termed, in a few minutes. I send to your appropriate publication a drawing of the sort of shoe which I have invented.

The two steel nuts marked B are made barely a quarter of an inch high, about one-eighth and a half, and worn in the winter when the roads are not slippery. When the frost comes, and you wish the horse turned up, or more properly speaking, rough-shod, you take out the two nuts marked B by means of the spanner marked C, and put in the two steel nuts marked A. The whole is done in a few minutes. Mr. Holmes, the veterinary surgeon of this town, has lately shod some horses in this way, and it answers well. When the groom or ostler picks his horses' feet every night, he should at the same time take out the nuts, put a little oil or grease to them, and screw them in again tightly: this is to prevent their getting fastened by rust. There should always be a little store

of nuts, that as they wear down they may be replaced; and they must not be permitted to wear down lower than that state in which they can be turned out by the spanner. The prevention of the very injurious effects upon the feet of horses by their shoes being taken off and turned up (often required from frost in a day or two after they have been newly shod) is worth consideration, to say nothing of its being done in haste and the foot often pricked.

Above all this, rational humanity and kindness to those docile, useful, and noble animals, should be our main object. Let them ever be considered as gifts from the Almighty Creator, for our use and comfort, and let them ever be treated with gentleness. Indeed, I believe they are seldom ill-treated but by men of vulgar minds, unthinking or uneducated; or, if educated, their education not based on Christian principles, and, without that base, I hold all education defective, if not mischievous.

Birmingham, Feb. 9, 1832.



Improved Cellar Steps. By R. Gooch. [From the London Mechanics' Magazine.]

Sir,—The prefixed is a rough sketch of a machine, which was invented by me a few years ago, for the purpose of raising casks out of cellars. A model of it was sent to the Mechanics' Institution of this city, and purchased by it—at a price, however, which rewarded me very inadequately for the trouble the invention had cost me. The advantage of this machine over those in common use is, that provided a rope should break or slip by accident, no injury can be sustained, either to the goods or to the person employed, which now too often occurs.

AAA is a strong wooden frame, of such size and length as may suit the work or place it is intended for. The inside of the frame is rabbited, and covered with an iron plate CC, which plate is notched, and acts as ratches on each side the machine. On these slide at liberty another wooden frame or carriage BB, and at the corners, marked 1, 2, 3, 4, there are four friction-rollers, to give freedom to its working on the plates. GG are two palls, fixed on the carriage BB, shown at H. The spring J makes the palls keep to the work and act upon the ratches CC. H is a rope, which is attached to the tails of the palls, and passes over the pulley E, and is continued to, and fastened on, the roller D, which being put in motion by the winch and wheels F, will, with equal ease and safety, either raise the carriage, or let it down. Should a rope break, the palls will immediately act and stop the carriage.

[*From the Albany Argus.*]

Reduction of Canal Tolls.—We publish this morning the Rates of Tolls on the New York Canals, as revised and established at the present session of the Canal Board.

It will be seen by comparing the present rates with the tolls heretofore charged, that important reductions have been made upon many of the leading articles transported upon the canals. Flour, salted beef and pork, butter and cheese, beer and cider, heretofore charged at 7 mills per 1000 pounds per mile, are now reduced to 5 mills: The tolls upon stoves and all other iron castings, are reduced from 14 mills to 10 mills: wheat, and other agricultural productions reduced from 7 to 5 mills: merchandise, and all articles not enumerated passing *from* tide water, heretofore charged at 14 mills, are reduced to 12 mills: all non-enumerated articles passing *towards* tide water, are reduced from 7 to 5 mills per 1000 pounds per mile.

The subject of modifying the tolls, in order to prevent a diversion of the trade from the Erie Canal through the Welland Canal, and otherwise, has been urged upon the consideration of the Canal Board for several years, by those who are interested in the business upon the Erie Canal. After the most mature reflection upon this subject, those to whom the legislature have delegated the authority of regulating the tolls, have become satisfied that the time has arrived when it is proper, if not necessary, to reduce the tolls, in order to secure to our own cities, and to the whole line of the Erie Canal, the business and benefits of the trade of the great West.

The rate of reduction, operating upon the quantity of articles which were transported upon the canals in 1832, would diminish the aggregate amount of toll, a hundred thousand dollars, or perhaps one hundred and twenty-five thousand. This sum may or may not be made up, by an increase of the articles transported, consequent upon a reduction of the tolls.

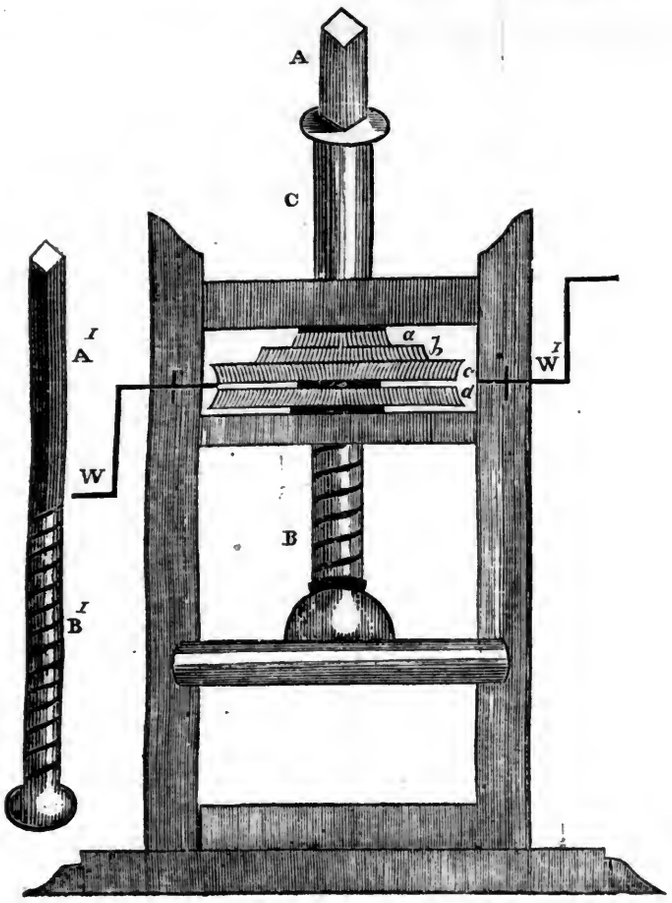
Rates of Toll.

At a meeting of the Canal Board, at the Comptroller's office in the city of Albany, on the 9th March, 1833, the following rates of toll were established in lieu of all rates heretofore established by this Board:

Provisions.

No.		cts. m. fr.
1	On flour, salted beef and pork, butter and cheese, beer and cider, per 1000 pounds per mile,	0 5 0
2	On bran and ship-stuffs in bulk, p. 1000 pounds p. mile,	0 5 0
	Iron, Minerals, Ores, &c.	
3	On salt mnufactured in this State, p. 1000 pound p. mile,	0 2 3
4	On foreign salt, p. 1000 pounds p. mile,	5 0 0
5	On gypsum, the product of this state, p. 1000 p. mile,	0 2 5
6	On brick, sand, lime, clay, earth, leached ashes, manure and iron ore, p. 1000 p. mile,	0 2 5
7	On pot and pearl ashes, mineral coal, charcoal, pig iron, broken castings and scrap iron p. 1000 pounds p. mile,	0 5 0
8	On stove and all other iron castings, going to or from tide water, p. 1000 pounds p. mile,	1 0 0
9	On copperas, going towards tide water p. 1000 pounds p. mile,	0 5 0
10	On bar and pig lead, going towards tide water, 1000 pounds p. mile,	0 5 0
	Furs, Peltries, Skins, &c.	
11	On furs and peltry, (except deer, buffalo and moose skins,) p. 1000 pounds p. mile,	1 4 0
12	On deer, buffalo and moose skins, p. 1000 pounds p. mile,	0 7 0
13	On sheep skins and other raw hides of domestic animals of the U. S. p. 1000 pounds p. mile,	0 7 0
14	On imported raw hides of domestic and other anmals, p. 1000 pounds p. mile,	1 0 0
	Furniture, &c.	
15	On household furniture, accompanied by, and actually belonging to, families emigrating north or west, p. 1000 pds. p. mile	0 5 0
16	On carts, wagons, sleighs, ploughs and mechanics' tools, necessary for the owners' individual use, when accompanied by the owners, emigrating north or west for the purpose of settlement, p. 1000 p. mile,	0 5 0
	Stone, Slate, &c.	
17	On slate and tile for roofing, and stone ware, p. 1000 pounds p. mile,	0 5 0
18	On all other stone entirely unwrought, p. 1000 ponnds per mile,	0 2 5
19	On all other stone, p. 1000 pounds p. mile	0 5 0
	Lumber, Wood, &c.	
20	On timber, squared and round, p. 100 cub. feet p. mile,	1 0 0
21	On the same, if carried in rafts, p. 100 cub. feet p. mile	1 5 0
22	On boards, plank, scantling and sawed timber, reduced to inch measure, and all siding, lath, and other sawed stuff, less than one inch thick, (except such as is enumerated in regulations numbered 24 and 33) p. 1000 feet p. mile,	1 0 0
23	On the same, if transported in rafts, per 1000 feet p. mile,	2 0 0
24	On sawed lath of less than 5 feet in length, split lath and hoop poles, rowing oars and broom handles, p. 1000 p. mile	0 2 5
25	On staves and heading transported in boats p. 1000 pounds p. mile,	0 2 0
26	On the same, if transported in rafts, p. 1000 pounds p. mile,	0 5 0
27	On shingles, p. M. p. mile,	0 2 0
28	On the same, if conveyed in rafts, p. M. p. mile,	0 4 0
29	On split posts and rails for fencing, p. M. p. mile,	4 0 6
30	On the same, if conveyed in rafts, p. M. p. mile	8 0 0
31	On wood for fuel, (except such as may be used in the manufacture of salt, which shall be exempt from toll) and tan bark, p. cord p. mile,	1 0 0
32	On the same, if transported in rafts, per cord p. mile,	2 0 0
33	On sawed stuff for window blinds, not exceeding one-fourth of an inch in thickness, p. 1000 pounds per mile,	0 7 0
	Agricultural Productions.	
34	On cotton, p. 1000 pounds per mile,	0 7 0
35	On live cattle, sheep and hogs, p. 1000 lbs. per mile,	0 5 0
36	On horses, (each horse, when not weighed to be computed at 600 pounds) per 1000 pounds per mile,	0 7 0
37	On rags, p. 1000 pounds p mile,	0 5 0
38	On hemp and tobacco, going towards tide water, p. 1000 pounds p. mile,	0 5 0
39	On hemp going from tide water, p. 1000 pounds p. mile,	0 7 0
40	On wheat and all other agricultural productions of this state, not particularly specified, p. 1000 pounds p. mile,	0 5 0
	Articles not enumerated.	
41	On all articles not enumerated or excepted, passing *from* tide water, p. 1000 pounds p. mile,	1 2 0
42	On all articles not enumerated or excepted, passing *towards* tide water, p. 1000 pounds p. mile,	0 5 0
	Boats and Passengers.	
43	On boats used chiefly for the transportation of persons, and navigating the Erie canal between Schenectady and Utica, per mile,	11 0 0
44	On boats used chiefly for the transportation of persons and navigating the Erie canal west of Utica, per mile,	6 0 0
45	On boats used chiefly for the transportation of persons, and navigating the Champlain, or Champlain and Junction canal, p. mile,	6 0 0
46	On boats used chiefly for the transportation of persons, and navigating the Oswego canal, p. mile,	6 0 0
47	On boats used chiefly for the transportation of persons, and navigating the Cayuga and Seneca canal, and the lateral canal to East Caynga village, or either of them p. mile,	6 0 0
48	On boats used chiefly for the transportation of persons, and navigating the Junction canal, and not connected with regular lines of boats for the transportation of persons on the Erie or Champlain canals, p. mile,	50 0 0
49	On boats used chiefly for the transportation of property, p. mile,	2 0 0
50	On each person over 8 years of age, transported in a boat used chiefly for the transportation of persons, p. mile,	0 2 0
51	On each person over 12 years of age, transported in a boat used chiefly for the transportation of property, p. mile,	0 2 0

[The regulations of the Commissioners of the Canal Fund, authorizing boats used chiefly for the transportation of property, to commute for the toll on passengers, are the same as they were last year.]



Hunter's Screw-Press, improved. By Φ. M.

[From the London Mechanics' Magazine.]

Sir,—I beg leave to submit to the consideration of your readers the following design for extending the range of an admirable invention, which must be familiar to most of them—I mean Hunter's Screw-Press. My principle is, instead of using Hunter's triple combination of nut and screw, to use only a nut and screw with a supplementary apparatus, which shall have the effect of making the screw, as it were, run away from the gripe of the nut, while the nut is made to follow with whatever degree of velocity may be required. Thus the screw rises with a velocity bearing a similar ratio to that of the moving power, as in Hunter's, while the range of the resultant power is continued through the whole length of the screw. In the accompanying figure, A' B' is the screw taken out of its place; a square projection of equal length with the screw is added to it. The head of this square part is seen in the figure, at A, rising out of C, in which it slides. C is a tube with a circular bore, wide enough to admit the screw freely, but closed by a square aperture, through which the square projection works. C is of one piece with *a*, *b*, and *c*, and works resting upon *d*, which is the real nut. *a*, *b*, *c*, and *d*, are furnished with teeth, and a winch is affixed by a contrivance which will allow of its engaging either *a*, *b*, *c*, or *d*, individually, or *c* and *d* together. *a* may be supposed to have 50 teeth, *b* 100, c 200, and *d* 200. *a*, *b*, and *c*, are intended merely to bring the screw down to its work, or to perform light tasks; and when the winch engages any one of them, *d* is clamped. When the screw is required to do its utmost, the winch is made to engage c and *d* together; then *c*, by means of its hold on the square projection, keeps the screw going before the nut, while the nut is overtaking it at the rate of one tooth for each revolution. The construction given in the figure is one of several, and not the best, but the one I found least troublesome to copy. I hope some of your correspondents will favor us with an opinion of the merits of the machine as thus altered, and also with a calculation of its powers, taking for data the winch at 15 inches radius, the moving power at 30 pounds, as, also, that one revolution of the winch passes one tooth, and that one revolution of the nut *d* passes one thread of the screw, the interval between any two threads being 2 inches.

An account of some experiments made at Woolwich with Jones' Patent Iron Wheels. By Wm. Baddeley. [From the London Mechanics' Magazine.]

Sir,—In your 245th number, you have given an excellent description of Messrs. Theodore Jones & Co.'s patent wrought iron suspension wheels, and in No. 347, an account of a very successful experiment made with them at the opening of the stone tram-way in the Commercial road. To these, I have now the pleasure of adding a description of some highly interesting and satisfactory experiments, that were made at the Royal Arsenal, Woolwich, in October last, under the superintendence of Major-General Hardwicke, and Lieutenant-Colonel Forrest, and in the presence of several officers of the Royal Artillery, to ascertain the fitness of the patent wheels for the general purposes of the Honorable East India Company's Ordnance Department in India.

In the first experiment, a pair of the patent wheels, five feet high, with six inch tire, were fitted to the carriage of an iron twenty-four pounder, weighing 50 cwt. 1 qr. 25 lbs.

Another pair of these wheels, five feet high, with three-inch tire, were fitted to the carriage of a brass twelve pounder, weighing 18 cwt. 5 lbs.

To each gun was attached its timber, furnished with the usual wooden wheels; the twenty-four pounder was drawn by six—the twelve pounder by four horses. The experiments commenced with briskly trotting, and sometimes sharply galloping the guns, over a very rough pavement, for upwards of an hour. The roughness and unevenness of the paving was so great, that the carriages bounded from stone to stone with great violence, sometimes springing a distance of several feet.

So great indeed was the violence with which the guns were galloped, that the rope lashings used to keep the guns in their places on the carriages were broken, and the twelve pounder carriage was jerked completely off its limber.

On a close examination of the patent iron wheels, after they had been subjected to this unusually severe trial, not the slightest appearance of injury was any where perceptible. The wooden wheels of the limbers, however, did not stand the shaking so well, although they had nothing but the weight of the empty limber boxes to carry; all the spokes were more or less started from their sockets; on measuring some of the openings, they were found to be three-sixteenths of an inch wide. Nor is this much to be wondered at, when it is considered that they were new wheels, which had been lying several years in store. This experiment fully demonstrated the extraordinary strength possessed by the patent wheels.

The 2nd experiment had for its object, to ascertain the nature of the draught of these wheels upon *soft* ground. The twenty-four pounder, with a weight altogether of from four to five tons, and a draught of six horses, was attempted to be drawn over a piece of very soft marshy ground. The wheels sunk in too deep, however, for that number to draw them out; the poor horses were struggling and sinking up to their knees in the marsh, when two more were added; but, during the time that was occupied in attaching them, the wheels had sunk in to such a depth that it required the exertions of several men in addition, to start the carriage. This experiment was neither so satisfactory nor so fair as could have been wished; *ten* horses should have been attached in the first instance, and then, the gun would have been drawn through the swamp without stopping.

By the regulations of his Majesty's service, eight horses are allowed for a twelve pounder, weighing about 18 cwt.; it ought not, therefore, to be expected that six horses should draw a load of 50 cwt. exclusive of the carriage, &c. through such a swamp as that in which this experiment was made.

In the next experiment, two twelve-pounders were drawn through the same marsh: one being mounted on Jones' patent wheels, the other on wooden wheels. Four horses (half the regular number) were attached to each; both passed through the marsh without stopping, but with great difficulty, the iron wheels appearing to have a slight advantage. The iron wheels, with six-inch tire cut into the soft ground, which adhered to the inside of the rim; but the wheels with three-inch tire did not collect the earth in the same manner.

The twelve and twenty-four pounders were then ranged in battery in front of the butt, and three rounds, with full service charges (one shot each,) were fired from both; no visible effect whatever was produced upon the wheels by the firing.

The final experiment consisted in ascertaining the comparative effects of a cannon ball upon the iron, and upon wooden wheels. For this purpose, one of the iron wheels was placed in front of the butt, and a twelve-pounder in the battery, at the distance of about two-and-thirty yards, brought to bear upon it. The first shot struck the wheel in an oblique direction, cut two of the spokes asunder, as clean as if it had been done with a sharp cutting instrument, bending them both to one side, *but without any splintering*. The second shot was directed to the face of the rim which it cut asunder, bending one end inwards; one spoke was also cut through—the nave grazed—one end of the nave box cracked—and a small piece cut off the opposite side of the rim. A wooden wheel was then placed in front of the butt, and submitted to the same rough treatment.

The first shot from the twelve pounder shattered two of the spokes, the splinters flying about very much. Shot the second struck the tire a little below the centre of the nave, which

it shivered to pieces, the splinters flying in every direction, some of the fragments being thrown to a considerable distance. This wheel was completely "done for," and was incapable of being repaired; nor could it be rendered available for conveying the gun off the ground.

Not so the iron wheel; for, on the command being given to march home, though sadly mutilated, the wheel conveyed the gun a considerable distance.

The battery experiments, as detailed above, were most ably assisted by the exertions of Captain Rawnsley, of the Royal Artillery, who superintended laying the guns, which was done with an accuracy and effect hardly to be exceeded; and which, on the present occasion, contributed materially to the success and satisfactory nature of the experiments.

In a report made by Major-General Hardwicke and Lieutenant-Colonel Forrest, to the Court of Directors of the Honorable East India Company, they express their opinions of the merits of the patent wheels in the following words:

"From the foregoing experiments, it is but justice to the patentees of the iron wheels to record the advantages under which they appear.

"First, They are stronger, and not so easily disabled in action, and when struck with a cannon ball *do not splinter*.

Secondly, When they sustain an injury to the extent of two or three spokes broken, the wheel might be continued in use till an opportunity occurred of repairing it, while a wooden wheel under similar circumstances would, for the time, be unserviceable.

"Thirdly, The iron wheels are not subject to those changes which influence of climate and changes of seasons work on wood wheels. We have seen in the course of these experiments, that new wheels that have lain a few store, wouldyears in require to be set up before sent on service. No length of time can render this necessary with the wrought-iron wheels."

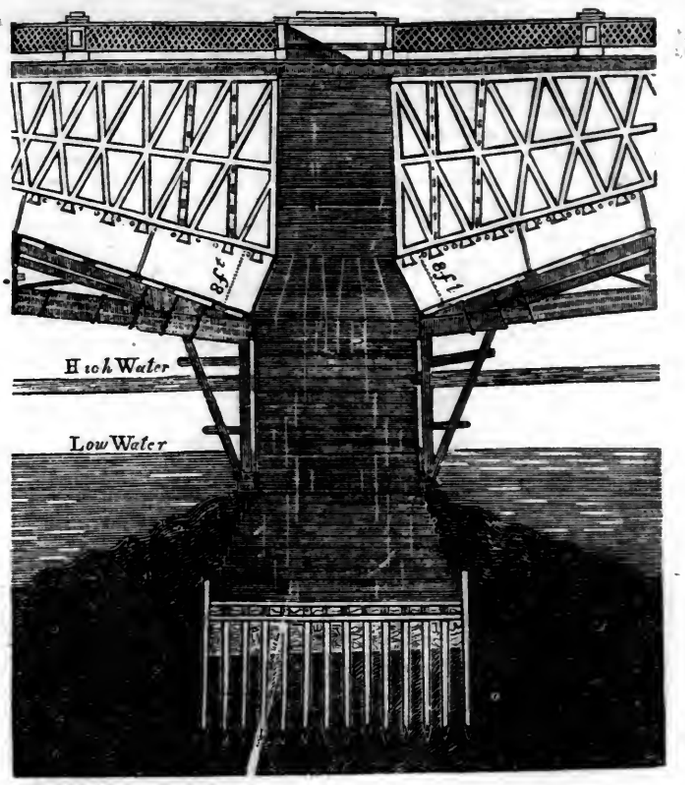
Southwark Iron Bridge—Construction of the Bearing Piers. From a descriptive account of the Principal Bridges erected over the River Thames: By Mr. Christ. Davy, Architect. [Continued from page 9.]

The bearing piers of a bridge involve the consideration of many and widely different circumstances, and by the construction of these vital adjuncts we are enabled in some measure to foretel the stability or insecurity of the architect's design.

A bearing pier (by which term it should be understood that those piers only are meant that are *in the river*) is generally a mass of solid masonry, built from the foundation to the level, or perhaps rather above the springing stone of the arch, and of sufficient weight to resist the attempts of the arch to overturn it, or to make it slide from its position. This force is called the thrust, push, or drift of the arch. Now, some means must be employed to determine, as near as possible, the force or weight requisite to resist the drift.

"We must," says Mr. Gwilt, "consider the thrust to be resisted by the friction, which the stones, composing the pier, experience, sliding on each other. From experiments, it has been found that in some kind of stone the friction of one block moving horizontally on another = $\frac{1}{4}$ of the weight of the moving block. If we adopt this determination, the weight of the pile ought to be equal to three times the horizontal drift to produce an equilibrium."

In addition to what Mr. Gwilt has here remarked, we must bear in mind that the piers must effectually withstand such extraneous shocks as are caused by the violence of the current, or from floating bodies. The salient angles of a pier, or cutwater, act as a preventive of the dangers likely to arise from these circumstances. In large navigable rivers, such as the Thames, the circular form sometimes given to the cutwaters is preferable, from the likelihood of their being struck by heavy craft,



and its allowing them to disengage with greater facility. This form, however, does not divide the waters so well. In the earlier structures, we find, from the variety of proportions exhibited in the piers, that the subject had claimed attention; but mathematical investigation had not yet been brought in aid of the practical part of Pontile Architecture. The practice of piling for the support of such a cumbrous mass of materials as the bearing piers of a bridge has been most generally observed, and as generally found to be adequate for the purpose. But of the use and abuse of piling, it will be necessary to speak. The main use of piling being for the purpose of passing from a loose to a denser soil, it is necessary that that soil should be of such density as to prevent the piles from sinking farther than they are driven in the first instance by the pile engine. From the enormous load they bear, this is most likely to be the case, should the pointed ends or feet of the piles not rest on ground of great solidity. Indeed, it has been observed in my former papers, that piling is only a mode of *searching for firm ground*, where it is either inconvenient or too expensive to barrow out or excavate the soil. There are, however, some instances (such as a bed of stiff tenacious clay) where it has been found, by experiment, that although the feet of the piles rest upon no other security than that of the clay, a pile 10 or 20 feet long, driven down, will, by the friction of its sides, have a hold of the ground nearly in proportion to its actual superficies.

It is evident, therefore, that piling, under two or three very different circumstances, may be made subservient to the effectual security of a ion.foundat The foundationf he bearing sot piers of Southwark Iron Bridge were laid in coffer-dams; but of a much larger and stronger description than those heretofore described. They were of an eliptical form, with a triple row of piles of whole timber. Each pier rests upon a massive timber platform supported by piles. Close to the outer edge of the offsets of the pier, a row of timber sheeting-piles were driven, a precaution that at once exhibits the master mind of the late John Rennie. This uniform belt of timber forms, as it were, a close stationary dam, preventing the soft substratum upon which the piles rest from being pressed outwards by the weight of the pier: a circumstance that generally takes place where piling is employed, and the work heavy. This circumstance is also well known to miners, and is thus described by Mr. Seward:—"If a level be driven one or two hundred yards under ground through the solid rock, there will be no danger of its not continuing entire for an indefinite length of time; but if the sides and roof only of the level be formed in the rock, and the bottom be cut through into a bed or substratum of clay, however strong and stubborn it may be, being pressed by the weight of the superincumbent rocks, it will imperceptibly swell and rise up in the level; and, unless it be continually pared down, or prevented by some means, the level will, in no great length of time, be entirely choked up." The masonry of the piers was carried up with horizontal and vertical bonds to the springing, where they radiated in wedge-like courses that received the line of direction, or force of the arch. (See the prefixed engraving.) The piers are 60 feet in height, from the bed of the river to the top of the parapet, and 24 feet in width.

[From the London Mechanics' Magazine.]

MODE OF BUILDING A DOME WITHOUT CENTERING.—I was glad to see the communication of "A Country Gentleman" in your Magazine, because such an inquiring spirit as your correspondent manifests, gives promise of a kindly feeling that may quicken and spread among the class to which he belongs, when it shall be found that those of that class who desire practical knowledge emerge from the folds of their seclusion, and seek it where it is most likely to be met with—among practical men. I was also gratified to prove the truth of my constant belief, that many gentlemen neglect inquiry at home, not from a lack of patriotic spirit, but from a notion that the required information can only be obtained abroad—being often struck by some apparent novelty, without being aware that it had grown stale in their native land.

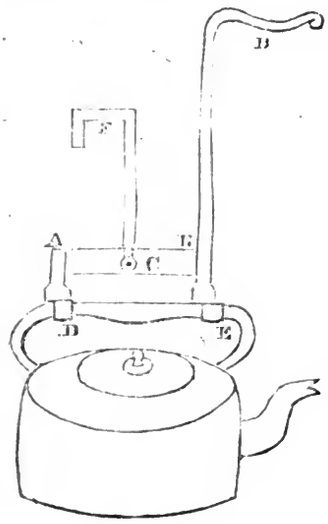
I believe the method of building a dome without centering has been known to English mechanics for a time longer gone by than can be traced with certainty. In fact, the process is so simple, that, although it might not have struck a theorist so immediately, a practical man could hardly have proceeded far in his work without being led into it. We will suppose such a practical man commencing a dome without any knowledge of the proper method to be pursued. He lays the first course of ma-

terial at the spring of his intended dome, inclining a little inwards; he follows with few more courses until he finds their inclination become too great to allow them support; he then, very naturally, endeavors to make his blocks *support themselves;* he tries various methods of accomplishing this, and cannot be long in hitting upon the best, from its very simplicity. Mere accident, perhaps, gives him the first idea of it; one block being left below the regular course, he will find another block upon this supported by the ends of the two adjoining and more elevated ones, in the manner here represented:

This will lead him to the more uniform and "solid" method of raising alternate courses, each block half its thickness higher than its neighbor: he thus will find he can build his dome up to its summit without centering.

For the purpose of showing this practically, I have made a model of a dome about 3½ inches diameter, formed of upwards of 150 pieces, which your correspondent may inspect if he will name a place to which it may be sent.

Yours, &c. SAMUEL DOWNING.
November 5, 1832.



Improved Kettle-Holder. By G. J. [From the London Mechanics' Magazine.]

Sir,—A B is a slender bar of iron, or strong piece of hooping. A D, B E are hooks of equal size fixed at A and B; but E B is prolonged upwards to D, where it is turned off square to form a handle. F is a hook, admitting of being turned freely round its centre-pin C. The hook F is hung on across the pot-hook, and the kettle on the hooks D E; there is also a spring, which is welded on A B, and entering the mouth of the hook E, prevents the kettle from slipping. The operation then is to draw the handle D towards you; when the water will be steadily discharged without giving you any chance of scalding or burning your fingers. The contrivance is so simple and cheap, that I have no doubt any blacksmith would make it for two or three shillings.

It will at once appear, Mr. Editor, that this is an useful kitchen utensil, and as such, I feel assured that its description will not be denied a place in the pages of the Mechanics' Magazine.

WONDERS OF PHILOSOPHY.—The polypus, like the fabled hydra, receives new life from the knife which is lifted to destroy it. The fly-spider lays an egg as large as it-self. There are four thousand and forty-one muscles in a caterpillar. Hook discovered fourteen thousand mirrors in the eyes of a drone; and to effect the respiration of a carp, thirteen thousand three hundred arteries, vessels, veins, and bones, &c., are necessary. The body of every spider contains four little masses pierced with a multitude of imperceptible holes, each hole permitting the passage of a single thread; all the threads, to the amount of a thousand to each mass, join together, when they come out and make the single thread with which the spider spins its web; so that what we call a spider's thread consists of more than four thousand united. Lewenhoek, by means of microscopes, observed spiders no bigger than a grain of sand, who spun thread so fine that it took four thousand of them to equal in magnitude a single hair.—[London Courier.]

AGRICULTURE, &c.

CULTURE OF SILK.—From the Report recently submitted to the House by Mr. Wheelock, of Warwick, we learn that this important branch of industry is becoming an object of increased attention, and that successful efforts in raising it have been made in almost every County of the State. The consumption of this article in the United States is believed to amount to no less than $10,000,000 annually; of which Massachusetts alone is believed to consume not less than $300,000. One acre of full grown Mulberry trees, it is calculated, will produce $200 worth of silk—and the committee are further led to believe that a great portion of the labor of producing the article "requires only the efforts of females, children and aged persons, in and about their homes, and that the amount of such in this Commonwealth is very considerable, and that a field is here opened for a species of industry which at present is scarcely available at all, but if slightly encouraged might greatly add to the general mass of productive employment and wealth. Almost every farm in this Commonwealth is capable of being made to produce the leaves of the white mulberry tree, which by a natural process are converted into the rich and durable material of Silk. Every farmer might raise in his family, at least, enough of this article to pay his taxes, without materially interfering with the requisite labors of the farm, or diminishing the usual amount of other agricultural productions." If each farmer in this State would devote a little attention to the raising of the mulberry tree, and allow his daughters to raise the silk-worms, the profits to the State in a few years would amount in the aggregate to many hundred thousand dollars. Millions of dollars worth of raw silk are imported into France and England every year. The Committee recommend a bounty of one dollar on every pound of Silk reeled in this Commonwealth, that is capable of being manufactured into various silk fabrics; also, a bounty of one dollar a hundred on white mulberry trees, transplanted in a proper manner for the growth of the leaf. The art of reeling from the cocoons is rather difficult and discouraging at first; so that without some public aid few will be found to undertake it. To obviate this difficulty the proposed bounty is recommended.—[Boston Traveller.]

MR. PILLANS'S VINES. [From Loudon's Magazine.]—I see a short notice of our Horticultural Association, in which you refer to Mr. Pillans's mode of cultivating the vine, and express your readiness to communicate it to the public. The fact is, that Mr. Pillans takes an eye from a vine in the month of March; and from it produces, in the following April or May twelvemonth, a handsome plant for his master's table, bearing several bunches of fine ripe fruit. Some of your readers will not credit this; but I have seen it: that is to say, I went through Lord Ducie's forcing-houses in May last, and saw pots of vines with ripe fruit on them. I was informed the eyes had been taken from the parent vines only fourteen or fifteen months previously. I saw others in every intermediate stage of growth between them and the pots in which the eyes had just been inserted; and I understood Mr. Pillans to say that he hoped to produce grapes for the table, in succession, throughout the year, on this plan. I believe that this process has not been communicated to any one. I anticipate your opinion, that all who claim to be citizens in the republic of science are bound to contribute their individual discoveries for the general weal, in exchange for the advantages they reap from a similar devotion on the part of their brother citizens.

CULTIVATION OF CORN, &c. NEAR PARIS, TENNESSEE.—We are situated near the 36 deg. north latitude; where it crosses the Tennessee river, our land is, generally speaking, undulating—not so level, but bad cultivation permits the land to wash in many places. Our produce is corn, cotton, tobacco, potatoes, oats, wheat and rye, &c. &c. Forty bushels of corn per acre, I suppose, is the average crop; some think they make fifty or sixty—though I do not. The corn is planted from March to 15th June, at four to four and a half feet from hill to hill, and from two to four stalks left in the hill; the plough is used almost entirely; and but little hoeing done to it—never more than two given, and more often, none. There is no manure used for corn, or, indeed, any thing but our gardens. We usually strip the blades from the stalks as soon as the shuck on the corn begins to whiten, or as soon as it is hard enough; the stalks are tied up with the blades, and stacked around a pole twelve or eighteen feet high in single or double rows. When dry enough, the corn is gathered and hauled to the crib, the shucks taken off and put in the crib;—the shucks, by most, are put in a pen to feed the stock—by others, they are permitted to rot on ground.

The wheat is sown among the corn or cotton, from the 15th October to the 15th November. The early wheat does best with us; it is subject to rust, fly, &c.; fifteen to thirty bushels is a common crop.

Rye and oats grow as fine here as in any country I ever saw. Rye sometimes grows as high as eight feet, oats as high as six; rye is very common at six to seven, oats at five; they are remarkably heavy, though I cannot say how many bushels, as we usually cut them up without threshing them out, and feed them to stock.

Our horses and cattle are miserably abused; many have a rail-pen for their horse to stand in, and none have shelters for their cattle. The best stables are made of logpens, without any thing in the crevices to exclude the cold and rain. We have many diseases, consequently, among us; the most common among the horses are the big head, the big jaw and shoulders, swinney, spavin, blind-staggers, and glanders, &c.—[Southern Agriculturist.]

SEED-DOWN OF TYPHA FOR STUFFING BEDDING FOR THE POOR. [From Loudon's Magazine.]—When these seeds are ripe, they fall in great wool flocks from the stalk; and as Typha grows wild in many places, they

could be procured in abundance. When beaten for some time they separate, and open all their balloons, so as to become as soft and as elastic as feathers; and from their hygrometic expansibility and contractiveness, I apprehend they would never get into clots or lumps if sewed up into a bag or bedtick. I should hope that this hint will be not wholly useless to your *Encyclopædia of Cottage Architecture.*

Cultivation of Corn.—Our readers will find the following communication to repay perusal. It is such a detail of effects as we should be happy to receive frequently from farmers. It was communicated to the New-England Farmer.

Princeton, N. J., Jan. 28, 1833.

Mr. Editor,—The idea has often occurred to me, while perusing your valuable paper, that farmers might be mutually benefited by making public through its columns their mode of cultivating the various crops which they grow upon their farms. Under that impression I have taken up my pen with the intention of devoting an evening in giving you my views and practice in cultivating a crop of Indian corn. Our soil, principally a sandy loam, in some places inclining a little to gravel with a clay subsoil, is well adapted to the growth of that plant, and we consider it the most profitable crop we cultivate. In the first place we prefer a stiff herds-grass sward, (by you called red-top, or herd-grass,) and clover; and, experience has taught us that a field which has been pastured for two or three years is much more certain of producing a good crop of corn than one of the same quality which has been kept up and mowed for hay the same length of time; that it is so with us, does not admit of a doubt. We suppose it is owing in part to there being fewer insects in the pasture-land,—the droppings of the cattle adding more recent animal manure to the soil, and some suppose that the soil having been rendered more compact by the cattle trampling on it for two or three successive years, facilitates the growth of the young plant by enabling it to push forth its roots more readily, as a certain degree of compactness in the soil appears to be necessary to enable a young plant to send forth its roots with facility. After trying various modes of preparing my land and tending the crop, I have for the last two or three years adopted the following, which appears to me to be the best I have yet practised.

I plough my land in the spring as early as convenient, regulating the depth by the depth of the soil, after ploughing put on a roller drawn by one yoke of oxen and roll lengthwise the furrow, after rolling, harrow twice along the furrow, with a heavy harrow six feet wide with iron teeth well sharpened, drawn by two able horses. Then take a small plough, drawn either by one or two horses, and form the field in ridges, by throwing two furrows together four and a half feet distant from each other across the original furrows, being careful the plough does not reach the sward to turn it up: this cannot be *well done* without the ground has been previously rolled. I then furrow crosswise the ridges last formed, with a sled made for the purpose of two inch plank with three runners, each runner having a hole an inch in diameter bored in the bottom, about equi-distant from either end, and a peg of good hard wood driven therein to extend about one and one-half inches below the runner, the part extending below the runner to be twice the diameter of that inserted in it. With this machine, with a tongue or pole firmly attached to the middle runner, one man with two horses can with ease furrow more than twenty acres per day;—as he makes three furrows at once, he must, consequently, furrow as fast as three men with ploughs, and it leaves the furrow in a fine state to drop the corn on, the grain not being so liable to scatter and roll as when dropped on the hard furrow made by a plough. The ground is then prepared for planting squares four and a half feet by four feet, and at this distance we put four grains or kernels in each hill. We find a small quantity of ashes on or in the hill of considerable advantage; it causes the young plant to come up strong and vigorous. When the corn has been up a few days, we put a small quantity of plaster to each hill, and commence harrowing with a small harrow three and a half feet wide, drawn by one horse, twice through each row one way, which prepares the ground handsomely for ploughing, and by which a careful hand can loosen the soil close to each hill. In a very few days after the harrowing is completed we commence ploughing, by throwing a furrow from each row, ploughing as close to the corn as can be done without covering it up, leaving the middle or spaces between the furrows in that direction untouched; we then commence ploughing crosswise, throwing the furrow to the corn unless it should be quite grassy, when we throw it from the corn as before, and in either case plough the middle or spaces left between the rows in the direction last ploughed out, immediately, throwing half to each row. After laying in this state some days, we put on the small harrows again and harrow twice through each row, or rather space between the rows one way—in this state it may be left for some days untouched, unless there should be a heavy fall of rain, in which case experience has taught me that it is of decided advantage to the corn to stir the ground again with the harrow, that a free communication may be kept up between the soil and the atmosphere. As it is all important to the health of an individual that the pores of the skin should be kept open, so it appears to me with the soil, that the slight crust formed upon its surface after a rain should be again broken with the harrow or some other implement.

When the ears are beginning to set I commence ploughing for the last time, throwing the furrows to the corn and leaving the spaces between the rows well ploughed out; by this system you will perceive the hoe is in a great measure dispensed with, and I can assure you I can keep my field as clean without it as you would wish to keep your garden, unless the spring should be very wet and warm, when we occasionally find it necessary to use the hoe. One man and a horse will plough around (as we call it) five acres of corn in a day, or complete, by ploughing the middle out, two and a half acres. If there should be a considerable fall of rain or heavy showers soon after the last ploughing, I almost invariably put on my small harrows again, unless the crop should be too forward, but at the last harrowing we raise the corner teeth of the harrow (which is of a triangular form) so that near the hills they merely break the surface. When the corn is nearly ripe, and, if possible, before it is killed by the frost, we cut it up by the ground and set it in stacks to be husked at leisure; the stalks are hauled and stacked at the barn-yard to be food through the winter months.

I have said nothing on the subject of applying manure to the crop, having already extended this communication to a much greater length than I intended when I commenced, and I fear it will occupy more space in your columns than it merits, but I leave it with you to publish the whole or any part thereof that you may consider calculated to promote the cause of agriculture. A. C.

Raising Grapes by Eyes or Buds. [From Loudon's Magazine.]—Sir: Langford, some time back, sent me cuttings of his incomparable grape. He stated that he prefers raising it from eyes, which he plants like bulbs; and, with the cuttings, he sent me a few eyes cut ready for planting. I have tried both the cuttings and the eyes; and the eyes have made fine shoots and are in leaf while the cuttings are not. I am, Sir, yours, &c.

M. Saul.

Clay Paint for Trees.—A correspondent of the Caledonian Horticultural Society, (Scotland,) recommends *clay paint* for the destruction of insects, and the mildew on fruit trees. The instructions are, that you take a quantity of the most tenacious brown clay that can be obtained; diffuse among it as much soft water as will bring it to the consistence of soft cream or paint; pass it through a fine sieve, so that it may be made perfectly smooth and unctious, and freed from any gritty particles. With a painter's brush dipped in the clay paint, go carefully over the whole tree, not excepting the young shoots. This layer, when it becomes dry, forms a hard crust, which enveloping the insects closely, completely destroys them without doing the smallest injury either to the bark or buds.

Influence of Cottage Gardens in promoting Industry.—It is a fact, the knowledge of which will not be unacceptable to those of our readers who take an interest in plans for bettering the condition of the poor, that, in the village of Blackwood, ripe peaches grown in a cottager's garden have this season been sold at the moderate price of 8*d.* per dozen. I need hardly say that the land producing this fruit was the grower's own, that is, held under a lease for lives. In the year 1817 this spot was a wilderness. The cottager was a rough or out-of-door carpenter, employed to put up posts and rails on a farm, and to do the rough work about a colliery. Before he built his house he lived in a hovel, with his wife and family, without even a garden. Since then, by dint of his industry and good conduct, he has been enabled to build a second and a third house, all of stone, and tiled, and to bring three gardens into cultivation, besides rearing his children decently, and teaching his sons to tread in his steps. He is now an old man, nearly blind, and has been unable to follow his work for more than a year past; but he has a comfortable house to live in; receives the rent of two other houses; has two industrious sons and a daughter, unmarried, to cultivate his garden, which is larger than usual; with its produce in fruit and vegetables of various sorts, honey from his hives, and a pig in the sty to kill at Christmas, to console him under the loss of sight and the infirmities of old age, with the cheering consciousness, that he need be indebted to no parish for relief, and is in no danger of leaving his children beggars.—[Loudon's Magazine.]

NEW-YORK AMERICAN.

MARCH 16, 18, 19, 20, 21, 22—1833.

LITERARY NOTICES.

THE AMERICAN QUARTERLY REVIEW. No. XXV. Philadelphia: *Carey, Lea, & Blanchard.*—Nine articles compose this number—all good and some excellent. Of the latter class are the numbers IV, presenting a view of Ohio; VII, on Hampden and his Times, and IX, on Nullification. Some of the others are lighter and more generally readable papers, however. That on the Life of Commodore Barney compresses into an interesting narrative the varied incidents of the very adventurous life of that gallant seaman. Article III does the same with regard to the life and writings, and too early death of *Schiller;* and Article V leaves pleasant, favorable, and we believe true and just impressions on the mind, of the character and disposition of both *Hortense Beauharnois*, and her husband Louis Napoleon, Ex-King of Holland. Both possessed most estimable qualities; and as to goodness of heart and fidelity to early attachments, both were uncorrupted by power,—yet they were unhappy together, and finally separated.

From the paper on Ohio, we transcribe a short, but as it strikes us a very valuable extract, which presents briefly and familiarly the substance of that famous Ordinance for the government of the Northwestern Territory, which "one Nathan Dane"—as Mr. Hayne, so unhappily for his own fame, once ventured to characterize this most sagacious and wise lawgiver—reported to the Old Congress in the year 1787.

The vast importance of this ordinance, and the probability that many of our readers are not familar with it, induce us to attempt an abstract of its contents; although its comprehensive brevity renders it impossible to convey a complete idea of it in a shorter compass than its own language fills.

After regulating in the plainest manner the descent and transfer of property, until laws should be adopted for that purpose, it provided a *temporary* government, consisting of a governor, secretary, and three judges, to be appointed by Congress. The governor and judges were to *adopt* such laws from the original states as Congress should approve, until a general assembly should be organized in the territory, which might be done as soon as there should be five thousand inhabitants. This assembly was to consist of the governor, a legislative council of five to be appointed by Congress, and a house of representatives to be chosen by the people. This body, by joint ballot, might elect a delegate to Congress, who should have the privilege of debating but not of voting. So far, the ordinance has served as a model for all subsequent territorial governments. But its most admirable features are yet to be mentioned. Having thus provided for the immediate present, its author directed his sagacity into the boundless future, and framed six memorable *articles of compact* between the original States and the people and States within the territory, which were to remain for ever unalterable, unless by common consent. The object of these articles was "to fix and establish the fundamental principles of civil and religious liberty as the basis of all laws, constitutions, and governments, which for ever hereafter shall be formed in the said territory."

1. No person was ever to be molested on account of his mode of worship or religious sentiments.

2. The inhabitants were ever to have the benefits of the writ of *habeas corpus*, of trial by jury, of proportionate representation, of bail except for capital offences, of moderate fines, of exemption from cruel or unusual punishments, and of being compensated for their property or services, when the public exigencies should require them. In addition to which, no law was ever to be passed which should interfere with private contracts previously entered into in good faith.

3. Schools and the means of education were for ever to be encouraged and the utmost good faith observed towards the Indians.

4. The territory and the states to be formed therein, were to bear their proportion of the public burthens; never to interfere with the primary disposal of the soil by Congress; never to impose a tax on the lands owned by the United States; and in no case were non-resident proprietors to be taxed higher than residents. The navigable waters within the territory, and the carrying places between them, were to be common highways. and for ever free to all the citizens of the Union.

5. Not less than three nor more than five states were to be formed within the territory; but so soon as there should be sixty thousand inhabitants within the limits designated, or sooner if deemed expedient, a State might be formed, which should be admitted into the Union on an equal footing with the other States, provided its constitution should be conformable to the principles of these articles.

6. There was to be neither slavery nor involuntary servitude within the territory, except for the punishment of crimes. But if a slave should escape from one of the original States, he might be reclaimed and carried back.

Such is the outline of this inimitable specimen of legislation. It was framed a few months previous to the Federal Constitution. So far as we know, it is the first written form of government, in which the three great principles of entire religious freedom, an obligation to encourage schools, and an absolute prohibition of slavery, were ever incorporated together.

From this Northwestern Territory have been already framed, subject to the wise provisions of this Ordinance, the free and flourishing States of Ohio, Illinois, and Indiana,—and Missouri, too, which, but for the moral cowardice and corruption of Northern recreants, would be as free and flourishing as the other three.

From the same paper we copy the account of a conference held with the Ohio Indians by the Pioneer of that State, *John Cleves Symmes*—the father of the inventor of the hollow world—chiefly for the excellence of the criticism made by an Indian Chief, of our national emblem, the spread eagle.

"The chief, the others sitting around, wished to know how far I was supported by the United States, and whether the thirteen fires had sent me hither. I answered them in the affirmative, and spread before them the thirteen stripes, which I had in a flag then in my camp. I pointed to the troops in their uniform, then on parade, and informed the chief that those were the warriors which the thirteen fires kept in constant pay, to avenge their quarrels; and that the United States were desirous of peace with them, yet they were able to chastise any aggressor who should dare to offend them. And to demonstrate this, I showed them the seal of my commission (as judge), on which the American arms were impressed; observing, that while the eagle held the branch of a tree, as an emblem of peace, in one claw, she had strong and sharp arrows in the other, which denoted her power to punish her enemies. The chief, who observed the device on the seal with great attention, replied by the interpreter, 'that he could not perceive any intimations of peace from the attitude the eagle was in, having her wings spread, as in flight, when folding of the wings denoted rest and peace; that he could not understand how the branch of a tree could be considered as a pacific emblem, because rods designed for correction were always taken from the boughs of trees; that to him, the eagle appeared, from her bearing a large whip in one claw, and such a number of arrows in the other, and in full career of flight, to be wholly bent on war and mischief.'"

We conclude with an extract from the article on Schiller, describing the last days of that finely touched spirit.

"The spring of 1805, which Schiller had anticipated with no ordinary hopes of enjoyment and activity, came on in its course, cold, bleak, and stormy; and along with it his sickness returned. The help of physicians was vain; the unwearied services of trembling affection were vain; his disorder kept increasing; on the ninth of May it reached a crisis.—Early in the morning of that day he grew insensible, and by degrees delirious. Among his expressions the word *Leuchtenberg* was frequently noticed; a word of no import, indicating, as some thought, the writer of that name, whose works he had been lately reading; according to others, the castle of *Leuchtenberg*, which, a few days before his sickness, he had been proposing to visit. The poet and the sage was soon to lie low; but his friends were spared the further pain of seeing him depart in madness. The fiery canopy of physical suffering, which had bewildered and blinded his thinking faculties, was drawn aside; and the spirit of Schiller looked forth in its usual serenity, once again before it passed away for ever. After noon his delirium abated; about four o'clock he fell into a soft sleep, from which he ere long awoke in the full possession of his senses. Restored to consciousness in that hour when the soul is cut off from human help, and man must front the king of terrors on his own strength, Schiller did not faint or fail in this his last and sharpest trial. Feeling that his end was come, he addressed himself to meet it as became him; not with affected carelessness or superstitious fear, but with the quiet, unpretending manliness which had marked the tenor of his life.—Of his friends and family he took a touching but tranquil farewell; he ordered that his funeral should be private, without pomp or parade. Some one inquiring how he felt, he said: '*calmer and calmer;*' simple but memorable words, expressive of the mild heroism of the man. About six he sank into a deep sleep; once for a moment he looked up with a lively air, and said: '*many things are growing plain and clear to me!*' Again he closed his eyes, and his sleep deepened and deepened, till it changed into the sleep from which there is no awakening."

If death be indeed the most fiery trial of humanity, if, more than any other test, it decides the character, what pleasing evidences of moral heroism and unshaken reliance, shine from the dying couch of Schiller! The past revealed no spectres to torture or alarm him. His life had been spent with comparatively no taint of evil—it had been one splendid dream of the great, and the good, and the beautiful, which forbade to passion its sway. Indolence, that prolific mother of almost all the vices, had in him never nourished one of her brood—no misdirection or perversion of powers claimed from him penance. In an elevation above the common wants and wishes which render our race the foes of each other, nursing the high conceptions and feelings,

"Which make man glorious and divine,"

his aim had been mental perfection and virtue. With such a retrospect, no wonder that, in the awful state of suspension between two worlds, he grew *calmer and calmer*, and saw nothing to fear amid the disclosing mysteries of eternity. Great truths *grew plain and clear to him*, and in the deep conviction of their sublime reality, he gently passed away.

The scene of his burial was peculiar. It took place in the dead of the night, between the hours of twelve and one. "The over-clouded heaven," says Doering, "threatened rain. But as the bier was set down beside the grave, the clouds suddenly split asunder, and the moon, coming forth in peaceful clearness, threw her first rays on the coffin of the departed. They lowered him into the grave, and the moon again retired behind her clouds. A fierce tempest of wind began to howl, as if it were reminding the bystanders of their great, irreparable loss," a loss which was indeed great, and for which all Germany, surprised at the event, mourned with fervent sorrow. His age and personal appearance at this period, are described in the following paragraph:

"Schiller's age was forty-five years and a few months when he died. Sickness had long wasted his form, which at no time could boast of faultless symmetry. He was tall and strongly boned; but unmuscular and lean; his body, it might be perceived, was wasting under the energy of a spirit too keen for it. His face was pale, the cheeks and temples rather hollow, the chin somewhat deep, and slightly projecting, the nose irregularly aquiline, his hair inclined to auburn. Withal his countenance was attractive, and had a certain manly beauty. The lips were curved together in a line, expressing delicate and honest sensibility; a silent enthusiasm, impetuosity not unchecked by melancholy, gleamed in his softly kindled eye and pale cheeks, and the brow was high and thoughtful. To judge from his portraits, Schiller's face expressed well the features of his mind; it is mildness tempering strength; fiery ardor shining through the clouds of suffering and disappointment, deep, but patiently endured. Pale was its proper tint; the cheeks and temples were best hollow. There are few faces that affect us more than Schiller's; it is at once meek, tender, unpretending, and heroic."

SIR WALTER SCOTT'S WORKS. *Conner & Cooke*, New York. Part III, of Vol. 2, is already issued, containing the Antiquary. The price, as before mentioned, is 37 1-2 cents. We have only to add that it is as well got up as to mechanical execution as the first two parts.

BOSWELL'S LIFE OF JOHNSON, by J. W. CROKER.—New York: *G. Dearborn.* 2 vols. royal 8vo.—The book thus beautifully republished here is one so fa-

miliar to the reading world, at least in its early editions, as to supersede the necessity of any critique upon it now. The additions and notes explanatory and illustrative, by the late Secretary of the Admiralty, were, on the first appearance of his edition in England, cruelly ridiculed and laughed at by the Edinburgh Review, and as extravagantly praised and valued by the Quarterly. Perhaps, as in most other cases, the truth lies midway ; and that Mr. Croker deserves such praise as the having brought together all the anecdotes of Johnson scattered through Mrs. Piozzi's and Sir J. Hawkins' publications is entitled to, and for having given point and perpetuity to some of the biting sarcasms and amusing incidents of this most amusing of books, by naming the individuals to whom they related.

Of this American edition, we can speak in terms of entire commendation. It is clearly and distinctly printed, upon good paper, and with well executed engravings ; and comprises in two volumes what occupies four or five in the London Edition.

The Douay Bible. New York : *John Doyle.*—The version of the Bible in use among Protestants was, as our readers probably know, rendered from the original after the Reformation, and differs, in many particulars from that still used by Catholics, which is the one now republished here. It bears, as a pledge of its accuracy, the *imprimatur* of the Catholic Bishop of this Diocess. It has many notes and illustrations, and presents a fair opportunity to critical readers, of comparing the two versions.

The Elements of the Differential Calculus by J. R. Young. *G. F. Hopkins & Son*, N. York.—This American edition of a standard scientific work has been carefully revised, and many errors in the London edition have been corrected. Its reputation, as affording a full elementary course of the subject it treats, will secure its adoption in Colleges and other higher seminaries of instruction. It is exceedingly well printed.

The Autobiography of Adam Clarke. L. L. D, New York : *D. Appleton.*—Written in the third person, and extending only through the period of his life previous to that in which, to use the author's own language, "I began to acquire fame, and great and learned men saw fit to dignify with their acquaintance, and to bestow honor and distinctions on a Methodist Preacher," this autobiography will be enthusiastically sought by those of the same persuasion as the very learned, pious, and exemplary writer, and may be read with advantage by all. Its humility of spirit may be judged of by the fact above referred to, that after he became famous, and widely known, and honored, Dr. Clarke would not trust himself to speak of himself.

Library of Romance, edited by Leitch Ritchie ; vol. 1. *The Ghost Hunter and his Family*, by "the O'Hara Family."—There is a peculiar interest about this tale, from association with the circumstances under which it was written—circumstances which are already familiar to our readers, from the affecting appeal of Mr. Banim to the public, which we republished a week or two since from a London paper. It is a melancholy criticism to make upon the story, to say that it exhibits traces of the feeble health of a writer, who at thirty has exhausted his constitution by the composition of twenty volumes, which, though widely disseminated, have still left their author as impoverished in pocket as in health. Still it must be admitted, that in spite of the great inequality discernable in different parts of the work, it is a tale of much interest, and of excellent moral tendency. The characters, standing by themselves, are exceedingly well drawn, and their grouping is happy. The shrewdness, sense, and firmness of character, with the quiet but strong affections of Rose Brady, are admirably contrasted with the willowy nature of her fond and erring cousin, and the rash and fantastic disposition of her fervid and high spirited brother. Randal Brady, too, the father, is very well drawn ; as is also the old beldame, whose mischievous disposition is so important an agent in the plot; and the minor dramatis personæ, indeed all the material of the story is good, and in some parts exceedingly well worked up ; but the fact of the author's having been forbid by his physicians to employ himself more about the MS. after it was first written out, has left many blemishes ; among which, not the least is a want of condensation in the story, which we fear will never prove such a favorite as others compused by the same writer under happier auspices. *

The Soldier's Bride, and other Tales ; by Jas. Hall, author of Legends of the West : Philadelphia, Key & Biddle.—This volume, though inferior in interest to Mr. Hall's Legends of the West, one of the cleverest and most characteristic collection of sketches that has issued from the American press, is still entertaining, and contains more than one striking story. "Pete Featherton," as a border sketch is only surpassed in fidelity to character by the popular story of "Mike Fink, or the last of the Boatmen." Mr. Hall has, however, already so fairly tried his powers in this light and unpretending style of composition, that the public have a right to look for something from his pen of a more ambitious and permanent character. Like Mr, Flint, he is one of the few literary men of the country, who, from living amid scenes and characters more peculiarly American than any offered in the older parts of the Union, have materials at their command which are invaluable in building up a national literature. They live in a new and picturesque country, where nature exhibits herself in her most striking forms, and where man, released from much of the prescriptive bondage of more thoroughly organized society, displays bold traits of his character upon even ordinary occasions. They have, as it were, the *creaming* of fresh and abounding sources of interest, and they should make the best of their advantages while time allows them. Before a few years are over, railroads and canals will have seamed the face of nature throughout the country ; and the concourse of tourists and scribbling travellers, who have made Germany and Italy as familiar ground most as the regions of Cocaigne, will be let loose here : when Kentucky and Missouri, and the whole region of "out West," with its rivers like oceans and its plains like empires, will be served up in annuals, and magazines, and novels, with as much eagerness as an ox is roasted whole by a party of famished soldiers, who have been for months subsisting upon snail ragouts, and soups made from dry bones. Writers like Flint and Hall ought, therefore, to seize with earnestness upon the unhandled treasures before them They should be upon the trail of their quarry while the newness of the morning air allows the scent to lie, and catch the perfume of the wild flower before the dew is exhaled from its cup. *

The Lives and Exploits of Banditti and Robbers in all Parts of the World : By C. Mac Farlane, Esq., Author of 'Constantinople in 1829,' &c. Harpers.—There are few subjects, as Mr. Mac Farlane justly remarks, that interest us more generally than the adventures of robbers and banditti ; and, from the adventurous days of Jack the Giant-Killer, to those of the chivalric Charles De Moor, infancy and age have alike delighted in dwelling upon the wild exploits of brigands and freebooters. The child, like one who hears, by the fireside, the winds whistle without, listens securely on his nurse's knee to the frightful narrative, with all the eagerness of infantile curiosity : The youth, who associates the idea of generous daring with the bearing arms under almost any circumstances, is captivated by the martial air and partisan fighting, the military apparel, and lonely retreats, the sedden charge, the stealthy ambuscade and fierce onslaught of the dashing marauder ; while age, which loves to study human nature in all its phases, contemplates the wretched life of the Brigand, with the interest of the philosopher and the philanthropist. It would be difficult, therefore, to choose a subject of more general interest and entertainment, than that of the volumes before us. And while one is surprized that in this book-making age, a compilation, if not an original work of the kind has not been before attempted, we are gratified, in perusing this, to find that the task has fallen into such good hands, and is so well executed. We shall have occasion to refer again to this interesting collection. *

Count Charles De Lameth.—The gallant Lafayette has recently expressed the wish that his own death might *precede* the dissolution of the Union ! In the recollection of the sufferings he has endured in the cause of liberty, he must groan *in the anguish of his soul* over the prospect which now awaits it, in the desolations of civil war, and the disruption of long cherished ties.

One of his companions in arms has been more fortunate. Count Charles De Lameth, after a long and distinguished career, has recently died in France ; and his name and that of his brother who died three years since, cannot be permitted to pass from the memory of those who honor the services of the virtuous and brave.

The subject of this sketch was a native of Picardy, was born in 1756, and in the Frigate La Gloire followed his brother Alexandre to America, in company with the Duke De Lauzun and and many other distinguished officers. A celebrated naval engagement took place on the passage, between this vessel, assisted by another French frigate, L'Aigle, and an English frigate, the Hector, in which the latter was obliged to strike her colors. Their landing in the Delaware was attended with many romantic incidents and much danger. An English fleet, in which the present King of England then was, chased the two French vessels and finally destroyed one, if not both of them, in our waters. So hot was the pursuit, that the French officers were compelled to escape in small boats, at midnight, and the military chest was for a while *deposited in the river* until the enemy disappeared, when it was taken up and bro't in safety to Philadelphia through the indefatigable exertions of the Chevaliers Viomenil and De Laval.

The various anecdotes connected with the services and gallant bearings of these French officers during the remainder of our revolutionary war, still offer an inviting theme to the pen of our future poets, biographers and novelists.

On the return of Count Charles to his own country, he was made Lt. Col. of the Orleans Dragoons, then Colonel of the King's Cuirassiers, and gentleman in waiting to the Count D'Artois, since King of France. About this time, through the influence of his mother, who was a sister of Marshal Broglio, he married a beautiful lady, possessing immense wealth, by the name of Picot.

In 1789, he was chosen Deputy from Artois to the States General, and until the flight of Louis XVI, he was a warm and energetic opponent of the Court and the aristocracy. He was with the army of Lafayette until that General abandoned his command, From Varennes he escaped to Havre, where he suffered a temporary arrest, but on regaining his liberty, he retired to Hamburgh, living in great obscurity. He afterwards selected Basle in Switzerland as the place of his residence. In 1800, he returned to France with his brother and other emigrants, whose names were erased from the list of exiles. He re-entered the army, and was appointed aid to Murat in 1817. He distinguished himself at Heilsberg by his uncommon bravery, and in short, from that period until 1813, he served with great honor in the armies of France, both against Austria and Spain, obtaining decorations and rank as the trophies of his valor. In 1814 he was appointed a Lieutenant General, and recently he has been a member of the chamber of Deputies, from the department of the Seine and Oise.

The career of this man, which has conferred honor upon his family, and glory upon France, seems to have been long since forgotten by that people across the Atlantic, whose interests he in early life adopted as his own. In the impending crisis of their political existence, they appear no longer to remember the blood and treasure which their freedom cost, or the value of the services of Lafayette and Da Lameth ! Yet before patriotism and love of liberty are forever

engulphed in the contentions of political demagogues, who are leading our countrymen to the verge of irretrievable ruin, one heart at least shall express its grateful devotion, and one pen inscribe its eulogy to the memory of Count Charles De Lameth.

Eternal honor to the Hero and Patriot who fleshed his maiden sword in the cause of American independence.—[Albany Daily Adv.]

FOREIGN INTELLIGENCE.

Late from Europe.—Three packets arrived Saturday afternoon and Sunday;—the *Silas Richards*, of 24th January, from Liverpool, the *France*, of 21st do. from Havre, and the *Caledonia*, of 4th ult. from Liverpool. Our tables are consequently covered with newspapers.

The most important item of intelligence, however, is the complete defeat and rout of the Turkish army in Asia, by the Egyptians, and the consequent movements among the chief European powers. Russia was hastening to sustain her late enemies the Turks—but is said to require as the price thereof, the entire cession of the principalities of Wallachia and Moldavia, which now it does in fact govern and enjoy the revenues of. The other powers, and particularly France and England, who appear to act completely in concert on this as on the Belgian question, object to this protecting mania of Russia, and will probably interfere, as well by fleets in the Mediterranean, as by remonstrance.

The Duchess of Berri was ill at Blaye, and might, perhaps, in consequence be liberated.

The Belgian question seems *in statu quo;* and the same may be said of affairs in Spain and Portugal.

The British Parliament was opened on 29th January. The House of Commons was organized by choosing Mr. Manners Sutton as Speaker. The Lord Chancellor, in opening the session by Commission, notified the two Houses, that the King would attend in person, and deliver his speech, as soon as the Parliament was prepared for business.

The choice of Mr. *Manners Sutton*, an anti-Reformer, as Speaker, seems to have offended the press and the public generally. Bell's Messenger, an able and impartial paper, views this first "public act" of the Reformed House, "with disgust."

The abolition of slavery in the Colonies seems determined on. A deputation of the West India interest waited on Lord Goderich to ascertain the intentions of Government. He admitted that the subject would be taken up. but declined going into any particulars. The Times says there is to be *no* compensation to slave-owners, and thus reasons on that head.

We would strongly recommend to our correspondent to dismiss at once from his mind the expectation which seems so strongly to possess it, that compensation will be awarded to the slave-owners. The slave-owners have certainly, in strict law, a property in their slaves. The owners of Gatton, Dunwich, and Old Sarum, had also a legal property in their boroughs but property based on the violation of the claims of humanity is no more sacred than that founded on the violation of constitutional principles. Public opinion blasted the claims of the boroughmongers before the annihilating sweep of schedule A, and no man dared ask an indemnity for the money-value of a flagrant instrument of wrong. The public voice has denounced with equal emphasis and indignation the disgusting system of slavery; and in our opinion decidedly is, that neither the Parliament nor the people of England will listen to any arrangement which admits the claims of the dealers in human flesh, though a *bonafide* price may have been given for that flesh."

The following plan, to supersede slave-labor, in part, is, according to Bell's Messenger, to be tried.

Alteration in the Sugar Trade.—A plan to alter the sugar trade, to change the colonial system entirely, and to reduce the demand for slave labor, has been submitted to his Majesty's Ministers, and to the leading houses in the West India trade; the question is entertained by the Ministry, and the planters are represented as being favourable to the new system.

It is proposed that only one process should take place in the West Indies, namely, the boiling of the sugar cane, the proceeds in a fluid state to be shipped to England, and to be manufactured here; the process of making muscovades, and of refined sugar, and the distillation of rum, all to be performed in England.—The person who has submitted this plan to the Ministers has taken out a patent for making refined sugar from the saccharine matter in the fluid state by one process. The Ministers, who have taken this plan into consideration, have alluded to difficulties which would arise as to collecting the revenue, about four millions annually; but as all the produce would be sent to Europe, as at present, the fixing the duty is merely a matter of detail, not of insurmountable difficulty or objection to the other part of the plan. So far as regards the reducing the demand for slave labor, that part of the plan of course meets with the approbation of the Ministers. The calculation that one half the labour of the slaves would be reduced is stated to be greatly under the mark. The portion of labour which would be saved is that pressing the most severely on the slave, being night work in the curing houses and in the distillation of rum, and as the plough has been lately introduced into the field labour, the work of the slave would be trivial. The manufacturing of the saccharine matter in England would be attended with great changes—the detail of the refining would be completely altered—the process of distilling rum would also be entirely a new one. The refiners, a powerful body, are the only persons who have evinced a serious opposition to these new measures; they carry their objections to the extreme, as all their apparatus for refining, and their valuable establishments must be changed or rendered worthless. The plan has produced a great sensation; the chief objection appears te be the throwing the greater part of the trade into few hands; but this evil would, of course, be of short duration. Large contracts are in the mean time entered into for the supply of the saccharine matter in the rude state, after the first boiling of the cane. Th etrial of the new system will commence on an extensive sale.

Baussels, Jan. 30.—As we have stated before, several corps of our army which had hitherto been encamped or cantoned near the Dutch frontiers are going into positions nearer the centre of the country, or even to serve as garrisons on our southern frontier. Some journals are wrong in inferring from the placing part of our army on the peace establishment that there is less appearance of war, for this measure, which is not even equivalent to a partial disarming, serves only to diminish in a small degree, the expense of the Treasury, by taking from the troops for the moment all the right to field rations, as well as to the indemnities due to troops on the war establishment. The same thing was done last winter.—[Courrier Belge.]

February 1.—The official part of the *Moniteur* contains the Royal ordinance, by which the King revokes his decree of the 2d of October, 1832, by which the city of Antwerp was declared in a state of siege.

Paris, Jan. 27.—Our last accounts from Blaye state that the Duchess de Berri, who had been for some time seriously indisposed, was dangerously ill. Her illness is attributed by every body here to a cause which shall be nameless, and her danger to the unskilfulness of a surgeon who has attended her. Two experienced medical men, Messrs. Orfilia and Auvity have been despatched by the Government to Blaye Those two gentlemen are more particularly known in France, as professing what is called here legal medicine; that is, offering evidence in criminal courts, in cases of death from a violent or apparently unaccountable cause.

A professer of English has lately been added to the academical corps of the University of Paris, which hereafter is to form a branch of the regular course of education in the colleges and public schools in France.

Within the last week, says an English paper, no less than four richly laden Dutch vessels, of from 300 to 500 tons, have been captured by the *Rover*.

The London booksellers, in announcing their editions of President's Jackson's proclamation relative to South Carolina, head their advertisements in capitals—"*Dissolution of the Union.*"

Talleyrand, it is said, will certainly give up his ambassadorial functions, and leave England in the course of next summer.

The British Government have proposed a small tax upon emigrants in Canada, as calculated to provide relief for the poor themselves, and therefore to encourage rather than obstruct the influx of industrious persons from the mother country.

From an official statement of the population of Rome, just published, it appears that it amounted last year to 148,459 souls, and that it had diminished by 2000 individuals since the preceding year.

Letters from Paris received in London, still speak of a change in the French ministry, but assign no grounds for the expectation.

Bankruptcy.—At a late Court, in London, there was a meeting of the creditors of B. A. Goldschmidt & Co., bankrupts. Numerous claims were entered in proof by the commissioner. Among them was one by Mr. Timothy Wiggins, an American merchant, which was objected to in part. No estimate of the dividend is made; but the claims amount to upwards of 100,000*l.*

Latest from Oporto.—We learn from Gibraltar papers to Feb. 4th, brought by the brig Marcellus, Capt. Jennings, that the American brig Hyperion arrived there on the 1st, in three days from the mouth of the Douro, having previously transhipped into boats, to be landed at St. Joao da Foz, Count Saldanha, Generals Stubbs and Cabrera, and several other officers. The Miguelite batteries continued very active. Capt. Jennings was informed by the master of the Hyperion, *that the Cholera had broken out in Oporto*, and states that in consequence, the Hyperion had been placed under quarantine in Gibraltar. The Gibraltar papers do not allude to this fact. [Our latest previous accounts from Oporto were to Jan. 22d.]—[Jour. of Commerce.]

From Liberia.—A letter has been received, via St. Thomas, from Capt. Hardie, of the ship Lafayette, which sailed from Baltimore with emigrants in December. They arrived at Liberia on the 20th of January, after a passage of 38 days from Cape Henry—all well.

The U. S. schr. Porpoise, Capt. McIntosh, sailed from Monrovia on the same day on which the Lafayette sailed. No letters have been received except the one above mentioned. A vessel was to sail for Philadelphia in a few days, by which letters may be expected.—[Balt. Chron.]

SUMMARY.

The Supreme Court of the United States terminated its session on Friday last.

[*From the New-York Gazette.*]

British Northern Expedition.—Our readers will recollect that some months since Capt. Back, of the royal navy, proposed to the British government and to certain gentlemen in London, the project of an Expedition to the Frozen Ocean, in search of Capt. Ross and his companions, who sailed four years ago, and have not been heard from. A public meeting has in consequence been held, and a subscription raised for the purpose of carrying it into effect. The whole sum necessary for the purpose is £5000, £2000 of which is furnished by the government, and the whole placed in the hands of a committee appointed to its superintendance, of which Sir George Cockburn was the chairman, previous to his departure from England. Captain Back, who is appointed to the command, has had an interview with the King and royal family at Brighton, on the subject of the expedition, and was highly complimented for his gallant proposition. The Princess Victoria, (heiress to the throne) presented him a beautifully mounted compass, with a handsome inscription. He is to be accompanied by five men only, three of whom are landsmen, and were companions of Capt. Franklin and himself on a former occasion, one sailor, new to the enterprize, and Mr. King, surgeon, making the whole party six. They were to leave London on the 9th February, to sail from Liverpool a week afterwards for NEW-YORK, and thence take the Northern route, with a number of Canadians, engaged to go along with him, and assist in the expedition. He has seen a chart left by Ross, in which the course he proposed to take is laid down, and this may guide him to the spot, if such there be, where that enterprizing officer may happily be found, and rescued, if still living, from sufferings and death. Capt. Back is provided with instruments of the most perfect kind, and geography and general science must receive great benefit from his toils. The Hudson's Bay Company have acted in the most liberal manner in his behalf, adopting every precaution to promote his success, and giving him a commission in their service, which will place very essential assistance at his disposal throughout the North American continent. For provision he takes hardly any thing but *pemmican*, the most portable and nutritive. Beads, trinkets, tobacco, &c. are to be carried out as gifts to the natives. Since writing the above, we learn that Capt. Back was to sail on the 16th, in the Hibernia.

FIRE.—The Turpentine Distillery of E. D. West, corner of Eighteenth and West streets, was slightly injured by fire this morning, about half-past eight o'clock.

The body of Mr. William Dehon, of the late firm of T. K. Jones & Co. auctioneers, has been found on the shore of one of the islands in the harbor of Boston. He had been missing for several days.

Another.—BOSTON, MARCH 16.—Yesterday morning we learn the body of Captain Edward Battles, superintendent of the laborers at the Dry Dock in the Navy Yard, Charlestown, was found suspended in his wood shed. The cause for the perpetration of the act is unknown.

In the Senate of Massachusetts, a bill to abolish company trainings of the Militia, and to substitute an annual inspection, &c. passed by a vote of 20 to 17, on Friday last.

The packet ship Susquehanna, of 600 tons, intended for the Liverpool trade, was launched at Mr. Vaughan's yard, in Philadelphia, yesterday.

The General Assembly of Virginia have allowed Mr. Leigh, in their Appropriation law, $2,500 as a compensation for his services in South Carolina.

The Albany Daily Advertiser of Saturday gives the following list of appointments made for this city on the preceding day, by the Governor and Senate:

Robert J. Dillon, notary public, in the place of Thomas Slidell, resigned; Stephen Allen, Walter Bowne, Benjamin M. Brown, Saul Alley and Charles Dusenbury, "water commissioners for the city of New-York;" Jas. Lowerie, Jacob Shumway, Henry Howard, Philo Lewis, Andrew Wilson, and Thomas Gardner, inspectors of beef and pork; Daniel Gordon, Benjamin Cooper, and Oliver H. Taylor, inspectors of leather.

SHIPWRECK.—The *John Wells*, arrived at Philadelphia from Liverpool, reports falling in on 15th February with an American ship, having a signal of distress flying. It proved to be the ship Catharine, from Mobile for Havre, with a cargo of cotton—abandoned by the crew in a sinking condition having ten feet of water in her hold. The cargo is heavily insured in this city.

We learn that early next month, the Citizens' Line will start an evening boat for Baltimore, via the railroad, the passengers leaving Philadelphia immediately after the arrival of the New-York boat. By this arrangement those who leave New-York at six o'clock in the morning, may arrive at Baltimore at about eleven o'clock in the same evening, and those who leave Baltimore in the evening, will reach Philadelphia in time for the six o'clock boat to New-York.—[Philadelphia Inquirer.]

The New York Institution for the Blind.—We have several times briefly noticed the condition of this infant institution, the helpless condition of its pupils, the creditable progress they have made in knowledge and useful arts during the few months they have had instruction, the philanthropic and intelligent efforts made in their behalf by Drs. Russ and Akerly, and the appeal which it makes for aid in sustaining them.

We feel called upon to mention the subject again, by a conviction that this highly interesting and pro- evening at the old Alms House; but, although the children were brought about a mile, with their apparatus, &c., not a member took the pains to step in. missing institution is in imminent danger of destruction through the neglect of our city government, those who ought to sustain it.

It presents claims upon the public at large, but more particularly upon those who have rendered its establishment indispensable, by producing subjects for it.

Petitions have been sent to Congress and to the Legislature of the State, by the directors of the institution, soliciting aid; and a more urgent one has been before the Corporation for weeks, slumbering, as we understand, in the hands of Dr. Rhinelander, chairman of the committee to whom it was referred. The five pupils now under the charge of the institution, are poor boys from the penitentiary, who lost their sight by the ophthalmia, a disease which was permitted to rage there many months, and reduced scores of old and young to blindness for life. An invitation was accepted by the Board of Aldermen, to attend an exhibition of the children on Wednesday

Institutions for the blind are now establishing in Boston and Philadelphia, with a spirit becoming the people. It is left for the government of New York to disregard their own blind and to turn a deaf ear to every appeal made by benevolence in their behalf.

We recommend another public exhibition to be made, that the subject may be laid before the citizens. —[Daily Advertiser.]

SHIPWRECK.—We learn by the *Marcellus* from Marseilles, that the brig John Welch, from Leghorn for New York, on the 22 January, in a dark boisterous night, was cast away five leagues to the Westward of Malaga. With great difficulty the captain and crew were all saved. The cargo, consisting of silks, linens, &c. will be mostly saved, through the diligence of Mr. Barrel, American Consul at Malaga, to whom, says the report, we cannot attach too much praise, for his assiduity and gentlemanly conduct.—The moment he heard of the disaster, he started for the wreck with all possible haste, taking with him assistance to prevent plunder, and the next day had 131 bales of goods in Malaga without damage. The Consul came from the wreck in company with the captain, and reported that all the cargo that could be saved was then on shore, which comprised all the valuable goods, though with some damage. The sails, both lower masts, spars, &c. were taken out of the vessel and carried ashore. The hull and marble will be a total loss, being too heavy to move from her. Though the weather was very severe, the Consul had been lodging in a tent in the vicinity of the wreck all the time.

[*From the Journal of Commerce.*]

MELANCHOLY SHIPWRECK.—The report brought by the whale-ship Martha, of having seen 14 dead bodies and pieces of wreck in lat. 5 deg. 4 m. South, and lon. 29 deg. 15 m. 30 s. West, has awakened a painful interest in the community to know more of the disaster, or at least to be able to identify the ship. It would nevertheless be a melancholy duty to announce this identity, even if we had the means of so doing. Having obtained some information which induced us to fix upon a particular ship as the subject of this catastrophe, we yesterday went on board the Martha, at anchor in the Hudson, in order to obtain such further information as we might be able. The entry on her log-book is as follows:

"Sunday, Feb. 10, lat. 5. 4. S.—lon. 29. 15. 30. Wind S. E. by E. Pleasant weather. At 8 A. M. saw large schools of fish. At 9 A. M. saw a dead body, and from 9 to 12 counted 14 dead bodies. Lowered a boat and picked up several articles supposed to belong to the same ship; a work-bench,—try-sail-mast, badly burnt from 10 feet from the deck,—a stage that had the appearance of being over the side for caulking, the slings being burnt off six feet from the stage. Saw pieces of bulwarks, &c."

In addition to the articles above mentioned, is a block of wood, once a part of a ship, on the upper side of which is written in ink, with a fair hand,

"M. H. Taylor,
Mate of
Ship H ."

The H. is nearly chafed out, and the rest of the word of which it is the initial, almost entirely. The block is now at this office, and can be seen by those who desire it. There is no paint except upon the under side, and from its general appearance we should think it must have been a refuse block, not in use at the time of the disaster. Hence it is *possible* that it may have originally belonged to some other ship than the one destroyed.

There is no doubt whatever, of the ship having been destroyed *by fire:* and it is probable it might have caught from the burning of the pitch while heating on deck for the purpose of caulking. Pitch had deen dropped on the staging. This staging, if we rightly understood the mate of the Martha, was formed by nailing cletes across a common house-ladder, 25 or 30 feet in length, and placing boards upon them. From the dimensions of the try-sail mast, the ship would appear to have been about 500 tons burthen.—The work bench was of the kind usually found in joiners' shops, with a wooden vice, &c. Such work-benches are not common on board ships, and still less are house-ladders of the length above mentioned.

We shall now state some reasons which led us to *fear* that the ship burnt is the *Hellespont*, Capt. William Henry, of Boston. This ship sailed from Boston on the 25th of December, bound to Valparaiso, the Sandwich Islands, and India. On the 1st to the 10th of Feb. she might be expected to be in about the position where the ship was burnt.

2. The name on the block of wood. We have seen a letter from a commercial house in Boston, which, after alluding to the dead bodies, says, "It is feared they were from the ship Hellespont. M. H. Taylor was mate of that ship." Another letter from a gentleman not a merchant, speaks of him as having been a *seaman* on board the Hellespont.

3. The work-bench and ladder. On board the Hellespont were Messrs. P. A. Brinsmade, Willian Ladd, and William Hooper, passengers, who were going to establish themselves as a commercisl house at the Sandwich Islands. It is common for persons proceeding to those Islands with a view to permanent residence, to take with them the frames and other materials of houses, it being impossible to obtain them on the spot. Those who fitted out the Hellespont, will know whether such was the fact in the present instance. If it were, the work-bench and ladder would be a natural accompaniment. We do not find that there were any other passengers on board. A Boston paper of the 24th Dec. in giving a list of the passengers, mentions no others. The Missionaries did not sail in this ship, as seems to be the impression of many, but in the Mentor from New London, 21st November. Messrs. Brinsmade, Ladd, and Hooper, however, had been influenced, in going out, very much by a desire to aid the missionary cause; and if lost, their loss will be deeply lamented. Mr. Brinsmade was from Hallowell, Me. and Mr. Hooper from Marblehead.

We have thus presented the facts in regard to this melancholy shipwreck, so far as we have been able to collect them. We do not feel *certain* that the ship is the Hellespont, though we think there is great reason to fear that such is the fact. At the same time it appears to us rather extraordinary that the Martha should have fallen in with so many bodies, when the whole number of persons on board (supposing this to have been the ship) probably did not exceed 20 or 25. The Martha passed within a few feet of two of the bodies: the first was in seaman's dress; the other was little else than a skeleton.—Sharks were numerous in the vicinity. Could not say for certainty, whether any of them were in landsmen's dress, or whether any of them were females. Several were at too great a distance from the ship's course, to be able to distinguish their dress.

INDIAN EXPENSES.—From the act making appropriations to carry into effect Indian Treaties, &c., as published in the Globe of Saturday, we make the following abstract:

For the *Winnebagoes*, for treaty of September. 1832,	$23,382
For the *Sacks* and *Foxes*,	69,474
For the *Shawnees* and *Delawares*, Oct.	42,250
For the *Kaskaskias* and *Peorias*,	8,630
For the *Appalachicola* tribe	13,000
For the Potawattamies of the Prairie by treaty of October 1832, and January 1833,	124,779
For the *Kickapoos*, by treaty of Oct. and Nov.	71,232
For the *Potawattamies of the Wabash*, October,	283,761
For the *Potawattamies of Indiana*	81,520
For the *Piankeshaws* and *Weas*	22,262
To enable the President to extinguish Indian titles in Indiana, Illinois and Michigan, in addition to grant of last year,	3,871
For Expense of the treaty at *Butte des Morts*, in addition to former appropriation,	400
For removal and subsistence of the Creeks, &c. in addition,	16,561
For arresting and guarding *Ioway* murderers,	1,023
For locating *Choctaws*, (not before provided for	1,500
For expense of *Chickasaw* deputation to Washington,	1,650
For expense of keeping twelve prisoners of war of the *Sacks* and *Foxes* as hostages, &c.,	2,500
For Sundry small items—together	4,030
For expense of removing and subsisting the *Choctaw*, *Creek*, *Cherokee*, and *Ohio* Indians,	474,013
For holding a treaty with the *Potawattamies* to extinguish their remaining title in Illinois,	10,000
For carrying into effect treaty with *Chickasaws*, to be refunded out of sales of their land,	100,000
For do do with the *Ottawas*,	47,400
For do do with the *Menominees*	58,600
For several small items—together,	5,000
For expense, if found necessary, of repressing Indian hostilities on the frontiers,	100,000
	$1,566,838

The greater portion of this million and a half of dollars is for enabling these Indians to remove, compensating them for their improvements, and providing blacksmith's shops, school masters, &c., in their new settlements. There is also a proviso in the bill to compensate the American Board of Foreign Missions for the value of their improvements, &c., in the *Choctaw* settlement, sold at the treaty of the Dancing Rabbit Creek.

The OPERATION OF THE LAWS passed at the late session, for the regulation of the revenue, and for the explanation of various acts connected with the collection of duties, is set forth in the annexed circular from the comptroller of the Treasury.

We regret to perceive by it, that no discretion exists in the Treasury Department to extend the time for the payment of duties on such Kendall coatings, &c. as. having been ordered under the law of July last, will, by the law of 2d inst. be subject to a duty of 50 per cent. instead of 5.

Measures however are indicated, whereby importers will be enabled the more readily to establish their claims before next Congress, for the return of the duties they will be called on to advance.

We have no space to-day for comments on any other parts of this circular.

Circular to Collectors, Naval Officers and Surveyors.

TREASURY DEPARTMENT,
Comptroller's Office, March 7, 1833.

SIR—You will receive, herewith, for your government, the following acts passed at the last session of Congress, viz.:

1. "An act to explain an act entitled 'An act to reduce the duties on coffee, tea and cocoa,' passed the 20th May, one thousand eight hundred and thirty."

2. "An act to explain and amend the 18th section of 'An act to alter and amend the several acts imposing duties on imports,' approved the 14th July, 1832."

3. "An act establishing a port of entry and delivery at the village of Fall River, in Massachusetts, and discontinuing the office at Dighton."

4. "An act to explain and amend the act to alter and amend the several acts imposing duties on imports, passed the 14th July, 1832, so far as relates to hardware and certain other manufactures of *Copper* and *Brass*, and other materials."

5. "An act to modify the act of the 14th July, 1833, and all other acts imposing duties on imports."

The third section of act No. 2, contains the following provisions, viz.:

"If a sum equal to the amount of duties levied by the said act of the 14th July, shall not have been collected, and the bond or bonds given shall amount to more than the duties imposed by said act, the Secretary of the Treasury shall direct that a debenture cetrificate or certificates, the form of which shall be prescribed by him, for such excess of duty, shall be issued to the persons placing the same in the custody of the customs, payable out of the bond or bonds given for duties on the same. The collectors to give the debtors credit on the bonds for the difference between the high and low duties, and to cancel the bodns on payment of the balance."

To carry these different provisions into-effect, you are when the importer deposits the goods, to credit his bonds with the difference between the high and low duties, and if any excess shall then appear to nave been paid, such excess is to be refunded to him at the Treasury; but if, upon giving such credit, the full amount of duties according to the existing laws will not have been paid, the bonds are to be cancelled only on the payment of the balance thus remaining to be paid.

But in case of goods being deposited by a person other than the importer thereof, and a sum equal to the amount of duties levied by the said act of the 14th July, shall not have been collected, and the bond or bonds given shall amount to more than the duties, imposed by said act, instead of giving a credit on the duty bonds of the importer, for the difference between the high and low duties, a debenture certificate is to be issued to the person depositing puch goods for such difference, the form of which, marked A, approved by the Secretary of the Treasury, is herewith transmitted.

From this form you will perceive that the debentures will be payable only in case the duty bonds on which they may be predicated, shall be paid.

The same principle is to govern in the case of goods heretofore liable to duty, but which, under the act of the 14th July, 1832, will be free.

If such goods be deposited by the importer, any duties which may have been paid thereon, are to be refunded to him at the Treasury, and the bonds for the balance of the duties (if any) are to be cancelled; and if such goods be deposited by a person other than the importer, and no duties thereon have been paid, he is to receive debenture certificates for the whole, payable at the same times respectively at which the bonds given for the duties will become payable: but if a part of the duties were paid, then such part is to be refunded to the person who may have deposited the goods, and debenture certificates for the balance of the duties are to be granted to him, payable as before mentioned.

The 3d section of act No. 2, also contains a provision according to which goods deposited and remaining in the custom house stores until the 1st of April next, will be entitled to the benefit of the 18th section of the act of 14th July, 1832, and if any higher duty shall have been paid thereon than would have been levied under the last mentioned act, such excess is to be refunded out of any money in the Treasury not otherwise appropriated, to the person who may have placed the same in the custody of the customs.

The applications for a return of such excess of duties, as well as for other duties to be refunded, are, of course, to be made to the Treasury, and to substantiate the claims, a certificate of the custom house officers is to be produced, agreeably to the enclosed form, marked B.

When goods which have been or which shall be deposited for the benefit of the 18th section of the act of the 14th July, 1832, by persons other than the original importers thereof as authorized by the accompanying act No. 2; the identity is to be established by satisfactory evidence of the transfer or transfers for your government, in relation to which the Secretary of the Treasury directs that the regulations prescribed by law, when goods are exported for the benefit of drawback by persons other than the original importers thereof, be observed.

Information having been received from sources entitled to entire confidence, that impositions have been practised, and will continue to be practised, on the revenue, by invoicing and entering the articles known by the names of "*Summer Cloth*," and "*Brochellas*," under the name of "*Worsted stuff goods*," when, according to the materials of which they are both composed, (say worsted or *combed wool* and *cotton*) they are not entitled to that classification, but are liable to the *Woollens duty*, it becomes necessary that measures be adopted at the custom-houses, in the examination and inspection of such goods, to detect and prevent impositions of the kind in future.

In compliance with instructions from the Secretary of the Treasury, you are requested to refund the discriminating duties of tonnage which have been levied by you on Mexican vessels since the 5th April, 1832, the date of the President's Proclamation, directing the Treaty between the United States of America and the United Mexican States, to be fulfilled.

It is deemed proper to take this occasion to communicate to you the following decisions of this office, viz:

1. That in estimating the value of *wool unmanufactured*, at the place of exportation—to the actual cost, if the same shall have been actually purchased, or the actual value, if the same shall have been procured otherwise than by purchase, at the time and place, when and where purchased, or otherwise procured, or to the appraised value, if appraised, are to be added *all charges*, except insurance, and the weight is to be regulated with reference to the pound weight as known and established in the United States. If it shall be proved to your satisfaction, that there is any difference between the pound weight in the United States and that of the foreign country of exportation, such difference is to be taken into view in the computation of the value of the wool. If the value of *unmanufactured wool*, estimated in the manner thus prescribed, shall exceed eight cents per pound, it will be liable to duty, and vice versa, if it does not exceed that sum per pound. An actual weighing at the time of arrival, in considered necessary in all cases, in order to ascertain whether the wool will or will not be liable to duty.

2. That an article called "*Fancy Coral*," in thin uneven pieces, about a quarter of an inch in length, with a hole midway between the two ends, is not considered as coming under the denomination of "*Beads*," in contemplation of law, and if not entitled to the general exemption from duty of "*Coral*," is entitled to such exemption as an article not enumerated in any law, and heretofore liable as such, to an ad valorem duty of 15 per cent. The circumstance of such *Coral* being strung, is not considered as placing it upon a different footing.

3. That *Coral beads* are liable to an ad valorem duty of 15 per cent. as "all other *beads*, not otherwise enumerated."

4. That window blinds, made of split rattans, are liable to an ad valorem duty of 15 [25] per cent. as manufactures of wood.

5. That all articles composed entirely of *Silk* and *Linen*, are entitled to an entry as *manufactures of Silk*, or of which *Silk* shall be a *component* part."

6. That all *iron chains*, which from the form and thickness of the links, are suitable for, and are generally used for *Cables*, whether of large or small vessels, are to be subjected to the specific duty of 3 cents per pound.

7. That *Goats* and *Camel's hair Camlets*, are entitled to an entry at 15 per cent. being considered as coming under the general classification of "*Cashmere* or *Thibet*," in contradistinction to the classification of "*Merino Shawls* made of *wool*, and all other manufactures of *wool*, or of which wool shall be a component part."

8. That shawls, the body composed of *Silk* and *Worsted*, with the figures on the border formed with *carded wool*, are considered to be entitled to be placed under the classifiation of "*Shawls* and other manufactures of *Silk* and *Worsted* at an ad valorm duty of 10 per cent.

9. That shawls of worsted or *combed Wool* and *Cottons*, are liable to the *Woollen's* duty.

10. That the articles called *brown rolls*, or Heedens, Dowlas, Pla Illas, Creas, and Bretagnes, are entitled to an entry at an ad valorem duty of 15 per cent.

11. That the following articles are liable to an ad valorem duty of 25 per cent. viz: black linens.—Russia sheetings, linen diapers and damasks; damask table cloths and napkins, linen sheeting, linen drillings for pantaloons, linen lawns, called long lawns, linen threads, Irish linen shirtings and estonilles.

12. That sail needles, sack and yarn needles, darning needles, bent packing needles, shoemaker's glover's, and saddles netting and tambouring needles, and all similar needles, are embraced by the general exemption of "*Needles*." Bodkins not included.

18. That so much of the act of 20th April, 1818, as requires wines and distilled spirits to be deposited in the public stores, to be entitled to drawback, is considered to be still in force; but that the terms of credit therein allowed are virtually repealed by the 5th section of the act of the 11th July, 1832, entitled "An act to alter and amend the several acts imposing duties on imports," the provisions in this respect, in the last mentioned act, being so repugnant to those in the former, that both cannot stand well together, and have a concurrent efficacy.

It may be proper to observe, however, that this decision is applicable only to the importations of wines and distilled spirits, which have been made since the 3d instant, and which may hereafter be made.

It is understood that large importations were made of the articles known by the name of Plains, Kerseys, and Kendal Cottons, and deposited in the custom-house stores for the benefit of the reduction of duties which was to have taken effect after the 3d day of the present month, as authorised by the act of the 14th July, 1832, already referred to; and that orders for a large quantity of said goods have been given upon the faith that after the 3d inst. they would be admitted to entry at an ad valorem duty of 5 per cente but that under the act entitled "An act to modify the act of July, 1832, and all other acts imposing duties on imports," which, so far as relates to these particular kind of goods, having taken effect on the 2d of the month, and raised the duty thereo to 50 per cent., the importers will be compelled to advance duties, (say the difference between the higher and the lower rates,) for which, upon everyprinciple of justice and good faith, they conceive, Congress will pass a law to have refunded to them, and that such advance can be prevented only in case the Treasury Department can extend the time for the payment of the duties on the goods in question.

It is regretted that such will be the operation of the two acts mentioned; but it is not competent for the Treasury, in any case, to extend the time of payment beyond that, at which, according to law duties on goods become due and payable.

With a view, however, to facilitate any application which may be made to the next Congress for relief, it would be advisable to keep a particular account of these goods, the names of the importers, the dates of payment of the duties, and the difference between the higher and lower amount of duties.

It will naturally suggest itself to you, that you are not to include in such account any goods which you are not perfectly satisfied are of that description and fabrics as to have entitled them to an entry at five per cent., in case the act, in relation to them, of 1833, had not repealed that of 1832,

Such Plains, Kerseys, and Kendal Cottons as were imported prior to the 2d instant, will be liable to the payment of the rates of duties in force at the time of importation; but if such rates be greater than the rates fixed by the act of 2d instant, and the Plains,

Kerseys, and Kendal Cottons be deposited in the Custom House stores as prescribed by law, they will be entitled to the benefit of the 18th section of the act of 14th July, 1832. Respectfully,

J. ANDERSON, Comptroller.

ARMY OF THE UNITED STATES.

HEAD-QUARTERS OF THE ARMY,
ADJUTANT GENERAL'S OFFICE,
Order No. 14. WASHINGTON, March 6, 1833.

1. The following list of appointments in the United States Regiment of Dragoons, has been received from the War Office, and is published for general information :

WAR DEPARTMENT,
5th March, 1833.

2. The President has made the following appointment in the Regiment of the United States Dragoons, to be raised under the Act of Congress, approved Maroh 2d, 1833 :

Names, Rank, and date of appointment.	Dates of former Commissions.
Colonel.	
1 Henry Dodge, 4 March, 1833.	Major of Rangers, 21 June, 1833.
Lieutenant Colonel.	
1 Step. W Kearney, 4 March, 1833.	Maj. 3d Inf. 1 May, 1829; Bvt. 1 April, 1823.
Major.	
1 Richard B. Mason, 4 March, 1833.	Capt. 1st, Inf. 31 July, 1819.
Captains.	
1 Clifton Wharton, 4 March, 1833.	Capt. 6th Inf. 22 April, 1830.
2 Edwin V. Summer, 4 March, 1833.	1st Lt. 2d Inf. 25 Jan. 1823.
3 Reuben Holmes, 4 March, 1833.	1st Lt. 6th Inf. 15 Feb. 1826.
4 David Hunter, 4 March, 1833.	1st Lt. 5th Inf. 30 June, 1828.
First Lieutenants.	
1 Wash. Seawell, 4 March, 1833.	2d Lt. 7th Inf. 1 July, 1825.
2 David Perkins, 4 March, 1833.	2d Lt. 5th Inf. 1 July, 1827.
3 Philip St. G. Cooke, 4 March, 1833.	2d Lt. 6th Inf. 1 July, 1827; Adj. 6th Reg.
4 Abm. Van Buren, 4 March, 1833.	2d Lt. 2d Inf. 1 July, 1827.
Second Lieutenants.	
1 James F. Izard, 4 March, 1833.	2d Lt. 2d Inf. 1 July, 1828.
2 Jefferson Davis, 4 March, 1833.	2d Lt. 1st Inf. 1 July, 1828.
3 Thomas Swords, 4 March, 1833.	2d Lt. 4th Inf. 1 July, 1829.
4 Joseph Ritner, 4 March, 1833.	2d Lt. 4th Inf. 1 July, 1830.

3. The organization of the Regiment of Dragoons will be perfected hereafter, by the selection of such officers from the Battalion of Rangers, as may be deemed qualified for the service. The Mounted Rangers will be continued in service until relieved by the regular cavalry.

By order of Maj. Gen. MACOMB,
R. JONES, Adj. General.

The Albany Argus states that Governor Marcy has appointed Benjamin F. Butler, Peter A. Jay and Henry Seymour, Commissioners on the part of this State, to adjust the boundary and jurisdiction between the states of New-York and New-Jersey.

We announce with pleasure, arrivals from Newburgh. Ere this, the Hudson is probably free of ice between this city and Poughkeepsie; and, before the end of the week, the navigation to Albany and Troy no doubt will be uninterrupted.—[Gazette.]

WHALING—*Unparalleled luck.*—About the 1st of August last, the ship Boston, Capt. Sayer, left this port fitted for a twelve months' voyage. We have the pleasure of stating that the Boston has returned, after an absence of only seven months, laden with 1900 barrels of right whale oil, and 16,000 ponnds of whale bone, Lester & Huntington.—[Norwich (Con.) Republican.]

SALES OF REAL ESTATE AT AUCTION.

BY JAMES BLEECKER & SONS, MARCH 9th.

Under the direction of F. De Peyster, Jr. Esq. Master in Chancery—the Estate of G. B. Abeel.

3 story frame house and lot 657 Water street, 16:8x70	$1.923
Do do do 655 do do.....	1,750
Do do do 653 do do.....	1,600
2 story do do in the rear of the above on Front street, lot 16:8x70.....	1,600
Do do do adjoining do.....	1,450
Do do do do do.....	1,450
Vacant lot extending from E. Broadway to Division street, on Clinton, east side, 23:4x110:10.....	4,200
Lot adjoining on E. Broadway and Division street...	3,500
Do do do do do....	3,400
Do do on Division street, 23:4x54:6.....	1,700
Lot and four frame buildings NW. corner Pearl and Augustus streets, 30 feet on Pearl, 107 feet 2 inches on Augustus, 92 feet 1 inch on the other side, and 25 feet in rear.....	8,125
3 story brick house and lot 19 Park Place, with a 2 story brick coach house on Murray street, lot 26 ft on Park Place, and 25 ft on Murray street.....	31,000
House and lot 386 Water street 20:6x60-2.....	4,550
3 story brick house and lot 87 Cherry street, 17x70..	4,700
Do do do 89 do do do....	4,700
2 story brick house 364 Water street, 16:11x49:8.....	3,800
Do do 364½ do do 16:6x60.....	3,600
3 story brick store and lot 190 South street, and 365 Water street, lot 33:4 on each street, by 160 6.....	21,100
3 story brick store and lot S E. corner of James slip and Water street, lot 26 ft 3 in front, 25 ft 5 in rear, by 45 ft deep.....	8,100
Do do do adjoining, 12 James slip....	4,600
Do do do do 14 do do....	5,000
All the right and interest of A. B. Abeel to part of pier 31 East River, foot of James slip.....	2,100
Do do do do pier 32 do.....	1,600
Bulk head on South street, between the above piers..	500
	$126,050

☞ NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE. *Whole number, Vol. 6. New Series, Vol. 1.* This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture, Horticulture*, &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to dissemmate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

Terms, Three Dollars per annum, *in advance*; and will not be sent without, as, at its *present* price, it will not pay a commission for collecting, nor bear the loss arising from want of punctuality on the part of subscribers.

D. K. MINOR, Proprietor,
35 Wall street, New-York.

GARDEN SEEDS, &c.

WM. PRINCE & SONS, Flushing, near New-York, have imported by the last arrivals several thousand dollars worth of Seeds of the choicest varieties of Vegetables known in the different countries of Europe, and will furnish supplies to venders at very reasonable rates. These seeds are of a quality *not to be surpassed*. They have also 200 pounds Yellow Locust, or Robinia Pseudacacia seeds, of the fine Long Island variety, so celebrated for ship timber, at a low price.

Priced Catalogues will be furnished on application *direct*, per mail, or otherwise. Catalogues of Fruit Trees, Greenhouse Plants, &c. with *the reduced prices*, will also be sent gratis to every applicant. feb20

G. LANSING, *Engraver on Wood*,
35 WALL STREET.

☞ All kinds of Machinery correctly drawn, and neatly engraved. m1

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the U. States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne County, Pennsylvania.

Hudson, Columbia County, New-York,
January 29, 1833. f31 tf

☞ GRACIE, PRIME & CO., 22 Broad street. have on hand the following Goods, which they offer for sale on the most favorable terms, viz :

200 qr casks Marscilles Madeira, entitled to debenture	
100 cases White Hermitage	
50 do. Bordeaux Grave	
4 cases Gum Arabic	
2 cans Oil of Orange	
8 casks French Madder, ESFF	
2 do. do. SFF	
10 do. Danish Smalts, FFFE; 20 do. Saxon do.	
8 do. Small do.; 20 kegs Tartaric Acid	
200 kegs Saltpetre	
200 bales superior quality Italian Hemp	
20 tons Old Lead	
300 barrels Western Canal Flour	
500 do. Richmond country do.	
100 bales Florida Cotton; 20 do. Mexican do.	
20 do. Sea Island do.	
200 do. Leghorn Rags, No 1.	
100 do. Trieste do. SPF	
100 do. do. do. FF	
18 boxes Maraschino Cordials	
250 lbs. Caney and Hares-back Wool, for Hatters	
80 M. English Quills.	
DRY GOODS—by the package.	
20 cases white and dark ground, fancy and full Chintz Prints, all new styles received per Napoleon.	
9 do. assorted colored Circassians	entitled to debenture
18 do. do. do. Merinos	
5 do. Italian Lustrings	
1 do. 34 inch Cravats	
10 do. Jet black Bombazines	
8 do. Printed border Handkerchiefs	
2 do White Diamond Quiltings	
2 do Furniture Dimities	
2000 pieces Engl. Brown Shirtings, 33 in.	

MECHANICS' MAGAZINE,
AND
Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan.

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, $3 per annum, *in advance.*

D. K. MINOR, 35 Wall street, New-York.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ THE TROY IRON AND NAIL FACTORY keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

RAILROAD COMPANIES may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose, they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y., July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. TOWNSEND, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water-street; New-York; A. M. Jones, Philadelphia; T. JANVIERS, Baltimore; DEGRAND & SMITH, Boston.

P. S. Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

j23 1am H. BURDEN.

PAPER.

THE SUBSCRIBERS, Agents for the Saugerties Paper Manufacturing Company, have constantly on hand an extensive assortment of Royal, Medium, and Imperial Printing Paper, all made from first quality Leghorn and Trieste Rags. All contracts made after this date, will be furnished with 480 perfect sheets to the ream; and all sales amounting to over $100, of Medium or Royal, out of the part of the stock which includes cassia quires, the purchasers will be allowed an extra quire of perfect paper to each double ream, with additional allowances to the publishers and the trade, who buy largely. The terms will be liberal. Apply to GRACIE, PRIME, & CO.,

J31 22 Broad Street.

METEOROLOGICAL RECORD FOR THE FORTNIGHT ENDING MONDAY, MARCH 18, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated tor the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Mar. 5	6 a. m.	30.45	12	NW	light	WSW	fair
	10	.48	21	NW—WSW	moderate	..	.. —thin *cirrus* from WSW
	2 p. m.	.44	23	WSW—SW	..	..	.. —cloudy
	6	.30	21	SW	..	..	cloudy
	10	.19	21	..	..		snowy
Wednesday, 6	6 a. m.	29.89	21	NNE—N	..	W by S	snow—fair
	10	.90	24	NNW	..	WSW / W	fair
	2 p. m.	.97	32	..	fresh	NW	.. —cloudy
	6	30.04	30	..	moderate	..	cloudy—fair
	10	.14	25	..	..	..	fair
Thursday, 7	6 a. m.	.20	24	WSW	light	W	cloudy
	10	.20	29	SW—SSW	moderate	W by S—WSW	..
	2 p. m.	.11	35	SSW—S	..	WSW—SW	.. —clear
	6	.00	34	S	..		clear
	10	29.99	32	..	..	W	fair
Friday, 8	6 a. m.	.94	33	..	..	SW by W	cloudy
	10	.89	38	SSE—variable	light	..	fair
	2 p. m.	.83	42	ESE—E	..	..	cloudy
	6	.78	39	E	..	..	.. —fair—cirrus at WSW
	10	.77	37	ENE	..	..	cloudy
Saturday, 9	6 a. m.	.80	33	N	..	..	fair
	10	.89	42	NNW—W	..	..	..
	2 p. m.	.81	41	WNW—SW	..		clear
	6	.83	40	SSW	..		..
	10	.89	35	..	..		..
Sunday, 10	6 a. m.	30.01	32	SW	..	WSW	fair
	10	.06	44	ENE	faint	..	..
	2 p. m.	.08	45	..	light	W by S	.. —cloudy
	6	.10	40	..	moderate	..	cloudy
	10	.11	38	..	..		rainy
Monday, 11	6 a. m.	.24	30	NNE	..	NNE	cloudy—thick low scuds
	10	.30	34	NE by E	..	NE by E	fair — ..
	2 p. m.	.30	39	NE—ENE	..	NE—ENE	.. — ..
	6	.30	37	E	..	W by S / E	.. —cloudy
	10	.31	36	..	..		cloudy
Tuesday, 12	6 a. m.	.39	36	ENE	..		.. —foggy
	10	.27	33	..	..		.. — ..
	2 p. m.	.18	27	..	..		.. — .. —rainy
	6	.10	37	..	..		rainy— ..
	10	.04	36	NE	fresh		rain
Wednesday, 13	6 a. m.	.00	34	N—NW	..	W by S	cloudy
	10	.10	34	NNW—W	..	..	fair
	2 p. m.	.13	36	NW	strong	NW	.. —scuds from NW
	6	.14	33	..	fresh	..	..
	10	.35	30	..	moderate	..	..
Thursday, 14	6 a. m.	.45	26	..	l'nt-calm		clear
	10	.51	36	WSW—SW	calm-l'ht		..
	2 p. m	.52	36	SSW—S—SSW	moderate		..
	6	.38	32	S—SSE	..		..
	10	.39	32	S	..		..
Friday, 15	6 a. m.	.24	34	SSW	..	WSW	cloudy—floating ice continues plenty
	10	.24	37	SW—S by W	light	WSW / NW	.. —fair
	2 p. m.	.24	46	WSW—NW	..—faint		clear
	6	.24	45		calm		..
	10	.29	42		..		
Saturday, 16	6 a. m.	.41	34	NNE	light	NW	fair
	10	.47	44	NE	..	..	..
	2 p. m.	.46	46	NE by E	..		clear
	6	.43	42	NE	..		..
	10	.46	38	..	..		..
Sunday, 17	6 a. m.	.52	30	.. —ENE	moderate		..
	10	.56	38	E—ESE	..	E	fair—low scuds from E
	2 p. m.	.51	41	ESE—SSE	..	ESE—SSE	.. — ..
	6	.48	37	S by E	..	S by E	cloudy— ..
	10	.47	36	..			fair — ..
Monday, 18	6 a. m.	.33	36	S by W	faint	SSW	cloudy— ..
	10	.33	38	..	..	..	.. —fair
	2 p. m.	.21	49	S	moderate		clear
	6	.18	43	..	..		..
	10	.19	42	..	light		..

Average temperature of the week ending March 11, 32.25.

Average temperature of the week ending March 18, 36.

Average temperature of the week ending March 6, 21.14, being the coldest week of the season.

MARRIAGES.

On Wednesday morning, by the Rev. Dr. Mead, of Philad., JAMES TORRANCE SMITH, to JANE ELIZA, daughter of William Mead, of New Rochelle.

On Thursday morning, 21st inst. at Ascension Church, by the Rev. Manton Eastburn, JOSIAH LANE, of the house of Lane, Samson & Co. to SARAH, daughter of HENRY W HILLS.

On Tuesday evening, 19th instant, by the Rev. Dr. De Wett, GEORGE C. SATTERLEE, to MARY LE ROY, daughter of the late Daniel Livingston, Esq.

DEATHS.

Thursday morning, in the 35th year of her age, CATHARINE CECILIA, wife of B. WOOLSEY ROGERS.

Friday morning, 15th inst. HANNAH, wife of AUGUSTUS CRUGER, in the 61st year of her age.

On Monday, the 18th inst. ALMIRA, the daughter of Thomas R. Mercein, in the 18th year of her age.

Yesterday afternoon, 20th inst, CORNELIA BEACH, youngest daughter of the Rev. Samuel H. Turner, D. D., aged 18 months.

Yesterday (Monday) afternoon, at 6 o'clock, after a lingering illness, which she bore with christian fortitude and resignation, Mrs. THEODOSIA R. wife of Mr. Jacob D. F. Randolph, in the 21st year of her age.

On Sunday morning, at the City Hotel, EUPHEMIA, infant daughter of Joseph A. Constant.

On Saturday morning, March 16, after a short illness, JOHN MEALY, aged 33 years.

This morning, 19th inst, of consumption, MRS MANICK CENTER, wife of Asa H Center, in the 42d year of her age.

On Wednesday evening, Mr. JOHN WOOD, Jr. in the 43d year of his age.

This morning, 20th inst. LOUISA CHRISTMAS, only daughter of Dr. ANSEL W IVES, aged 2 years and 5 months.

Yesterday evening, 19th inst. WALTER, son of J. W. & MARIA SMITH, aged 1 year and 10 months.

On the 7th inst. JONATHAN GARDINER, Esq. at Eton's Neck, L. I.

On Sunday morning, 17th inst. ANN F., wife of Thomas LEGGET, Jr. aged 30.

At his residence, at Jersey City, on Saturday last, AARON LYON, aged 73 years. Mr. Lyon was a resident of Jersey City of the last 28 years.

At Funchal, Island of Madeira, in December last, J. STILLWELL CLARK, aged 19 years, son of John Clark, of this city.

[*Communicated for the N. Y. American.*]

OBITUARY.

Died, on the 16th inst., at his residence in the village of West Farms, Westchester County, WILLIAM HOFFMAN, M. D., in the 52d year of his age.

A violent disease, produced by great exposure to the severity of the season while in the discharge of his professional duties, closed the life of this excellent and valuable man. For thirty years Dr. Hoffman has been a medical practitioner in the town of Westchester; and as a man and a physician has sustained a reputation of the highest order.

His long career of professional service, which made him known to almost every resident within the limits of his extensive practice, was marked by the tenderest sympathy for the suffering of every class, and a devotion to the cause of humanity in which selfish considerations were forgotten.

In the depth of the wintry night, when his frame craved repose from the fatigues of the day, he has ridden many miles to visit patients whose circumstances precluded the idea of pecuniary recompense. He has supported in his arms and ministered to the necessities of the unfortunate being left to perish unattended in a manger, during the prevalence of pestilential disease.—Always patient, affable and benevolent, he bore without complaint the ingratitude of those to whom he had rendered the offices of humanity, and was ready to repay with kindness the wrong that he suffered.

As a citizen Dr. Hoffman was distinguished for sound sense, clear judgment and unswerving integrity. As a Christian, he was devout and exemplary without affectation.

Abounding in liberality towards those who (like the writer of this notice) differed from him in the forms of religious society, he exhibited, by the tenor of his life, that *practical* piety which is beyond profession, and belongs peculiarly to no sect.

In the death of Dr. Hoffman a whole community feel that they have sustained a great—an irreparable loss. Many, very many, whose tears have fallen over his remains, will cherish in their hearts the memory of his virtues to their latest day.

E. W.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 16.

Between the ages of

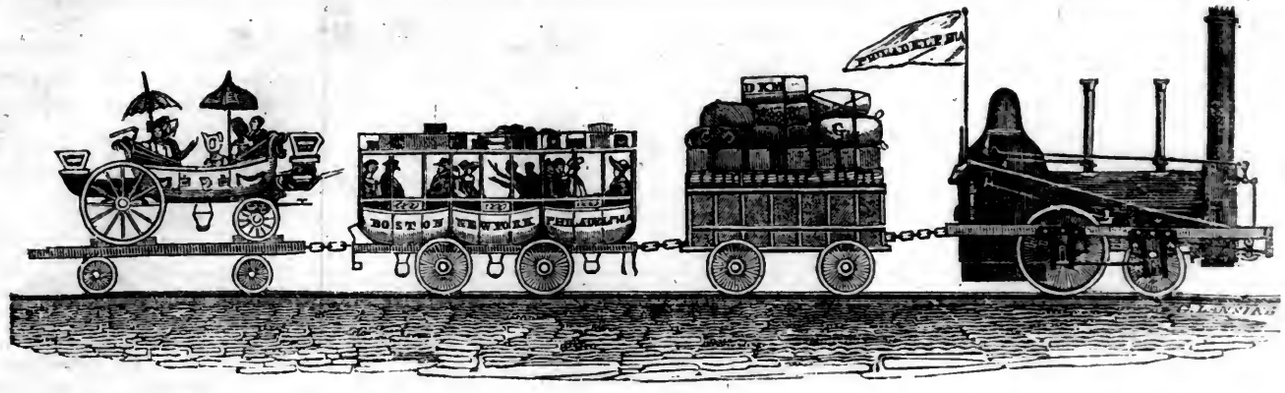
90 and 100— 0	50 and 60— 3	10 and 20— 9
80 and 90— 2	40 and 50— 4	5 and 10— 3
70 and 80— 3	30 and 40—14	2 and 5— 8
60 and 70— 0	20 and 30—18	1 and 2— 2

Of and under one year, 32—Total, 98.

Diseases.

Apoplexy	1	Inflammation of stomach	1
Casualty	1	Influenza	1
Childbed	5	Intemperance	1
Consumption	24	Marasmus	5
Convulsions	6	Mortification	1
Dropsy in the chest	1	Old age	2
Dropsy in the head	7	Palsy	1
Drowned	1	Peripneumony	7
Dysetery	1	Pneumonia typhodes	1
Fever	2	Scrofula, or king's evil	1
Fever, scarlet	2	Sprue	1
Fever, typhus	2	Stillborn	9
Hives or croup	2	Suicide	2
Jaundice	1	Syphilis	1
Inflammation of bowels	2	Unknown	1
Inflammation of brain	4	Whooping cough	1

ABM. D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, MARCH 30, 1833.** [VOLUME II.—No. 13.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 30, 1833.

We shall give in our next a description, with engravings, of the "*New-York Patent Guard Rail*," of which we have before spoken. It is considered, by some of our most distinguished Engineers, a great improvement upon the Iron Rails heretofore in use.

We are indebted to Charles H. Hammond, Esq. of Bennington, Vt., for the interesting and valuable letter from J. Loudon M'Adam, Esq. of Hertfordshire, England, upon the subject of road making, which will be found in this number of the Journal. It will, we are sure, without any solicitation on our part, be read with great pleasure by all who take an interest in the improvement of our system of road making, emanating as it does from a gentleman of intelligence, and long experience in the business upon which he writes.

To the Editor of the American Railroad Journal:

"Mr. Williams, engineer of Cincinnati," in his proposals for "publishing a practical treatise upon road making," invites those who wish to suggest improvements, to communicate to him their thoughts on the subject free of expense. I therefore, in compliance with his requisition, send you the following for insertion in the Railroad Journal.

To construct a good road still continues to be a desideratum. The following mode of effecting this important business has occurred to me: Instead of forming, in the usual way, the road convex, it should be concave, say 25 feet wide, sloping very gradually to the middle, so that the sides shall be a few inches higher than the middle. This, I believe, is not altogether a new idea: the following, however, as far as I know, is new. I would propose that where the ground is level, to make it so much undulating as that the water shall acquire a motion; at each declivity the water should be carried off through hollow drains to the sides. The distance between these artificial mounds must be determined by practical experiments.

Here I give you my proposed improvements in the art of road making. These undulations, I believe, will turn out to be a great relief to the horses. A road so constructed will not be liable to get out of repair. Once *well* made, it will want nothing done to keep it in repair but a supply of new materials.

Yours, &c. J. S.

Natural Wonders.—It is very surprising that two of the greatest natural curiosities in the world are within the United States, and yet scarcely known to the best informed of geographers and naturalists. The one is a beautiful water-fall in Franklin county, Georgia; the other a stupendous precipice in Pendleton district, South Carolina: they are both faintly mentioned in the late edition of Morse's Geography; but not as they merit. The Tuccoa falls are much higher than the falls of Niagara. The column of water is propelled beautifully over a perpendicular rock, and when the stream is full it passes down without being broken. All the prismatic effect seen at Niagara illustrates the spray of Tuccoa. The Table Mountain in Pendleton district, South Carolina, is an awful precipice of 900 feet. Many persons reside within five, seven, or ten miles of this grand spectacle, who have never had curiosity or taste enough to visit it. It is now, however, occasionally visited by curious travellers, and sometimes men of science. Very few persons who have once cast a glimpse in the almost boundless abyss can again exercise sufficient fortitude to approach the margin of the chasm. Almost every one, in looking over, involuntarily falls to the ground, senseless, nerveless, and helpless; and would inevitably be precipitated and dashed to atoms, were it not for measures of caution and security, that have always been deemed indispensable to a safe indulgence of the curiosity of the visitor or spectator. Every one, on proceeding to the spot whence it is usual to gaze over the wonderful deep, has, in his imagination, a limitation, graduated by a reference to instances with which his eye has been familiar. But in a moment, eternity, as it were, is presented to his astonished senses; and he is instantly overwhelmed. His system is no longer subject to his volition or his reason, and he falls like a mass of pure water. He then revives, and in a wild delirium surveys a scene which, for a while, he is unable to define by description or imitation.

How strange is it that the Tuccoa Falls and Table Mountain are not more familiar to Americans! Either of them would distinguish an empire or state in Europe.

The Canal of Gotha.—This canal, one of the greatest undertakings of Europe, has just been completed after the labor of twenty years. It traverses Sweden in all its breadth, from Gottenburg on the Cattegat to Soderkoping on the Baltic, and has been executed at an expense of 10,000,000 of rix dollars. In joining the two seas, the Canal of Gotha opens to trade a shorter and safer passage to the Baltic than that of the Sound, which obliges vessels to double the southern coast of Sweden. By the canal, on the other hand, the navigation is all inland, and therefore more commodious and secure. But a main question to trade rises on this point regarding the expense. The opening of the Sound has been made by nature, the passage by the canal has been formed at a great expenditure of human labor. Duties to indemnify for its cost, it might be supposed, would be levied on the latter from which the former is exempt; but this is not the case, as the following comparative table will show:

Comparative table of the duties of the Sound and of those of the Canal of Gotha.

	Duties of the Sound	Duties of the Canal.
	Rix dol. Sch. de Suede.	Sch. de Suede.
Cot'n thread, pr 100lb.	1 42	20
Cotton, do.	0 45	10
Coffee, do.	1 12	12 1-2
Sugar, do.	0 22 1-2	5
Tobacco, do.	0 22 1-2	5
Wines per pipe	1 0	30
Salt, per ton	0 3 1-8	2 2-3
Copper, per scolpund	1 12	24
Iron, do.	0 10	4
Hemp, do.	0 20	8
Flax, do.	0 25	10
Tallow, do.	0 15	6

In addition to this saving in duties by the canal, we need not observe that the diminished risk to the shipping will allow a saving in the premiums of insurance. These considerations cannot escape the attention of the ship owners and merchants of this country, who employ on an average, in the Baltic trade, the number of 2,400 vessels, with a tonnage of nearly half a million. The trade to Russia and northern Prussia may infallibly be expected to pursue this route as soon as its advantages are known and appreciated.—[London Times.]

[*For the American Railroad Journal.*]

RAILROADS FOR THE APPLICATION OF HUMAN POWER.

The force of traction necessary to propel a ton weight on a level railroad is about eight pounds; or, in other words, a man can propel a ton weight on a level railroad as easily as he can walk on that road, and draw up eight pounds over a pulley. To surmount an ascent 66 feet in a mile, would require in addition the force necessary to raise 28 pounds over a pulley. But as we know better how much a man may actually draw on a common road, the proposition may be stated thus: that a man may propel one ton on a level railroad as easily as he can draw 112 lb. on a common road. It will not be extravagant then to assume that a man may propel one ton weight on such railroads as it would be practicable to make in our country. To make a railroad with the tracks, but 3½ feet apart, sufficiently strong to sustain cars holding but one ton each, and moved by human strength, would not cost a large sum per mile. I venture to calculate that if such railroads should come into extensive use, they would not cost for double tracks more than 2000 dollars a mile on an average.

But would they answer any purpose as channels of trade? Let us see. If there should be a steady stream of cars, each containing one ton, and moving over the railroad at the rate of but two miles an hour, and ten rods apart, 600 tons might pass over in ten hours, and then, excepting the sabbaths, at this rate 187,800 tons might pass over in a year; and on the supposition that a large city has ten such routes entering it from the country, 1,878,000 tons might come to market on such channels of trade during the year. But the tonnage, domestic and foreign, that departed from the whole United States in 1826, was 1,052,429. Supposing that one-tenth of this departed from Boston, one slight railroad, sufficient for a man to move one ton weight upon it at a time in a car, would convey all its merchandize; and two such railroads would convey to New-York all the goods it would export.

If, however, such railroads would be altogether insufficient for large cities, they might be channels of communication between villages in the country, and from small districts of country to great roads.

Where there is business enough to employ sufficiently a very large capital, invested in heavy railroads, and powerful steam carriage, steam will be found a cheaper power than human strength; but there is a vastly greater amount of capital required for such purposes, and yet the conveyance cannot be indefinitely extended: it must be limited by the population and resources of the country.

The cost of a road that shall every where, over vallies and rivers, be strong enough to sustain the weight and movements of a car of ten tons weight, must be about ten times as great as the cost of a road that shall have to sustain at one point but a ton weight.

We should think it absurd to have a huge, heavy pipe, of a foot diameter, to convey water in occasional gushes, when an inch pipe would convey all the water we should desire or could procure, and just as we should need it too. But if some railroads of gigantic dimensions are to traverse the country, let the trial be made, by those who have resources to make the experiment, whether narrow railroads for the application of human strength might not be made that would greatly facilitate communication between different sections of the interior; and that would be to the great railroads, what the little rills and streams are to the Ohio, the Mississippi and Missouri. Every judicious speculator will wish that his plans may, if possible, be fairly tested by experiment; and tested in this way by those who are able to do it without hazarding losses which they cannot safely bear. The plan here suggested is one that can easily be brought to the test of experiment. If, on a railroad, for half a mile in extent, a man can move a load of a ton weight at the average speed of but two miles, then it will be established that such railroads will be economical, and most convenient lines of conveyance over all the country, and especially to those great railroads where steam machinery works cheaper than man's limbs can do.

Yours, &c. PUBLICOLA.

[*From Partington's British Cyclopædia.*]

CANALS OF GREAT BRITAIN.

(Continued from page 180.)

Grand Junction—A part of the line between London and Liverpool, from Brentford to the Oxford Canal at Braunston; made 1805, length 93¼ miles, ascent and descent 587 feet, or 6.3 per mile, breadth 36 24 feet, depth 4½. It has 101 locks; passes the river Ouse and its valley by an embankment about half a mile in length, and 30 feet high. It has a tunnel at Blisworth, 3080 yards in length, 18 feet high, and 16½ wide: and another at Braunston, 2045 yards long, the other dimensions being the same as those of the Blisworth tunnel. Number of shares, 11,957½; originally, £100; price in 1833, 230*l.* Paddington, branch of above; length 13¾ miles; 6 other branches, length 40 miles.

Grand Surrey—from the Thames, at Rotherhithe, to Mitcham; made 1801, length 12 miles. It is of large dimensions, being navigable by the Thames boats. The company pays to the Corporation of London, annually, 60*l.* for the junction of the canal with the Thames.

Grand Western—from the mouth of the Ex, at Topsham, to Taunton Bridge; made 1796, length 35 miles. Number of shares, 3096; cost, 79*l.*; price in 1833, 28*l.*

Tiverton, branch of the above; length 7 miles.

Grand Trunk—a part of the line between London and Liverpool; made 1777, length 93 miles, ascent and descent 642 feet, or 6.9 per mile. It has 4 tunnels, in length 3940 yards, and 9 feet wide. Number of shares, 1300½; price in 1824, 2150*l.* The tonnage is from 3*d.* to 4½*d.* per mile. It has a branch, length 37 miles.

Grand Union—from the Leicester and Northampton Union Canal, near Foxton, to the Grand Junction, east of Braunston Tunnel; length 23¼ miles, ascent and descent 130 feet, or 5.5 per mile. Number of shares, 1521; cost, 100*l.*; price 1824, 50*l.* The canal has, besides, a loan, at 5 per cent. interest, of 19,327*l.*

Grantham—from the Trent, near Holme Pierpoint, to Grantham; made 1799, length 33¾ miles, ascent and descent 148 feet, or 4.4 per mile. It has divided 8 per cent., and left a clear surplus of 3000*l.* to meet unforeseen accidents. Number of shares, 749; cost, 150*l.*; price in 1833, 195*l.* It is supplied with water wholly from reservoirs.

Haslingdon—from the Manchester, Bolton, and Bury Canal, at Bury, to the Leeds and Liverpool, at Church; made 1793, length 13 miles.

Hereford and Gloucester—from the Severn, at Gloucester, to the Wye, at Hereford; made 1790, length 36½ miles, ascent and descent 225 feet, or 6.1 per mile. It has 3 tunnels, of 2192, 1320 and 440, making in all 3952 yards. In consequence of the opening of this canal, the price of coals at Ledbury was reduced from 24*s.* to 6*s.* per ton. Shares, originally, 100*l.*; price in 1824, 60*l.*

Huddersfield—from Ramsden's Canal, at Huddersfield, to the Manchester, Ashton, and Oldham Canal, at Duckenfield Bridge, near Marsden; made 1798, length 19½ miles, ascent and descent 770 feet, or 39.5 per mile. It has a tunnel of 5280 yards in length. Number of shares, 6312; cost, 57*l.* 14*s.*; price in 1833, 25*l.*

Kennet and Avon—from the Avon, at Dolemead, near Bath, to the Kennet and Newbury; made 1801, length 57 miles, ascent and descent 263 feet, or 4.6 per mile. It has an aqueduct bridge over the Avon. The boats are of 25 or 26 tons burthen. Number of shares, 25,328; cost, 35*l.* 5*s.*; price in 1833, 26*l.*

Kingston and Leominster—from the Severn, at Arelcy, to Kingston; made 1797, length 45¾ miles, ascent and descent 544 feet, or 11.8 per mile. It has two tunnels of 3850, and 1250, making 5100 yards.

Lancaster—from Kirby Kendall to Houghton; made 1799, length 6 m., ascent and descent 287, or 3.8 per mile, depth 7. It has tunnels at Hincaster and Chorley, 800 yards long in the whole. It passes the Loyne by a stone aqueduct, 50 feet high, on 5 arches, each of 70 feet span. It has also a road aqueduct, near Blackmill, 60 feet high. The boats are 56 feet long and 14 broad. Number of shares, 11,699½; cost, 47*l.* 6*s.* 8*d.*; price in 1833, 22*l.*

Leeds and Liverpool—from Liverpool to Leeds; made 1771, length 130 miles, ascent and descent 841 feet, or 6.4 per mile, breadth 42 feet, depth 4½ feet. The boats navigating between Leeds and Wigan are of 42 tons burthen; those below Wigan, and on this side Leeds, of 30 tons. The tunnels at Foulbridge and Finnloy are, in the whole, 1609 yards long. It has a beautiful aqueduct bridge over the Ayre. The locks are 70 feet long, and 15½ wide. The number of shares is 2897¾; originally, 100*l.* each; price in 1833, 455*l.* Tonnage on merchandise, 1½*d.* per mile; on coals and lime, 1*d.*; on stone, ½*d.*

Leicester—from the Loughborough basin to the Soar, which has been rendered navigable as far as Leicester; length 21½ miles, ascent and descent 230 feet, or 10.7 per mile. Number of shares, 545; cost, 140*l.*; price in 1833, 190*l.*

Leicester and Northamptonshire Union—from Leicester to Market Harborough; made 1805, length 43¾ miles, ascent and descent 407 feet, or 9.3 per mile. It has 4 tunnels, 1056, 990, 880, and 286, in the whole 3212 yards in length. Number of shares, 1895; cost, 83*l.* 10*s.*; price in 1833, 88*l.*

Loughborough—from the Trent, near Sawley, to Loughborough; made 1776, length 9½ miles, ascent and descent 41 feet, or 4.3 per mile. Number of shares, 70; cost, 142*l.* 17*s.* 8*d.*; price in 1833, 1800*l.*

This canal affords a striking instance of the mutability of canal property. In 1824, we find the shares at *four thousand pounds each*, they are now reduced to less than half the money, and this reduction may be mainly ascribed to the increased facilities in coast conveyance.

Market Weighton; made 1770, length 11 miles, ascent and descent 35 feet, or 3.2 per mile.

Monkland—a continuation of the Forth and Clyde Canal; length 12 miles, ascent and descent 96 feet, or 8 per mile.

Monmouthshire—this canal is remarkable for the extent of its railways and inclined planes; made 1796, length 17¾ miles, ascent and descent 1057 feet, or 53.5 per mile. Number of shares, 2409; cost, 100*l.*; price in 1833, 194*l.* It has, besides, a loan of 43,526*l.* at an interest of 5 per cent.

Montgomeryshire—from a branch of the Ellesmere Canal to Newtown; made 1797, length 27 miles, ascent and descent 225 feet, or 8.3 per mile. Number of shares, 700; originally, 100*l.*; price in 1833, 85*l.*

Welshpool, branch of the above; length 3¼ miles.

Neath—from the river Neath, at the Giant's Grave, to the Aberdare Canal, at Abernant; made 1798, length 14 miles. It serves for the transportation of copper and lead ore from Cornwall to Glamorganshire. Number of shares, 247; cost, 107*l.* 10*s.*; price in 1833, 285*l.*

North Wilts—from the Thames and Severn Canal to the Wilts and Berks; made 1798, length 8½ miles.

Nottingham—from the Trent, at Nottingham, to the Cromford Canal, near Langley Bridge; made 1802, length 15 miles.

Oakham—from Melton Mowbray to Oakham; made 1803, length 5 miles, ascent and descent 126 feet, or 8.4 per mile. Number of shares, 522; cost, 130*l.*

Oxford—from the Coventry Canal to the river Isis at Oxford, and a part of the grand line between Liverpool and London; made 1790, length 91½ miles, ascent and descent 269 feet, or 2.9 per mile, breadth 30-16 feet, depth 5 feet. It has 3 aqueducts of very considerable magnitude, a tunnel at Newbold 125 yards long, and 12½ feet wide, and one at Fenny Compton 1188 yards long and 9¾ feet wide. It rises from the level of the Coventry Canal, in 45½ miles, to the summit at Marston Tolls, 74 feet 1 inch, by 12 locks; and descends from the summit at Claydon, in 35 miles, to the Isis, 195½ feet, by 30 locks. It has 188 stone and brick bridges. It cost 178,648*l.* stock, besides 130,000*l.* loan, above half of which has been paid off. Number of shares, 1786; originally, 100*l.*; price in 1833, 560*l.*

Peak Forest—from the Manchester, Ashton, and Oldham Canal, at Duckenfield, to the Chapel Milton basin; made 1800, length 21 miles. It has a railway 6 miles long. It passes the Mersey, by a bridge 100 feet high, of 3 arches, each of 60 feet span. Number of shares, 2400; cost, 77*l.*; price in 1833, 74*l.*

Portsmouth and Arundel—from the river Arun, near Little Hampton, to the bay connected with Portsmouth Harbor; made 1815, length 14½ miles. Number of shares, 2520; cost, 50*l.*

Ramsden's—from the Calder and Hebble Navigation to the Huddersfield Canal; made 1774, length 8 miles, ascent and descent 56 feet, depth 7 feet.

Regent—the last link, near London, of the chain connecting that city and Liverpool; made 1820, length 9 miles, ascent and descent 86 feet, or 9.5 per mile. It commences at Paddington, from the Grand Junction Canal, and meets the Thames at Limehouse, descending, by 12 locks, to a basin communicating with a ship lock. The locks have double chambers, which are estimated to make a saving of nearly one-half the usual quantity of water. It has two tunnels, one at Maida Hill, 370 yards long, the other under Islington, 900 yards. Number of shares, 12,294; cost, 40*l.* 10*s.*; price in 1833, 16*l.* 10*s.*

Ripon—from the river Ure, at Milby, to Ripon; made 1767, length 7 miles.

Rochdale—from the Bridgewater Canal, in the town of Manchester, to the Calder and Hebble Navigation, at Sowerby Bridge; made 1804, length 31 miles, ascent and descent 613 ft. or 19.7 per mile. It has 49 locks, 8 aqueducts, a tunnel 70 yards in length, and several reservoirs. Number of shares, 5631; cost, £85; price in 1833, £88.

Royal Irish—from Dublin, in a westward direction, to the Shannon, at Tasmonbarry, nearly parallel to the Dublin Canal, and about 10 miles distant from it; length 68 miles, ascent and descent 614 ft. or 9 per mile. Its greatest elevation above the sea is 307 feet, to which it ascends from Dublin by 26 locks, and descends to the Shannon by 15 locks.

Sankey—from the Mersey and Irwell Navigation, at Fiddler's Ferry, to Sutton Heath Mines; made 1760, length 12½ miles, ascent and descent 78 feet or 6.2 per mile, breadth 48 feet, depth 5 feet. It has 10 locks, and also a tunnel, near St. Helen's. It was the first canal constructed in England.

Shorncliff and Rye, or Royal Military—from the sea, at Hythe, to the mouth of the river Rother; made 1809, length 18 miles. It is a level, having locks to keep in the water at low tide. It is large enough to receive vessels of 200 tons burthen. Each of its extremities is defended by strong batteries. It was constructed on account of Bonaparte's projected descent on England, and hence its name of Royal *Military* Canal.

Shrewsbury—from Shrewsbury to the Shropshire Canal; made 1797, length 17½ miles, ascent and descent 155 feet or 9 per mile. One half of the ascent is effected by locks, the other half by inclined planes. It has one tunnel. Number of shares, 500; originally, £125; price in 1833, £250.

Shropshire—from the Severn, at Coalport, to the Shrewsbury Canal, at Downington Wood; made 1792, length 7½ miles, ascent and descent 453 feet, or 60.4 per mile. It has several inclined planes and railways, but no locks. Price in 1833, £138.

Somerset Coal—from the Kennet and Avon Canal, at Monkton Coombe, to Paulton: made 1802, length 8½ miles, ascent and descent 138 feet, or 16.2 per mile. The boats are 72 feet long and 7 broad. It has 22 locks. Number of shares, 800; original cost, 50*l.*; price in 1833, 170*l.* Radstock, branch of the above; length 7½ miles, ascent and descent 138 feet, or 18.4 per mile.

Southampton and Salisbury—from the Itchin, at Northam, to the Avon, at Salisbury; made 1804, length 17½ miles.

Stafford and Worcester—from the river Severn, at Stourport, to the Grand Trunk Canal; made 1772, length 46½ miles, ascent and descent 394 feet, or 8.4 per mile, breadth 30 feet, depth 5 feet. It has 44 locks. Its boats are of 20 tons burthen. It has 3 tunnels. Number of shares, 700; cost, 140*l.*; price in 1833. 550*l.* Tonnage not to exceed 1½*d.* per mile.

Stainforth and Keadby—from the river Trent, at Keadby, to the Don, at Fishlake; made 1798, length 15 miles.

Stourbridge—from the Stafford and Worcester Canal, at Stourton, to the Dudley Canal; made 1776, length 5 miles, ascent and descent 191 feet, or 38.2 per mile, breadth 28 feet, depth 5 feet. It has 20 locks. Number of shares, 300; originally, 245*l.*; price in 1833, 190*l.*

Stover—from the river Teign, at Newtown, to Bovey Tracey; made 1792, length 6½ miles, ascent and descent 50 feet, or 8 per mile. Chudleigh, branch of the above; length 5½ miles.

Strudwater—from the river Severn, at Framiload, to the Thames and Severn Canal at Wallbridge; made 1796, length 8 miles, ascent and descent 108 feet, or 13.5 per mile. Price in 1833, 510*l.*

Swansea—from Swansea Harbor to Hen Noyadd; made 1798, length 17½ miles, ascent and descent 366 feet, or 20.9 per mile. Like the Neath Canal, it serves to transport copper ore from Cornwall to Glamorganshire founderies. Number of shares, 533; originally, 100*l.*; price in 1833, 185*l.* Liansamlet, branch of the above, length 3 miles.

Tavistock—from the river Tamar, at Calstock, to Tavistock; made 1810, length 4½ miles, ascent and descent 237 feet, or 52.7 per mile. It has a tunnel at Morwellham, 460 feet below the surface. This tunnel led to the discovery of a copper mine. Its boats are 15½ feet in length, and in breadth. Number of shares, 350; originally, 100*l.* Mill Hill, branch of the above; length 2 miles.

Thames and Medway—from the Thames, at Gravesend, to the river Medway; made 1800, length 8¼ miles. Number of shares, 2670; cost, 42*l.* 9*s.* 5*d.*; price in 1824, 26*l.* This canal has loans to a large amount.

Thames and Severn—from the Stroudwater Canal to the Thames and Isis Navigation; made 1789, length 30½ miles, ascent and descent 377 feet, or 12.3 per mile, breadth 40-30 feet, depth 5 feet. The boats are of 70 tons burthen, being 80 feet long and 5 broad. It has a tunnel at Sapperton, 250 feet below the top of the hill of rock under which it passes. The bottom of this tunnel is an inverted arch. Price 29*l.*

Warwick and Birmingham—from the Warwick and Napton Canal, near Warwick, to the Digbeth branch of the old Birmingham Canal; made 1799, length 25 miles. It has a tunnel at Fazeley 300 yards in length. It has 32 locks.

Warwick and Napton—from the Warwick and Birmingham to the Oxford Canal; made 1799, length 15 miles. Number of shares, 980; originally, 100*l.*; in 1833, 216*l.*

Wey and Arun Junction—from the river Wey, near Godalming, to the north branch of the Arun River Navigation; length 16 miles. Number of shares, 905; cost, 110*l.*; price in 1833, 22*l.* 10*s.*

Wilts and Berks—from the Kennet and Avon Canal, at Semington, to the Thames and Isis Navigation; made 1801, length 52 miles, ascent and descent 376 feet, or 7.2 per mile. Price in 1823, 4*l.* 10*s.* Calne, branch of the above; length 3 miles.

Worcester and Birmingham—from the Severn, at Digilis, below Worcester, to the Birmingham and Fazeley Canal, at Farmer's Bridge; made 1797, length 29 miles, ascent and descent 128 feet, or 4.3 per mile, breadth 42 feet, depth 6 feet. Price 85*l.*

Wyrley and Essington—from a detached part of the Fazeley Canal, at Huddlesford, to the Birmingham Canal, at Wolverhampton; made 1796, length 23 miles, ascent and descent 270 feet, or 11.6 per mile, breadth 28 feet, depth 4½ feet. The boats are of 18 tons burthen. It has 28 locks. Price in 1833, 115*l.*

Hayhead branch—length 5½ miles.
Lordshery branch—length 2½ miles.
Wyrley Bank branch—length 4 miles.
Essington branch—length 1 mile.

Norwich and Lowestoff Navigation—made 1829, length 50 miles, breadth 50 feet.

The works near Yarmouth open an inland navigation in two directions; one 30 miles, by the Yare, the other 20 miles by the Waveney, without a lock. The river Yare discharges at Yarmouth, about 30 miles below Norwich, but the navigation is obstructed by shoals and shifting sands at its mouth. To avoid these obstructions, the river is to be made navigable for sea-borne vessels from Norwich to a place 20 miles lower down the river, called *Reedham Ferry*, where a new cut of 2½ miles is to be made across the marshes, to join the river Waveney at St. Olave's Bridge, whence the water communication proceeds by a small stream (Oulton Dyke), and two lakes (Oulton Broad and Lothing,) from the latter connected with the sea by a channel 700 yards long and 40 feet wide, with a sea lock 50 feet wide in the clear, and 24 feet deep, for the purpose of admitting sea-borne vessels. Oulton Dyke, and Oulton Broad, are to be deepened. The lock constructed at the outlet of Lake Lothing makes an artificial harbor, the first that has been formed in England. This lock has folding gates pointing both landward and seaward, so as to admit of vessels passing in or out at any time of tide, and whether the water be higher on the outside or inside.

We understand that Sir David Brewster has, within this last week, made two very remarkable discoveries, which promise to be of some use to science. In a new salt discovered by Dr. William Gregory, viz. an oxalate of chronium and potash, he has detected the extraordinary property, that one of its images formed by double refraction is of a bright scarlet, while the other image is of a bright blue color. In examining the pure liquid, any hydrous nitrous acid, prepared in the manner which is supposed to yield it in its purest state, he found that the acid actually consisted of two separate fluids, one of which was heavier than the other, and possessed a much higher refractive power.—When the two fluids were shaken, they formed an imperfect union, and separated again by being allowed to remain at rest. What the second fluid is remains to be investigated. It may perhaps turn out to be an entirely new substance. Its physical properties are now under investigation.—[Caledonian Mercury.]

[*Communicated for the American Railroad Journal.*]

HODDESDON, HERTFORDSHIRE, (ENG.)
November 14th, 1833.

C. H. HAMMOND, Esq. Bennington, Vt.

Sir,—In the Railroad Journal of New-York, of 21st March last, Vol. 1, No. 13, I saw a copy of a letter from you to the Hon. George Tibbets, by which I am glad to see that the science of road making has attracted notice in America, and I am flattered by your approbation of the system which I have ventured to recommend to my country.

As an acknowledgment of my obligation to you for your favorable opinion, I take the liberty of explaining to you the difficulty, I had almost said the impossibility, of transmitting a proper and effectual knowledge of road making by writing, so as to convey such a body of information as will enable a person to act upon it in every case and on every emergency that occurs; and unless the party directing be possessed of this knowledge, he will be constantly in danger of misdirecting in some seemingly trivial matter that deranges the works and defeats the object contemplated. However well his theory may be based on true principles, a practical man must also know, intimately, the value of every species of service to be performed by workmen, as compared with the value of labor in the country; it is in vain to expect economy to be obtained in road making, unless the whole work be done by the laborers by piece-work. Whenever day labor is the system, extravagant expenditures and boundless profusion will be the consequence.

The sub-surveyor, whose duty it is to be constantly present where the work is proceeding, ought to be able to fix the price of work by weight or measurement, and to make fair and equitable bargains with the workmen, by which they may be enabled to earn the reasonable wages of the country, using a proper degree of industry; and the sub-surveyor ought to be a very good judge of the quality of the work, so as to insure to the public the proper value as well as quantity of labor for the money.

The sub-surveyor must have a perfect knowledge of what work is necessary to be done, and the manner and cost of its performance; he must be able to give to new and unpracticed workmen such instructions, and to supply them with such tools, as may enable them, with due industry, to earn fair wages at reasonable prices.

He must also have good practical experience in draining a road; difficult as it may be to explain the other branches of road making, this it is impossible to describe or to teach by any other process than experience, under a skilful person; the shape of the country, the section of the road, its situation in respect to the adjacent grounds, the nature of the soil, and many minor considerations, vary so often in every part of the same road and country, that the practice can be described and defined by no fixed rules or instructions. If the sub-surveyor be not a practically skilled drainer, the road he has the charge of will neither be good, durable, or preserved economically, unless his superior officer, the general surveyor, takes on himself this duty of directing the operation, which I and my family have been frequently obliged to do.

Our plan of distributing piece-work among the workmen is to employ them in gangs, never exceeding five men, one of whom, selected by themselves, is called the gangman, and with him the bargain is made by the sub-surveyor for pieces of work sufficient to employ the gang about a week, as no great loss or damage can happen in that time and on that quantity; if the gang do the work well, and earn fair wages by industry, they get another bargain; if idle, or disposed to slight the work, they are not again employed, by which means a road is in a short time supplied with good and expert workmen.

When the improvement of roads commenced in England in 1815, the cost of repairing the Bristol roads (178 miles) was about £19,000 annually, the roads then in such a condition as to be almost all under notice of indictment—at present the annual cost for repairs is about £13,000, including salaries for management.

I took the charge as general surveyor of the British roads in 1815, and was obliged to instruct all the sub-surveyors, (nine in number;) they again instructed others, by which process we obtained, after a few years, some skilful surveyors. We have found, experimentally, that from one to two years are necessary for instructing a sub-surveyor, according to his diligence and ability; and even when instructed, it is prudent to place him for some time near a more experienced surveyor, or more immediately under the inspection of the general superintendent.

The system followed by my family and myself is to take charge, as general surveyors, of a number of district of roads, or, as called in England, trusts; upon these we keep one or more surveyors, according to the number of miles and the work in each trust. We employ at present under my sons, grandsons, and myself, about a hundred sub-surveyors, and have in charge a considerable number of roads both in England and Scotland; but our system is by no means universal: many sets of trustees are attached to old surveyors, many to old practices. Economy and improvement have yet a great field to conquer in Britain—in your recent country you have fewer obstacles to encounter.

The importance of skilful and respectable superintendence in the officers of roads is ill understood in this country—deep-rooted abuses, old prejudices, and some great defects in our system of road law as to contract, have all contributed to prevent the whole benefit we might derive from good roads at a moderate cost, notwithstanding the experience of eighteen years.

I am not acquainted with the laws and regulations under which the roads in the United States are managed; perhaps their care depends upon the Legislature of each individual State, perhaps upon a still smaller subdivision of authority, whereby it may be difficult to make an exertion for attainment of the practical science necessary for the general interest; but if such an exertion could be made on an efficient scale, I am persuaded it would be of infinite benefit in producing immediately, at a reasonable expense, serviceable roads which could be upheld at a cheap rate. It would also prevent the introduction of improper plans of road work, which are frequently found difficult to be eradicated.

Should it be practicable to induce one or all of the States to attempt the introduction of a regular uniform system of road work and road management, on the most approved and economical plan, it would be necessary to send some persons to this country to serve an apprenticeship of not less than a year. Both classes of surveyors and sub-surveyors require the necessary practical information; their duties are distinct, although pointing to one object; their station in society ought also to be distinct.

The general surveyor should be a well informed young gentleman, entering into life with a value for character, and having connections and a station that would place him beyond the reach of suspicion himself, and give him the consequence and authority so absolutely necessary for the due discharge of his duty in defending the interest of the public, in addition to all the detail of the duties of a sub-surveyor, in which he ought to be thoroughly informed; he must be an expert accountant, so as to be able to keep an effectual and steady control over the weekly accounts of the sub-surveyors; compare the work done with the money paid, with such skill as to preclude the possibility of extensive imposition proceeding for any length of time undiscovered. This service can only be performed effectually by a gentleman perfectly qualified; and the sub-surveyors feeling themselves under the orders of an efficient officer, are attentive and careful in their conduct, but very soon throw off their circumspection when only under the authority of trustees, who occasionally, superficially and unskilfully, look into their accounts, and are quite unequal to the necessary task of comparing the extent and quality of the work done with the money expended, or of giving a little direction to the work when they find it defective.

Sub-surveyors should be selected from the class of yeomen in England—in America of respectable farmers: their early acquaintance with agricultural management has been found useful. The duty of the sub-surveyor is ministerial; he is to take the orders of trustees through the general surveyor, and to possess the skill and experience requisite to have the work performed in a proper manner, and at a fair price; to be able to measure work correctly, and to settle with the laborers. His knowledge of figures should be such as to enable him to keep an intelligible account, to fill up correctly the form of the weekly account which he will be furnished with, and to deliver it, in duplicate, every fortnight, to the general surveyor: one copy to be delivered to the treasurer, the other to remain as a record with the general surveyor, at all times open to the inspection of trustees and others intrusted.

Experience during eighteen years practice has instructed us in many particulars that appear trivial, but which we find to be very important in making a road solid, impervious to water, smooth in the surface so as to be easily travelled upon, and consequently kept in repair at a reasonable expense. Some theoretic opinions, at first adopted, have been corrected—others given up as erroneous; the science of road making is still capable of improvement for the benefit of mankind.

Your magnificent river, canal, and railroad conveyances, will not supersede common

roads; those great works promote industry, wealth, and population. Communications must be multiplied to answer the increased demands of commerce, and connect those important works. America will require a number of stoned roads in proportion to the extension of her other great improvements; and it will in the end be greatly conducive to economy and good effect, if, at once, the states should take decided measures to have a certain number of persons practically instructed, which is the only instruction that will ever be found effectual.

Having resided fourteen years in America, and having seen the effect of severe frost and sudden thaws on roads, I am quite safe in assuring you that more skill and care in the construction of roads are required in America than in England.

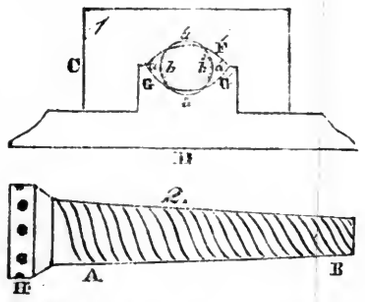
I have read in the Railroad Journal of New-York, of 18th August, 1832, Vol. 1, No. 34, a kind of controversy, about a road called the Third Avenue: if that road be constructed as described by one of the disputants, I must say that there has been much labor and expense bestowed in giving the road every possible chance of being rough in the surface, and consequently inconvenient for carriages, and also providing abundantly for the mischievous effect of frost, by securing a lake of water under it, and the consequence of its erroneous formation will be great unnecessary expense.

In case of the adoption of any measures for sending persons from the United States to this country for instruction, they should be carefully selected from those who have had no opportunities of imbibing previous notions, or imagining that they have any knowledge of the work they are sent to learn.

I have the honor to be, sir,

Your most obedient servant,

JNO. LOUDON M'ADAM.



New Modification of the Power of the Screw.

By Φ. M. [From the London Mechanics' Magazine.]

The printer has made an erroneous substitution of "c 200 and *d* 200" for "c 201 and *d* 200," in the article describing my proposed improvement of Hunter's screw-press, which has, I fear, rendered that article somewhat unintelligible. Before I proceed to notice the figures above, I beg to remind those who may take the trouble to read the article alluded to, that, as I stated, the construction given is not the best of several; I have one in reserve, which meets two capital objections, which I anticipated as likely to be urged against the practical utility of the improvement—one, the great apparent increase of friction, the other the danger of the square production of the screw twisting under a very severe strain. I beg to add further, that I estimate the power of the press, according to the data given, at upwards of 20,000 tons.

The prefixed figures represent what, I believe, is quite a new modification of the power of the screw; and one which will produce a greater amount of power, at less expense of friction, and with less complexity of construction, than any other. As the common screw is familiarly considered as a wedge applied to the circumference of a cylinder, so this may be viewed as a wedge applied to the circumference of a frustum of a cone, and may be called a conic or wedge-screw. AB is such a screw, tapering from A to B, and having precisely the same interval between all the turns of the thread. The head is furnished with holes for handspokes to work the screw with. CD is the nut, formed in two parts, which separate easily. The eye of the nut is a frustum of a hollow cone, accurately similar to the smaller extremity of the screw, as far as regards the angular inclination of the sides of each to their respective axes, as seen in a longitudinal section; but different in this, that when the screw is inserted into the nut, the former is only a tangent to the latter. When the screw is inserted and worked round, it gradually forces the parts of the nuts asunder until the thicker end has come between them, when the surfaces of the nut and screw must be found to coincide.

In the figure the arcs F F′ and G G′ are arcs of a sectional circumference of the thickest part of the screw. A section of the smaller end is seen as inserted in the nut; the dotted circle *b b′* is a section of the body of the screw, and the outer circle, *a a′*, &c. is one of the threads of the screw, partly seen, and partly hid by its engagement in the nut. This screw seems equal to any thing, either as a producer of force, or as a measurer of minute distances: it seems also to have this peculiar advantage, that the smaller the angle of inclination of the sides, viz. the greater the power exerted, the more the threads are relieved from the burden of the pressure. As a mover of weight, the following estimate may be made of its power:—

Taking the length of the screw at 3 feet, independent of what enters the nut before action, the number of threads in that length as 30, the distance from the centre of the head to the end of the handspoke at 4 feet, and the difference of the diameters of the greater and less ends at 1 inch, then the resultant power will be about 259,500 lbs. or upwards of 115 tons, taking the working-power at 30 lbs.

As a micrometer, I beg to add the following estimate of its performance:—

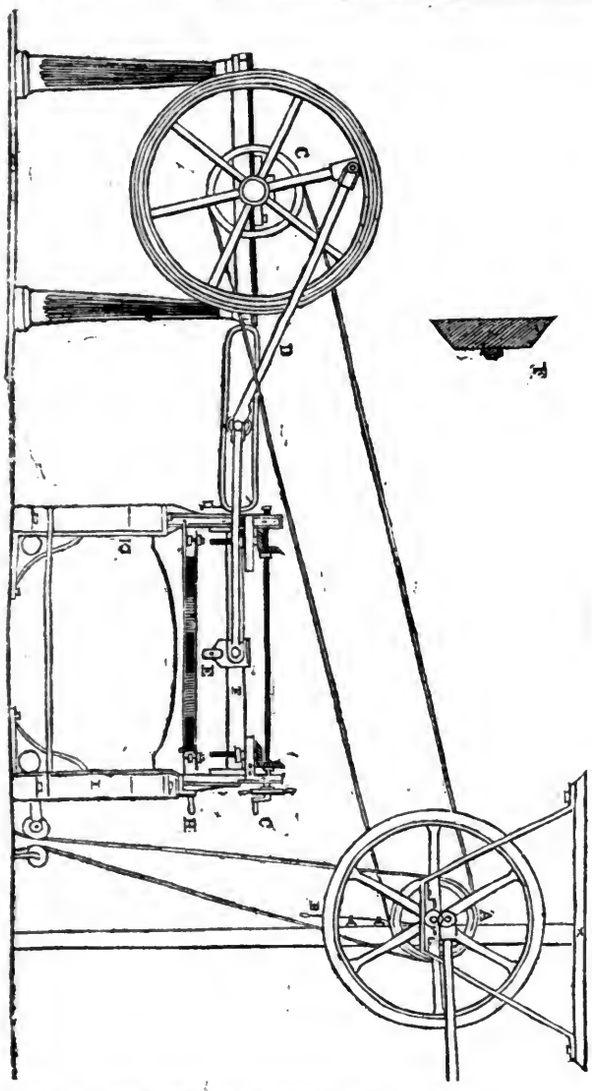
Taking the length of a quarter degree on a common seaman's quadrant at $\frac{1}{250}$ of an inch, the length of the conic screw at 1 inch, the difference of the sectional diameters of the ends of the screw, and $\frac{1}{20}$ of an inch, and supposing the head of the screw to be divided into 100 parts on its limb; then we shall have a degree divided to the $\frac{1}{80000}$th part, or into less than half-seconds, supposing the thread to make 20 turns in the inch.

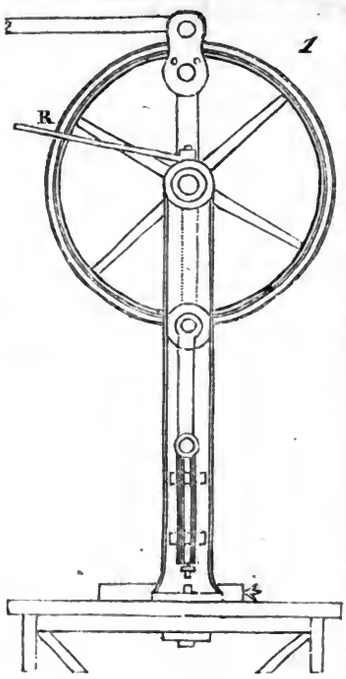
SELF-ACTING FIRE ALARM.—An invention, christened with this name, was brought to this office last week for short exhibition. The purpose of the machine is to give timely alarm when fire occurs in any part of the house in which it is placed. Only one is necessary to a house of the largest size, and if rightly put up, cannot fail to give seasonable warning of the approaching danger. It is intended to be located in the sleeping-room of the "man of the house," and if desired, will also answer the purpose of a fashionable and convenient looking-glass. Its communication with the other apartments is accomplished by means of small cords, which pass entirely round each room in the upper corners of the walls, and are supported by small pullies. Whenever a room takes fire the string burns off, and this puts the "Alarm" in operation, and unless the tenant is an uncommon sleepy fellow, his house may be saved with very little trouble. A further description at this time, is perhaps unnecessary, as the advertisements and handbills already before the public may be referred to. As far as our opinion goes, we believe the invention above mentioned to be a simple and safe agent for the security of our fellow citizens against the continual losses of life and property to which they are liable.—[Brooklyn Advertiser, L. I.]

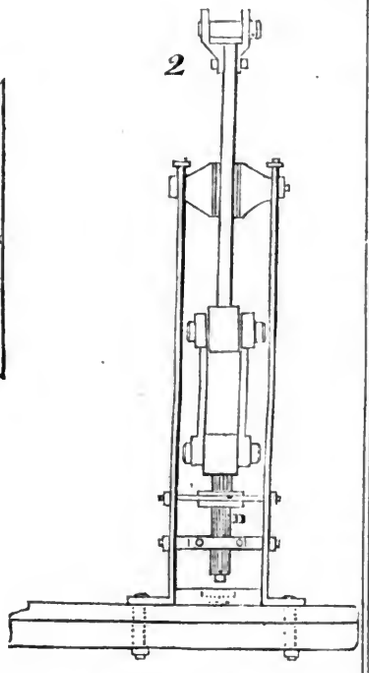
ROWLAND'S FORCING PUMP.—According to public notice, a trial was made on Wednesday of the power of this machine to supply the engines in case of fire, and the extent to which it would propel the water through the hose. The hose was laid in Chapel street, a thousand feet in length, extending from the mill in Union st. to Forbes' buildings, corner of Church and Chapel streets. At the signal given, the pump was set in motion—in two minutes the water reached the extent of the hose, and in four minutes the engine began to play on the buildings, throwing the water upon the roof of Forbes' four stories—the pump furnishing much more than the engine could deliver, probably enough for two or three. The immense importance of this machine, in case of fire, is now so decidedly established, that we think our city authorities can no longer delay in securing its benefits. For supplying water, it is worth all the other means in the city combined; and we trust that the niggardly policy of saving two or three hundred dollars and leaving hundreds of thousands in jeopardy will no longer be pursued, by the guardians of the public weal. The advantages of the pump can be extended with equal facility in every direction, and we believe similar improvements may be made in other parts of the city, by which all may derive equal benefit and protection.—[New-Haven Herald.]

SPEAKING HEADS.—Next to the eye, the ear is the most fertile source of our illusions, and the ancient magicians seem to have been very successful in turning to their purposes the doctrines of sound. The principal pieces of acoustic mechanism used by the ancients were *speaking* or *singing heads*, which were constructed for the purpose of representing the gods, or of uttering oracular responses. Among these, the speaking head of Orpheus, which uttered its responses at Lesbos, is one of the most famous. It was celebrated, not only throughout Greece, but even Persia, and it had the credit of predicting, in the equivocal language of the heathen oracles, the bloody death which terminated the expedition of Cyrus the Great into Scythia. Oden, the mighty magician of the North, who imported into Scandinavia the magical arts of the East, possessed a speaking head, said to be of the sage Minos, which he had encased in gold, and which uttered responses that had all the authority of divine revelation. The celebrated Gerbert, who filled the Papal Chair, A. D. 1000, under the name of Sylvester II, constructed a speaking head of brass. Albertus Magnus is said to have executed a head in the thirteenth century, which not only moved but spoke. It was made of earthen ware, and Thomas Aquinas is said to have been so terrified when he saw it, that he broke it in pieces, upon which the mechanist exclaimed, "these, Gods! the labor of thirty years."—Dr. Brewster supposes, that the sound was conveyed to these machines by pipes from a person in another apartment to the mouth of the figure.—[Sir D. Brewster's Letters on Natural Magic.]

NEW ELECTRO-MAGNETIC EXPERIMENT.—Professor Emmet, of the University of Virginia, has succeeded in so arranging the horse-shoe magnet as to enable him to obtain, at pleasure, brilliant scintillations, nearly as perfect as those produced by the flint and steel. The most remarkable discovery, however, is a sure mode of giving strong and even unpleasant shocks, which bear great resemblance to those from a voltaic pile of about 100 pairs of plates. Some other results, tending to show that this new force has properties intermediate between those of Electricity and Galvanism, have been obtained and will shortly be made public.—[National Gazette.]







Paper Ploughing and Stamping Machines. By Mr. Wm. Reed. [From the London Mechanics' Magazine.]

Peterhoff Paper Mill, near St. Petersburgh, August 23, 1831.

I now propose to give a description of a machine for ploughing five reams of paper at a time, which has been at work here nearly ten years, and is an invention entirely my own. I am not aware of there being any thing of the kind in England, owing, I believe, to the excise not allowing any paper to be ploughed at the mills, so that the stationers are obliged to get it ploughed by hand. In places where there are no such vexatious regulations, this machine will be found of great use. Two boys suffice to manage the working of it; and those here have got exceedingly expert in placing in and taking out.

I shall begin with first describing the principal working parts of the machine. Two riggers, A, are driven from below off one of the engine-woolers; and on the shaft there is a sliding clutch-box with a lever, marked B, for instantly stopping or starting the machine.—From one of the riggers a strap proceeds, which sets in motion the rigger C, with a fly-wheel and arm D, which being connected with the head with the knife, or cutter, E, causes it to slide along the bar F, which is of a triangular form, as represented in the section F. G is a handle, by turning which, with the help of two pair of mitre wheels, fixed on a shaft, and the vertical screws attached to the bar F, the knife bar, &c. is made to descend. The mode of operating is as follows: On the machine table or platform, we place each ream on its beech-board, for the ploughing knife E to cut down to. We then lay on a sheet-brass gauge plate, and mark off with a pencil how much of the three external sides are to be cut away. The paper is then put on the machine, which has a sort of parallel ruler back, worked by two pinions and racks. The handle H is now turned towards the workman, and the pencil mark brought level with the front of a double iron straight-edge. The lower edge is fixed firm and level with the table; and at each end there is a $1\frac{1}{2}$ inch cylindrical pin cut, with a double screw (for dispatch) and two brass nuts, of which the lower one is round, and works slack, being intended merely to hold the upper straight edge, while the reams are put in and taken out. When the paper is in its place, the under or counter nuts are run down an inch or so; the upper nuts, which are six-sided, are screwed down tightly, by two short spanners, on the five reams of paper, care being taken to screw both ends of the iron straight-edge down at one time. The lads broke three cast-iron straight-edges before they got well used to the machine, by not screwing down equally. The last one I backed with two half-inch bars, clamped on edgewise, and it has lasted years. It sometimes happened that one ream of paper was rather thicker than the others; but by slackening the bar, and putting two or three sheets of paper on the thin ream, the inequality was easily remedied; now such a thing seldom occurs. After one face has been thus ploughed, the clutch is detached by the lever B, and the handle G being quickly turned the reverse way, brings up the bar with the knife or cutter E. The upper nuts are then slackened, and the parallel back, by moving the handle H as required; after which the reams are turned, and again brought up to the straight-edge.

The table and sliding-back are made of mahogany, the frame I of fir. The frame which carries the fly-wheel and rigger C, &c. is of cast iron, and square at top and bottom, with four hollow fluted columns. The guide-wheel, mitre-wheels, and the sliding parts at the end of the bar and head, are of brass kept clean. The ploughing-knives, when new, are 10 inches long, 2 inches wide, and 3-8ths thick, requiring to be very flat on the face, and stiff. I make them of English cast steel, and when worn down to about 7 inches, they are considered as having done their duty, and are then worked up into other tools. Four or five will last a year. It may be proper to add, that the post or frame marked X reaches from the floor to the ceiling, for carrying the shaft, fly, and riggers A, and that the other end is fixed on an iron cradle. The knife makes 25 double strokes per minute of 4 feet 6 inches; if the machine worked quicker, it would heat the knife.

I take the opportunity of also sending you a description of a machine for stamping the paper at the corner, in three or six sheets at a time, which is worked in connection with the ploughing apparatus. It is of wrought iron, except the wheel, which is cast, and the whole is fixed firmly on a fine beech table. On the top of the frame are two stout iron rods, which help to support it from the thrusts, &c. A tapet on a short crank is put in motion from the shaft and rigger A (see ploughing apparatus,) and with the connecting rod, pushing the wheel to and fro, causes the cylinder (D, front view, fig. 2,) to rise about half an inch, which is sufficient. The peculiarity of this press is, that by one turn of the crank it makes two blows or impressions 50 times per minute. We before used a small hand press, but this is more expeditious, and saves a man, which is an object where men are scarce. In all parts of this machine, the axle and bolts are two inches thick: were they smaller, the great strain would soon make them slack in the joints. The bed-pieces are pewter or grain-tin, three inches square, and $1\frac{1}{2}$ inches thick, cast with a pin on them, thus:

to chuck them by; because when the die is forced in too deep, it is apt to cut the paper. They are then faced in the lathe, and pasteboard washer put under to raise them up to give the impression required. The tin bed-piece is let into a wooden block, that takes in two parts, with feather-nuts on bolts, as shown in fig. 2. Yours, &c. W. Reed.

Canning's Life-Raft. By W. Baddeley. [From the London Mechanics' Magazine.]

Sir,—It is probable that during the last summer many of your readers may have seen on the River Thames, in the vicinity of New London and Blackfriars Bridges, a singular-looking machine, composed of spars and floated by barrels, the object of which was not very apparent.

The machine is, however, one of considerable importance to the maritime world, being a life-raft, invented by Mr. Alfred Canning, R. N. for the relief of persons in danger of shipwreck; and as a knowledge of its construction cannot be too widely circulated, I beg to submit the following description for insertion in your Magazine.

There are two forms of Mr. Canning's raft, as represented by figs. 1 and 2.

In fig. 1, A is a main-yard or other spar, with two cross-spars, *b b*, lashed near each end of it,

Fig. 1.

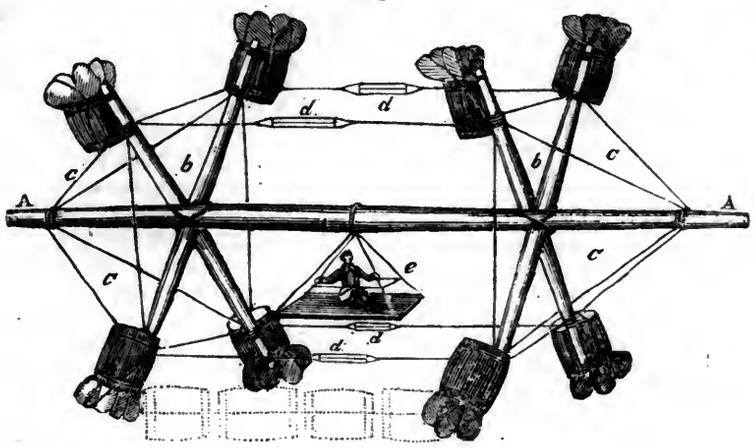
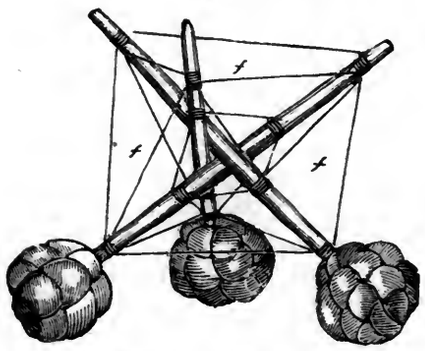


Fig. 2.



and kept in their places by the rope or stays c c. To give the necessary firmness to the machine, four of the ropes terminate in a loop at *d d*, through which a smaller cord is rove, and braced up *taut*.

The machine is floated by means of empty water-casks, one being attached to each end of the cross-spars *b b*. The projecting end of each cask is covered with a hammock, to protect them from being stove in by rocks, &c. &c. The number and disposition of the casks must, of course, be regulated according to the number of persons to be carried. When the number is great, it is advisable to place the barrels as shown by the dotted lines, to obtain sufficient buoyancy. The raft exhibited on the River was so supported.

A platform *e*, for the reception of passengers, is slung upon the main-yard A by a strong loop, so as to turn freely upon it; one or two loops being used, according to the size of platform required. The loops are kept in the middle of the yard by a chock on each side of them.

It will be observed, that only four of the casks can be immersed at one time, and the object of the inventor in using twice that number is to permit the raft to roll over, without any risk to the parties on the platform *e;* that being suspended as just described, so as to retain a horizontal position whichever set of barrels may be undermost.

Fig. 2 shows another modification of this raft. It is composed of three spars, lashed together crosswise at the middle, and braced up by means of the ropes *f f f*. To each end of these spars (for the sake of clearness, one only is shown in the drawing,) is attached an empty cask, or a cork-fender, to give a requisite buoyancy. If casks are used, they should be protected with hammocks, as before described. The persons upon this raft support themselves in the centre, holding on by the ropes, and shifting themselves whenever the raft rolls over.

It is right to state, that the merits of this raft do not rest upon fresh-water experiments: Mr. Canning having made numerous trials with it on various parts of the French and English coasts, with invariable success, particularly at Cherbourg and Jersey. At the former place, a raft of the description shown at fig. 1 was drawn out to the head of the jetty in very stormy weather: Mr. Canning having seated himself on the platform, the raft was turned adrift, and was driven by the wind across the mouth of the harbor upon the rocks, and was eventually thrown by the waves, high and dry, upon a shore of the most dangerous character, without any injury either to the machine or to Mr. Canning.

The machine possesses the requisite firmness and stability, with just so much elasticity as is necessary for its safety. It carries the persons on it higher, and consequently drier, than any other raft; and is perfectly safe and certain on shores, where a life-boat would inevitably be dashed to pieces. The materials of which it is composed are such as may be found on board almost every ship, and the raft may be put together in a comparatively short period of time.

When a vessel has been wrecked on a lee-shore, and a communication formed by means of Captain Manby's apparatus, or the more recent improvements of Mr. Murray, this raft would be found a most eligible mode of landing the crew.

Mr. Canning, some time since, exhibited and explained the construction of his raft, in a lecture delivered to the members of the Mechanics' Institution, in which he gave an interesting account of several of his experiments in different places, and expressed his readiness to put to sea in the severest storm, on any part of the British coast; thereby showing his perfect confidence in the safety and efficiency of his simple life-raft.

The Society of Arts have presented Mr. Canning with their large silver medal, as a token of the high opinion they entertain of the ingenuity and utility of his contrivance; and *I guess* it will be some time before they have an opportunity of rewarding another of equal merit.

There is a factory near Hartford, (Con.) where they finish from the bar iron, 700 axes per day. They have a machine with which the head or hole of the axe is formed, and made ready for the reception of the steel after but a few strokes of the hand hammer. They are formed in this manner in four or five seconds. This establishment was commenced less than six years ago; there are now not much less than 100 houses, all occupied by the workmen—all having the appearance of great neatness and comfort.

AGRICULTURE, &c.

Culture of Silk important to Country Practitioners. By T. D. M. [From the Medical Gazette.]

As the general scope of the Medical Gazette embraces all the important objects of natural history, I know of nothing that is calculated for general utility more deserving of notice than the culture of silk. This subject is one of growing interest, and cannot fail to excite universal attention in these United States. But to no class of the community it is likely to prove more advantageous than to country practitioners, who own a small piece of land, and who have time enough to spare at the proper season to give full attention to the subject. Indeed, the active duties, connected with this culture, require not more than about six weeks in the year, and the whole of that time is embraced in the season in which medical men have but little professional business. I am satisfied that a country practitioner could not possibly appropriate an acre or two of his land, nor six weeks of his leisure time, to so good advantage, in any other project, as in the culture of silk. For one dollar, he may procure all the necessary information relative to this matter in sufficient detail, in a small volume, to be had in all our bookstores, entitled *A Treatise on the origin, progressive improvement, and present state of the Silk Culture.* To give an idea of the profits of this business in a few words, the following remarks of a practical man, who has had great success in this enterprize, in Philadelphia, are here submitted:

"An acre of ground will produce 90,000 lbs. of leaves—which, if sold on the tree, at a half a cent per pound, will produce $450; or if sold, delivered, at one cent, produce $900. This would produce thirty-seven hundred pounds of cocoons, which, at twenty-five cents per pound, (with the moth,) is $925. The same quantity well reeled, produces four hundred and twenty pounds of raw silk, which, at three dollars per pound, the price of the China silk here, makes $1,260: if, however, reeled and fitted for the European market, would produce, at six dollars per pound, $2,500."

We earnestly request our medical brethren, who are wont to complain of bad debts and hard times, to give this subject their serious consideration. The culture of silk must, at no remote period, be introduced extensively in the West, and it cannot fail to be a source of great emolument.

Procuring Two Crops of the Ash-leaved Kidney Potato, in One Year, off the same Ground.—In each of the last two years I have grown two crops of the ash-leaved kidney potato on the same ground, and each of the crops has been a good one. I proceed thus: In taking up the first crop, I bury the tops or herbage in the trench, by turning the earth between the rows upon them, and this done, the ground is ready to be planted again. My first crop this year was planted on the 30th of March, and my second on the 13th of July; the second has been as good as the first, and the potatoes are perfectly ripened: the joint produce of the two crops has been fully at the rate of 960 bushels an acre. I took some of the pota-

toes of the second crop, of nearly the full size, to market on September the 15th.—[London's Magazine.]

Old Pear Trees.—In the town of Farmington, Connecticut, there grew about a dozen old pear trees, all grafted, as was manifest from the cicatrix around their bodies, and all bearing the same kind of fruit. One of them grew on a lot which, for several generations, belonged to my ancestors. My grandfather, who was born about the year 1700, said that, when he was a boy he used to climb the tree with caution, because the limbs were old. I have known the tree for about fifty years, and it has suffered no material change. The fruit was above the ordinary size—long, bell-shaped, green, very sweet and juicy. I have never seen of the kind any where else, unless taken from one of those old trees, nor have I ever heard any other name than that of the Farmingham Summer Pear. Who was kind enough to graft and plant those trees, tradition cannot tell. The fruit was apt to be knotty and defective, arising from the age of the trees, but I have seen a young tree in the garden of Dr. Norton, of Clinton, Oneida county, which bore fruit smooth and fair.

Political Economy.—The following estimates from the Family Lyceum are worthy of general attention; they would furnish our legislators with more available data than many of the pages of Adam Smith.

"The interest of the money expended in erecting a prison at Philadelphia is sufficient to pay the tuition of 10,000 children at infant schools.

"The expenses of the militia of Massachusetts is not less than half a million annually, which is more than sufficient to establish a Lyceum Seminary, or self-supporting school, in every county in the state, at 30,000 dollars each. The one expenditure designed to enable men to kill and devour each other; the other designed to aid each other in every good work.

"In Ohio, and the other western states, those towns which, at their commencement, from twelve to fifteen years ago, established schools and public worship, are now accommodated and ornamented with good roads, comfortable dwellings, framed, two stories, and painted, with commodious barns, productive orchards, safe enclosures, and above all, with intelligent, moral, and refined society; while those which have been settled from 20 to 30 years, and have neglected schools and churches, have few buildings but log houses, with one room, no roads but such as nature furnishes, no orchards, no barns, and little cultivated land except a few acres around their cabins sufficient to raise corn for their bread; and they are even unable to find time to comb their children's heads or wash their faces.

"Throughout New-England, those towns whose citizens have erected for their schools commodious houses have been able also to erect for themselves neat or elegant dwellings. While those which are unable to build school-houses, are also unable to erect dwellings, except plain, unpainted, one story buildings. Where they are able to erect churches at an expense of five or seven thousand dollars, they are able to ride in chaises, worth $250, while those who have the poorest churches ride to them in waggons, on horseback, or go on foot."

Misconstruction of Wheel-Carriages pointed out.—It is the practice to make the hind wheels of waggons, and most other four wheeled carriages, the highest; but the advantage of so doing is not clear to me, and, from the following experiments, it seems to be erroneous: Most people, too, concerned in the loading of waggons, have an idea that they are drawn more easily if loaded heaviest before, that is, on the fore-wheels. Having long since embraced a different opinion, I resolved to put it to the test of experiment. I made a small model of a waggon, in size a twenty-fourth part of the size of those used by farmers in general, and weighing 10 oz. This I placed on an horizontal board, 3 feet long, which had a small (pulley) wheel at one end, over which run a thin cord, one end of which was fastened to the fore-part of the waggon, while from the other end there was suspended a small scale to contain weights, which of its own weight would just move the waggon along the board when unloaded.

The first trial was with four wheels of 2 inches, and hind ones of 3 inches diameter. The fore part of the carriage was then loaded with 33 oz. and the hind-wheels with 16 oz. To move this along the board took 5 oz. in the scale. When the loading was reversed, that is, 16 before and 32 behind, it was drawn by 4 oz. It was next loaded with 32 oz. on each pair of wheels, and was then drawn by 6 ounces.

The fore-wheels were next placed in two hollows sunk in the board three-eighths of an inch deep, loaded as in the first trial. The carriage was drawn out by 29 oz.; when the loading was reversed, as in the second case, it was drawn by 21 oz.; when loaded equally, as in the third case, it was drawn by 33 oz.

The hind wheels were then taken off, and their places supplied by a pair of equal diameters with the fore ones, namely, 2 inches.

Loaded as in the first, second, and third instances, it took to move it along the level nearly the same weights; but when the fore-wheels were placed in the hollows, it took less by 4 oz. each trial; when the loading was reversed, and made equal, the results were as before.

The pulley-end of the board was then elevated to an angle of 33½ degrees with the horizon, which is nearly equal to that of a hill rising 4 inches in the yard; if loaded as in the first instances, the carriage required to draw it up 13 oz.; loading reversed (as before) 15 oz; equal, 14 oz.; wheels in the hollows, nearly as before.

To the above may be added the very great uneasiness occasioned to the shaft-horse, when either of the fore-wheels meets with any obstruction from stones, &c. and which is evidently increased in proportion to the smallness of the circumference.—E. Vialls.

Peculiar Method of Turning Wool into Fur.—The wool-growers of Podolia and the Ukraine, and also in the Asiatic province of Astrachan, have a peculiar method of turning wool into fur. The lamb, after a fortnight's growth, is taken from the ewe, nourished with milk and the best herbage, and wrapped up as tight as possible in a l covering, which is daily moistened with wa water, and is occasionally enlarged as the ani al increases in size. In this manner wool becomes soft and curly, and is by degrees changed into shining beautiful locks. This is the kind of fur which passes under the name of Astrachan, and is considered on the continent as the most genteel lining in winter cloaks. Similar trials with German sheep have been attended with the same success. The Saxon breed of sheep have, within the last ten years, superceded the merino, and their wool is of superior quality.

New-York Agricultural School.—We have to present to our readers the following bill reported to the Senate of this State. We are much pleased with the course which has been pursued in reference to the memorial. It is now open for discussion, and we, for our part, shall spare no labor in bringing it before the public. Communications on the subject are respectfully solicited.

State Agricultural School.—In the Senate Mr. Sudam, from the Select committee of eight, to which was referred the memorial of the State Agricultural Society, reported in favor of the establishment of a State Agricultural School. The report was accompanied by a bill, the material provisions of which are as follows:—

1. The Comptroller to issue certificates of stock to the amount of of $100,000, bearing an interest of 5 per cent., and redeemable in 20 years, to be sold at public auction in the city of New York, to the highest bidder, the proceeds to be appiied to the establishment of the school.

2. Three commissioners to be appointed by the Governor to purchase a farm and contract for the erection of suitable buildings for a school, sufficient for the accommodation of 200 pupils, the officers of the institution, and the servants for the farm.

3. The Governor and Senate to appoint seven trustees, to manage the concerns of the institution, who shall appoint a principal teacher and overseers, and employ the necessary laborers and assistants, and to prescribe, with the advice of the principal, the police and regulations of the school.

4. The trustees to be a body corporate and politic, and required to report annually to the legislature or Regents of the University, a full statement of the condition of the institution in all its branches. No pupil to be admitted into the school under the age of 14 years.

Mr. Sudam said it was not the intention of the committee to press the bill to a third reading at this session. They only desired that it be discussed; and that the report of the committee, and the views of those friendly to the measure, should be spread before the public, for the purpose of enabling the next legislature to judge whether it met the approbation of the citizens of the state.—[Argus.]

Mode of Thrashing in Germany.—A laborer's hire is his meat and two goschens, about two pence half-penny a day, unless he happens to be employed in thrashing, in which case he usually makes a contract for a sixteenth measure of the whole quantity of grain he thrashes out. As the entire village resounds from end to end with this operation, I shall state a few particulars respecting it which are likely to escape a more fugitive traveller, or one less curious in "re-rustica." Thrashing here is executed with a skill unknown to a less musical people. To be an expert thrasher it appears to me as requisite to have had a thrashing master, as a master for any other given art or accomplishment. They thrash with a perfect regard to time, in all the alternations of triple and common measure, making the transition from one to the other with the greatest exactness. There are some times no fewer than seven or eight flails in concert; when it is a simple quarter, and one of the performers happens to drop out, which is frequently the case, the transition is immediately, and without the least interruption, into triplets. Occasionally the effect is graced by some very delicate gradations of forte and piano, raliemando, crescendo, morcendo, accellerando—and the whole executed with as much precision as if a note book lay before each performer. When the piano is to be particularly delicate, the tips of the flails are used, which affords an opportunity of combining grace with dexterity; it is then the merest scarcely audible tap, and costs the least possible effort. Then comes the crescendo, swelling into a tremendous barn-echoing staccato—downright thrashing in fact; and what I particularly wish to enforce upon the farmer, the flail during the whole movement is never raised

higher than the head, which I could not help especially taking a note of for the good of our practical agriculturists, when I recollect how much unnecessary brawn is expended on our thrashing floor to no purpose. Thus we see his genius for music never forsakes the German in any situation or occupation of life; it follows him into his commonest employments; and no doubt is their advantage, on the principle of "studio fallente laborem," in making it in all similar exertions an arithmetical operation. What is the story of Amphion building his Thebes, but an allegorical illustration of the same benefit of lightening labor by music? The German thrasher has the advantage of the Theban architect, for he turns the labor itself into a kind of music, though somewhat monotonous to be sure.—[Sir A. B. Falkner's Visit to Germany.]

To prepare Starch from Potatoes.—Grind a quantity of potatoes into a pulp by rubbing them on a plate of tin in which a number of holes have been made, then put them into a hair sieve, and pour cold water over them as long as a milky liquid passes through. This liquid is to be received into a basin, and when a whitish powder has settled at the bottom, the liquid is to be poured off it, and the powder repeatedly washed with spring water, until it becomes perfectly white. When the last liquor has been poured off, the basin is to be placed in a warm place till the starch be perfectly dry.

Observation.—Twenty pounds of good potatoes, treated in this way, generally yield about four pounds of starch.

A Million of Facts—*By Sir Richard Phillips.*—Among the clever books recently received from London, is one with the above title, containing a vast variety of information in a small space. It has been announced for publication by Mr. Conner, of New-York.

The sea is to the land, in round millions of square miles, as 160 to 40, or as 4 to 1.

There are 7,700 veins in an inch of colored mother-of-pearl. Iris ornaments of all colors are made by lines of steel from 200 to the $\frac{1}{1000}$ part of an inch.

Bodies are transparent, says Newton, when the pores are so small as to prevent reflection.

The apprehension of the failure of a supply of coals in England is delusion. In Yorkshire alone, there are exhaustless beds, which are sold at 4s. or 5s. per ton.

The coal mines, which in Staffordshire have been burning for 200 years, consist of pyrites, subject to spontaneous combustion. Water will not extinguish them, because when drawn off, or absorbed, the pyrites burn more than before.

The odorous matter of flowers is inflammable, and arises from an essential oil. When growing in the dark their odor is diminished, but restored in the light; and it is strongest in sunny climates.

The height of mountains in the moon is considerable; ten are five miles or nearly; and eight are from 3 to 4 miles. Three of the hollows are from 3 to 4 miles; ten are from 2 to 3 miles, and as many are nearly 2 miles.

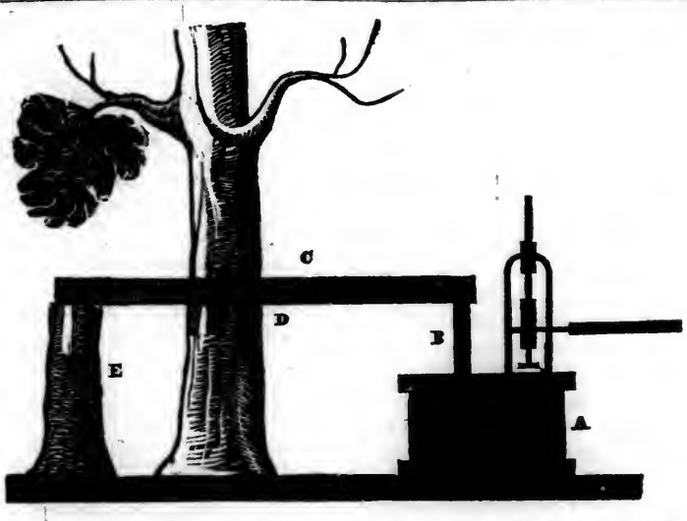
Teeth are phosphate of lime and cartilage, but the enamel is without cartilage.

The number of ribs vary, being twelve or thirteen on a side.

The muscles of the human jaw exert a force of 534 pounds, and those of mastiffs, wolves, &c. far more. The force is produced by the swelling of the muscles in the middle, and dilating again.

A chesnut tree grew at Tamworth, which was 52 feet round; it was planted in the year 800; and in the reign of Stephen, in 1135, was made a boundary, and called the great chesnut tree. In 1759, it bore nuts which produced young trees.

Botanists record 56,000 species of various plants; and 38,000 are to be found in the catalogues.



Application of Bramah's Pump to the Eradication of Stumps of Trees. By F. H. [From the London Mechanics' Magazine.]

Sir,—Your correspondent, Mr. Hounds (p. 98,) inquires for a machine to render the clearing of the woods more easy to the emigrant, and seems to think something in the shape of a circular saw most likely to supply the desideratum. Now, sir, I have always understood that the axe, in the hands of a skilful woodsman, is as efficient an instrument as need be desired for the mere clearing, but that it is the stumping, or getting up the roots, which is the most difficult part of the business, and for which some new process is the most imperiously required. The usual way, I believe, is to leave the stumps in the ground until they become rotten in the course of nature, which takes several years, during which the settler has to plough round them. Those who have capital sufficient make use of machinery, set in motion by horses or oxen, to pull out the roots at once; but this process is of course out of the reach of the poorer classes of emigrants, who have very little money to spare for implements, and none for live stock. To this class, perhaps, a machine like that represented in the prefixed figure might prove of essential service. Its cost would not be very great, and its application would be particularly easy:—

A is a Bramah's pump, from its great power and simplicity the best moving force for the purpose.

B the solid piston, on which is placed one end of

C, a strong beam of timber, fitting in

D, a notch cut in the tree to be felled. The other end rests on

E, the stump of a tree, or other convenient block, near the tree operated upon. When the pump is worked, the beam C will of course be raised, and the tree must necessarily rise with it. It might perhaps be requisite to dig a little round the roots, and to cut some of the principal ones, but of course the power exerted might be increased to an immense extent, by employing a longer beam, so as to gain a very long leverage. If not used to fell, or rather to raise a growing tree by the roots, this machine might be of great service in extirpating the stumps, by means of an arrangement similar to that employed in drawing the piles of Waterloo Bridge, as described by Mr. Davy, in vol 13, page 184, of the Mechanics' Magazine.

Another correspondent, P. M., (also on page 98,) has proposed a plan for transmitting ready-made cottages to Australia. The usefulness of this may be doubted, especially when it is recollected that a wooden house, which was sent out to New South Wales at the first establishment of the colony to serve as a hospital, took *several months* in erecting at its place of destination, although it had been put together in London in a few hours! Besides, it will never pay to carry a ready-made house *more* than 10,000 miles. Yours, &c., F. H.

June 8, 1832.

Formation of Character.—A taste for useful reading is an effectual preservative from vice. Next to the fear of God implanted in the heart, nothing is a better safeguard than the love of good books. They are the hand-maids of virtue and religion. They quicken our sense of duty, unfold our responsibilities, strengthen our principles, confirm our habits, inspire in us the love of what is right and useful, and teach us to look with disgust upon what is low, and grovelling, and vicious. It is with good books as it is with prayer; the use of them will either make us leave off sinning, or leave off reading them. No vicious man has a fondness for reading. And no man who has a fondness for this exercise is in much danger of becoming vicious. He is secured from a thousand temptations to which he would otherwise be exposed. He has no inducement to squander away his time in vain amusements, in the haunts of dissipation, or in the corrupting intercourse of bad company. He has a higher and nobler source of enjoyment to which he can have access. *He can be happy alone;* and is indeed never less alone, than when alone. Then he enjoys the sweetest, the purest, the most improving society, the society of the wise, the great, and the good; and while he holds delightful converse with these, his companions and friends, he grows into a likeness to them, and learns to look down, as from an eminence of purity and light, upon the low-born pleasures of the dissipated and profligate.

The high value of mental cultivation is another weighty motive for giving attendance to reading. What is it that mainly distinguishes a man from a brute? Knowledge. What makes the vast difference there is between savage and civilized nations? Knowledge. What forms the principal difference between men as they appear in the same society? Knowledge. What raised Franklin from the humble station of a printer's boy to the first honors of his country? Knowledge. What took Sherman from his shoemaker's bench, gave him a seat in Congress, and there made his voice to be heard among the wisest and best of his compeers? Knowledge. What raised Simpson from the weaver's loom, to a place among the first of mathematicians; and Herschel, from being a poor fifer's boy in the army, to a station among the first of astronomers? Knowledge. Knowledge is power. It is the philosopher's stone—the true alchemy that turns every thing it touches into gold. It is the sceptre that gives us our dominion over nature: the key that unlocks the store of creation, and opens to us the treasures of the universe.

Fraimhoifer, in his optical experiments, made a machine in which he could draw 32,900 lines in an inch breadth.

NEW-YORK AMERICAN.

MARCH 23, 25, 26, 27, 28, 29—1833.

LITERARY NOTICES.

EDINBURGH REVIEW, No. CXII.—There are some admirable articles in this number—the best among them being that on Lord Mahon's History of the War of the Spanish Succesion. It brings the whole bygone period before the reader, and the gallant chivalrous Peterborough lives again.

In the political articles, there is a sort of consciousness peep'ng out—that, in the new position of the Review, as speaking the sentiments, or being supposed so to do, of the Whig Ministry, there must be some reserve, and a certain air and tone of official dignity in its port,—which is amusing.

We have only room for two extracts, on Babbage's book on Machinery—to which, by the way, the Review does not full justice. The first sets forth strongly the influence which machinery has had in civilizing and improving mankind; the second presents a remarkable instance, in the manufacture of paper, of the perfection of a machine.

We have been so long accustomed to make use of the most complicated and expensive machines, that we have in a great measure forgotten how much we owe to those that are simpler and cheaper, but not less powerful or useful. The truth is, that we hardly do any thing—that we cannot so much as make a pen, snuff a candle, mend a fire, or dress a beefsteak—without resorting to machinery. We are so much identified with it, that it has become, as it were, almost a part of ourselves. Agriculture could not be carried on, even in its rudest form, without spades and hoes; and the horse had to be domesticated, and iron smelted and forged, before the plough could be introduced. Civilized man is, in fact, indebted to tools and machines, not for an increase of power merely, but for almost every thing that he possesses. Perhaps not one in a thousand of the arts practised amongst us could be carried on by the hand only. Those who investigate the history of the human race, who trace their slow and gradual progress from their lowest and most abject to their highest and most polished state, will find that it has always been accompanied and chiefly promoted by the invention and improvement of tools and engines. What, we ask, has falsified all the predictions of Hume and Smith, as to the increase of the public debt, and enables us to support without difficulty a load of taxes that would have crushed our fathers, as it would crush any other people? This wonderful result has not assuredly been owing to any peculiar sagacity on the part of our rulers, nor to the miserable quackery of sinking funds, custom-house regulations, and such like devices. There cannot, indeed, be the shadow of a doubt that it is to be wholly ascribed to the stupendous inventions and discoveries of Hargraves, Arkwright, Watt, Wedgwood, Crompton, Cartwright, and a few others. These added so prodigiously to our capacities of production, that we went on rapidly increasing in population and wealth, notwithstanding an expenditure of blood and treasure unparalleled in the history of the world. It is believed that an individual can at this moment, by means of the improved machinery now in use, produce about 200 times the quantity of cotton goods that an individual could have produced at the accession of George III. in 1760! The improvement in other branches, though for the most part less striking than in the cotton manufacture, is still very great; and in some, as in the lace manufacture, it is little if at all inferior. The high and conspicuous place we occupy among the nations of the earth, is not owing to our possessing a greater population, a finer climate, or a more fertile soil; but to the superior art we have evinced in aviling ourselves of the powers of nature. This has multiplied our resources, and increased our power in a degree that was not previously conceivable. It is not going too far to say that we have, at the very least, derived ten times more advantage from the spinning-jenny and the steam-engine, than from all our conquests in India, though these have added nearly 100 millions of subjects to our empire.

In illustrating the use of machinery in converting apparently useless and worthless substances into valuable products, Mr. Babbage refers to the skins used by the gold-beater, and to the production of the prussiate of potash from the hoofs of horses and cattle, and other horny refuse. It is singular, however, that he should not have referred, either in this, or in any other part of his work, to the manufacture of paper. Considering, indeed, the many important purposes to which paper is applied, its extraordinary cheapness, and the fact that without it the invention of printing would have been unknown, or of comparatively little value, it may be classed amongst the most useful of all the products to which human ingenuity has given birth. The interest attached to its manufacture is greatly increased from the knowledge that it is formed of the most worthless materials. The inventor of the process for converting rags into paper, conferred an incomparably greater benefit on society, than if he had realized the fable of Midas, and transmuted them into gold. It was also particularly deserving of Mr. Babbage's attention, from the circumstance of very great improvements having been recently made in the manufacture.

About the year 1800, Mr. Didot imported from France the model of a machine for the manufacture of paper, which was improved by the mechanical skill of English artists, and brought into an effective state about 1808. This machine, by superseding hand labor in the conversion of pulp into paper, has been very generally adopted, and has materially promoted that extension of the manufacture which has recently taken place. Mr. Dickinson of Hertfordshire, one of the most ingenious and inventive of our practical mechanists, has constructed another machine which performs the same operation by a different method; converting a stream of fluid pulp into a web of dry paper, completely finished and ready for the press, within a distance of about twenty-seven feet, and in about *three minutes* time! The machinery by which this all but miraculous result is effected, is so ingeniously contrived and admirably adjusted, that the continuous sheet of paper, which in its first stage appears like a wet cobweb, hardly capable of cohesion, is drawn forward over various rollers, from one stage of the process to another, at the rate of thirty feet per minute. We are not aware that much difference has taken place for a long period in the machinery for converting rags into pulp; but the present process, which is different from the original method of beating out the rags, has this drawback on its economy and despatch, that it breaks the fibre, and renders the paper less tenacious and durable.

From the London Spectator we transfer the annexed remarks upon a book now in the press of the Harpers' here for re-publication—and which we confess our eagerness to see. The extracts made from it by the Spectator, bear principally upon the state of slavery in the Southern States, and upon particular instances of the cruelties practised under it, which the writer witnessed in Charleston and in New Orleans. Of these he speaks as every just and feeling man must who has lived in a country where the curse of slavery is only a distant evil; but we do not think it necessary to copy them.

Stuart's Three Years in North America.—At length a British traveller has returned from the United States who *ought* to have gone there. At length we have a full, a fair, a deliberate account of that great country: not a eulogy; not in any respect rhetorical, or poetical; sparing of epithets, but copious in facts; giving character by actions, describing by a report of occurrences.

Both by reason and experience it would appear, that the duly accomplished traveller in North America must be no common man: his qualifications are peculiar—most peculiar for an Englishman. He must be thoroughly rational and unprejudiced on the great subjects of government and manners: he must have discarded the common aristocratic habits of his native land, arising from the great difference that exists at home between man and man: in a country devoted to discussion, he must be able to reason calmly and clearly; amongst a people greedy of information, he must have some to give: in a state devoted to affairs, he should have some knowledge of business, and more particularly of agriculture, necessarily the grand business of a nation occupying a territory of enormous and indefinite extent. On the very face of his book, the author of this work is the man thus predicated; on other grounds, the same conclusion might have been come to. The name is not one unknown in Scotland. For many years Mr. Stuart was a representative and supporter of Liberal principles in Scotland, when it was no holyday work to keep the sacred fire of Liberty alight. Where any thing was to be done, there was he; when any thing was to be said, he was in his place; and all that the energy, courage, perseverance, and talent could effect, was effected by him. It was his prominence in the ranks—not the busy bustling of vanity and self-importance, but the modest prominence which zeal for a good cause joined with moral energy always gives—that brought upon him the attacks of a most rancorous and unsparing party,—the old Tories of Scotland; who at one time, had it not been for such men as Mr. Stuart, would in that country have trampled both Liberty and Liberals under foot. It was but a wretched copy of verses that brought about the meeting between Mr. Stuart and Sir Alexander Boswell, which ended so fatally to the latter; but it had been found absolutely necessary to make a stand against the virulence of men who in their fury spared neither private nor public fame. This duel was a bitter necessity; but for Mr. Stuart it had the advantage of proving him, by means of overwhelming testimony, in possession of one of the noblest characters in the country. Subsequent to his trial and most honorable acquittal, the vast changes in the value of land, in which, like many others, Mr. Stuart was deceived, produced a change in his fortunes; and it seems to have been with some view of transferring his residence from Great Britain to America that the travels herein described were undertaken. He has, however, returned: let him not again be permitted to wander without *public credentials*. Shame that such a man should be allowed to leave a country which his exertions have so largely contributed to put in the way of good government; shame that such a man should depart to seek a foreign home, and leave others to reap the harvest he toiled so industriously to sow!

But to our book.

Mr. Stuart left England for the United States in July, 1828, and sailed from New York on his return in April 1831. During the period between these dates, he travelled and resided in almost every part of the Union—at least all in which his countrymen are most likely to be interested. From New York he proceeded up the Hudson to Niagara; thence into the Canadas; on his return, he crossed New England; afterwards he visited the Eastern and Southere States; from New Orleans proceeding up the Missisippi to Louisville, visiting the Illinois and Indiana States, crossing thence to the Alleghany mountains, and returning through Washington. This is the merest outline of the route, and does not include any of the numerous excursions and deviations which the author made for the purpose of more accurately informing himself of the state of the country. Mr. Stuart's familiarity with rural affairs, makes his reports on the Illinois and other Western States in the valley of the Mississippi of peculiar value. Indeed, the chapter on Illinois ought to be pointed out as containing indispensible information, not to be procured elsewhere, to all who are thinking of emigration. The report on the great Prairie countries is full of interest, and even of novelty. Mr. Stuart visited all the new settlements of the emigrants; and his account will be not a little gratifying to the friends of those who have gone out, and not a little encouraging to those who propose to follow them.

Mr. Stuart mixed with all classes, freely and pleasantly; was always well received; and seems in most cases to have separated with regret from his American friends, after a mutual interchange of good offices and solid information. Mr. Stuart does not omit to notice the difference existing in the manners of the two countries, or to censure practices which he disapproves, when such occur: this, however, is but rare, for Mr. Stuart, like other sensible persons, knows that habits and manners are as naturally the growth of circumstances, as vegetation is the modified production of the soil and the climate. Looking, therefore, upon this extraordinary people with a mind perfectly free from prejudice, and a disposition rather to discriminate than censure, we are not to be surprized that the effect of Mr. Stuart's work is far more favorable to the Americans than any account hitherto published. The favor, however, is not shown in praise, but rather in the direction taken by Mr. Stuart's observations: being neither idle, ignorant, nor ill-natured, he has neither laid himself out to listen to foolish boasts, nor exposed himself to the provocation of insulting comparisons, by an exhibition of contempt or an ostentation of a difference of habits of thinking and acting: he has looked to the doings of the Americans rather than their sayings; and having something to converse about, these sayings are of a very different character from the reports of other less qualified travelers. Neither was Mr. Stuart terrified by the bugbear of Democracy; he could look the tremendous majesty of the people in the face, and not be either abashed or alarmed.

There are no theories in this work—no scenes—no satire; it is not a series of controversial dialogues flavored with spite and prejudice, like Captain Hall's work, nor a mere libel, like Mrs. Trollope's: it is a

mass of facts and observations, with such a commentary on them as good sense would dictate, or their nature render necessary to their being thoroughly understood and applied. Mr Stuart has been careful as well as curious in selecting those little circumstances, and those floating documents, whether in newspapers or other publications, which indicate the state of a country, like straws thrown up to show the course of the wind. This work is very abundant in those little extracts and selections, which often in three lines tell us as much as a traveler could in a page.

The form of a book is the lively and *real* form of the Diary. The notes have all the fulness and freshness of immediate impressions upon them; they appear to have been taken on the spot, though subsequently to have undergone a careful revision.

We add to this view of the Spectator some introductory remarks of the Edinburg Review upon the same work, and upon the claims and character of its author:

Its author, though accustomed to mix in better society than nine out of ten of the foreigners who have visited the United States, does not affect to be disgusted with a great, a growing, and a happy people, because hotels, and the houses of opulent individuals, are not crowded with obsequious waiters and lacqueys—because it is customary for strangers to live in boarding houses—because gentlemen prefer business to wine after dinner—or because the waiters must be civilly spoken to, and would refuse, instead of demanding, attendance-money. He seems to have thought that the well being of the great mass of the people, the comfort and intelligence of those engaged in manual occupations,—and the respect everywhere paid to talent and eminent public services—might in some measure atone for the want of dukes and duchesses, and all that beautiful gradation of ranks, which, passing through Bishops with £15,000 a-year, and rectors with £5000, ends in paupers and mendicants. Mr. Stuart had neither Captain Hall's patrician horror of democracy, nor Mrs. Trollope's affectation of gentility, nor Miss Wright's love of scepticism and spit-boxes. His object was to give a fair account of the country, without either exaggerating or concealing the good or bad qualities of its inhabitants; and we think he has been eminently successful. Having, with his wife, passed three years in America, and having leisurely travelled over the country, and mixed with all ranks and orders, from the President to the "Helps" in boarding-houses, he had peculiar opportunities for forming an accurate estimate of the character and manners of the people; and of the working of their government and municipal institutions. Of these opportunities he did not fail to avail himself; and we venture to say, that such readers as can relish an honest account of an extremely interesting country, written in an unpretending style, will not easily find a more acceptable book than the one we have just recommended to them.

Another book on America, and by a Scotchman too, is announced in Edinburg. "*Men and Manners in America*," *2 vols., by the author of Cyril Thornton.* Many of our readers may remember a *jeu d'esprit*, published in this paper shortly after Mr. Hamilton, the author above referred to, left this country—purporting to be a poetical epistle from him to Lockhart. We shall be agreeably disappointed if the sentiments and opinions ascribed in that piece to Mr. H., be not realized in his forthcoming book.

We are indebted to a young medical friend for the annexed notice of a valuable work, of which the merits and usefulness are well explained by him.

The Dispensatory of the United States, by George B. Wood, M. D. and Franklin Bache, M. D. Philadelphia: *Grigg & Elliott.* 1833.—The eyes of the public at large, as well as of the medical profession in this country, seem hitherto to have been closed against the importance of a knowledge of Pharmacy in the education of the Apothecary. Where such immense interests are at stake, it is only strange that attention has not been more strongly excited to the subject, and that we have been so slow in discovering the means for the better education of that responsible class of the community. A work, then, having for its object the elucidation of the principles of Pharmacy, extending also to the medical history and properties of the articles enumerated in it, cannot fail to be received with thanks by all interested (and which of us is not?) in the progress of this branch of knowledge. Such is the work with whose name we have prefaced these remarks. Not that it stands alone upon the subjects of which it treats, for many and valuable productions on Materia Medica and Pharmacy have been issued from time to time from the press, and have received their due share of praise and attention; but a true and complete history of the Science of Pharmacy, as it now exists in this country, and of the various drugs and medicines which are now acknowledged by the medical practitioner, as well as of those whose reputation entitles them to mention although their use is now laid aside, has long been wanted. The subject has not been exhausted in Europe, and still opens a wide field for investigation. Our own fertile country, with every variety of soil and climate, is rich in plants whose properties and importance in a medical point of view present them to us as objects of laudable research. The authors of the Dispensatory have availed themselves of every information which the many valuable treatises on these subjects, as well as long experience through their own practice, have afforded. How far they have succeeded in their endeavors to give a complete history of the various articles, it needs only a reference to the work itself, and the long established reputation of the gentlemen, as men of liberal and sound judgment, of deep research and caution; adopting the opinion of others, not without the most careful examination, but, when convinced, asserting them with vigorous determination. As Professors of the Philadelphia College of Pharmacy, their names rank high in their respective branches of Materia Medica and Chemistry; and their fame is destined to added lustre from the present work. There is another point of view in which the Dispensatory is to be considered: within the last few years, the medical world has been enriched by a national Pharmacopœia, which has already won its way to public favor by the decided merit of its contents. Of this, no explanation has hitherto appeared; and entering as it does into details which may seem new and unnecessary, it is due to the work that something of the kind should be offered. This has been most successfully attempted in this work. To use the words of the preface—"the Pharmacopœia of the United States has been adopted as the basis of this Dispensatory. It is followed both in its general division of medicines and in its alphabetical arrangement of them under each division. Every article which it designates is more or less fully described; and all its processes, after being literally copied, are commented on and explained, whenever comment or explanation appeared necessary. This appeared due to the national character of the Pharmacopœia, and to the important object of establishing, as far as possible, throughout the United States, uniformity both in the nomenclature and preparation of medicines." At the same time, the Pharmacopœiæ of Europe have been consulted, wherever they seem to differ with our own; the discrepancy attended to and explained; and whatever preparations of importance they may contain, are adopted and transferred to the pages of the dispensatory, with a laudable liberality. As a commentary upon the United States Pharmacopœia, it is a most comprehensive and valuable work: valuable, not only to the apothecary, but to the physician, giving as it does a correct history of the medical, as well as the commercial and pharmaceutic properties of the various articles.

Cæsar, translated by Wm. Duncan: 2 vols. New York, *J. & J. Harper.*—These two volumes, which constitute Nos. VI and VII of the Family Classical Library, rejoice us; for we feared from the long interval that has elapsed since Rose's Sallust appeared, that the publishers were disconraged from pursuing the series. We have an earnest in the volumes before us, that our fears were unfounded; and Cæsar, the first and ablest writer of Commentaries on his own wars, the admirable orator, statesman, author, and soldier, is here presented in an English dress, which aims to preserve, as much as possible, the style and manner of the original.

Cottage Economy, by Wm. Cobbett. New York, *John Doyle.*—It is now some twelve or fifteen years since Cobbett, (now an Honorable by the courtesy, and an M. P. by the votes of his fellow-countrymen,) first published this work, which combines all necessary directions for feeding pigs and poultry, brewing, baking, &c. &c. interspersed throughout with vigorous sallies of his original, powerful, but too often perverted mind. We dare say, the recent honors conferred on the author, will add to the demand for his book.

The New York Sporting Magazine, and Annals of the American and English Turf, No. 1; printed for the Editor and Proprietor, C. R. Colden, by J. W. Bell, 17 Ann street.—We do not hesitate to say that this is one of the handsomest and most complete sporting periodicals that has yet appeared any where. It is a large well printed quarto of 42 pages, admirably arranged inside, and the number before us is embellished with three fine portraits of celebrated horses. The editor, whom, under his signature of "An Old Turfman," we recognize as one of the best contributors to Mr. Skinner's excellent work of a similar character published in Baltimore, and whose thorough qualifications for the task he has undertaken are, we believe, generally admitted, proves that he holds the pen of a ready writer, in a number of well-prepared articles, besides his very clever introductory. In short, with a single exception, this work holds out the richest promise of entertainment, instruction and satisfaction to all true lovers of field sports. The exception, however, should, in our opinion, be fatal to the work, unless it be at once removed. It is including what are called "the sports of the ring and the pit"—in other words the brutalizing diversion of boxing, and the low and savage one of cock-fighting, with the high-spirited pleasures of the race-course, the beautiful amusement of angling, the invigorating one of fowling, and the soul-stirring excitement of the chase. It is mingling up and confounding two of the vilest amusements that have in any country survived the progress of civilization, with those manly pursuits and invigorating pleasures in which "brown Exercise" leads us through flood and forest, by the still covert's side, and over the breezy moor. It is identifying with the practice of those sports which every man who wishes to see a hardy, high spirited population continued in the country, must be anxious to promote among our youth, in every proper way, the indulgence in diversions to which the sense of our community is so abhorrent—however they may be tolerated in other countries—that they are practised only in holes and corners in ours.

The Editor is mistaken if he thinks, because the fine exercise of sparring is becoming a favorite one among our young men, while they have such a capital teacher of the science as Fuller, that what is called a regular "set-to" will ever be countenanced here. And as for cock-fighting, the proverbial amusement of stable-boys, what have their masters, his subscribers, to do with it? These low and savage tastes are not the tastes of the country, however acceptable they may be to individuals, and any publication which attempts to engraft them upon us, *must fail.* Let the exceedingly capable, the enterprizing, and veteran Editor of the New-York Sporting Magazine lay this to heart, and we are convinced he will at once discover the unnatural union which he is about to make in his work, of pursuits the most interesting and attractive, with those especially enti-

tled to contempt and abhorrence. When this is done, he may be morally certain that a work continued with the ability and elegance with which this is begun, will meet with the warmest countenance, and the most liberal support. *

TALES OF MILITARY LIFE, Second Series. By the author of the Subaltern. Philadelphia: Key & Biddle.—With the exception perhaps of Capt. Hamilton, and the very clever author of "Recollections of the Peninsula," Mr. Gleig, the author of this book, is the most agreeable of the whole corps of military writers, which of late years has sprung up in such force in England. He, if we recollect aright, was one of the very first to take the field in this new capacity, after the return of general peace in Europe, made the soldier's a trade less winning than the scribe's; and he continues with his light troops—his duodecimo tales and sketches—to maintain his ground, in spite of the heavy artillery, the quartos and folios, with which the Napiers and the Londonderrys have come upon his position. "The Gentle Recruit," and "Saratoga," are the stories which compose this volume; and though written in a more ambitious style than "The Subaltern," there is still all the graphic power and much of the engaging truth and simplicity of narrative which made that little work so popular. The volume, we ought to add, is printed with a degree of elegance rarely found in American republications of this kind. *

NEW MUSIC.—*Hewitt* has issued this week the following new pieces:—*The Hunter Boy*, a ballad, music and poetry by William Ball; *Louisville March; The Minstrel to his Harp*, music by Kiely; *Musical Recreations*, from the *Gazza Ladra; Oh doubt not*, a song by Peters; *Deh! non valor contringere*, from the opera of Anna Bolena by Donizetti; the *Amelia Waltz; Grand Polonaise*, composed by Marsh; the *Banks of Allen Water*, arranged for the Guitar, by Otto Torp: *'Twere vain to tell thee all I feel*, also for the Guitar, by Torp, and *The Missletoe Bough*, as sung by Sinclair.

The following announcement of the biography of one of the illustrious patriots of our Revolution, appears in the Boston Patriot, and is said to be from the pen of an eminent scholar of New England, whose profound researches into our national history give a value to every thing he writes on the subject.

MEMOIR OF GOVERNOR LIVINGSTON.—We understand that a work is now in press in New York, entitled "*Memoir of William Livingston, former Governor of New Jersey.*" Whoever is conversant with the history of the Revolution will anticipate with no small degree of pleasure the appearance of this work. Few names in that drama of events are more worthy to be perpetuated with honor, or have higher claims to the praise and gratitude of posterity, than that of Governor Livingston. In times of peril and despondency, when hostile armies overran and ravaged the middle states, when the hearts of the people began to sink within them, and the hopes of the nation were verging to despair—in those times that tried the patriot's constancy and character, the Governor of New Jersey fulfilled the duties of his station with a promptness, an energy, a perseverance and ardour, that roused the drooping spirits of his countrymen, and contributed on many occasions most essential services to the public cause. No man possessed in a higher degree the esteem and confidence of Washington, and on none did he rely more entirely for aid and support when dangers threatened, or exigencies demanded.

Governor Livingston was born in Albany, 1723, an early descendant of the family of that name which has become conspicuous for its numbers, its wealth, and its talents in the State of New York. He was the brother of Philip Livingston, one of the signers of the Declaration of Independence; and also the brother-in-law of Lord Sterling, and the father of Brockholst Livingston, for many years an able associate Justice of the Supreme Court of the United States.—John Jay married one of his daughters. These and other family connections combined with his personal merits to diffuse a knowledge of his character, and increase the weight of his influence.

After graduation at Yale College, in 1741, he applied himself to the study of the law, and entered with more than usual promise into the practice of that profession in New York. His opinions at that early period took a strong tendency to Whigism, and he edited the *Independent Reflector*, a paper of that complexion. He was actively concerned, also, in the dissensions about King's College, which, by mingling together religion, literature and politics, raised up parties, and produced a good deal of excitement at the time. We next find him in the Assembly of New York, and soon afterwards editing the *American Whig*, another newspaper of a liberal cast, as its title implies.

Considerations relative chiefly to his private affairs induced him, in the year 1772, to remove to New Jersey. His residence was near Elizabethtown. The growing difficulties between England and her colonies could not but awaken his attention, and kindle his feelings, ever active to the cause of his country and the high claims of liberty and justice. Although a recent inhabitant of the colony, his reputation was at once a proof and a pledge of his ability to serve his fellow citizens in a respectable station, and his fidelity to their interest. He was chosen a delegate to the first Continental Congress. The election was repeated, and he remained in the highly honorable post, till June 1776, when he was called from Philadelphia by the Convention of the State to take command of the New Jersey troops, then assembling at Elizabethtown for the purpose of guarding the State against the invasion of the British, who were at that time menacing New-York. Clothed with the rank of Brigadier General, he entered upon the duties of the field, acquitted himself to the full approbation of his constituents and obtained the special applause of the Commander-in-Chief for the talents, activity, and address, which had marked his brief military career.

But higher destinies awaited him, and those better suited to his former habits end attainments. The State of New Jersey assumed an independent form of government, and in September, Gen. Livingston was transferred from the ranks of the army to take the helm of State as its first civil Chief Magistrate. No higher eulogy need be uttered on the manner in which he executed this trust, than the fact that he was annually re-elected fourteen successive times, till his death, in 1790. During that period he was appointed by Congress to be Minister Resident in Holland, which he declined. He was also a delegate from New Jersey in the Federal Convention for forming the Constitution of the United States, although at the same time Governor of the State.

It is on his character and acts, as Chief Magistrate of New Jersey for so long and so interesting a period that Governor Livingston's fame is mainly founded, and in this relation it adds lustre to the page of American history. If the civil station has less glare to attract the gaze, and less power to call out the sounding breath of the multitude, than the military, it is nevertheless, to say the least, when filled with ability and self-sacrifice, equally deserving the just awards of history, and the judicious admiration of the wise and discriminating. In this view, justice is still to be rendered to many worthies of the Revolution, and particularly to the Governors Livingston, George Clinton, and Trumbull. To the first, this debt of gratitude is speedily to be paid. From the two last we hope it will not long be withheld.

The biographer of Governor Livingston, we understand, has been favored with peculiar advantages for performing his task with accuracy and faithfulness. He has had access not only to all the original papers of the subject of his memoir, which now remain, but to many others illustrative of his deeds and times. Governor Livingston was a man of genius, a scholar, and a wit. He wrote some anonymous pieces, which must be curious even at the present day. His humorous reply to Burgoyne's pompous proclamation was one of the most happy and mirth-stirring productions that has come from the American press. The humor and satire of Hopkinson and Livingston did more to keep alive the spirit of the Revolution than many a grave discussion about the rights of the British Parliament, or formal address of a public body.

THE KNICKERBACKER.—The next number of this periodical, to be issued on the 1st of April, will be under different auspices from the preceding numbers—the gentleman who edited the first three having withdrawn himself for reasons in our judgment abundantly sufficient, from any further connection with the Magazine.

It is of course the intention of the proprietors and publishers to continue the work.

SUMMARY.

NAVIGATION OPEN.—The Constitution and James Fairlee arrived last Sunday—the former from Poughkeepsie, the latter from Albany, which city she left on Saturday evening.

The river continues high, although it had fallen a few inches yesterday afternoon. The ice is continually passing down in large masses. The water was yesterday seven or eight feet deep on the pier, Quay street, and in the lower stories of the warehouses. It overflowed the lower part of Market street, obstructing the ordinary passage of the street in the vicinity of the Eagle Tavern, and filling the cellars the entire length of S. Market street.—[Albany Argus of Saturday.]

The Postmaster at Northampton has given information that the mail which left New York on the 21st instant was lost in the Connecticut river, three miles below that place, by the coach tumbling over the bank at the Bend. All safe but the mail, and search was making for it, which contained of course nothing from south of Northampton.

NULLIFICATION AT AN END.—The Washington Globe of yesterday, (received this moment, one o'clock,) contains a letter of 16th inst. from Columbia, S. C., stating that the new ordinance, repealing the nullifying ordinance, and all the laws passed in pursuance thereof, passed on the 15th—only four dissenting votes.

INDIAN TREATIES.—In the Globe of Tuesday the 19th inst, the treaty with the *Menominees* as finally negotiated by Gov. Porter of Michigan and ratified by the Senate, is published. Its chief object is to stipulate a reservation for the New York Indians on the east side of the Winnebago lake—the New York Indians, including the remnants of the Stockbridge, Munsees, Brothertown, St. Regis and Six Nation tribes, assent to the treaty.

The same paper of Saturday the 23d, contains the Chickasaw treaty, duly ratified by the Senate, stipulating for the removal of the whole "Chickasaw nation" west of the Mississippi.

The Cherokees are now the only Indians remaining within any of the States.

MUNIFICENCE.—We understand that the late Hon. Joshua Fisher, who died at Beverly last week, has bequeathed $20,000 to Harvard University, as a foundation of a Professorship of Natural History—also about $7000 to Rev. Mr. Thayer's Congregational Society, and has made other liberal donations.

The above is from the Salem Gazette of 22d inst. Rich men do die hereabouts too, sometimes, but we have no recollection of any scholarships or professorships founded by any such. We wish this "Yankee notion" could find some imitators this side of Byram river.

A NEW DRINK.—A correspondent sends us the following extract of a letter:

"By the way, do the people "down East" know that an excellent drink can be made of the sap of *Birch trees?* You may if you please, communicate it to some newspaper. It is made like wine."

The next best thing to telling that sap of Birch trees makes an excellent drink, is to let us know the process of making it—though, to be sure, they are 'cute enough "down East" to find any thing out.

Sewing on Glazed Calico.—By passing a cake of white soap a few times over a piece of glazed calico, or any other stiffened material the needle will penetrate with equal facility as it will through any other kind of work. The patronesses of the School of Industry pronounce this to be a fact worth knowing, the destruction of needles in the ordinary way occasioning both loss of time and expense.—[Taunton (Eng.) Courier.]

Philology.—Elliott, the Apostle to the Indians, was a man of the most exemplary patience and remarkable perseverance. In his translation of the New Testament into some Indian dialect, he never suffered himself to be daunted by such words as follows. It occurs in St. Mark's Gospel:—

"Wuttappesittukgussunnookwehlunkquok,"

SHAD!—A Shad was taken on Saturday the 23d inst. in the North River, (being the first,) by *Captain A. Willis*, and sold in the Washton Market at One Dollar and Fifty Cents.

[*From the Journal of Commerce.*]

GOVERNMENT DEPOSITS.—We understand the U. S. Bank is still the place of government deposits, and what is still more important, that there are actually considerable sums deposited. The cash account of our Custom House the last week stood thus.

Bonds paid	$348,156 45	Debentures paid	$80,158 19
Cash duties	66,405 44	Return duties	74,933 81
Tonnage	370 13	Balance	260,841 52
	$414,933,52		414,933,52

At no other port has there been as yet any payment of the return duties. The suspension in paying them here, took place on the ground of the general instructions of the Secretary published some days ago, which contains the following clause:

"The applications for a return of such excess of duties, as well as for other duties to be refunded, are, of course, to be made to the Treasury, and to substantiate the claims, a certificate of the custom house officers is to be produced, agreeably to the enclosed form, marked B."

[*From the Albany Argus of Saturday.*]

Appointments made by the Governor and Senate, Tuesday, March 19:—

New York—John White, James Kelso, Owen Calhman, David Kelso, George Kelso, Christopher Seaward, Edward Smith, Richard Thompson, James Malcom, William H. Rolston, Thomas Hope, Josiah Johnston, Samuel C. Hicks, Robert Thompson, Geo. Arnold, Robert T. Norris, John Henderson, Wm. P. Teneure, David Sherry, John Dean, Nicholas H Stevens, Joseph Brotherton, Hugh A. Johnson, John Terneure, Abraham Terneure, John Ming and John Hyer, branch pilots by way of Sandy Hook.

Jefferson—Jason Phelps, auctioneer; Wm. Wood, notary public.

Madison—Orren Hall, auctioneer.

FRIDAY, MARCH 22.—*New York*—Samuel Wiswall, John Webb and David Mitchell, harbor masters; Josiah Ingersoll, master warden; and Charles H. Barnard, Reuben Hope, and John Minugh, wardens of the port of New York.

FOREIGN INTELLIGENCE.

CHOLERA AT HAVANA.—A letter of the 9th from an American gentleman at Havana, says the excitement there on account of the Cholera, was very great. The number of cases on board the vessels had been small; but on shore the number of deaths was variously estimated at from 100 to 150 per day; principally among the blacks.—[Journal of Commerce.]

Awful Catastrophe.—The Redactor of Saturday contains an article from the Constitutional del Cauca, stating that in the month of July last while Mass was being celebrated in the church of Sigchos, near Tacunga, in the republic of Equador, South America, on the day of the solemn festival *del Corpus*, fire was communicated to the builging by means of a rocket, and that in the rush of the audience to the door, it became shut, and THE WHOLE CONGREGATION PERISHED IN THE FLAMES, *except the Curate, who escaped through a window!* The number of lives lost was estimated at more than FIVE HUNDRED, besides children.—[Jour. of Com.]

FROM THE SANDWICH ISLANDS.—We have been furnished with the following extracts from letters recently received from these islands via Manilla:—[Boston Centinel.]

George Marini and fifteen Sandwich Islanders, were massacred at Wallis's island last year—they had gained a little brief authority there, and began to oppress the natives, who rose upon them and put them all to death.

Kaahumanu, the Queen Regent of the Sandwich Islands, died at Mano (Island of Oahu) on the 5th of June last, of a bowel complaint. She died as she had lived, (of late years) a christian. Kinan succeeds Kaahumanu as regent, and all things went on quietly and well down to October last.

The English Cutter William Little, of Liverpool, which was cruising on the coast of California, with a crew consisting of Captain Carter, and six Sandwich Islanders, who rose upon the Captain and threw him overboard. They then steered away before the wind, not knowing where they were going, when they fell in with Fanning's Island—one of them knew the island, and they concluded to land—took all the money on board and a few articles of moveables, into the small boat, drove a hole through the cutter's bottom with a crow bar, and then landed. From Fanning's Island they got to Oahu, where one of the number turned King's evidence. The two principals, Bowling and Kahiniau, were taken up by the island authorities, and on examination they confessed the fact and particulars. They were tried before Kuakini, (John Adams,) Governor of Oahu, and Bowling and Kahiniau were condemned, and were to be hung on the 12th of June. This is the first case of piracy and murder ever known to have been committed by Sandwich Islanders.

FROM PARA AND MARANHAM.—Capt. Green, of the brig Rebecca, from Maranham via Para, informs that the state of things at the latter place was very unsettled. The people are divided into three factions—one in favor of Don Pedro, another for Don Miguel, and a third, consisting principally of the lower classes, desiring a republican form of government. Murders and assassinations were very frequent. "On the day of my arrival," says Capt. G., "I had business on shore early in the morning. The first thing that met my view was a young woman eighteen or nineteen years of age, with her throat cut from ear to ear! She lay in the public market place, and little notice was taken of her. Going further along through Palace Square, I saw a European Portuguese butchered in the most horrible manner." Capt. Green represents the old Portuguese as very desirous to leave the country, but unable to dispose of their property for any thing like its value.

A conspiracy on board the Brazilian corvette Defensora (guard ship) against Capt. Ingliss, had been detected in time to prevent its being carried into execution. The ringleaders were two lieutenants, who were put in irons and sent to Rio Janeiro for trial.

Markets at Para dull and overstocked. Flour was quoted at $7. At Maranham, 6 to 7 mil reis.—Hides, 110*a*115 reis. A brig arrived at Maranham from Oporto, under the flag of Donna Maria. The political state of that town and province was vastly better than at Para. Trade and commerce going on prosperously.

[*From the N. Y. American of Tuesday.*]

LATER STILL.—The Ajax, from Liverpool, brings dates from London to the 19th, and from Liverpool to 21st ult.

The Parliamentary debates are the chief affairs of interest, and especially those relating to Ireland.—The insurrection bill, which invests the military authorities with the whole control of Ireland, would undoubtedly pass. It was justified on the sole plea of necessity, and all but Mr. O'Connell, and a few of his friends seemed to admit that the plea was good.

The affairs of Portugal seem to be little altered. An extract from a Bordeaux paper declares that Sir Stratford Canning has effected an arrangement with the Court of Madrid for the recognition of *Donna Maria*, and also for the calling of the Spanish Cortes in order to secure the succession to the Spanish crown of the young Princess, to the prejudice of Don Carlos.

STILL LATER.—The Roscoe, from Liverpool, whence she sailed on the 24th! ult. is coming up. As yet, we have only an account of Markets. Of cotton, for the week ending 23d, 14420 bales had been sold at a decline of 1-8d. The imports for the same period were 11332 bales. United States Bank Stock quoted in London at £22.10 to 22.15.

A postscript of Saturday evening 23d, from Liverpool, says—"Our Cotton Market has to-day been steady, and the sales amount to 2000 bags, which are chiefly American."

The Irish insurrection bill passed the House of Lords, on the 22d.

Among the passengers in the Roscoe is the *Hon. C. R. Vaughan*, who returns to his post at Washington, as Minister from Great Britain to the U. States.

Mr. Speaker *Stevenson* will now, we suppose, obtain his long coveted appointment of Minister to Great Britain.

We have (at 1 o'clock) our papers to 22d ult., inclusive, from London. They furnish Paris dates of the 20th, three days later than those before received. We give some extracts under the Paris head, which are all we find of interest.

The Geo. Clinton, which sailed from Liverpool as the packet of the 8th February, returned leaky. Her cargo was reshipped to the Birmingham for the 1st of March.

The Sully, Capt. Forbes, sailed from Portsmouth, on the 16th February, for New York.

[*From the Messager des Chambres.*]

PARIS, Feb. 19.—It is confirmed that a project of law will be very shortly presented to the Chambers, to obtain a dowry of a million for the Queen of the Belgians.

It is affirmed, however, that a very influential Deputy, and who has often been proposed for an eminent place in the Council, has energetically declared against such a project, which, however, has not been abandoned.

The *Courrier Francais* makes us acquainted with some clauses of the marriage contract of the Queen of the Belgians:—

"The following are the reports in circulation relative to the portion of a million which has been promised to the Queen of the Belgians. The clauses of the contract have been kept secret even from those who are intimates of the Palace; no body has been consulted. Now, by the cession made by the King to his children of his private fortune, the Princess brings as a marriage portion to the King of the Belgians, her share in the patrimony of the Orleans family, which is estimated in landed property at six millions; the million in money will be asked of the Chambers; and a curious circumstance is that Belgium, owing us sixty-five millions, including the expenses of the expedition, which it has cost us, the million for the Queen's dowry will not be deducted, but that it will be given over and above. This is carrying generosity very far."

[*From the N. Y. American of Monday.*]

LATER FROM EUROPE.—By the Rhone packet ship, from Havre, we have Paris papers to the 18th ult, furnishing London dates of the 15th.

Of continental news there is not much. The Belgian question is where it was. In Portugal a sortie made by Gen. Solignac against the Miguelites, on the 24th January, seems to have been without result. The failure is ascribed to the want of co-operation on the part of Sartorius, and the naval forces; there were, in consequence, rumors that he would be dismissed.

The victory of Koniah, by the Egyptians, is confirmed. The result, according to the latest Paris dates, was an armistice between the Porte and Ibrahim, without any intervention by foreign powers.

In England, important discussions, in both Houses of Parliament, had occurred on the occasion of the King's speech. In the House of Commons, they turned mainly on the troubles of Ireland, which the Ministry announced their determination to terminate by force, while at the same time all reasonable attention should be paid to real grievances. Mr. O'Connell spoke of the King's Speech as a "brutal and bloody speech," whereupon he was called to order by Lord John Russell, who desired the words might be taken down, as disrespectful to the sovereign.—Mr. O'Connell said, that according to the theory of the Constitution, the Ministers and not the King were responsible. The Speaker decided that such was the proper view of the subject, but submitted whether the terms employed by Mr. O'Connell were such as decorum and propriety would warrant. Mr. O'Connel then continued his speech, but less violently. Cobbett proposed a substitute to the ministerial answer—which, however, was carried by a vote of 390 to 23. On the next day, the 12th, the Chancellor of the Exchequer introduced his plan for regulating the affairs of the established Church, in Ireland.

This important measure being expected, the galleries and body of the House were excessively crowded. The proceedings are reported so much at large, that we can give only a brief sketch of it. Before the subject was introduced, the Speaker ac-

quainted the House that the House had that morning presented the Address which had been voted to his Majesty, who had been pleased to return the following gracious answer:—

"I thank you for your loyal and dutiful Address. You may rely upon my support in any steps you may take for maintaining the legislative Union between Great Britain and Ireland; and you may be assured that in repressing all acts of insubordination I will assist you to the utmost of my power, by the removal of all just grounds of complaint in every part of my dominions."

The reading of the answer elicited loud cheers.

The Chancellor of the Exchequer then rose, and stated that he wished to discuss particularly the grievance of the Church Establishment in Ireland. Mr. Stanley was to introduce a measure on the grievances arising from grand jury presentments. The internal taxes in Ireland were not many nor great. He intended to procure a change in regard to soap. The want of capital may be remedied by the restoration of peace and order, and this may be secured by legal enactments.

The church establishment in Ireland was far greater in proportion to the population than in England; but the revenues were very much overrated. He had been greatly deceived on this subject.

The nett amount of all revenues of the Bishops of Ireland was not £130,000; the gross amount of all the revenues was £150,000, but owing to the expenses of collection, etc. the nett amount was not more than £100,000. It was true that a large tract of country belonged to the Irish bishops; but the Irish bishops had not any beneficial interest in it; but their tenants and lessees had full five-sixths of the value of that land. The estimated amount of the value of these lands was £600,000. Of this sum the bishops did not themselves receive more than £100,000.—That accounted for the exaggerated ideas of the amount of the episcopal revenues that prevailed in Ireland, and which had been stated with so much confidence by several gentlemen on the other side of the House. With regard to the deans and chapters of Ireland, it was not as in England. There was not a great number of prebends, whose income was derived from their chapter alone. In Ireland livings were attached to the deanery and to the chapter, and the mode of payment to the prebends was by the revenue derived from their livings. The whole amount of revenue belonging to the deans and chapters was £23,600; but the necessary expenditure to which this sum was applied was £21,400,—so that the surplus of £2,200 was all that was left for the deans and chapters. As to the amount of value of the other benefices in Ireland, returns had not been received from all benefices in Ireland, but only from the greater portion of them. The number of benefices in Ireland was 1,401; of this number 1,149 had sent in returns; the amount taken at their value was £478,000. The other 252, at the same average value, would make £580,000, the whole revenue derived from the benefices of Ireland. Taking it at 600,000*l.*, he thought that it would not be placed below its fair value. His statement was briefly this:—

Amount of the revenue of bishop's fees,	£130,000
Revenue of deans and chapters, exclusive of the livings held by them as prebends,	2,2000
Revenue of the other benefices in Ireland	600,000
Total revenues of the Irish church	*L*732,000

He thought that all the revenues of the church of Ireland applicable to the support of the Ministers of that church did not exceed 800,000*l.* He thought the first claim on the property was that of the established church. He thought there were in Ireland, 200 livings of less than £100. The first fruits, have therefore been applied, first to the repair of churches: these it is proposed to abolish; and to impose a tax on livings above £200, and a rate increasing with their income, which will go into a general fund. On the bishoprics the scale for the tax would be lower.

This might be said to attack vested interests, but he had reason to believe that the clergy would not be much opposed to it, and the church was required to make some sacrifice.

A board of Commissioners would be proposed, to carry into execution the arrangements in temporalities. This board, though consisting partly of clergymen, would be independent of them.

Church *cess* was to be immediately abolished.—[Great cheering for several minutes!] This amounted by estimate to £70,000 annually; while the new arrangements would yield £60,000. The fund would be applied to various purposes, but under such restriction, that Protestant churches would not be unnecessarily built.

Other measures were to be authorized, which would not go into effect until the death of present incumbents. The revenues of the Primate of Ireland amount to £14,500. This is to be reduced hereafter to 10,000. Deans and Chapters to be abolished, when not connected with duties, or else to be connected with duties.

There are 22 diocesses, which are too many, and might be reduced by ten; it was proposed to unite Dromore to Down and Connor; Clogher to Armagh; Raphoe to Derry, Elphin to Ardagh and Kilmore; Clonfert to Killaloe; Killala to Tuam; Kildare to Dublin; Cork to Cloyne; Waterford to Cashel; and Ossory to Ferns.

The incomes would be reduced from £130,000 to 90,000.

To remedy an evil arising out of bishops leases, it was proposed that every tenant should be enabled to demand from the Bishop a lease of his land in perpetuity at a fixed corn rent. [Hear, hear.] Now the value of such a lease, at a fixed corn rent, would be twenty years purchase instead of twelve and a half. But it was proposed that the bishop should grant leases in perpetuity at a corn rent on a tender of six years purchase being made to him. That would give the full advantage of any improvement which they might effect in the value of the land, and also provide against any hazard from the bishop running his life against the tenant.

For enabling the government to subdue the disturbances in Ireland, the following is said to be the course that will be pursued:

"A law is to be introduced providing,—1. That in all capital cases connected with the existing disturbances, upon a suggestion specially to be defined, the venue may be laid in England.—2. That the Lord Lieutenant may, in certain described cases, subject by proclamation any part of Ireland to martial law.—3. That in the disturbed districts of Ireland, certain military tribunals shall be created for the trial of offences less than capital; these tribunals to be composed of a captain and four subaltern officers, to have power to pronounce sentence of transportation for life, to be carried into execution *instanter* upon conviction, and without appeal. The Catholic priests to be taken into the pay of the Government."

The excitement which prevailed in Paris in the first week in February, respecting political duels, had passed off—the wounded men all recovering. *M. Carel*, Editor of the National, had been able to go out, and his first visit was to his antagonist, *M. Roux Laborie*, Editor of the Revenant, whom he had wounded. *M. Nettement*, Editor of the Qnotidienne, had been wounded in a second duel—the original cause of offence, as before stated, was the scandal circulated respecting the alleged illness of the Duchess of Berri. The Editor of the Corsair, *M. Brisault*, who first put it in form, was called out and severely wounded by a partisan of the Duchess: before his recovery he was called on to fight a second time. M. Carel and his friends considering this as persecution, gave notice that any number of the partisans of legitimacy who were anxious for fight, might be accommodated at his office. A list of twenty-four was immediately carried to him, out of which he was asked to select an antagonist, and did so. Others followed; when the government interposed, and declared its purpose of punishing all parties engaged in such duels; and happily they had ceased.

[*From Foreign Journals.*]

THE AIGULETS OF ANNE OF AUSTRIA.

A SECRET ANECDOTE.

The annals of gallantry and even romantic fiction, have opened few scenes more strangely magnificent than some of the incidents which mark the rapid but splendid career of that famous Villiers, Duke of Buckingham, who was the idle minister of two monarchs, and the victim of favoritism.

Certain it is, when Villiers was on his short embassy in France, he dared to become an impassioned lover of Anne of Austria, the consort of Louis the Thirteenth. The mysterious interview in the garden at Amiens, is mystically revealed in the verses of Voiture, for poets are great tattlers in the history of love affairs. The Queen, ever a refined coquette, was herself seduced by Buckingham's personal fascination. Deeply enamored of the peerless Englishman, she ventured to give an evidence of her devotion of a very extraordinary nature. The rival of Buckingham, both in love and politics, the subdolous Richelieu, flattered his vengeance that, by a bold stroke, he would have been enabled to have exposed this testimony of the Queen's frailty to the eyes of the luckless monarch, who was already kindled by inextinguishable jealousies. Richelieu's extraordinary attempt seems to have led to circumstances on the part of Buckingham which may almost render the tale incredible; but when a minister of state degenerates into a romantic lover, and the honor of the *dame de ses pensées* is in jeopardy, we must recollect that it requires little exertion to set in motion all the sources of power, and the whole machinery of the state. The particulars which we are about to relate are strange, but appear authentic; for they are confirmed by a positive assertion in the Memoirs of the Duke of Rochefoucauld. The romantic incident which has been preserved by a French manuscript, is not indeed to be found among the writers of secret memoirs in our own country, where indeed the secret must have been confined to the two personages, neither of whom would willingly have revealed it to the other; but this did not happen at the Court of the Louvre, where it not only excited a deeper interest than at the Court of St. James, but involved the fate, and baffled the designs, of the highest personages who were the actors in this little drama.

The French monarch had presented his Queen with an uncommon present, whose fashion and novelty at the time were considered as the most beautiful ornament worn. It was what the French term *des ferrets d'aiguillettes de diamans*,—aiguilets or points tagged with diamonds.

On the arrival of Buckingham, every day was a festival. Richelieu gave a magnificent entertainment at the gardens of Ruel, the most beautiful in France; the nobility prided themselves on their suppers, their balls, their concerts and their masquerades. Buckingham danced with all his peculiar graces; the Queen honored him as her partner in what is called a "counter dance," (or as we commonly call it, a country dance.) "And in this English dance, opportunities are continually occurring to approach one another, to give and to cross their hands, the eyes, the gestures, timidity or boldness, and a thousand indescribable things are too intelligible, though they pass amidst the silenee in which such spectacles are performed, out of respect to the public." This Frenchman describes our obsolete country dances to have been as dangerous as were *waltzes* on their first introduction.

Richelieu was jealously watchful of what was passing; the Countess of Lanoy gave him an account of everything her prying eyes could discover. Under the specious title of *Dame d'Honneur* our Kings have found means to place near their Queens a perpetual *surveillance*. But as the Superintendent of the Royal House has private *entrées de cabinet* at all times, which are not the privilege of the *Dames d'Honneur*, Madame de Chevreuse passed whole hours alone with the Queen, and the Cardinal, however well informed of the exterior, was very little of what passed between the Queen and her friend. The French Minister pressed Buckingham to close the negotiation of the marriage of Henrietta, but Villiers had no desire to quit the French Court, always finding some occasion for delay. At length the ceremony was performed, with great splendor. In all that had hitherto passed, the Queen had received from Buckingham many proofs of his lively but respectful passion. She certainly was not insensible to love, and if she really caught the flame which she had herself lighted up, and that Buckingham departed with all the honorable treatment which a stranger can receive from a great Court, he was allowed to recross the seas without any other fruits of his love than that of having been listened to with favor.

There was one indiscretion which escaped from the Queen. On the evening of Buckingham's departure, she sent the Duke secretly by Madame de Chevreuse, the gift she had received from her royal consort, the aigulets tagged with diamonds; and this present, which might have been considered a mark of the magnificence of the Queen, became, by the circumstance of the gift, and the pleasure of the mystery, an act of delicate gallantry which charmed the English Duke, and sent him home a happy man.

During the journey of Buckingham, the Countess of *Clarik*, (probably the Countess of Carlisle, for Frenchmen generally spell our names by their ear, which is very bad,) somewhat in pique at what she had heard of the infidelity of her straying admirer, had found out a secret way to correspond with Richelieu, who on his part, had not omitted anything which

tended to inflame the English Countess. This great Minister was well known for multiplying all sorts of means to gain intelligence from all the Courts in Europe; his industry never slumbered, and his treasure was never spared. The present which the Queen had made of her aiguilets tagged with diamonds had not escaped the vigilant eyes of the *Dame d'Honneur* and the secret had reached Richelieu. This Minister had long watched his opportunity to ruin the Queen in the mind of the King, over whom, indeed, he himself exercised the greatest authority, but which sometimes was balanced by the Queen. Richelieu wrote to the Countess of *Clarik*, desiring her to renew her intimacy with Buckingham, and if, in any of the approaching entertainments which would take place on his return, she should observe in his dress aigulets tagged with diamonds, that she would contrive to cut off two or three, and despatch these to him. Buckingham was too feeble to resist the studied seductions of his old friend; and the Countess found no difficulty in accomplishing her task. At a ball at Windsor Castle, Buckingham appeared in a black velvet suit, with a gold embroidery; a scarf was flung over his shoulder, and from a knot of blue ribbons hung twelve aigulets tagged with diamonds, flaming their hues on the surface on which they played. When Buckingham had reitred from the ball, his valets de chambre perceived that two of the 12 aigulets were missing; and they convinced him that these had not been dropped by any accident, but had positively been cut off. There was something in his recollection of that evening, which bred a suspicion. He felt conscious that whoever had done this had some latent motive. The secret history of these diamond aigulets could only be known to their wearer, yet, notwithstanding, and as it were by intuition, he thought that the honor of the royal giver might, in some mode or other, be concerned in possessing these twelve aigulets entire. He decided that, notwithstanding the artifice of the cunning purloiner, he would prevent any design, if there were any, of the enemies of the Queen that the number should not be diminished. With his extraordinary rapidity of conception, Buckingham struck out a gigantic scheme, which no one less than a Minister of State and the most romantice lover could have executed. Early in the morning, couriers were despatched to close the ports, and neither the packet boat with the mail, nor any vessel sailing for France suffered to depart. At that moment, when the Rochellers were waiting for the promised reinforcements from England, an universal panic struck both nations, and war seemed on the point of declaration. However, this sudden cessation of national intercourse was only to gain a single day, that his celebrated jeweller might, at any cost, and with all his skill, procure aigulets tagged with diamonds of the same size and appearance of the remaining ten. What cannot such a man and such means effect? The work was finished; and on the following day France and England were at peace. The ports were re-opened, and Buckingham despatched a secret messenger to France, who conveyed the twelve aigulets tagged with diamonds to the hands of Madame de Chevreuse. He acquainted her with his recent adventure and communicated his suspicions of the countess of *Clarik*; who was frequently by his side during the ball, and with whom he had danced. He requested the Queen would receive back what he himself valued most, lest any concealed mystery should prove prove ruinous to her quiet. The precaution was not useless; for as soon as Richelieu had received the two tags sent him by the Countess of *Clarik*, this Minister, who was trying to ruin the Queen in the King's favor, and the royal jealousy had already broken out on her intercourse with Buckingham, now hit on what he had concluded to be a certain triumph. He put it into the King's head to request the Queen would dress herself more frequently with the diamond aigulets, for that he had been secretly informed that she had valued his present so lightly as to have given it away, or had sold them, for that an English jeweller had offered to sell him two of these aigulets.

The blow aimed by Richelieu rebounded on himself. The Queen, affecting no surprize, with apparent simplicity commanded instantly that her casket should be brought, and opened by the King. He had the satisfaction of counting the twelve aigulets tagged with diamonds, and seeing the Queen more beautiful than ever by wearing the gift on that day. Her Majesty had also the satisfaction of learning that the King severely reprimanded Richelieu for his perpetual suspicions and his false intelligence; and Richelieu doubtless must have astonished the Countess of *Clarik*, by return of post, in expressing his indignation at being so inconceivably mystified.

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METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, MARCH 25, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated for the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Mar. 19	6 a. m.	30.15	43	SW	light	WSW	cloudy
	10	.16	47	SSW—S	..	..	fair
	2 p. m.	.12	61	S—SSE	..	..	.. —cloudy
	6	.11	53	SSE	..	..	rainy
	10	.14	50	SE	..—mod.		cloudy—rain
Wednesday, 20	6 a. m.	.13	42	NE by E	moderate		rain
	10	.13	42	NE by E—ESE	—light		..
	2 p. m.	.05	46	ESE—SE	..		foggy and rainy
	6	29.98	48	SE	..		.. ..
	10	.95	46	..	..		.. ..
Thursday, 21	6 a. m.	.83	48	SSE	faint		thick fog
	10	.85	54	..	..	SSE	cloudy and foggy
	2 p. m.	.80	59	S—SSW	moderate	SSW—SW	cloudy—rainy
	6	.69	54	SW	light	SW	cloudy
	10	.65	53	..	..	..	..
Friday, 22	6 a. m.	.69	47	SW—WSW	..	WSW	fair
	10	.71	54	WNW	moderate	WSW / W by N	.. —cloudy
	2 p. m.	.71	55	W—W by S	fr'h-mod.	W by N—NW	cloudy—fair
	6	.74	52	W	moderate	W	fair
	10	.82	47				clear
Saturday, 23	6 a. m.	.99	47	NW—W	faint		..
	10	30.04	54	SSW	light		..
	2 p. m.	.04	56	SSW—S	..		..
	6	29.97	52	S	..		..
	10	.97	44	SSW	..		..
Sunday, 24	6 a. m.	.97	40	..	..		..
	10	.94	50	SSW—SSE	fa't-mod.	WSW / S	fair—small strips of cirri from WSW
	2 p. m.	.87	56	SSE—SE	moderate	.. / ..	hazy—cloudy
	6	.78	46	SE	..	S	cloudy
	10	.75	44	..	light		..
Monday, 25	6 a. m.	.61	42	N	..	S by W / N	..
	10	.62	46	..	..	..	fair
	2 p. m.	.57	57	N by W—NNW	moderate	WNW / NNW	..
	6	.60	53	N by W	light	NNW	..
	10	.70	46				

Average temperature of the week, 49.54.

Sale of the widow Jessy Judah's Estate, March 26th, by JAMES BLEECKER & SONS.

House and lot corner of Manover-square and Stone street, next door to the Gazette Office, 25x54	$24,600
House and lot 58 Nassau street	6,750
Lot corner of Bowery and 2d street	5,500
Lot in 2d street, near the Rowery, 25x58	1,350
Do 25x57	1,350
Do 25x55	1,222
Do 25x54	1,220
Do 24x34	1,035
Do 25x33	874
Do 25x30	730
Do 25x29	6 0
Do 25x28	640
Do 25x26	640
Do 25x25	590
Do 25x24	500
Nine lots opposite, each 29 to 57 feet, 25 ft front, each	810
1 lot corner 2d Avenue and 2d street, 16x100	2,000
1 lot, opposite corner, 20x100	2,150
1 lot adjoining	1,925
Corner 1st Avenue and 2d street, 25x90	2,150
1 adjoining, 25x95	1,775
1 do 25x100	1,825
1 do do	2,000
1 do 12x132	1,450
1 gore, 1:5x36	10:25
2 meadow lots, each $40	80
4 do do opposite, each $40	160
2 do do on 7th street, each $52	104

MARRIAGES.

On Monday evening, by the Rev. Mr. White, Dr. CHARLES F WILCOXSON, to Miss JANE BROWN, all of this city.

DEATHS.

On Friday morning, 22d instant, ROBERT WILLIAM, son of the late John Sharp, in the 20th year of his age.

On Monday morning, March 25th, of consumption, RACHAEL, wife of Mr. Thomas Dunkin, (of the firm of T. & J. Dunkin,) in the 31st year of her age.

This morning, after a short and severe illness, Mr. NATHANIEL FOWLER, aged 30 years.

At Charleston, on the 19th instant, WILLIAM CALDER, Esq. of New-York.

At Newburgh, on the 22d inst. in the 75th year of her age, Mrs. MARGARET GALATIAN, daughter of the late Cadwallader Colden, Esq. of Coldenham.

At Bristol, (Pa.) on Tuesday last, (19th inst.) after a very protracted illness, MARY, daughter of the late Major Fairlie, and wife of Thomas A. Cooper, Tragedian.

The pride and delight of her own circle, and the admired of every other, the subject of the above notice was one of the few exceptions to the general law, by which a female loses in interest what she gains in notoriety; and the witty and graceful, the beautiful and accomplished young creature, who was the heroine of some of the happiest papers in *Salmagundi*, became, as a wife and a mother, all that can engage esteem in those characters; while her rare intellectual endowments, her admirable disposition, and acknowledged worth, contributed no less than her fascinating manners, to secure her through the remainder of her life, the attachment of the many whose warm friendship cheered and solaced many a painful scene, until its close. H.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 22.

Between the ages of

90 and 100— 0	50 and 60— 3	10 and 20— 4	
80 and 90— 1	40 and 50—11	5 and 10— 1	
70 and 80— 2	30 and 40—18	2 and 5— 6	
60 and 70— 6	20 and 30—13	1 and 2—10	

Of and under one year, 29—Total, 112.

Diseases.

Apoplexy	2	Inflammation of chest	1
Burned or scalded	1	Intemperance	3
Cancer	1	Marasmus	4
Childbed	1	Measles	1
Consumption	29	Old age	5
Convulsions	11	Peripnuemony	7
Diarrhœa	1	Pleurisy	2
Dropsy	2	Pneumonia typhodes	1
Dropsy in the head	2	Spasms	1
Drowned	1	Sprue	1
Erysipelas	2	Stillborn	8
Fever	2	Suicide	2
Fever, scarlet	1	Tabes mesenterica	1
Hives or croup	8	Ulcer	1
Inflammation of bowels	4	Unknown	2
Inflammation of brain	4	Whooping cough	1

ABM. D. STEPHENS, City Inspector.

☞ The following gentlemen have consented to act as Agents for this Journal; also, for the NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE—the MECHANICS' MAGAZINE—and the AMERICAN PLOUGH-BOY:

New-York—Wm. A. Colman.
" Peter Hill.
" Peabody & Co.
Albany—Little & Cummings.
" Richard Buel.
Troy, N. Y.—Postmaster.
" S. E. Gibbs.
" W. S. Parker.
Lansingburgh—Alex. Walsh, Esq.
Kingston, Ulster co.—John J. Tappan.
Buffalo—J. Guiteau, Esq. P. M.
Albion, Orleans co.—Mr. C. S. McConnel.
Canandaigua—Messrs. Morse & Harvey.
Salisbury—B. L. Fish.
Sackett's Harbor—Z. Allen.
Batavia—Wm. Seaver.
Auburn, N. Y.—Edwin Reeve, Ass't. P. M.
" T. M. Skinner, Esq.
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Sherburn, N. Y.—H. N. Fargo, P. M.
Rosendale, N. Y.—Jacob Snyder, P. M.
New-Hamburgh, N. Y.—J. D. Swords, P. M.
Elmira, Tioga co. N. Y.—Birdsall & Huntley.
Ithaca, N. Y.—Messrs. Mack & Andrews.
Ovid, N. Y.—B. Ovenshier, Editor Emporium.
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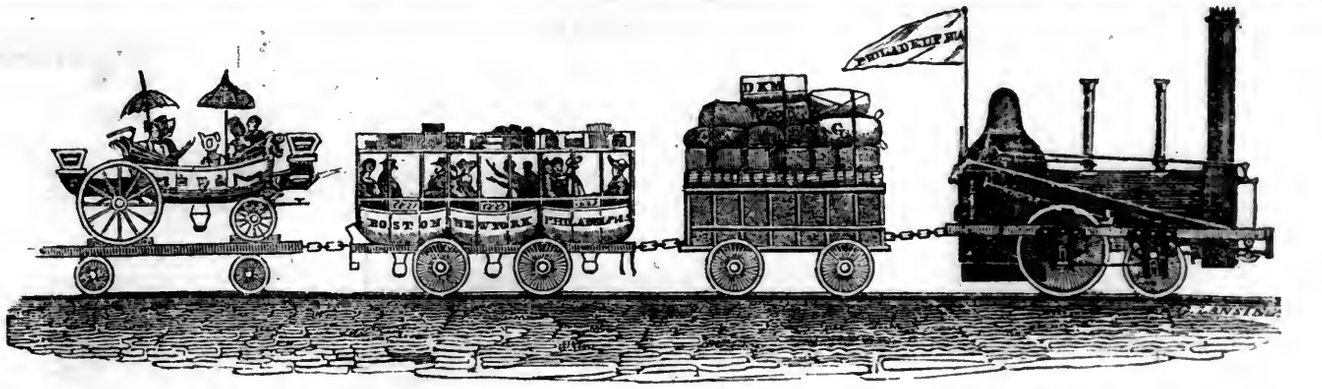
Owego, N. Y.—A. P. Searing.
Burlington, Vt.—H. B. Stacy, Esq.
" Edward Smith.
Appleton, Maine—George Pease, P. M.
Portland, Me.—Colman, Holden & Co.
Williamsburgh—Moses Greenleaf.
Portsmouth, N. H.—J. F. Shores.
Keene, N. H.—J. W. Prentis.
Amoskeag, N. H.—Oliver Dean.
Boston—Lilly, Wait & Co.
Newburyport—Charles Whipple.
Salem—Whipple & Lawrence.
Saxonville—James Darling.
Springfield—James W. Crooks.
Worcester—Dorr & Howland.
East Haddam, Conn.—Oliver Greene.
Norwich—Russell Hubbard.
New-Haven—A. H. Maltby.
Killingworth, Conn.—Friend Whittlesey.
Pawtucket, R. I.—J. McIntyre.
Providence—Martin Robinson.
Morristown, N. J.—C. Robbins, Esq.
Freehold, N. J.—Messrs. Bartleson, Editors Inquirer.
Honesdale, Pa.—A. G. Dimock.
Baltimore, Md.—Britain Chase at the Railroad Company's Office.)
Washington, D. C.—Benj. Homans.
Fredericksburg, Va.—W. Battail.
New-Baltimore, Va.—T. H. Hampton.
Dansville, Va.—Editors of the Reporter.
Kingston, Upper Canada—N. Palmer.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, APRIL 6, 1833. [VOLUME II.—No. 14.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 6, 1833.

It will be recollected by our readers that we gave, some time since, a partial description of a newly invented Rail, called the "New-York Patent Guard Rail," invented by a gentleman of this city, which we believed would prove an important acquisition to those interested in the construction of Railroads. We are now permitted by the Patentee, R. Bulkley, Esq. to give in this number of the Journal, a more particular account of it, and we would call the attention of those of our readers to it who are familiar with such subjects, requesting them to give us their views and opinion of its utility. From our limited acquaintance with the practical application of such inventions, we do not speak with great confidence, but from the specimens of this Rail examined by us, and the favorable opinions expressed by distinguished Engineers, we have no doubt of its great utility, as tending to economy in *constructing*, and safety in *using*, Railroads; and we trust, therefore, that the inventor will realize a liberal reward for his services.

We have been politely furnished by Mr. Le Ray de Chaumont, of Jefferson county, with an interesting letter from Edmund S. Coxe, Esq., of Philadelphia, together with the three last annual reports of the Canal Commissioners of Pennsylvania, from which we shall be able to give, in a subsequent number, an interesting history and account of the progress and present condition of the internal improvements of that state.

We owe an apology to both gentlemen for publishing the letter which will be found in this number of the Journal, but, as it relates to public improvements in which all are interested, we are desirous to lay it before our readers.

The following remarks concerning the Charters of the New-York, Providence and Boston, and the New-York and Stonington Railroad Companies, are published for the information of those who may feel an interest in the subject.

Said Charters are from the States of Rhode Island and Connecticut, and grant to sundry persons permission to construct a Railroad from Providence to Stonington, on Long Island Sound, with such branches to the waters of Narraganset Bay, Factory Villages, and such other places, as the proprietors may deem expedient. It will be perceived, upon a perusal of the Charters, that they are unusually liberal; the grant is *perpetual*, without any reserve of power by the States, and *exclusive* to this Company, for thirty years, from the time the road is open for use.

The distance from Stonington to Providence, by this route, as surveyed, is about forty-five miles, and between thirty-five and forty miles less than by the present route of the steamboats. The road will pass in the vicinity of about fifty large manufacturing establishments, a number of thriving villages, and over a very level country, in no case requiring stationary power, or deep cutting and embankments, with a soil extremely well adapted to the grading of the road, and granite in abundance for the foundations.

These advantages all must acknowledge to be of immense importance. The expense incurred through a want of them, by some of our Railroads, has excited a serious objection in the minds of many against Railroads generally. This road is intended as a continuation of the Boston and Providence Railroad, and was suggested with a view to increase the facilities of communication between Boston, Providence, and New-York, and that the termination of the Railroad might be at a Point where the navigation might be unobstructed by the ice: Providence River, as is well known, being generally closed a part of the winter.

Stonington Harbor is never closed, and by a breakwater recently completed by government, is rendered safe for vessels of every description, in the most boisterous weather. It must be evident that the construction of this road will very greatly enhance the value of the stock of the Boston and Providence Road, and the completion of that road is also of importance to the value of this.

In the opinion of experienced engineers, the whole road, with the necessary turn outs, toll houses, engines, cars, &c., &c., can be finished and in operation for considerably less than the capital stock of the company, and there is no doubt in the minds of those acquainted with the subject, that when the whole line of road between Boston and Stonington shall be complete, passengers will regularly be transported from New-York to Boston in twelve hours, and of course, by daylight, most of the year.

The present amount of passage and transportation is sufficient to yield a handsome interest to the proprietors, but when it is considered with how much ease passengers may then pass between the different cities, avoiding the unpleasant circumstances usually attending a passage round Point Judith, is it not perfectly reasonable to calculate upon a very great increase of passengers, in addition to the present annual increase, which is at least 25 per cent.? and when merchandise can be transported between New-York, Providence and Boston, in so short a period, with so much certainty as to the time of its delivery, at so small an expense, and with so great a saving of insurance and interest, as will be the case when this whole line of communication shall be completed, it must be evident that a very large proportion of the goods now carried in packets will then be transported by this route.

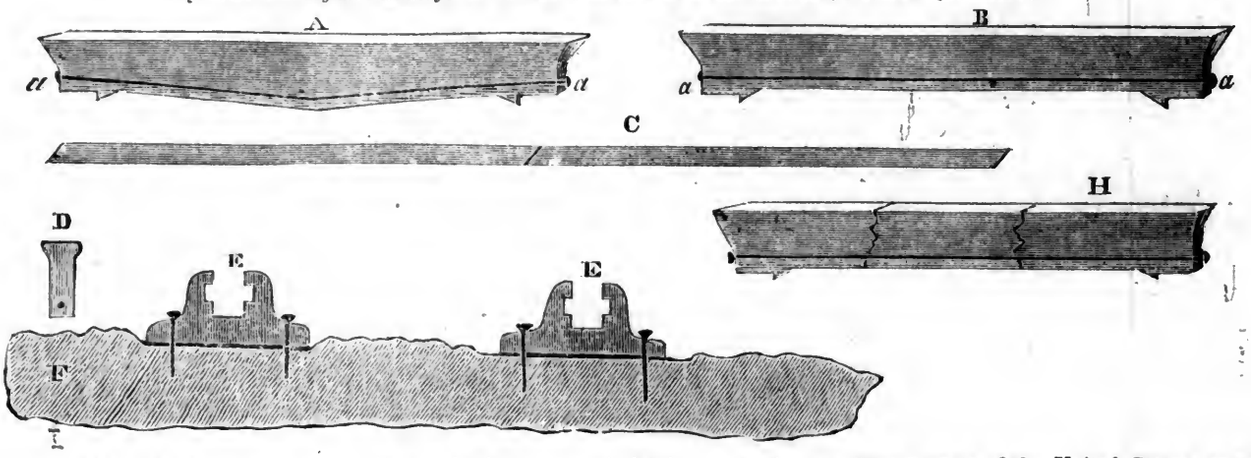
When it is considered that this route is already one of the greatest thoroughfares in the United States, that the travelling is progressively and rapidly increasing, in connection with the fact, that the proposed Railroad will greatly shorten the distance, and materially improve the means of conveyance, the stock of this road certainly presents an opportunity for a very profitable investment—second, probably, to no Railroad in this country.

Railroad.—It may be gratifying to distant stockholders to be informed that the Saratoga and Schenectady Railroad has experienced no serious injury from the frost of the past winter. Some of the embankments will require slight repairs, growing out of their freshness; but as soon as they shall become solid, we know of no reason why they should not remain so. Indeed, every appearance indicates that the annual repairs of the road will be unimportant, and much less than has been generally anticipated. —[Saratoga Sentinel.]

Chesapeake and Ohio Canal.—Five thousand men and boys, assisted by 850 horses, oxen and mules, and a weekly consumption of 9,000 lbs. of gunpowder, are now urging to a completion 102 miles of the Chesapeake and Ohio Canal. Sixty-four miles are to be in use on the 1st of June, and 102 miles on the 5th of October next.—[Boston Adv.]

NEW-YORK PATENT GUARD RAIL.

[*Communicated by the Inventor for the American Railroad Journal and Advocate of Internal Improvements.*]



REFERENCES.

A and B represent side views, with the upper edge of rails of cast metal, with a wrought iron rod incased from end to end, and riveted at each end as at *a a*. (Rails on this principle may be made of any required form, and the above are not made by scale, but merely with a view to represent the combination of wrought and cast metal, as hereafter described.)

C is intended to represent the upper edge of two rails with bevel joints.

D, sectional view of the rail.

E E represent a sectional view of cast iron *chairs*, as secured upon wood or stone cross sleepers; the ends of the rails to rest in the chairs are to have corresponding notches, so as to receive keys applied horizontally.

F represents a rough wood or stone cross sleeper, squared only at spaces sufficiently large to fit the chairs E E.

H. With a view to illustrate the *principal* of the *arch* more clearly, the rail at H represents a rail with the *cast iron* part *cracked* at the lines drawn across it, showing clearly that if a *weight* were applied upon the *upper* edge of the rail, the *cracks* in the *cast* iron at the *upper* edge would be pressed in a *contracting position*, while the *lower* edge would be pressed in a *distending* position; yet it will appear evident that the cracks in the lower edge could not open until the *wrought iron rod* at foot should be drawn apart endwise: the wrought iron rod, being riveted at each end, secures the segments of cast iron, on the same principle as an arch composed of segments is secured by its abutments. "Guard Rails," however, in use, containing a rod of *malleable* iron from end to end, through the *lower edge*, will not be liable to crack even with much greater weight than is usually applied upon railroads.

The newly invented METALIC RAIL, for railroads, called the "*New-York Patent Guard Rail*," for which the Patent right has been secured in the United States and in Europe. The Guard Rail is constructed on an entirely new principle, being by *combination* in the process of manufacture, of *two kinds* of metal, namely, wrought iron and cast iron; so applied, that *each rail* combines within itself the principle of an *arch*; consequently they can be made of any required strength; Guard Rails of six, eight, or ten feet in length, resting their ends only on sleepers, may be made to sustain safely even ten or twenty tons to the wheel, if necessary, and remain fit for use, even if the *cast iron part* of the rail should, from any cause, become cracked in many places: they are *already made* in this city of eight feet in length, upon which ten tons have been applied, without affecting the rail; whereas *two and a half tons* to the *wheel* are probably as great a weight as will ordinarily be required upon railroads.

It will appear evident from the following facts, and from the following reasons, that the manifest defects, in regard to permanency, in all descriptions of rails, manufactured entirely from wrought iron, or entirely from cast iron, as appears from *recent publications*, predicated upon practical results in Europe, and in this country, preclude the possibility of laying down a permanent railroad with those descriptions of rails.

CAST IRON RAILS.—In the first place, rails made entirely of *cast metal* are in Europe observed to be *unsafe*, from their liability to *break* when affected by frost, as also by concussion.

WROUGHT IRON RAILS.—Rails made entirely of *wrought* iron, as now used, called the edge rail, require the *great expense* of being supported by *sleepers* at short intervals, say about *three feet apart*; and *wrought iron rails* are, as stated from practical results in England, "observed to require renewing after about fifteen years' use, partly in consequence of the great *weight* of the wheels, which, being *rolled* upon the *rails*, extends the laminæ composing their *upper surfaces*, and at length causes those surfaces to break up in scales;" and partly from the circumstance that "*wrought metal* is observed to decay and become weakened in crusts of rust, when laid near the surface of the earth in damp situations."

WOOD RAILS.—Wood rails, containing iron plates, have, in this country, been observed so far to decay as to require renewing the fifth year after being laid down. This rapid decay may be accounted for from the circumstance that, ordinarily, rails for railroads require to be laid near the surface of the earth, consequently are exposed at the very *line* where *wood* is the most rapid in decay: as for instance, a common fence post will rot *quite off* at the surface of the earth, while the parts *above* and *below* the surface remain comparatively *sound*; and further, *that part* of the wood rail which is covered by an *iron plate* becomes in a measure *bruised* by the action of wheels passing over it, rendering it of a *spongy* nature, so that it will absorb and retain an increased quantity of water, and being at the same time shielded from the ordinary process of evaporation, by its iron plate, forms an additional cause of its rapid decay. That description of rails, therefore, would be but temporary, as if used on long lines, the rails first laid down would probably be in a decayed state before the completion of the entire line, so as to require to be broken up in places; constantly undergoing repairs, and never so far in a finished state as to insure its uninterrupted use; and consequently not calculated to secure that degree of confidence to stockolders, and to dealers in railroad stocks, which the importance of that description of improvement seems to merit.

It, therefore, from practical results above alluded to, becomes evident that, without some *improvement* in the construction of rails, there would not be that degree of permanency which would warrant the construction of long railroads, while, at the same time, the *idea* that internal improvements, by means of railroads, will ultimately be preferred to an extent necessary to facilitate intercourse between the extreme parts of the United States, seems to be prevalent: such an intercourse upon *permanent* railroads would probably *not* be confined to sectional interests, but would become interesting in a national point of view, as affording a medium for the quick conveyance of troops and munitions from place to place, in cases of invasion.

The primary advantages, therefore, resulting from this discovery, as pertaining to the "Guard Rail," are great strength—permanency—and actual saving of capital to a great extent in the construction of railroads, which saving is partly occasioned by the *dispensing* with half or two-thirds the usual number of sleepers or foundations; and consequently the great *saving of time* necessary for constructing railroads, and rendering them productive.

Before describing the "Guard Rail," I will premise merely, that in order to construct rails for *safety* and *permanency*, not only great *strength* is required, but strength of a peculiar description: as for instance, if a *rail* were made entirely of *cast iron*, sufficiently strong to sustain say even ten tons weight, by gradual pressure, it could probably be broken down by a stroke from a ten pound sledge, whereas, if a small *wrought iron rod* of say a half of an inch in diameter, secured at its ends, were to have a similar stroke from a sledge applied upon it, (if the iron were good,) it would, instead of being broken, cause the sledge to rebound. Those *two descriptions* of strength by this improvement are united in the construction of metalic rails, so as to produce perhaps four-fold of that description of strength necessary in making safe and permanent rails, than could be produced from either kind of metal, if used separately of equal weight, and may be made in the following manner:—Patterns for rails, of required form and dimensions, are to be applied in sand moulds for casting, and after the pattern is withdrawn from the mould, a *wrought iron rod* or bar is to be placed *within the mould*, and secured by proper stays, so that when the *fluid* metal is poured into the mould, it surrounds the wrought rod, causes it to expand, and *contraction* thereafter becomes uniform in both the wrought and cast iron. Some forty rails have been cast on this principle, and so little is the trouble of placing the wrought rod in the mould, that no extra charge is made for casting rails on this principle. It is intended, however, to dispense with much of the trouble and expense of moulding, by the use of entire metalic moulds, or at least chill plates for the upper edge, and for the ends of the rail; by which the upper edge will be of an increased hardness, and consequently less liable to wear from the action of wheels.

Rails made on this principle have been examined by many scientific gentlemen, among whom were several eminent Engineers, and approved of by all of them. A remark by one of those Engineers was, "that in his opinion this discovery would be the means of producing a revolution in the construction of railroads." An eminent Professor in this city, whose opinion of its merits was solicited, remarked "that it was decidedly the

best rail that has ever been invented." I allude to those remarks, as resulting from a particular *examination of rails in full size for use* by those gentlemen, as it seems difficult in writing a brief description to be so sufficiently explicit as to cause a clear and full understanding of it by persons who have not an opportunity of examining the rail itself.

I have alluded to the fact, that *each* rail made on this principle becomes within itself secured on the *principle* of an *arch:* as for instance, the upper edge of the rail in principle forms the arch—the *wrought* rod being in the *lower* edge of the rail, extending from end to end, and *riveted* at each end, forms, as it were, the abutments, so that a *weight* upon the top of the rail would have a tendency to force the particles composing the upper edge of the rail in a *contracting* position, and a tendency to force the particles composing the *lower* edge of the rail in a distending position, so that if a rail were to break, it becomes evident that the fissure must commence at the *lower* edge of the rail; and it is also evident, that no fissure can commence in the lower edge without first drawing the *wrought* iron rod apart *endwise;* and if a wrought iron *rod*, of say one inch in diameter, be applied, of good iron, it will require a distending force of some thirty or fifty tons to draw it apart. In some instances I have had a *small* rod applied in the *upper edge* of the rail: it, however, does not add to the main strength of the rail; it has the effect merely of keeping the sections of cast iron in place, if from any cause the cast iron part of the rail should become cracked, as rails made on this principle may be *retained in use* even after the *cast iron* part of the rail becomes *cracked* in many places; the *segments* of cast iron being secured at foot by the *wrought iron rod*, on the same principle that the segments of an arch are secured by its abutments. (See Plate annexed.) I have rails with the cast iron part purposely cracked in several places, merely with a view of testing their relative strength in that respect. (See Plate, letter H.)

Permanency: The *wrought iron* part of the Guard Rail being incased in *cast* iron cannot become weakened by corrosion, and experience has proved that *cast iron* is not greatly affected by exposure; therefore there is probably no good reason for supposing, but that rails made on this principle will last fifty or even a hundred years, or more.

Saving of Capital: The saving of capital will greatly depend on the *length* of the rail used. It may be used of sufficient length to save the expense of *one-half* or *two-thirds* of the usual number of foundations or *sleepers*. This part of the saving, therefore, may be calculated on that principle, depending on the cost of sleepers in different situations; and as a further advantage, when *dispensing* with so great a proportion of foundations or sleepers, railroads can be completed and rendered productive in a proportionally less time. Rails may be made on this principle requiring sleepers, say, *six* to *ten* feet apart.

I have already alluded to rails now cast in this city of eight feet in length, upon which ten tons were applied at a single bearing without affecting the rail: these rails weighed twenty pounds to the running foot; they may, however, be made of sufficient strength with less weight of metal; and from the fact that cast iron in England is only £4 per ton, it is presumed that rails can be procured in England at about £5 10 per ton of 2240 pounds, and can with necessary fastenings be imported free of duty.

The fact last alluded to is a very important one in relation to large investments of capital in rails; these rails, imported free of duty, will at all times have an *intrinsic* value, even if broken up, of a *profit on their original cost;* whereas rails, which are in their nature of decaying substances, after process of decay, sink the capital originally invested in them.

Use in Winter: These Guard Rails, being secured in cast iron chairs, may be elevated, the upper edge several inches above the surface, so that by the use of a snow plough to pass upon the edge of the rail they may be used in winter as well as in summer.

Use in Streets of Cities: These Guard Rails may be so applied in the streets of cities as to place the *upper* surface of the rail on a *line* with the paving stones; so that carriages and carts can *turn* upon them, and pass over them without any obstruction whatever; *and further*, inasmuch as these rails require *cross sleepers*, at distances only of six or eight feet, excavations may be made in streets, beneath the rails, for the *laying* or *repairing* of *gas* and *water* pipes, without injury to the railroad.

Wood Sleepers: It being that *wood* is not rapid in decay, if placed entirely beneath the surface, it may, in situations where stone are not easily procured, be used with great advantage, and degree of permanency; inasmuch, as the chairs, when intended for wood sleepers, can be formed with so increased an elevation as to permit the wood sleepers to be placed *entirely below* the surface; and as such sleepers are to be applied *crosswise* the road, merely for the ends of the rails to rest upon, they may be applied in their original round state, except a small spot on the upper side, at each end, to be squared sufficiently large to fit the chairs upon, as represented at E E in the plate.

It having been matter of doubt whether cast iron chairs, so called, could be imported free of duty, I addressed a letter to the Hon. the Secretary of the Treasury, making an inquiry upon that point, and received an answer, from which the following quotation is an extract: "In reply I have to state that it has been decided that *cast iron chairs or pedestals*, with necessary fastenings for placing the iron rails thereon, are entitled to the benefit of the act of the 14th July, 1832, respecting railroad iron."

Lateral Pressure: In the construction of "Guard Rails," special care has been taken to guard against the effects of lateral pressure, which is *satisfactorily accomplished*, as will fully appear on examination of rails now made in full size for use.

Among the many advantages, therefore, to Railroad Companies, in the use of these rails, is not only a degree of *permanency* which seems requisite to warrant heavy expenditures, and which also is necessary in order to give confidence to stockholders and stock-dealers; their use in winter as well as in summer; saving of *time* in construction of railroads; but an actual *saving of capital*, to so great an extent that only a portion of this saving will be required for the patent right for using them.

[*Communicated for the American Railroad Journal.*]

Philadelphia, March 5, 1833.

To V. Le Ray De Chaumont, Esq., New-York:

My Dear Sir,—I have delayed replying to your letter of the 2d of February, until I should be enabled to furnish you with the information you desire. I have just received from my friend W. C. Livingston, of the State Senate, the reports of our canal commissioners, for the years 1830-31-32, which you will receive with this letter. The extent, cost, and present condition of our public works, are therein given, with much matter of detail. Independently of the State, numerous works, forming important links in the great system of communication, have been executed by chartered companies, viz. "*The Union Canal*," commences from the State canal at Middletown, on the Susquehannah, ten miles below Harrisburg, and passes through Dauphin, Lebanon, and Berks counties, to Reading, on the Schuylkill, where it is connected with the Schuylkill canal. Length, 80 miles; width of water line, 36 feet; bottom, 24 feet; depth, 4 feet. A lockage of 519 feet is overcome by 93 lift and 2 guard locks, 75 feet in length and 8 feet 6 inches in breadth. On this canal there is a tunnel 729 feet in length, and 18 feet wide, and 16 feet high, cut through solid rock, perhaps the largest in the Union. Size of boats, from 25 to 30 tons. Cost of canal, $1,600,000.

"*The Schuylkill Navigation Company.*"—This is a series of canal and slackwater navigation; length, 108 miles; canal, 63 miles; pool, 45 miles; commences at the dam of the water-works at Philadelphia, on the west side of the Schuylkill, and runs to Mill Creek, on the head waters, 2½ miles from Port Carbon, in Schuylkill county. The descent of the Schuylkill is overcome by 129 locks, each 80 feet in length by 17 feet in breadth. Average width of canal, 36 feet; depth, 3½ feet; boats, 30 tons. This work is perhaps the most arduous and expensive undertaking executed by individual effort in the Union. The lockage nearly equals the New-York Canal. Cost, about $2,200,000.

"*The Central Railroad.*"—This road is in progression, but not yet finished. Its object is to secure the trade of the north and west branches of the Susquehannah to Philadelphia, by a railroad from Pottsville, on the Schuylkill, to Danville, on the north branch of the Susquehannah with branches to Sunbury and Catawissa. Length, exclusive of branches, 41 miles; estimated expense, $600,000; probable expense, $1,000,000. The north and west branches water near 14,000,000 acres, with a population of 500,000; and the annual tonnage descending, of all kinds of property, is estimated at 120,000 tons. By the Centre Railroad this large trade will have a direct route to Philadelphia, from the confluence of the two branches, at Sunbury, to Pottsville, and thence down the Schuylkill canal to the city. Girard subscribed $300,000 to this road. Numerous railways of 5, 7, 9, and 12 miles, intersect Schuylkill county, running from the various coal mines to the Schuylkill. As they are not links in the general system, however, it is unnecessary to speak farther of them. There is one railroad, however, which, from its length and cost, and the probability of its being connected at some future day with the Susquehannah, at Catawissa, deserves notice in the general view.

"*The Little Schuylkill Railroad*" commences at Tamaqua, near the head of Little Schuylkill, and runs a distance of 21 miles to Port Clinton, where it is connected with the Schuylkill canal. This road, at present, looks to coal for its support, and its cost has been nearly $500,000, including grading for a double track.

"*The Lehigh Coal and Navigation Company*" have executed a noble work, commencing at Mauch Chunk, on the Lehigh, in Northampton county, and running to Easton, on the Delaware, where it is connected with the Morris canal to New-York, and State canal, along the Delaware, to tide water, at Bristol. Length, 46½ miles; canal, 36½ miles; pool, 10 miles; width of water line, 60 feet; bottom, 45 feet; depth, 5 feet; ascent, 364 feet; locks, 54 feet; dams, 9. Their great mine lying on the top of the Mauch Chunk mountain, a railroad of 9 miles, and single track, connects the mine with the canal. This company have expended in the improvement of their navigation upwards of $2,000,000. By their charter, they are bound, within 6 years, to make a descending navigation from the great falls of the Lehigh, at Stoddartsville, to Mauch Chunk.

"*The Nescopeck Canal.*"—The object of this canal is to unite the Susquehannah, at Berwick, through the valley of the Nescopeck, with the Lehigh, and thus bring the trade of the valley of the North Branch 50 miles nearer to Philadelphia. The route has been surveyed, but ground not as yet broken.

"*The Delaware and Hudson Canal and Railroad*"—though projected in Pennsylvania, is now principally owned in New-York. It commences at the Carbondale coal mines, on the Lackawana, in Luzerne county, Pa. and by a railway, 16½ miles, runs to Honesdale, on the Lackawaxen, 3 miles from Bethany, the seat of justice of Wayne county, and thence by canal to Carpenter's Point, on the Delaware, and thence across New-York to Kingston, on the Hudson. Cost, of the part in Pennsylvania, $440.000; whole line, about $1,900,000. Full details may readily be obtained of this work in New-York.

From Philadelphia there are several railways in progression and projected.—"*The Germantown and Norristown Railroad*," which you must have noticed whilst here, commences at

Green and Ninth street, and runs through Germantown, to Norristown, on the Schuylkill, from whence it is intended to extend rails to Reading, on the Schuylkill, and Allentown, on the Lehigh, and thence finally to Beaver Meadow mines, 12 miles north of Mauch Chunk. This road is in operation with locomotives as far as Germantown, and rapidly approaching its completion to Norristown. Cost to Norristown estimated at $500,000. The part finished is laid with solid iron rails, resting on chairs, set in blocks of granite.

"*The Columbian Railroad*," from Philadelphia to Columbia, on the Susquehanna, is in operation for 21 miles. This being a state work, you will find full details in the reports sent you.

"*The Philadelphia and Trenton Railroad*," to run on the west side of the Delaware, has been surveyed, but not commenced as yet.

"*The Chesapeake and Delaware Canal*."—With this great work you are, of course, familiar, and I only speak of it to claim it as the result of Pennsylvania enterprize and capital, though out of the limits of the state. This canal, forming a sloop navigation between the Chesapeake and Delaware waters, cost the enormous sum of $150,000 per mile, and has a deep cut of 4 miles through the dividing ridge of the two bays. The summit of the ridge has been excavated to a depth at the apex of 75 feet, the greatest depth of excavation on any navigable canal in the world.

I have thus endeavored to give you a general view of those works executed by individual enterprize, which may be considered as forming essential features of the general system. I have omitted noticing several works of an inferior and unconnected character, and several projected undertakings of which the execution is at present very doubtful. Full and accurate statements of the works executed, executing, and projected, may be obtained by consulting Hazard's Register of Pennsylvania, from 1828, a work published here in sheets weekly, forming two volumes to the year, and to be had, I suppose, in New-York, bound, as it may be here. You say, "there is less information as to our internal improvements than, perhaps, as to any State in the Union; and yet Pennsylvania deserves a *conspicuous place*." My dear sir Pennsylvania deserves the *first place*. She has, in canals, railways, rivers, turnpikes, and bridges, the extensive of sums laid out on counties, on roads, bridges &c. and of expenses before 1791, expended, in 40 years, from 1791 to 1832, the enormous sum of $36,000,000, and will shortly have about *one thousand miles* of canal and railroad traversing her territory in all directions. It can be demonstrated that she not only was the *pioneer* but that she has expended several millions more than *any two States in the Union*, for internal improvements. Very faithfully, yours,

EDMUND S. COXE.

[From the Daily Troy Press.]

WEAR OF ROADS.—Improvements in the form and motion of wheel carriages have been very great for the last quarter of a century. In these particulars this branch of the arts has kept pace with other improvements of the age: but in the important particular of *diminishing* draft, and the *friction* and *wear* that carriage wheels occasion to the surface of roads, but little has been done—no more, in short, than what is caused by a combination of greater strength, with less actual weight, of material. Some improvement is doubtless attributable to the introduction of the metallic pipe box, in lessening friction at the *hub*; but after all, it may be questioned, whether in the aggregate the alterations that have been made in the construction of the axle and wheel in modern carriages have not rather *increased* than *diminished* the *wear of roads*.

Our objections lie against the *form* of the wheel and axle. There is no friction except at the centre and circumference of the wheel which affects the draft—the latter only affects the road.

It is a well understood principle in mechanics, that the friction of any part of a machine is increased by loading that part with superfluous work or contrivance. Let us apply this principle to the wheels in use. It is expected of a carriage wheel that it should traverse a line in the direction of the draft, and that it should sustain at its fulcrum the load imposed upon it. These two are the only legitimate offices of a carriage wheel; these are all that are attained, and all that, with an eye to utility, can be required. All work, therefore, bestowed upon a wheel, for other purposes except for strength, beauty or finish, is superfluous.

To cause a wheel to traverse a line in the direction of the draft, and to sustain at its fulcrum the load imposed upon it, and that too with the least possible friction to its own surfaces, and the *surface of the road it traverses*, is the end desired. To obtain it, the wheel and axle should be so constructed as to occasion no other pressure at the axle, or at the fulcrum, than a *vertical* one, and no other bearing by the wheel *on the road* than a vertical one—lateral pressure, and all pressure except in a perpendicular direction, is objectionable.

The reader cannot have failed to observe that in ordinary stage or waggon wheels that part of the axle which is inserted in the hub is *bent downwards* so as to incline the wheel *from* the body of the carriage, and hence it is apparent, that, in addition to the *vertical*, there is a *lateral* pressure also. The *nave* of the wheel must impinge upon the shoulder of the axle. This occasions friction at the *nave*, but it is very inconsiderable when compared with the friction thus produced at the circumference of the wheel and on the surface of the road.

A wheel so constructed as to stand in a position *not* perpendicular, but *inclined* to the horizon, will, when set in motion, (if not prevented) describe a curve. This perhaps has occurred in the experience of all. Take a wheel, set it in motion by hand, as long as it retains a perfectly vertical position, so long it traverses a straight line in the direction propelled; but as soon as it begins to incline to the plane on which it moves, it describes a curve.

In short, the operation of a wheel in motion on an axis which inclines it to the right or left must be similar to the revolution of a *cone*. If the small end of a cone is made to describe as long a line, or the same distance in every revolution as the large end, it can only be done by slipping or *grinding* along over the plane on which it moves. Similar, therefore, must be the operation of the wheels of a modern built carriage, each of which inclines from a true vertical position and sustains a pressure of 10 or 1200 lbs. The wheels, by their position on the axle, tend to move off in *curve* lines, and yet are compelled to traverse *straight* lines, which are tangents to their line of inclination—in other words, the line of direction which the wheels from their construction *tend* to run in, and the draft, are *at variance*, and the effect produced is, that much of the propelling power is lost or *wasted* in overcoming the tendency of the wheels to diverge from a straight line, besides a most injurious or grinding friction on the surface of the road. And this effect will be more or less embarrassing according to the *width* of the *tire*, but with either narrow or wide tire, it is plain that the friction must be immense. It is hardly matter of wonder therefore that even stone roads become pulverized and rutted, or that pavements are so frequently displaced and torn up.

The remedy for these evils will be a subject of remark hereafter. VERITAS.

RAILROADS IN NEW-YORK.—The Commercial Herald, of Philadelphia, gives a list of the railroad companies in the State of New-York. The reader will be surprised to learn that the "aggregate capital authorized by law is $27,555,000. The actual railroad constructed amounts to thirty-six miles; and the extent now under contract, or in progress, is 36 miles more."

RAILROADS IN PENNSYLVANIA.—The same paper furnishes a list of the railroads actually finished or in rapid progress, in Pennsylvania. It enumerates 14 distinct charters. Some of the works belonging to the state, and others to companies. The total of railroad *completed* in that state, *and now actually making*, is 415¾ miles. There are, exclusive of "several very important works, which have been authorized by law, of which class are the Williamsport, and Elmira, and Philipsburg, and Juniata Railroads," the York and Baltimore Railroads, so far as they run in Pennsylvania.

IMPORTANCE OF RAILROADS.—A manufacturer from Manchester left home in the morning for Liverpool, to buy cotton; having completed his purchases, he found, on his return at noon, that his partner had made some large sales in his absence; and, after a short consultation, it was determined that he should immediately go back to Liverpool, and secure the remainder of the parcel, which he did, and was at home again early in the evening, having travelled a distance equal to one hundred and forty-four miles by the turnpike road, in twelve hours, besides transacting important business.—[Miles on Railways.]

From the New-York Mechanics' Magazine.

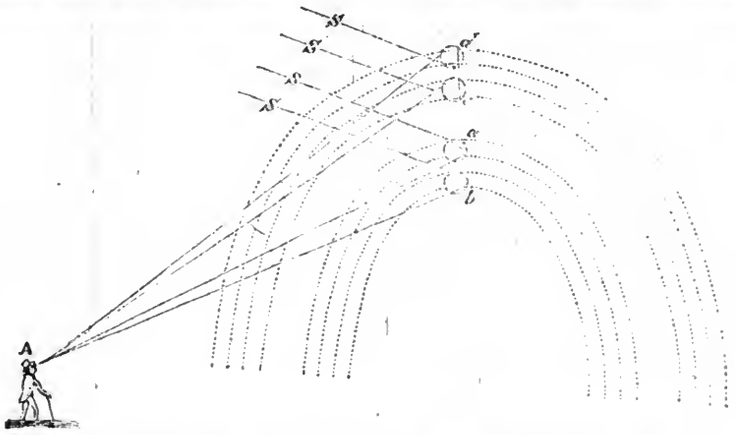
OF THE RAINBOW.—The phenomena of the rainbow consists, as every person knows, of two bows, or arches, stretching across the sky, and tinged with all the colors of the prismatic spectrum. The internal or principal rainbow, which is often seen without the other, has the *violet* rays *innermost*, and the *red* rays *outermost*. The external, or secondary rainbow, which is much fainter than the other, has the violet color outermost, and the red color innermost. Sometimes supernumery bows are seen accompanying the principal bows.

As the rainbow is never seen unless when the sun shines, and when rain is falling, it has been universally ascribed to the decomposition of white light by the refraction of the drops of rain, and their reflection within the drops. The production of rainbows by the spray of waterfalls, or by drops of water scattered by a brush or syringe, is an experimental proof of their origin.

Let an observer be placed with his back to the sun, and his eye directed through a shower of rain to the part of the sky opposite to the sun. As the drops of rain are spherical particles of water, they will reflect and refract the sun's rays, according to the usual laws of refraction and reflection. Thus in the following figure, where *s s s s* represent the sun's rays, and A the place of a spectator, in the centre of the two bows (the planes of which are supposed to be perpendicular to his view), the drops *a* and *b* produce part of the *inner* bow by two refractions and one reflection; and the drops c and *d* part of the exterior bow, by two refractions and one reflection.

This holds good at whatever height the sun may chance to be in a shower of rain; if high, the rainbow must be low; if the sun be low, the rainbow is high: and if a shower happen in a vale when a spectator is on a mountain, he often sees the bow completed to a circle below him. So in the spray of the sea, or a cascade, a circular rainbow is often seen; and it is but the interposition of the earth that prevents a circular spectrum from being seen at all times, the eye being the vertex of a cone, whose base (the bow) is in part cut off by the earth.

It is only necessary, for the formation of a rainbow, that the sun should shine on a dense cloud, or a shower of rain, in a proper situation, or even on a number of minute drops of water, scattered by a brush or by a syringe, so that the light may reach the eye after having undergone a certain angular deviation, by means of various refractions and reflections, as already stated. The light which is reflected by the external surface of a sphere, is scattered almost equally in all directions, setting aside the difference arising from the greater efficacy of oblique reflection;



but when it first enters the drop, and is there reflected by its posterior surface, its deviation never exceeds a certain angle, which depends on the degree of refrangibility, and is, therefore, different from light of different colors: and the density of the light being the greatest at the angle of greatest deviation, the appearance of a luminous arch is produced by the rays of each color at its appropriate distance. The rays which never enter the drops produce no other effect than to cause a brightness, or haziness, round the sun where the reflection is the most oblique: those which are once reflected within the drop exhibit the common internal or primary rainbow, at the distance of about 41 degrees from the point opposite to the sun: those which are twice reflected, the external or secondary rainbow, of 52°; and if the effect of the light, three times reflected, were sufficiently powerful, it would appear at the distance of about 42 degrees from the sun. The colors of both rainbows encroach considerably on each other; for each point of the sun may be considered as affording a distinct arch of each color, and the whole disc as producing an arch about half a degree in breadth, for each kind of light; so that the arrangement nearly resembles that of the common mixed spectrum.

A *lunar rainbow* is much more rarely seen than a solar one; but its colors differ little, except in intensity, from those of the common rainbow.

The appearance of a rainbow may be produced at any time, when the sun shines, as follows: opposite to a window, into which the sun shines, suspend a glass globe, filled with clear water, in such a manner as to be able to raise it or lower it at pleasure, in order that the sun's rays may strike upon it. Raise the globe gradually, and when it gets to the altitude of forty degrees, a person standing in a proper situation will perceive a purple color in the glass, and upon raising it higher the other prismatic colors, blue, green, yellow, orange, and red, will successively appear. After this the colors will disappear, till the globe be raised to about fifty degrees, when they will again be seen, but in an inverted order; the red appearing first, and the blue, or violet, last. Upon raising the globe to about 54°, the colors will totally vanish.

In the highest northern latitudes, where the air is commonly loaded with frozen particles, the sun and moon usually appear surrounded by *halos*, or colored circles, at the distances of about 22 and 46 degrees from their centres. Several new forms of *halos* and *paraselenæ*, or mock-moons, have been described by Captain Ross and Captain Parry. And Captain Scoresby, in his account of the Arctic Regions, has delineated an immense number of particles of snow, which assume the most beautiful and varied crystallizations, all depending more or less on six-sided combinations of minute particles of ice.

When particles of such forms are floating or descending in the air, there can be no difficulty in deriving from them those various and intricate forms which are occasionally met with among this class of phenomena.

Halos are frequently observed in other climates, as well as in the northern regions of the globe, especially in the colder months, and in the light clouds which float in the highest regions of the air. The halos are usually attended by a horizontal white circle, with bright spots, or parhelia, near their intersections with this circle, and with portions of inverted arches of various curvatures; the horizontal circle has also sometimes *anthelia*, or bright spots nearly opposite to the sun. These phenomena have usually been attributed to the effect of spherical particles of hail, each having a central opaque portion of a certain magnitude, mixed with oblong particles, of a determinate form, and floating with a certain constant obliquity to the horizon. But all these arbitrary suppositions, which were imagined by Huygens, are in themselves extremely complicated and improbable. A much simpler, and more natural, as well as more accurate explanation, which was suggested at an earlier period by Mariotte, had long been wholly forgotten, till the same idea occurred to Dr. Young. The explanation given by the last mentioned philosophers is, that water has a tendency to congeal or crystallize in the form of a prism, and that the rays of light passing through these prisms, (which are disposed in various positions,) by their own weight, are so refracted as to produce the different appearances which halos and parhelia have been observed to assume.

The colors which these phenomena exhibit are nearly the same as the rainbow, but less distinct; the red being nearest to the luminary, and the whole halo being very ill-defined on the exterior side. Sometimes the figures of halos and parhelia are so complicated, as to defy all attempts to account for the formation of their different parts; but if the various forms and appearances which the flakes of snow assume be considered, there will be no reason to think them inadequate to the production of *all* these appearances.

Spontaneous Combustion.—That animal bodies are liable to internal combustion is a fact which was well known to the ancients. Many cases which have been adduced as examples of spontaneous combustion are merely cases of individuals who were highly susceptible of strong electrical excitation. In one of these cases, however, Peter Bovisteau asserts that the sparks of fire thus produced reduced to ashes the hair of a young man; and John de Viana informs us, that the wife of Doctor Friclas, physician to the Cardinal de Royas, Archbishop of Toledo, emitted by perspiration an inflammable matter of such a nature that, when the ribbon she wore over her shift was taken from her, and exposed to the cold air, it instantly took fire and shot forth like grains of gunpowder. Peter Borelli has recorded a fact of the very same kind respecting a peasant whose linen took fire, whether it was laid up in a box when wet or hanging in the open air. The same author speaks of a woman who, when at the point of death, vomited flames, and Thomas Bartholia mentions this phenomenon, as having often happened to persons who were *great drinkers of wine and brandy*. Ezekiel de Castro mentions the singular case of Alexandrinus Megeteus, a physician, from one of whose vertebrals there issued a fire which scorched the eyes of the beholders, and Kantius relates, that during the wars of Godfrey of Bologne, certain people of the territory of Nivers were burning with invisible fire, and that some of them cut off a foot or a hand where the burning began in order to arrest the calamity. —[D. Brewster's Letters on Natural Magic.]

[*From the Baltimore American.*]

Fire Proof Roofs.—Messrs. Editors: Will some one of your numerous subscribers acquainted in the premises, inform me, and, through me, the public, what is the original cost of a slate roof of given dimensions, and particularly, a comparison of the result with the cost of a pin shingle roof of corresponding dimensions. Also, how long these different kinds of roofs will last respectively, supposing no extraordinary accident occur to either. The object of these inquiries has relation to a measure now [illegible] agitated, of vital importance to the security of our city from fire. The slate roof costs but a trifle more than a shingle one and answers all its purposes, and in a series of years is a great saving, to say nothing of the reduction of the premium on policies of insurance in such cases, there cannot be a doubt that our City Council, now in session, will inquire into the expediency of passing an ordinance forbidding the use of combustible roofs within certain limits in the city of Baltimore.

A communication from an experienced fireman on the subject would also be gratifying to the public. As the City Council will not be in session long, an early answer to the above inquires is expedient, and the writer hopes that no one, taking an interest in this matter and competent to do what is indicated in the interrogateries, will delay what is asked, upon the vulgar but too true maxim of experience, "that what is every body's business is no body's business. A Property Holder.

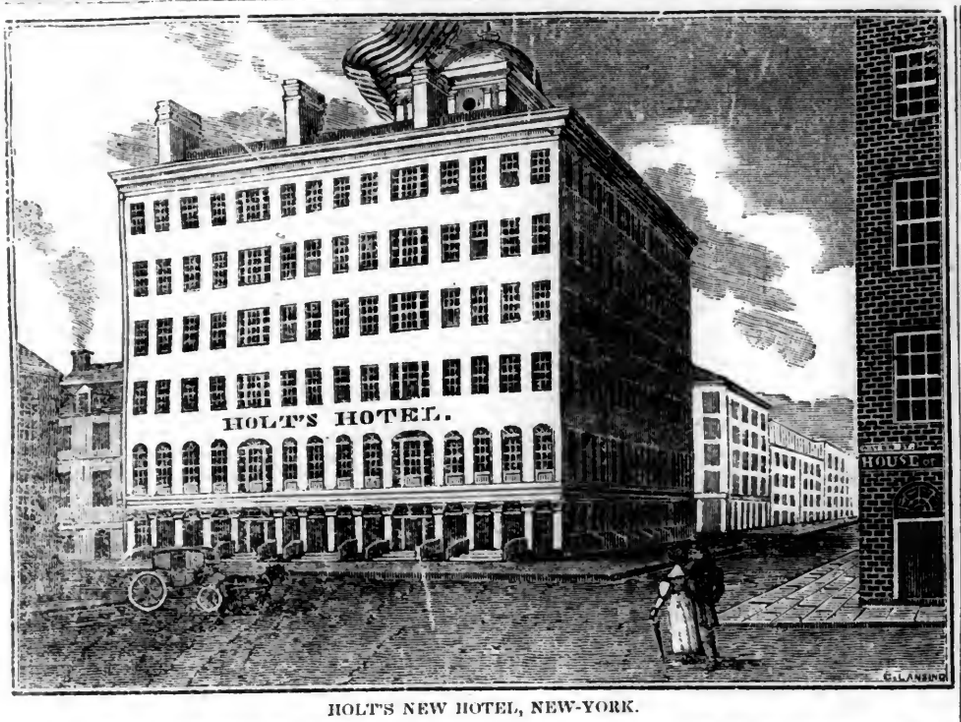
[We shall have great pleasure in inserting a reply to the above from any of our readers acquainted with the subject.—Ed. M. M.]

Chemical Amusements.—*Sympathetic Ink.* —Write with a diluted solution of muriate of copper, and the writing will be invisible when cold; but when held to the fire it will appear of a yellow color.

2. Write with a diluted solution of muriate or nitrate of cobalt, and the writing will be invisible; but, upon being held to the fire, it will appear perfectly distinct, and of a blue color; if the cobalt should be adulterated with iron, the writing will appear of a green color; when taken from the fire, the writing will again disappear. If a landscape be drawn and all finished with common colors, except the leaves of the trees, the grass and the sky, and the latter be finished with this sympathetic ink, and the two former with the adulterated solution just mentioned, the drawing will seem to be unfinished, and have a wintry appearance; but upon being held to the fire, the grass and the trees will become green, the sky blue, and the whole assume a rich and beautiful appearance.

This landscape will, at any time, exhibit the same appearance.—[Delaware Free Press.]

Cement for Glass or China.—An ounce of pure gum mastic is to be dissolved in q. s. of well rectified alcohol, and the same quantity of ichthyocolla steeped in water till soft, and then dissolved in alcohol; these solutions are to be mixed, and a quarter of an ounce of gum ammoniac added. The whole is now to be exposed to a gentle heat till perfectly amalgamated, when it is to be poured into a vial and kept well corked. When it is to be used, both the vial and the vessel to be mended are to be warmed, and the united fragments should be pressed in close contact for at least twelve hours.—[Journ. des Connais. Usuel.]



HOLT'S NEW HOTEL, NEW-YORK.

[*From the Mechanics' Magazine and Register of Inventions and Improvements.*]

HOLT'S NEW HOTEL.—We have given on our first page a correct engraving of this splendid edifice, which was completed during the last year; and as it is one of the most prominent buildings in this city, we have selected it as the first of a series of views in New-York and its vicinity, which we purpose from time to time to present to our readers. Those who have only seen the outside, can form very little idea of the regularity and order which is observed in conducting the internal arrangements. The worthy host appears to have *a place for every thing, and every thing in its place;* it combines all the advantages of a hotel and boarding house, and to the casual visiter of this city, as well as to those whose ordinary occupations require them to locate in it, or its vicinity, it affords every advantage that could be desired Every delicacy can be obtained by, and every attention is paid to, the wishes of the guest.

As we conceive a detailed description o the building may be interesting to our readers, we shall subjoin one we have been favored with from a source which, we are satisfied, cannot but be correct.

It stands on a base of 7 feet, with a foundation of 3 feet—the basement wall is 2 feet 6 inches, and all the main walls are 20 inches thick. The basement and first story are of Hallowell granite—the five stories above, and the tower, of marble; and in order to add to the security of the building, all the main joints of the marble and granite are clamped together, and then made fast to iron straps or bars, which extend, some twenty, others thirty feet, into the partition or division walls, with anchors at the end. The corners are also secured by anchors or bars of iron in each direction, twelve feet in length. For the above purposes alone, ten tons of iron were used.

Three of the sides front on three different streets, viz.: Water street, Fulton street, and Pearl street. In the engraving affixed is a view of the front in Water street, and a side view of that in Fulton street. Its breadth in Water street is 85 feet 6 inches—in Fulton street 100 feet—and in Pearl street 76 feet 6 inches; the principal entrances are in Water street. In the relish room there can be found superior accommodation, on terms as reasonable as at any establishment in this city.

A great portion of the basement is devoted to cooking rooms and other necessary purposes. In the yard, under a platform, is a steam engine of 12 horse power, which is daily used to bore for pure water—already it has penetrated upwards of 500 feet into the earth; it is applied also to turning of spits—to grinding and cleaning knives; it abridges labor by carrying up the dishes, when cooked, to each story—the baggage also is in this manner conveyed to their several places of destination. On the Pearl street and Fulton street sides are several stores, which are let out for various purposes of trade.

In the 2d story will be found a dining room 100 feet in length, fronting Fulton street; the Water street side is a large room, in which there is daily a Public Ordinary, and to which resort many of the most respectable and influential men of the city. There are also other rooms used as parlors, with the privilege of a private staircase and a spacious Hall.

In the 3d story are apartments judiciously constructed for the use of families, consisting of elegant and pleasant sitting rooms, and one, two or more bed rooms, as may be necessary, with every convenience that can be desired.

The 4th, 5th and 6th, are also divided into parlors and bed rooms to suit the convenience of smaller families, and of travellers who wish to have private apartments. Three hundred persons may be accommodated with lodgings; and one thousand can sit at the different tables, at the same time.

On the roof, enclosed by a substantial iron railing, is a spacious promenade, for the convenience of visiters, which will accommodate 500 persons; when the weather permits, it commands a beautiful prospect of the surrounding country, and of the shipping in the river, and much amusement is afforded by witnessing the bustle below of arrivals and departures of steamboats and other conveyances.

In the attic story there is a saloon provided with refreshments of all kinds for the accommodation of visiters to the promenade. There are also separate bathing rooms.

The dome is built immediately over the basement, and in it there is room for a full band of musicians.

The height of the building from the first floor is 135 feet; and for convenience of arrangement, or excellence of construction, it is undoubtedly equal to any other edifice in this country.

As this magnificent mansion has been reared by the persevering industry and economy of one individual, we think that a short account of his progress in life since his first arrival in this city cannot fail to be interesting, and it will afford an additional proof of what can be accomplished by such means, and more especially exhibit to our younger readers the value of pursuing through life an undeviating course of integrity and honor. It is by such a course only that they can arrive at that high distinction which Mr. Holt has arrived at, viz. to be *respected, and enjoy the good wishes of all* that have the pleasure of knowing him.

Mr. Holt came to this city from Salem, Mass., about the year 1808, and for some time obtained employment in the business to which he had been brought up, that of a cabinet-maker; he also opened a small store as a victualling-house, in the neighborhood of the Fly-Market, which was managed by Mrs. Holt, and received all that attention which is always bestowed by a clever and affectionate woman to the interests of her husband. He had a numerous young family, and was for a long period in such ill health, that he was eventually induced to leave the bench, and devote all his energies to improving his tavern, in which he succeeded to a very considerable extent.

In this establishment he continued until the year 1814, when Mr. Holt, becoming attached to the commissariat department, (during the time of the location of troops upon the Harlæm lines of the city defences,) opened a boarding-house for the accommodation of the officers, contiguous to their posts. Here he continued until the close of the war dispersed his friends. His old stand at Fly-Market being vacant, he again took possession of it, and continued to give such general satisfaction to those who resorted to his house, that in a short time he was under the necessity of enlarging his premises for their accommodation. Business still increasing, and promising a still further increase, he was induced to take larger premises in Front street, situated between Burling slip and Fulton street. Before these were fit to receive his friends and the public, he found it indispensable to make considerable alterations—much more, indeed, than his own funds could accomplish—but in this respect he found no difficulty, for his persevering industry, integrity, and general habits of business and living, had not escaped the observation of many of his neighbors, and he readily obtained sufficient credit to enable him to open his new establishment. A very short time elapsed, after its completion, before Mr. Holt had to encounter the misfortune of being left destitute in the world. A carpenter's shop in the immediate vicinity of his house caught fire, which soon communicated to his premises, and both were burnt to the ground. Mr. Holt's all was here consumed—absolutely without clothing, he and his family contrived to escape unhurt, but without the means of subsistence even for a single day. With great presence of mind Mrs. Holt had seized the drawer in which was contained the receipts of the previous day; but in the hurry of escaping from the flames, a false step was made, and all was lost, except the trifling sum of three shillings.

To be placed in such a situation with a young and numerous family, is enough to appal the stoutest heart, but in Mr. Holt it seemed only to rouse his energies, and stimulate him to fresh exertions. As might be expected, he had the sympathetic expressions of numerous friends, and a subscription was proposed to be raised in his behalf, but, with a spirit of independence, which cannot be too much admired, he firmly refused to avail himself of assistance by such means.

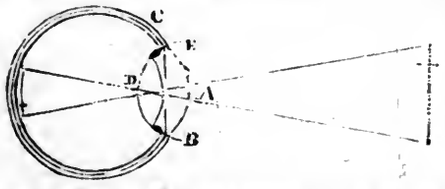
Although Mr. Holt was involved in debt, and it was well known that he was pennyless, he had no difficulty in obtaining another house in Fulton street; and that consistent character, which he had hitherto maintained, soon enabled him once more to open an establishment equal to the one he had previously occupied: here his old friends flocked around him, and a great accession was made to them, from the peculiar circumstances of his situation being made generally known. From this period Mr. Holt's prosperity has steadily increased. In a very short time he was obliged to enlarge those premises, and eventually to take another house nearly opposite, (part of the latter is shown in the engraving, on the right hand side of the

plate, and where the words "Water street" are inserted.) He continued in active business in those establishments, until January in the present year, when the magnificent building which we have attempted to describe was opened to the public, by whom we have the satisfaction to state he has hitherto been liberally supported. There he now remains an example worthy the imitation of all, and we beg he will accept of our best wishes for his continued prosperity and happiness.

On the Human Eye—Description of its Structure, &c. [From Dr. Arnott's Elements of Physics.]

The *human eye* is a globular chamber of the size of a large walnut, formed externally by a very tough membrane called, from its hardness, the *sclerotic coat*, in the front of which there is one round opening or window, named, because of its horny texture, the *cornea*. The chamber is lined with a finer membrane or web—the *choroid*, which, to ensure the internal darkness of the place, is covered with a black paint, the *pigmentum nigrum*. This lining at the edge of the round window is bordered by a folded drapery—the *ciliary processes*, hidden from without by being behind the curious contractile window curtain, the *iris*, through the central opening of which, or *pupil*, the light enters. Immediately behind the pupil is suspended by attachments among the ciliary processes, the *crystalline lens*, a double convex most transparent body of considerable hardness, which so influences the light passing through it from external objects as to form most perfect images of these objects in the way already described, on the back wall of the eye, over which the optic nerve, then called the *retina*, is spread as a second lining. The eye is maintained in its globular condition by a watery liquid, which distends its external coverings, and which in the compartment before the lens, or *the anterior chamber of the eye*, being perfectly limpid, is called the *aqueous humor*, and in the remainder or larger *posterior chamber*, being inclosed in a transparent spongy structure, so as to acquire somewhat of the appearance of melted glass, is called the *vitreous humor*.

The annexed figure represents an eye of the common dimensions, supposed to be cut



through the middle downwards. C is the outer or *sclerotic coat*, known popularly, where most exposed in front, as the *white of the eye*. A is the transparent cornea joined to the edge of the round opening of the sclerotic: it is more bulging than the sclerotic, or forms a portion of a smaller sphere than the general eye-ball, so that while it may be truly called a *bow window*, it, or rather the convex surface of its contained water, is also a powerful lens for acting on the pencils of entering light. At B, and similarly all around the edge of the cornea, is attached the window curtain or *iris*, shown here edgeways, immersed in the aqueous humor, and hanging inwards from above and below towards its central opening or *pupil*, through which the rays of light are passing to the lens. The iris has in its structure two sets of fibres, the circular and the radiating, which cross and act in opposition to each other. When the circular fibres contract, the pupil is lessened; when the radiating contract, it is enlarged: and the changes happen according to the intensity of light and the state of sensibility of the retina,—as may at any time be proved by closing the eye-lids for a moment to make the pupil dilate, and then opening them towards a strong light, to make it contract. Behind the pupil is seen the *lens* D with its circumference attached to the *ciliary processes* E: it is more convex behind than before. The disease of the eye, called *cataract*, (from a Greek word implying *obstruction*,) is the circumstance of the lens becoming opaque, and the cure is to extract the lens entirely, or to depress it to the bottom of the eye, and then to substitute for it externally a powerful artificial lens or spectacle-glass. The three lines, forming here the boundary of the eye, stand for its three coats, as they have been called, the strong *sclerotic*, and the double lining of the *choroid* and *retina*. The figure of a cross is represented upon the retina as formed by the light entering from the cross without, which cross has to appear here small and near, although supposed to be large and distant. The image of the cross is inverted, as explained for the camera obscura: but we shall learn below that the perception of an object may be equally distinct in whatever position the image be on the retina. It has been explained above, that a lens can form a perfect image of considerable extent only on a concave surface, and the retina is such a surface. The present diagram farther explains what is meant by the *anterior* and *posterior chambers* of the eye, viz. the compartments which are before and behind the crystalline lens D.

The nature of the eye as a camera obscura is beautifully exhibited by taking the eye of a recently killed bullock, and after carefully cutting away or thinning the outer coat of it behind, by going with it to a dark place and directing the pupil towards any brightly illuminated objects; then, through the semi-transparent retina left at the back of the eye, may be seen a minute but perfect picture of all such objects—a picture, therefore, formed on the back of the little apartment or camera obscura, by the agency of the convex cornea and lens in front.

Understanding from all this, that when a man is engaged in what is called looking at an object, his mind is in truth only taking cognizance of the picture or impression made on his retina, it excites admiration in us to think of the exquisite delicacy of texture and of sensibility which the retina must possess, that there may be the perfect perception which really occurs of even the separate parts of the minute images there formed. A whole printed sheet of newspaper, for instance, may be represented on the retina on less surface than that of a finger nail, and yet, not only shall every word and letter be separately perceivable, but even any imperfection of a single letter. Or, more wonderful still, when at night an eye is turned up to the blue vault of heaven, there is pourtrayed on the little concave of the retina the boundless concave of the sky, with every object in its just proportions. There a moon in beautiful miniature may be sailing among her white edged clouds, and surrounded by a thousand twinkling stars, so that to an animalcule supposed to be within and near the pupil, the retina might appear another starry firmament with all its glory. If the images in the human eye be thus minute, what must they be in the little eye of a canary bird, or of another animal smaller still! How wonderful are the works of Nature!

Improvement in the Lathe, by which the work in hand may be examined without stopping. By J. Walker. [From the London Mechanics' Magazine.]

Sir,—In driving the foot lathe I have always found the hardest part of the labor to be the stopping occasionally to examine the work, and then starting anew. To obviate this difficulty I have invented the improvement represented in the accompanying sketch, which, as far as my knowledge extends, is new.

P shows the poppet head with riggers; D the dividing plate, fixed on the mandril with a small collar betwixt it and the riggers; C a small clutch box; L the lever; R a small rod supported at the far end of the bed, connected to C, which enables the turner to throw the riggers out and in gear; allowing them to run loose upon the mandril, so that when examining your work the fly wheel may still go on.

If any of your readers are aware of any similar contrivance, I should be glad to be made acquainted with it, as I am about fitting up a new turning apparatus with the improvement just described.

On Heat—Its spreading by Conduction—Result of Experiments on Metals, Glass, Earths, Wood, Air, &c.—Admirable Adaptation of the Substances which Nature has provided as Clothing for Inferior Animals to the Wants and Conveniences of Man, &c. [From Dr. Arnott's Elements of Physics.]

If one end of a rod of iron be held in the fire, a hand grasping the other end soon feels the heat coming through it. Through a similar rod of glass the transmission is much slower, and through one of wood it is slower still. The hand would be burned by the iron before it felt warm in the wood, although the inner end were blazing.

On the fact that different substances are permeable to heat, or have the property of conducting it, in different degrees, depend many interesting phenomena in nature and in the arts: hence it was important to ascertain the degrees exactly, and to classify the substances. Various methods for this purpose have been adopted. For solids—similar rods of the different substances, after being thinly coated with wax, have been placed with their inferior extremities in hot oil, and then the comparative distances to which, in a given time, the wax was melted, furnished one set of indications of the comparative conducting powers: or, equal lengths of the different bare rods being left above the oil, and a small quantity of explosive powder being placed on the top of each, the comparative intervals of time elapsing before the explosions gave another kind of measure: or, equal balls of different substances, with a central cavity in each to receive a thermometer, being heated to the same degree and then suspended in the air to cool, until the thermometer fell to a given point, gave still another list. A modification of the last method was adopted by Count Rumford to ascertain the relative degrees in which furs, feathers, and other materials used for clothing, conduct heat, or, which is the same thing, resist its passage. He covered the ball and stem of a thermometer with a certain thickness of the substance to be tried, by placing the thermometer in a large bulb and stem of glass, and then filling the interval between them with the substance; and, after heating this apparatus to a certain degree, by dipping it in liquid of the desired temperature, he surrounded it by ice, and marked the comparative times required to cool the thermometer a certain number of degrees. The figures following the names of some of the substances in the subjoined list, mark the number of seconds required respectively for cooling it 60°.

These experiments have shown as a general rule, that density in a body favors the passage of heat through it. The best conductors are the metals, and then follow in succession diamond, glass, stones, earths, woods, &c. as here noted:

Metals—silver, copper, gold, iron, lead.
Diamond.
Glass.
Hard stones.
Porous earths.
Woods.
Fats or thick oils.
Snow.

Air - - - - - -	576
Sewing Silk - - - -	917
Wood ashes - - - -	927

Charcoal - - - - -	937
Fine lint - - - - -	1,032
Cotton - - - - -	1,046
Lamp-black - - - -	1,117
Wool - - - - -	1,118
Raw Silk - - - -	1,284
Beavers' fur - - - -	1,296
Eider down - - - -	1,305
Hares' fur - - - -	1,315

Air appears near the middle of the preceding list, but if its particles are not allowed to move about among themselves so as to *carry* heat from one part to another, it *conducts* (in the manner of solids) so slowly that Count Rumford doubted whether it conducted at all. It is probably the worst conductor known, that is, the substance which when at rest impedes the passage of heat the most. To this fact seems to be owing in a considerable degree the remarkable non-conducting quality of porous or spongy substances, as feathers, loose filamentous matter, powders, &c. which have much air in their structure, often adherent with a force of attraction which immersion in water, or even being placed in the vacuum of an air pump, is insufficient to overcome.

While contemplating the facts recorded in the above table, one cannot but reflect how admirably adapted to their purposes the substances are which nature has provided as clothing for the inferior animals; and which man afterwards accommodates with such curious arts to his peculiar wants. Animals required to be protected against the chills of night and the biting blasts of winter, and some of them which dwell among eternal ice, could not have lived at all but for a garment which might shut up within it nearly all the heat which their vital functions produced. Now, any covering of a metallic or earthy or woody nature would have been far from sufficing; but out of a wondrous chemical union of carbon with the soft ingredients of the atmosphere, those beautiful textures are produced called fur and feather, so greatly adorning while they completely protect the wearers: textures, moreover, which grow from the bodies of the animals, in the exact quantity that suits the climate and season, and which are reproduced when by any accident they are partially destroyed. In warm climates the hairy coat of quadrupeds is comparatively short and thin, as in the elephant, the monkey, the tropical sheep, &c. It is seen to thicken with increasing latitude, furnishing the soft and abundant fleeces of the temperate zones; and towards the poles it is externally shaggy and coarse, as in the arctic bear. In amphibious animals, which have to resist the cold of water as well as of air, the fur grows particularly defensive, as in the otter and beaver. Birds, from having very warm blood, required plenteous clothing, but required also to have a smooth surface, that they might pass easily through the air: both objects are secured by the beautiful structure of feathers, so beautiful and wonderful that writers on natural theology have often particularized it as one of the most striking exemplifications of creative wisdom. Feathers, like fur, appear in kind and quantity suited to particular climates and seasons. The birds of cold regions have covering almost as bulky as their bodies, and if it be warm in those of them which live only in air, in the water-fowl it is warmer still. These last have the interstices of the ordinary plumage filled up by the still more delicate structure called down, particularly on the breast which in swimming first meets and divides the cold wave. There are animals with warm blood which yet live very constantly immersed in water, as the whale, seal, walrus, &c. Now neither hair nor feathers, however oiled, would have been a fit covering for them; but kind nature has prepared an equal protection in the vast mass of fat or thick oil which surrounds their bodies—substances which are scarcely less useful to man than the furs and feathers of land animals.

While speaking of clothing, we may remark that the bark of trees is also a structure very slowly permeable to heat, and securing therefore the temperature necessary to vegetable life.

And while we admire what nature has thus done for animals and vegetables, let us not overlook her scarcely less remarkable provision of ice and snow, as winter clothing for the lakes and rivers, for our fields and gardens. Ice, as a protection to water and its inhabitants, was considered in the explanation of why, although solid, it swims on water. We have now to remark that snow, which becomes as a pure white fleece to the earth, is a structure which resists the passage of heat nearly as much as feathers. It, of course, can defend only from colds below 32° or the freezing point; but it does so most effectually, preserving the roots and seeds and tender plants during the severity of winter. When the green blade of wheat and the beautiful snow-drop flower appear in spring rising through the melting snow, they have recently owed an important shelter to their wintry mantle. Under deep snow, while the thermometer in the air may be far below zero, the temperature of the ground rarely remains below the freezing point. Now this temperature, to persons some time accustomed to it, is mild and even agreeable. It is much higher than what often prevails for long periods in the atmosphere of the centre and north of Europe. The Laplander, who during his long winter lives under ground, is glad to have additionally over head a thick covering of snow. Among the hills of the west and north of Britain, during the storms of winter, a house or covering of snow frequently preserves the lives of travellers, and even of whole flocks of sheep, when the keen north wind, catching them unprotected, would soon stretch them lifeless along the earth.

It is because earth conducts heat slowly that the most intense frosts penetrate but a few inches into it, and that the temperature of the ground a few feet below its surface is nearly the same all the world over. In many mines, even although open to the air, the thermometer does not vary one degree in a twelvemonth. Thus also water in pipes two or three feet under ground does not freeze, although it may be frozen in all the smaller branches exposed above. Hence, again, springs never freeze, and therefore become remarkable features in a snow-covered country. The living water is seen issuing from the bowels of the earth, and running often a considerable way through fringes of green, before the gripe of the frost arrests it; while around it, as is well known to the sportsman, the snipes and wild duck and other birds are wont to congregate. A spring in a frozen pond or lake may cause the ice to be so thin over the part where it issues, that a skater arriving there will break through and be destroyed. The same spring water which appears warm in winter is deemed cold in summer, because, although always of the same heat, it is in summer surrounded by warmer atmosphere and objects. In proportion as buildings are massive, they acquire more of those qualities which have now been noticed of our mother earth. Many of the gothic halls and cathedrals are cool in summer and warm in winter—as are also old fashioned houses or castles with thick walls and deep cellars. Natural caves in the mountains or sea-shores furnish other examples of a similar kind.

When in the arts it is desired to prevent the passage of heat out of or into any body or situation, a screen or covering of a slow conducting substance is employed. Thus, to prevent the heat of a smelting or other furnace from being wasted, it is lined with fire bricks, or is covered with clay and sand, or sometimes with powdered charcoal. A furnace so guarded may be touched by the hand, even while containing within it melted gold. To prevent the freezing of water in pipes during the winter, by which occurrence the pipes would be burst, it is common to cover them with straw ropes, or coarse flannel, or to enclose them in a larger outer pipe with dry charcoal, or saw dust, or chaff, filling up the interval between. If a pipe, on the contrary, be for the conveyance of steam or other warm fluid, the heat is retained, and therefore saved by the very same means. Ice houses are generally made with double walls, between which dry straw placed, or saw dust, or air, prevents the passage of heat. Pails for carrying ice in summer, or intended to serve as wine coolers, are made on the same principle—*viz.* double vessels, with air or charcoal filling the interval between them. A flannel covering keeps a man warm in winter—it is also the best means of keeping ice from melting in summer. Urns for hot water, tea pots, coffee pots, &c. are made with wooden or ivory handles, because if metal were used, it would conduct the heat so readily that the hand could not bear to touch them.

It is because glass and earthen ware are brittle, and do not allow ready passage to heat, that vessels made of them are so frequently broken by sudden change of temperature. On pouring boiling water into such a vessel, the internal part is much heated and expanded (as will be explained more fully in a subsequent page) before the external part has felt the influence, and this is hence riven or cracked by its connection with the internal. A chimney mirror is often broken by a lamp or candle placed on the marble shelf too near it. The glass cylinder of an electrical machine will sometimes be broken by placing it near the fire, so that one side is heated while the other side receives a cold current of air approaching the fire from a door or window. A red hot rod of iron drawn along a pane of glass will divide it almost like a diamond knife. Even cast iron, as backs of grates, iron pots, &c. although conducting readily, is often, owing to its brittleness, cracked by unequal heating or cooling, as from pouring water on it when hot. Pouring cold water into a heated glass will produce a similar effect. Hence glass vessels intended to be exposed to strong heats and sudden changes, as retorts for distillation, flasks for boiling liquids, &c. are made very thin, that the heat may pervade them almost instantly and with impunity.

There is a toy called a *Prince Rupert's Drop*, which well illustrates our present subject. It is a lump of glass let fall while fused into water, and thereby suddenly cooled and solidified on the outside before the internal part is changed; then as this at last hardens and would contract, it is kept extended by the arch of external crust, to which it coheres. Now if a portion of the neck of the lump be broken off, or if other violence be done, which jars its substance, the cohesion is destroyed, and the whole crumbles to dust with a kind of explosion. Any glass cooled suddenly when first made remains very brittle, for the reason now stated. What is called *Bologna jar* is a very thick small bottle thus prepared, which bursts by a grain of sand falling into it. The process of annealing, to render glass ware more tough and durable, is merely the allowing it to cool very slowly by placing it in an oven, where the temperature is caused to fall gradual' The tempering of metals by sudden coo' :ems to be a process having some relatio .at of rendering glass hard and brittle.

It is the difference of conducting power in bodies which is the cause of a very common error made by persons in estimating the temperature of bodies by the touch. In a room without a fire all the articles of furniture soon acquire the same temperature; but if in winter a person with bare feet were to step from the carpet to the wooden floor, from this to the hearthstone, and from the stone to the steel fender, his sensation would deem each of these in succession colder than the preceding. Now the truth being that all had the same temperature, only a temperature inferior to that of the living body, the best conductor, when in contact with the body, would carry off heat the fastest, and would therefore be deemed the coldest. Were a similar experiment made in a hot house or in India, while the temperature

of every thing around was 98°, *viz.* that of the living body, then not the slightest difference would be felt in any of the substances: or lastly, were the experiment made in a room where by any means the general temperature was raised considerably above blood heat, then the carpet would be deemed considerably the coolest instead of the warmest, and the other things would appear hotter in the same order in which they appeared colder in the winter room. Were a bunch of wool and a piece of iron exposed to the severest cold of Siberia, or of an artificial frigioric mixture, a man might touch the first with impunity (it would merely be felt as rather cold); but if he grasped the second, his hand would be frost bitten and possibly destroyed: were the two substances, on the contrary, transferred to an oven, and heated as far as the wool would bear, he might again touch the wool with impunity (it would then be felt as a little hot,) but the iron would burn his flesh. The author has entered a room where the temperature from hot air admitted was sufficiently high to boil the fish, &c. of which he afterwards partook at dinner; and he breathed the air with very little uneasiness. He could bear to touch woollen cloth in this room, but no body more solid.

The foregoing considerations make manifest the error of supposing that there is a positive warmth in the materials of clothing. The thick cloak which guards a Spaniard against the cold of winter is also in summer used by him as protection against the direct rays of the sun: and while in England flannel is our warmest article of dress, yet we cannot more effectually preserve ice than by wrapping the vessel containing it in many folds of softest flannel.

In every case where a substance of different temperature from the living body touches it, a thin surface of the substance immediately shares the heat of the bodily part touched—the hand generally; and while in a good conductor, the heat so received quickly passes inwards, or away from the surface, leaving this in a state to absorb more, in the tardy conductor the heat first received tarries at the surface, which consequently soon acquires nearly the same temperature as the hand, and therefore, however cold the interior of the substance may be, it does not cause the sensation of cold. The hand on a good conductor [illegible] to warm it deeply, a slow conductor it warms only superficially. The following cases farther illustrate the same principle. If the ends of an iron poker and of a piece of wood of the same size be wrapped in paper and then thrust into a fire, the paper on the wood will begin to burn immediately, while that on the metal will long resist: or if pieces of paper be laid on a wooden plank and on a plate of steel, and then a burning coal be placed on each, the paper on the wood will begin to burn long before that on the plate. The explanation is, that the paper in contact with the good conductor loses to this so rapidly the heat received from the coal, that it remains at too low a temperature to inflame, and will even cool to blackness the touching part of the coal; while on the tardy conductor the paper becomes almost immediately as hot as the coal. It is because water exposed to the air cannot be heated beyond 212°, that it may be made to boil in an egg-shell or a vessel made of paper, held over a lamp, without the containing substance being destroyed; but as soon as it is dried up, the paper will burn and the shell will be calcined, as the solder of a common tinned kettle melts under the same circumstances. The reason why the hand judges a cold liquid to be so much colder than a solid of the same temperature is, that, from the mobility of the liquid particles among themselves, those in contact with the hand are constantly changing. The impression produced on the hand by very cold mercury is almost insufferable, because mercury is both a ready conductor and a liquid. Again, if a finger held motionless in water feel cold, it will feel colder still when moved about; and a man in the air of a calm frosty morning does not experience a sensation nearly so sharp as if with the same temperature there be wind. A finger held up in the wind discovers the direction in which the wind blows by the greater cold felt on one side; the effect being still more remarkable, if the finger is wetted. If a person in a room with a thermometer were with a fan or bellows to blow the air against it, he would not thereby lower it, because it had already the same temperature as the air, yet the air blown against his own body would appear colder than when at rest, because, being colder than his body, the motion would supply heat-absorbing particles more quickly. In like manner, if a fan or bellows were used against a thermometer hanging in a furnace or hot-house, the thermometer would suffer no change, but the air moved by them against a person would be distressingly hot, like the blasting sirocco of the sandy deserts of Africa. If two similar pieces of ice be placed in a room somewhat warmer than ice, one of them may be made to melt much sooner than the other, by blowing on it with a bellows. The reason may here be readily comprehended why a person suffering what is called a cold in the head, or catarrh from the eyes and nose, experiences so much more relief on applying to the face a handkerchief of linen or cambric than one of cotton: it is that the former by *conducting* readily absorbs the heat and diminishes the inflammation, while the latter, by refusing to give passage to the heat, increases the temperature and the distress. Popular prejudice has held that there was a poison in cotton.

On the Composition of Organized Structures, Similarity of Charcoal to the Diamond, &c. Selected for the Mechanics' Magazine, from Donovan's Chemistry.

Notwithstanding the perplexing diversity of form which vegetable substances assume, experiments have proved that they are all composed of the same ultimate materials, and these very few in number. We may select any vegetable structure as the representative of all the rest; and, by examining others in the same manner, it will be found that they present the same results. The method by which the component elements are separated is simple; the vegetable is merely exposed to the action of fire: not an open fire, for in this way all its parts would be dissipated or burned away; but in a vessel calculated to retain its principles in such a manner as to permit their being brought under examination. Green wood will be a good instance. Take a common gun barrel, the touch-hole of which is stopped; push a small cylinder of green wood down to the breech, and place that end horizontally in a good coal fire. As the wood is heated, the water, which is the chief ingredient of its juices, distils over, and drops from the open end of tube. In proportion as the water distils, from being insipid, it becomes sour. Shortly after, a gas issues out of the tube, and may be collected by tying a moist bladder, the common air being well pressed out of it, round the mouth of the tube. If, when the gas ceases to issue, the contents of the tube be examined, the piece of wood will be found altered into a black, dry, light, sonorous mass, retaining, however, its texture, though much reduced in size. It is, in short, converted into charcoal, or, in chemical language, carbon; and, if its weight be added to that of the gas, the mere water, and the sour water, the result will be the original weight of the wood without loss; hence these are all the ingredients which composed the wood. As a general summing up, we may recapitulate, that from wood we obtain hydrogen, carburetted hydrogen, bicarburetted hydrogen, carbonic oxide, carbonic acid, ascetic acid, holding tar, ammonia, and charcoal. By multiplying experiments on other vegetable structures, we learn, that all of them, however complicated when made to undergo the ordeal of heat in confined vessels, resolve themselves, like wood, into the four elements, oxygen, hydrogen, carbon, and azote; the latter being in such small quantity as to be barely discoverable. These, again, by combining amongst themselves, produce the compounds above described, but the four ingredients mentioned are what are called the ultimate elements of all vegetable matter, notwithstanding its apparent diversity. A striking proof of the extraordinary differences of appearance which the same body may assume, and also of the intrinsic worthlessness of some of those objects on which society sets the highest value, occurs in the instance of the substance under consideration. Every one knows the enormous price at which diamonds of good quality and size are estimated. The celebrated regent diamond, which was set in the handle of the late Emperor Napoleon's sword of state, is now valued at £260,000, although only 1¼ ounce, and was originally purchased for £20,400 by Thomas Pitt, grandfather of the great Earl of Chatham, while Governor of Madras. Yet this precious ornament is neither more nor less than a piece of charcoal; and, surprising as it may appear to those hitherto unacquainted with the fact, it is well proved by numerous experiments, that between the diamond and charcoal there is almost no difference of composition; the diamond burns in oxygen with brilliant flame, and, like charcoal, forms carbonic acid; like charcoal, it forms steel by combination with iron; and the difference between the two bodies seems to be chiefly in their state of aggregation, the diamond being harder and crystallized; it is also a little purer in composition. The pure portion of charcoal is distinguished among chemists by the name of carbon.

Having acquired some acquaintance with the vast variety of form under which the objects constituting the vegetable world appear and the simplicity of their composition, the next subject of contemplation is the animated part of the creation,—the most interesting and stupendous of all. How much more admirable and surprising must the structure of a living animal appear, when it is known that it is composed of but a few elements, such as have been formerly described: little more than the meanest vegetable, and fewer than many minerals. The materials of which animals are composed being nearly the same, as those which compose plants, the difference is in their relative quantity, and in the mode of combination. The combustible substance, phosphorus, has been detected, in small quantity, in some vegetables, as in the onion; but it exists in large quantities in the bones of animals: not in the state of phosphorus, as commonly seen, but disguised by combination with oxygen in the state of an acid, and this acid combined with lime. The bones of animals, then, consist chiefly of lime and phosphoric acid; at least these ingredients compose their earthly basis, as it is called; but it is impregnated with animal matter that adds greatly to their strength, toughness, and solidity. The other element which exists largely in animal matter is azote: it is also a constituent part of several kinds of vegetable matter; and it is singular, that the same azote, which adds so much to the nutritiousness and flavor of animal food, renders vegetable matter disgusting to the taste, and poisonous. The chief substances, then, which enter largely into animal matter, are oxygen, hydrogen, azote, carbon, phosphorus, and lime. We find some other kinds of matter, as certain acids and metals, but in quantity so small as not to affect the truth of the above statement, that the foregoing six ingredients constitute the great bulk of the animal fabric.

The Mud of the Nile.—Egypt, as is well known, derives its fertility from the overflowing of the Nile. The deposit or mud gives an analysis nearly one half of argillaceous earth, one-fourth of carbonate of lime, and the remaining fourth of water, carbonate of magnesia and oxide of iron. It is used as the only manure to enrich those portions of the ground which contain little or none of it.

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Suggestions Relative to Gardeners' Work for April. By the Editor.

This is a month of much activity among gardeners. He who is diligent in enriching his soil, in comminuting it, in the selection of the best seed, and in covering them in such a manner as is most calculated to promote and sustain vegetation, will, under the ordinary blessings of Providence, meet with encouragement and reward;

"——— So from the root
Springs lighter the green stalk; from thence the leaves
More airy; last the bright consummate flower."

Occupying the Ground.—At this day it is a recent opinion that the soil requires no rest; consequently, the more that is obtained from a given portion of ground the better, provided it is well manured and a proper rotation pursued. Some persons will get twice the number as well as quantity of crops from a garden spot. Peas, for instance, may be planted on the sides of the bed of radishes. By the time the former are of much height, the latter will be sufficiently large to be pulled. Those who have no ground, manure, nor labor to spare, should set out their cabbages beside the fences, at the corners of the beds, and in vacant places. A clergyman informs us that he has, in this way, raised a large number of superior cabbages without apparently occupying any portion of the ground.

Globe Artichokes, *Cynara*.—Sow the seeds early in this month, in a bed of light moist earth, preparatory to transplanting next spring. This is an excellent vegetable; will produce good heads for six or seven years.

Asparagus.—Early in this month the seeds should be sown in a very rich bed. Those who already have plants, should transplant them into ground that has been well manured, and dug two spades deep. The rows should be near one foot apart, and the plants in the row about the same distance.

Beets.—Sow the seed in rich mellow earth from the first week in April to June.

Radishes.—Most garden soils are considered unsuitable for radishes. A mixture of two parts of sand with one of common garden or clayey earth, and a little manure, will give brittleness and transparency to the radish. Sow in succession until the middle of May.

Cabbages.—The first of this month sow the seeds of the early kinds for summer use.

Carrots.—Sow, for successive crops, from the first of April to June.

Celery.—Sow the seed in moist mellow ground early this month. As soon as they are two or three inches high, prick them out into another bed.

Cress, or Pepper-Grass.—Let this pleasant salad herb be sowed every week.

Garden Burnet.—This is considered a good salad herb. Sow in April.

Indian Corn for boiling—the early varieties sow in the latter part of April.

Lettuce—sow in warm borders in the middle of the month, and in succeeding weeks.

White Mustard.—This is a pleasant salad, sown in April and May, in successive weeks.

Nasturtium.—Sow the major or climbing variety near fences, and the dwarf in hills.

Onions.—Dig the ground early. Sow the seed in tha middle of the month, either broad cast or in drills. The white Portugal and the silver skinned varieties are mild in their taste, and produce good crops.

Parsley and Parsnip.—These are generally sown in the latter part of this month, in drills. The latter we consider one of the best vegetables put upon a table.

Peas.—The early kinds should be put in the ground as early as possible, and in successive weeks. The dwarf varieties require a soil less rich than those that grow high. Vegetable manure is considered better than animal matter.

Beans.—The English dwarf, (vicia fubia,) are planted early in April. Dwarf kidney and pole beans in the latter part of April, and in May and June.

Potatoes.—There are various varieties of this valuable vegetation. Those called the *early* are less productive. Plant in hills or drills, in a rich loamy soil, from the first week in April until July.

Sweet Potatoes, if planted in this month, should be put in a hot-bed, or under glass, and then the sprouts separated and transplanted.

Among other plants to be attended to this month are rocambole, rhubarb, salsofy, scorzenara, sea-kale, sorrel, skirret, spinach, and horse-radish.

Miscellaneous Rural and Scientific Gleanings.

By the Editor.

Composition of the Atmosphere.—Nitrogen and oxygen, with a small portion of carbonic acid gas, are the constituents forming the atmosphere. The two former are considered not to vary in their proportions. The proportion of the latter depends on temperature, winds, rains, and atmospherical pressure. At Geneva, according to the experiments of Saussure, the mean quantity of this gas in 1000 parts of air by measure is at mid-day 4. 9, the minimum 3. 7, and the maximum 6. 2. He observes, that in Switzerland this gas increases in summer, and decreases in autumn—that at noon the quantity in December, January and February, is to that in June, July and August, as 77 to 100. Over wet soils the atmosphere contains less than over dry ones—more in the night than in the day time—less in the lower strata of the air than in the higher. Winds are considered to increase the quantity in the strata near the earth, by mixing that of the upper strata. The cause why there is less over wet soils is, probably, that fermentation is checked by excess of moisture. Plants give out carbonic acid gas in the night, and thus increase the quantity.

Northern and Southern Aspect.—On the northern declivity of the Himmalah mountains, at the height of 15,000 feet, Capt. Gerrard found the hills and vallies covered with vegetation and herds of deer, and flocks of pigeons. On the southern declivity, at 10,000 ft. was the extreme height of cultivation. This difference is supposed to be owing to the radiation of caloric from the table land of Thibet: the dryness of the air in Central and Northern Asia, the small quantity of snow, and the serenity and transparency of the atmosphere, facilitating radiation.

Dew collected from the leaves of plants contains more carbonic acid gas than that from other substances. The gas given out in the night must be absorbed by the dew.

The Romans.—Pliny asserts that the Roman citizens, in early times, ploughed their fields with the same diligence that they pitched camps, and sowed their grain with the same care that they formed their armies for battle.

Planting and Building—Cato says, "a landholder should apply himself to the planting of his fields early in his youth, but he ought to think long before he builds."

Planting in Scotland.—Sir Walter Scott's History of Scotland contains the following: In 1504, there was made "a series of regulations for the improvement of rural economy, which imposes a heavier mulct than before on the destroyers of wood, the forests of Scotland being, as was alleged, utterly destroyed. For the same reason, every inheritor is directed to plant at least an acre of wood, to form parks and inclosures, construct fish-ponds, stock rabbit-warrens and dove-cotes, and plant orchards."

The Horse.—This noble animal appears to find a congenial climate wherever the air is pure. It is remarked that a low and marshy soil, in all countries, is uncongenial to him, and that he rapidly degenerates.

Sinking Wells.—Bishop Heber mentions a curious way of sinking wells in some parts of Asia. When the ground is sandy, a cylindrical tower of brick or stone work is made of the intended size of the well. This is suffered to remain until the masonry becomes indurated, and then it is gradually undermined until it is sunk even with the surface of the ground. If the well is not sufficiently deep, they add more masonry, and again undermine.

Salt in India.—The soil of Hindostan is so much impregnated with salt, that a saline effervescence is seen in almost every low spot.

Mud in Rivers.—The weight of mud daily carried down the river Ganges is calculated at 74 times the weight of the great pyramid of Egypt.

Saltpetre in India.—Bishop Heber observes that the tendency of the soil in Bengal to produce saltpetre is so great, that it encroaches upon walls and floors of the houses to an extent often rendering them uninhabitable in a few years. The saltpetre corrodes the best of bricks, and crumbles them.

Sunflower Oil.—From the following article from the American Farmer, it will be seen that the sunflower oil is destined to become of much importance:

It has been tried, and found to answer effectually all the purposes to which linseed is usually applied. In paint it is superior to linseed, drying much sooner, and imparting a gloss to the paint not attainable from linseed.

The *expression* of the oil is effected by the same machinery, and the same process used for expressing linseed oil; but the seed must first be passed through other machinery for the purpose of *hulling it*. Charles A. Burnitz, Esq., of York, Pa., invented a machine a few years ago for hulling the seed, and has it now in operation at his oil mill in the precincts of that village. By the aid of that machine he obtains double the quantity of oil from the seed, and renders it of a quality very superior to that formerly obtained from sunflower seed. A complete machine will cost about three hundred dollars, including the patent right. Mr. Barnitz will sell rights, and give all information on the subject to those who address him for the purpose.

From twenty to seventy-five bushels of seed may be produced from an acre, according to the quality of the soil—the average on good ground adapted to corn is fifty bushels. A bushel of the seed yields one gallon of oil, by Mr. Barnitz's machinery and process, three quarts cold pressed, and one quart hot pressed.

Good corn land is adapted to the growth of the sunflower, and in proportion to its produce of corn will be its yield of sunflower seed. The mode of culture is the same as that of corn.

We have no doubt that the cultivation of the sunflower would prove profitable to the agriculturist. An acre of ground will yield more sunflower seed than corn, with the same labor and expense; a bushel of sunflower seed is worth more than a bushel of corn. But (for there is a *but* in all new things) the improved machinery for expressing the oil must first be erected and accessible to the farmer, for there is yet no market for the seed in the cities as there is for corn and flaxseed.

The oil cake is an excellent article of horse-feed, and for this purpose will nearly pay the expense of expressing the oil; consequently, the farmer will get nearly a gallon of oil for every bushel of seed, when mills shall be erected for the purpose; but if he erects machinery, and crushes his own seed, the oil cake will more than pay for the labor and the interest on the cost of the machinery; he will then of course have a gallon of oil for every bushel of seed. Sunflower oil, for all the purposes to which linseed oil is applied, is worth at least as much as linseed—it is worth at least a dollar a gallon. But inasmuch as it may be applied to other purposes, it is much more valuable than the latter. As a substitute for olive oil, for table use, it has no equal. For three years past we have used it on our table ex-

clusively, and prefer it to the best sweet oil. It is also equal to sweet oil for all medical purposes. For lamps also it is excellent; fully equal to sperm oil, except that the lamps require trimming more frequently. It has the advantage, as lamp oil, of not being offensive, no disagreeable odor arising from its burning. Therefore, sunflower oil may not only be substituted for linseed oil, but for sperm and olive; and by aid of the proper machinery, it can be produced for half the cost of either.

Mixture of Vegetables by the Roots. By J. Robinson. To the Editor of the New-York Farmer and American Gardener's Magazine.

I offer the following facts relative to the mixture of seeds, and vegetables, with a view to accredit the testimony and facts of the "Old Man," and Mr. T. Bridgeman, contained in your former numbers.

I was for many years anxious to obtain a sort of kidney beans, said to be stringless, even when old. I at length succeeded in getting some, which I found came up to the mark. They were superexcellent in quality, and perfectly stringless, but through carelessness and neglect, they got mixed with others of different shape add color. Being anxious to cultivate this valuable sort by themselves, I assorted every bean with my fingers, and planted them at a distance from all others; this I done more than once, but at last they had become so infected from growing with others of a different nature, that they proved to be a spurious breed, so that I at length had to abandon them. I could produce other corroborative facts, but this is sufficient to establish Mr. Bridgeman's doctrine; namely, that "as it is in the animal frame, so it may be in the vegetable system. Disorders very frequently lay dormant from one generation to another, and at length break out with all their vigor." I have therefore come to the same determination as Mr. B., and shall not attempt in future to "bring a clean thing out of an unclean thing." Whenever I discover a mixture of vegetables of the same class, growing together, I shall not attempt to raise seed even from the best of such.

J. Robinson.

Williamsburgh, L. I., March 1833.

Introduction of Choice and Rare Fruit. By An Amateur of Fruit. [For the New-York Farmer, and American Gardener's Magazine.]

Mr. Editor,—I was much pleased to find in your number for September, under "Items of Farmer's Work, &c.," that you have very properly recommended to farmers the utility of selecting and planting of the different varieties of rare and choice fruit, which is much wanted, especially in the western part of this state. If this was duly attended to, much good might be expected to arise therefrom to all classes of people, and particularly the *grower*.

I hope your advice "to buy, and not to beg, buds and scions," may have its desired effect. The practice of begging cuttings of rare fruits has become so general, and perhaps, it may be said, *unreasonable*, that it has greatly deterred many enterprizing horticulturists from cultivating rare fruits, from the continual applications from all quarters for scions, by *amateurs* of fruit, &c. Nurserymen, also, suffer by introducing rare fruits at great expense. The demand will not compensate them for their trouble, which certainly is but slender, if the giving *system* is long continued. Thus the cultivation of fine fruit will be retarded by the penurious disposition of its principal *advocates*.

An Amateur of Fruit.

Vegetable Sexuality. By S. To the Editor of the New-York Farmer and American Gardener's Magazine.

Sir,—In perusing "Stroud's Elements on Botany," I have been much pleased with many observations on "Vegetable Sexuality," especially in reference to the *Valisneria spiralis*, from the pen of Dr. Darvin.

On the subject of Vegetable Sexuality, the author observes—"In plants of two houses, which produce their stamens and pistils on different roots, nature has provided many curious methods to bring their pollen in contact with the stigmatæ of the female flowers; of these the most singular is that of the *Valisneria spiralis:* this singular plant is wholly submersed, except the female flowers, which are furnished with an elastic spiral stem; this spiral, when extended, is from three to seven feet, or more, in length, and when the river either rises or falls it still allows the female flowers to float on the surface: the male flowers expand in their submersed situation on short scapes, which, when their anthers are ready to burst, detach themselves from the plant and float on the surface of the water, when the current bears them, or the winds propel them, to the female flowers. Dr. Darvin, in his *Botanic Garden*, has the following beautiful allusion to the circumstance:

As dash the waves on *India's* breezy strand,
Her flush'd cheek press'd upon her lilly hand,
Valisnier sits, up-turns her tearful eyes,
Calls her lost lover, and upbraids the skies;
For him she breathes the silent sigh, forlorn,
Each setting day; for him each rising morn.—
"Bright orbs, that light yon high ethereal plain,
"Or bathe your radiant tresses in the main;
"Pale moon, that silver'st o'er night's sable brow;—
"For ye were witness to his parting vow!
"Ye shelving rocks, dark waves, and sounding shore,—
"Ye echoed sweet the tender words he swore!—
"Can stars or seas the sails of love retain?
"O guide my wanderer to my arms again!"

S.

Albany, February 20, 1833.

Cotswold and other Varieties of Sheep. By H. For the New-York Farmer and American Gardener's Magazine.

Mr. Editor,—In your last number, p. 95, are some queries by a subscriber respecting Cotswold Sheep, which would be answered differently by different persons; but let each person who knows them contribute his mite. There are in various parts of England high rolling lands called wolds, as in Yorkshire, Lincolnshire, Gloucestershire. The last are called the Cotswold hills, from an old practice of cotting or housing sheep, but this practice is now out of date. Cotswold sheep are long woolled, large, and strong built, have white faces and legs, broad noses, and are without horns. They have some Leicester blood in them, from which all the long woolled breeds in England have received great benefit. They are, however, a coarser and hardier kind of sheep than the Leicester.

A few years ago, being amongst the farmers there, I found that large lots of Cotswold wethers, four tooth or two shear sheep, might be had which would weigh on an average 56 pounds per quarter. I there saw them in the butchers' shops, at Gloucester, of full that weight, and close to them were hanging carcases of the beautiful little Ryeland sheep, weighing only 14 or 16 lbs. per quarter, but worth more per pound. In the market were tups for sale, large good sheep; their length struck the eye directly. A Mr. Large, of Bradwell, Oxfordshire, on the border of Gloucestershire, gained many prizes at the Smithfield show, for his Cotswold sheep; one of which weighed 62½ lbs. per quarter, or 250 lbs. the carcase. But now they are not bred so heavy, two sheep to make the weight are found much better in all respects; and I have seen them latterly, at the London Christmas shows, weighing from 30 to 36 lbs. per quarter.

The remarks of Mr. Smith are *slightly* incorrect. The land on the Cotswolds is not poor, for, if it were so, heavy, long woolled sheep could not live, much less get fat on it. The climate is not cold, being in the south of England, but wet and bleak. These sheep never live hard, and in winter you may see thousands of them feeding off turnips on the land, with a stack of hay in the middle of the field, and no shelter but stone fences, not a tree nor a hedge. They are hardy, good constitutioned sheep, but require abundance of moist as well as dry food in winter, or they would rapidly degenerate in wool and carcase.

In the small territory of Great Britain are various breeds of cattle and sheep, adapted to the soils on which they are kept, and nothing strikes an Englishman more than the little variety seen here. The common sheep of the United States are evidently from the same stock as the heath sheep of England, such as may be seen on Bagshot heath, the Derbyshire hills, and other places. These common sheep have in most districts been crossed with Merinoes, the wool of which ought to be excellent indeed to make up for their ill formed carcases. Of late years many Leicesters have been brought from England, and an excellent breed they are, but coming from a mild, moist climate, and rich soil, some of them and their descendants have suffered severely when wintered in the way that is too common here. Some Lincolns and Southdowns have been brought, but there are other good sheep which have never been introduced. The large Dorsets, which, with a kindred breed of Somerset sheep, supply the London market with house lamb, are well worth being imported and tried in some parts of the middle states. The Ryelands are good sheep, but would not suit the many who look to size instead of symmetry. Would it not be worth while for some of the Agricultural societies to introduce these, with some of the smaller varieties of British cattle as yet unknown here?

The number of sheep kept in England and Scotland is immense, and at the large sheep fairs, at stated times, in every part of the country, a stranger may see every variety. At Weyhill fair, in Hampshire, I have seen 120,000 sheep penned for sale. These were chiefly Hampshire Downs of all ages, assorted in lots, so that a buyer could find ewe lambs in one pen, wether lambs in another, then shearlings, or 2 tooths as they call them, &c. Besides these, but not penned, were many flocks of Dorset and Somerset ewes, some of which then, (10th October,) were within a few days of lambing. In England, beef and mutton are nearly the same price, and the latter is a favorite meat. Here it certainly is not so, for though the beef and pork are good, mutton is not so, and the inferior quality accounts for the price. H.

P. S.—The price of Cotswold mutton, in England, is like that of all the large long-woolled sheep, less than that of smaller sheep; but even these of late years have been bred there with so much pains, that they fatten earlier than formerly, and, not having age, their mutton has not so much flavor as it used to have. Some gentlemen keep wethers to a good age for their own tables; but the farmer, of course, makes the most profit he can, and sells fat, at two years old, sheep which formerly would have been kept to twice the age.

Orchard Grass.—This, as well as many other light chaffy seeds, should be sprinkled with water, and allowed to become well moistened before it is sowed. If it is well mixed with a little plaster or lime, it can be sown with more ease, and have its vegetation promoted.

SUMMARY.

Delaware and Hudson Canal.—It is gratifying to us to be enabled to state upon good information, that the spring floods have passed away, without injury to this Canal.

Advantages of reducing Canal Tolls.—The Ashtabula (Ohio) Sentinel of 23d ult., states the following facts respecting the evil operation of the high rate of tolls on the Erie Canal, and is of course rejoiced at the material reduction recently effected in those rates by the Canal Commissioners.

The high tolls have long been a subject of just complaint to the merchants and farmers of the West, and the propriety of a reasonable reduction has long been urged in vain. The cause for this favorable and unexpected result, is owing more to the force of circumstances, than to any spirit of accommodation, and what reason and justice have repeatedly urged in vain, competition has suddenly accomplished. In consequence of these unfavorable circumstances to the shippers, a great proportion of the produce of this State passed through the Wellard Canal last season; and it is well for the interests of those concerned, that the subject has received so early and satisfactory a consideration.

[*From the New-York American of Tuesday.*]

The expedition of Capt. Back in search of Capt. Ross and his companions, who have not been heard of since the summer of 1830, inspires almost as much interest here as in England; for it concerns all equally who have a common interest and a common glory in whatever ennobles our race. Capt. Back, accompanied by Dr. King, a young and accomplished physician, with three hardy countrymen, proceeds tomorrow to Montreal; and thence, as soon as possible, sets out on his perilous journey.

The Collector of this port, as we learn from the Journal of Commerce, has suspended, until he can have the decision of the Secretary of the Treasury, the collection of the duties on the articles which constitute the outfit of Capt. Back and his party—chiefly presents for Indians, &c. We trust there is the power—we are sure there is the disposition, in the Treasury department, to forego these duties altogether, in consideration of the objects of this undertaking.

[*From the New-York American of Thursday.*]

Capt. Back, and Dr. King, with their attendants, left this city yesterday for Montreal. They were accompanied to the Boat by many friends and well-wishers, and as she pushed off, the assembled multitude greeted the enterprize of these gallant men with three cheers, which were cordially returned by Capt. *Back* and his party. The following note from the Hudson River Steamboat Association is creditable to their liberality:

New York, April 3d, 1833.

Capt. Back—Sir:—Understanding that you propose leaving New York for the North this evening, I take the liberty, in behalf of the Directors of the Hudson River Steamboat Association, to offer for yourself and suite, the use of the steamboat Ohio from New York to Albany. Very respectfully, yours,

M. Van Buren, Secretary.

N. B. The Ohio leaves the wharf foot of Courtlandt street, at 5 o'clock, P. M.

Destruction of the U. S. Treasury by Fire.—The Washington Globe of yesterday morning furnishes this account of the occurrence. "We regret to announce the total destruction, by fire, of the Treasury building; but we are happy to add, that, as far as can now be ascertained, all the public accounts and vouchers relating to the receipt and disbursement of the public moneys have been saved.

It is understood that the fire was discovered at about half past 2 o'clock on Sunday morning, by a person accidentally passing. The flame was first seen issuing from the windows of the room on the upper floor adjoining the centre projection, on the north front. The alarm was immediately given: and by great exertions on the part of the Secretary and other public officers, as well as on the part of the citizens generally, who seemed to take an equal interest in the matter, the most important part of the public papers were preserved. The public records and documents, being the chief objects of solicitude, the principal and earliest efforts were made for their preservation.

The manner in which the fire originated has not been ascertained. The necessary measures have, however, been taken to obtain information on the subject, and, as soon as the result is known, it will be communicated to our readers. It appears that the messenger, whose turn it was to watch, was absent, from sickness; and that the person who usually sleeps in the building, was not aware of the fire until he was awakened from the outside.

The Secretary has, with great promptness, engaged several contigous houses opposite to Strother's Hotel, for the use of the Treasury: the public books and papers have already been removed to them; and the business of the Department will be transacted there to-day as usual."

Claims on Denmark.—We learn from the Baltimore Chronicle, that the Commissioners appointed to carry into effect the Convention with Denmark, and to distribute the fund provided to indemnify the claims of American merchants for spoliations upon their commerce, have closed the commission, and made their final report to the State Department. The time limited by the Treaty and the act of Congress, for the adjustment of these claims, and distribution of the funds, will expire on the 4th of April, after which time the claimants will be entitled to receive their respective proportions of the fund, at the Treasury Department, of which due notice will be given. The return from the Board is in such form as to prevent any delay in the payment of the claims at the Treasury. We learn, also, that the whole amount of claims presented and acted upon by the Board, was between three and four millions of dollars. The amount allowed is $2,151,425—and the amount to be distributed amongst the claimants is $670,564 78, so that the claimants will receive thirty one and one-eighth per cent. upon the sums allowed to them respectively.

Hassler's Report on Weights and Measures.—This learned and elaborate report, which was submitted by the Secretary of the Treasury to the late Congress, is thus spoken of in a letter we have seen, by a most competent judge, Capt. *Beaufort*, Hydrographer to the British Admiralty, F. R. S., &c.

"I have been lately much delighted with Professor Hassler's Report on Weights and Measures. It is a very able paper, and quite as important to the philosophers of this country as to those of your great Union."

Mr. Hassler is now, as our readers have been already informed, employed in completing the coast survey, commenced by him some sixteen or seventeen years ago, and most improvidently and unwisely arrested by the Government in mid career. It is matter of just congratulation, that under wiser councils, this distinguished and practical *savant* has been authorized to resume his labors.

The Birds of America.—Mr. *Audubon*, whose arrival here we announced a few days ago, yesterday exhibited to a number of our citizens at the President's rooms in Columbia College, a series of the original drawings for his great work, and the plates of the only volume yet completed. The gratification was universal. Each plate and drawing presented a picture of itself, by showing the bird in some characteristic attitude or action, and in the midst of scenery habitual to it.

This magnificent work of Mr. Audubon, unequalled by any other, possibly, in existence on any subject, is complete, *so far as the original drawings are concerned*, Mr. A. having finished them all. But it will require several years for the execution of the engravings from these drawings. One volume, containing 100 plates, of the largest folio size, and where each bird, even to the wild turkey, is represented in his natural proportions, is now finished. Three more are to follow. The subscription price for the whole is $800, payable on the delivery of each volume, so as to make it $200 for the volume now ready, and the same sum every second or third year, till the four volumes are completed. We are thus particular in specifying the terms, because, being most desirous that the liberality and good taste of this city should be stirred up to the encouragement of so magnificent a work, we wish to show how conveniently it may be accomplished.

Boston afforded to Mr. Audubon *eighteen subscribers—New York*, as yet, *not one*. The work is indeed too costly, generally speaking, for individuals, though our city can and should furnish many exceptions to this remark—but a plan quite within the reach of even moderate means, is this—that several individuals, as many or as few as may be requisite, should associate together and present copies to different public institutions. Columbia College, the University, the City Library, the Historical Library, the Athenæum, the Library of the New York Hospital, the Lyceum, all should possess this admirable national work.

Mr. Audubon is a native American, and he has now devoted nearly forty years to the illustration of the history and habits of the birds of America. The actual cost of publishing the first volume was $25,000, independent of the time, talents, labors and exposure of the ornothologist himself.

The Weather at Florence: Jan. 22.—A remarkable peculiarity of the weather here this winter is its extreme dryness. Instead of the deluges of rain which might naturally have been expected after the drought of the summer, we have scarcely had a thorough rainy day the last four months: the wells are still almost all dry, and the Arno lower than in summer. This may be a very serious affair, if we have not a rainy spring to drench the soil, which is still dry as dust a little way below the surface.

Mr. James Ballantyne, the friend of Scott—the printer of his works, one of the chosen few to whom the Waverley secret was confided from the beginning, and from whose able pen were expected some interesting additions to the biography of the Great Master—has survived him but a brief space. He died at Edinburgh on the 17th of January, rather unexpectedly, though for several months past his health had been very delicate.

We gave some weeks ago, a brief notice of the New York Fur Company: we are enabled now to give further and more correct information. One hundred and ten men proceeded by the Lakes Ontario, Erie, and Huron; 50 of whom are to remain at Michilimackinac on the last mentioned lake. The remaining 60 to proceed by Lake Michigan to Green Bay—up the Fox and *Wisconsin* rivers to Prairie des Chiens on the Mississippi—up that river to the Falls of St. Anthony—from thence, across the Prairies, *Traverse de Sioux* to little Missouri—up that River to the Rocky Mountains. Some will be employed along the banks of the Missouri at the Company's Trading Establishments, and a party will go up as far as the Rocky Mountains. They will pass through the *Mundan*, Crawfoot, *Piegons*, Blood Indians and the Rees Nations.—[Montreal Herald.]

Iceland.—Hans Finsten, a native of this remote quarter of Europe, has lately published an interesting pamphlet on the diminution of the population of Iceland, owing to unfavorable years. He observes, that, previously to the fourteenth century, the number of inhabitants was computed at 120,000, but that, at present it does not exceed 54,000. Hopes of a renewed increase are derived from the declining violence of volcanic eruptions, the lava and ashes of which have acted very prejudicially, both on the health of individuals and animals, as well as from the extension of horticulture and fisheries, the latter of which are no longer prosecuted in fragile barks, but in stout seaworthy vessels.

We have heard Frenchmen, when acknowledging the power of the English and German Reviews, and the inferiority of French attempts, endeavor to account for it by averring that the Anonymous was impossible in France,—that whatever might be the motives of secrecy, if an article became talked of, such was the French love of glory, that the author must avow himself. The avowal of *Ego* must be the annihilation of *Nos*; the imposing plural becomes henceforth a farce; the Secret Tribunal, an idea of

awful effect, is instantly scattered by such declarations; and a party of Reviewers, openly and individually known, resemble a cave of bats, with light suddenly let in upon them by some catastrophe of nature.—[London Spectator.]

Sword of Honor.—We find it stated in the *Courrier des Etats Unis* that subscriptions of 25 centimes, about *five cents* each, are opened in all the Mayoralties in France, in order to purchase for *Marshal Gerard* a sword of gold, to bear this inscription:

"Frenchmen to the Marshal commanding in chief the army of the North—capture of the Citadel of Antwerp." On the other side of the blade will be this legend—"Glory and Humanity."

"*The Magpie.*—Wherever it be, wild or tame, this is the monkey of birds, full of mischief and mimicry. A gentleman told Mr. Howit, that one he kept, having stolen various articles, was watched by him narrowly; and was at length seen by him busy in the garden gathering pebbles, and with much solemnity and a studied air, dropping them into a hole about eighteen inches deep, made to receive a line-post.—After dropping each stone, it cried 'carack!' triumphantly, and set off for another. Making himself sure that he had found the objects of his search, the gentleman went to the place, and found in the hole a poor toad, which the magpie was stoning for his amusement.—[Notes of a Naturalist.]

Competition against Ireland.—A new tuberous root (the newspapers tell us) has been successfully introduced into this country from Chili: it is called the *Oxalis creneta*, (which we hope to see translated into Creneto, *v.* Potato,) bears a yellow flower is ornamental to the garden, and as an edible, superior to the staple food of the Irish pigs and pisintry.

The Corn Crake.—This interesting bird, which visits the north of England and Scotland in summer, and keeps up in the meadows its cry of *crake, crake*, is well known, but is not easily seen. It runs with great radidity, and is loth to take wing. When found, it has the instinct, in common with some other animals, and especially insects, to feign death. A gentleman had one brought to him by his dog. It was dead, to all appearance. As it lay on the ground, he turned it over with his foot—he was convinced it was dead. Standing by, however, for some time, in silence, he suddenly saw it open an eye. He then took it up—its head fell—its legs hung loose—it appeared again totally dead. He then put it in his pocket, and before very long, he felt it all alive, and struggling to escape. He took it out, it was as lifeless as before. He then laid it again upon the ground and retired to some distance; in about five minutes, it warily raised its head, looked around, and decamped at full speed.—[Notes of a Naturalist.]

Stag's Horns.—There is a curious fact, not generally known, which is, that at one period the horns of stags grew into a much greater number of ramifications, from the animal having more repose, before population became so dense. In some individuals, these multiplied to an extraordinary extent.—There is one in the Museum of Hesse Cassel with twenty-eight antlers. Baron Cuvier mentions one with sixty-six—thirty-three on each horn.—[White's Natural History of Selborne, by Browne.]

Cemetry in London.—The General Cemetery Joint Stock company of London have completed a Cemetery, resembling in its plan that of Perele Chaise in Paris. The ground selected for their purpose is a lot of sixty acres at Kendall Green, forty of which are enclosed by a wall, and ornamented with trees and shrubbery. Artists have been employed in preparing plans and models for the decoration of the grounds, and a premium of 100*l.* has been awarded for the design of a magnificent chapel. Arrangements are made for the conveyance of bodies and funeral processions by water carriage to the spot. The Bishop of London at first refused to consecrate it, in consequence of the want of a chapel where the service might be read when requisite; but subsequently withdrew his objection, a temporary chapel having been erected.

[*From the New-York Observer.*]

Prayer of the Emperor of China for Rain.

On the 31st of May last, an official paper was published by the Emperor of China, lamenting the want of rain. He had previously directed sacrifices to be made to the gods, and "devoutly knocked his head on the ground," but without effect. "His scorching anxiety had continued night and day, and hour after hour, he looked earnestly for rain; but none had fallen." He "had turned his thoughts in upon himself, and his government," but had found nothing amiss. "His own conduct," he says rather proudly, "ought to have induced a sweet harmony between the rain-bearing clouds above, and the parched earth below, but this had not been the effect;" and, therefore, in this official paper, the Emperor directs "a mitigation of punishment for convicted persons in the province of Pekin (except in the case of great crimes)," and orders that "accused persons should be brought to a speedy and fair trial;" that "imprisoned witnesses should be at once confronted with the opposite parties, or be set at liberty on bail;" and that "all small offences be immediately disposed of and the parties liberated." "Thus (he adds) we may hope for timely, genial, and fructifying showers. Let the Criminal Board immediately obey these commands. Respect this."

This last contrivance was as ineffectual as all that had preceded it; the drought was severe; and continued still for many weeks. The Emperor, Kings and Princes "fasted and prayed once in seven days, before altars dedicated to the gods of heaven, the gods of earth, of the year, of the land, of the grain, and finally to imperial heaven itself, and also to imperial earth, with all the saints." His Majesty, moreover, sent a King to Tae Shan, "the great mountain," in Shangtung province, with Tibetian incense matches, to pray for rain in the Emperor's stead. But all was of no avail, and at last on the 25th of July, the Emperor offered up the following

Prayer for rain, *written by his Imperial Majesty Taoukwang, and offered up on the 28th day of the sixth month of the 12th year of his reign*,—July 25th, A. D. 1832.

"Kneeling, a memorial is hereby presented, to cause affairs to be heard.

"Oh, Alas! Imperial Heaven, were not the world afflicted by extraordinary changes, I would not dare to present extraordinary services. But this year the drought is most unusual. Summer is past, and no rain has fallen. Not only do agriculture and human beings feel the dire calamity; but also beasts and insects, herbs and trees, almost cease to live.

I, the minister of Heaven, am placed over mankind, and am responsible for keeping the world in order, and tranquilizing the people. Although it is now impossible for me to sleep or eat with composure; although I am scorched with grief, and tremble with anxiety; still, after all, no genial and copious showers have been obtained.

"Some time ago, I fasted, and offered rich sacrifices, on the altars of the gods of the land and the grain: and had to be thankful for gathering clouds and slight showers; but not enough to cause gladness.

"Looking up, I consider that Heaven's heart is benevolence and love. The sole cause is the daily deep atrocity of my sins; but little sincerity and little devotion. Hence I have been unable to move Heaven's heart, and bring down abundant blessings.

"Having respectfully searched the records, I find, that, in the twenty-fourth year of Keenlung, my imperial grandfather, the high, honorable and pure emperor reverently performed a 'great snow service.' I feel impelled by ten thousand considerations, to look up and imitate the usage, and with trembling anxiety, rashly assail heaven, examine myself, and consider my errors; looking up and hoping that I may obtain pardon. I ask myself,—whether in sacrificial services I have been disrespectful? Whether or not pride and prodigality have had a place in my heart, springing up there unobserved? Whether, from the length of time, I have become remiss in attending to the affairs of government; and have been unable to attend to them with that serious diligence, and strenuous effort, which I ought? Whether I have uttered irreverent words and have deserved reprehension? Whether perfect equity has been attained in conferring rewards or inflicting punishments? Whether in raising mausoleums and laying out gardens, I have distressed the people and wasted property? Whether in the appointment of officers I have failed to obtain fit persons, and thereby the acts of government have been petty and vexatious to the people? Whether punishments have been unjustly inflicted or not? Whether the oppressed have found no means of appeal? Whether in persecuting heterodox sects, the innocent have not been involved? Whether or not the magistrates have insulted the people, and refused to listen to their affairs? Whether in the successive military operations on the western frontiers, there may have been the horrors of human slaughter, for the sake of imperial rewards? Whether the largesses bestowed on the afflicted southern provinces were properly applied; or the people were left to die in the ditches? Whether the efforts to exterminate or pacify the rebellious mountaineers of Hoonan and Canton, were properly conducted; or whether they led to the inhabitants being trampled on as mire or ashes? To all these topics, to which my anxieties have been directed, I ought to lay the plumb-line, and strenuously endeavor to correct what is wrong; still recollecting that there may be faults which have not occurred to me in my meditations.

Prostrate I beg Imperial Heaven, *Hwang Teen*, to pardon my ignorance and stupidity; and to grant me self-renovation; for myriads of innocent people are involved by me, a single man. My sins are so numerous, it is difficult to escape from them. Summer is past, and autumn arrived; to wait longer will really be impossible. Knocking head, I pray, Imperial Heaven, to hasten and confer gracious deliverance,—a speedy and divinely beneficial rain; to save the people's lives; and in some degree redeem my iniquities. Oh—Alas! Imperial heaven, observe these things!—Alas! Oh Imperial Heaven, be gracious to them. I am inexpressibly grieved, alarmed, and frightened. Reverently this memorial is presented."

This is a most singular production. It is too of great value. It is worth more than scores of quartos and folios of the vain speculations which have been published concerning China. Even allowing that much of the coloring has been given to it for effect merely (which we are slow to admit,) still it exhibits an exalted personage, in a most interesing and affecting point of view. It is withal a very serious document; as it is conducts us to the anti-chambers of the "celestial court," and there shows us the "minister of heaven," scorched with grief, pouring over his atrocious sins, and with trembling anxiety, recounting the errors of his public and private life; our sympathy is excited, and we, instinctively, re-echo his lamentation, Woo hoo! Oh, Alas!

It exhibits darkness and weakness peculiar to the human mind, while unblessed by the revealed Word and by the Spirit of the only living and true God. It shows also, very distinctly, if we mistake not, the symptoms of an oppressed and declining empire.—We predict nothing. We should rejoice to see "the great pure dynasty" long stand strong, flourishing in all the glory, peace, tranquillity, and prosperity which it now proudly and falsely arrogates to itself. The welfare of the Chinese empire is the dearest object to our hearts on earth. But our own minds, in accordance, we believe, with the minds of millions, forbode an approaching change. We cannot deny the evidence of our senses; and we will not, knowingly, conceal the truth. Causes are operating on this nation,—would they did not exist—which must produce tremendous effects. The state groans; and already convulsions begin to be felt. And oh, should the bands of Government be once broken asunder, and this immense mass of population—an ocean of human beings—be be thrown into confusion, the scene would be awful. We gladly turn from the contemplation of such a picture.

The Emperor's anxieties, occasioned by the long continuance of the drought, are now terminated. By a paper in the Gazette, dated at Peking, July 29th, it is stated, that after the Emperor had fasted, and offered the prayer, given above, before the altar dedicated to heaven, at about 8 o'clock on the same evening, thunder, lightning, and rain, were intermingled; the rain falling in sweet and copious showers. The next day, a report came in from the Shuntsenfoo* magistrate that two inches had fallen: and on successive days, near the Imperial domain, a quantity fell equal to four inches. For this manifestation of heavenly compassion, the Emperor, in an order published, expresses his devotion and intense gratitude; and the 2d of August is appointed as a day of thanksgiving. Six kings are directed to repair to the altar dedicated (1) to heaven, (2) to earth, (3) to the gods of the land and grain, (4) to the gods of heaven, (5) to the gods of the earth, and (6) to the gods of the revolving year.

The precise idea, which his Imperial Majesty attaches to the words "imperial heaven," we will not stay here to determine. It is manifest, however, that such a variety of objects of adoration cannot be acceptable to HIM who has declared: "*Thou shalt have no other gods before me.*" Jehovah is not a man that he should lie;—he will not give his glory to another. The conduct of the Emperor in praying, fasting, and self examination, ought to reprove the christian. But we shall do exceedingly wrong, if we attempt to excuse such abominable idolatry, and to throw the mantle of charity over that which God abhors.

It is a very remarkable circumstance, connected with the drought, that none of the priests of Taou and Budha were *ordered* to pray as they usually have been heretofore on similar occasions. This single fact shows in how low estimation *they* are held by the Emperor.

NEW-YORK AMERICAN.

MARCH 30, APRIL 1, 2, 3, 4, 5—1833.

LITERARY NOTICES.

CONVERSATIONS ON RELIGION WITH LORD BYRON AND OTHERS, BY JAMES KENNEDY, M. D. of His Britannic Majesty's Medical Staff.—*Philadelphia: Carey & Lea.*—No one can look into these pages without feeling great respect for the pious and learned physician to whom we are indebted for them. Dr. Kennedy, at the time of the conversations which form the subject of his book, was stationed in Cephalonia with his corps—and there was accidentally thrown into the society of Lord Byron. The good faith, simplicity and earnestness of purpose displayed in the Conversations held with that eminent individual, must prepossess all readers in the author's favor—and we may add, we think that they cannot be read without leaving the impression that Lord Byron felt most deeply himself the desolation and hopelessness of his own scepticism.

Dr. Kennedy reasons well—was, for a man of laborious profession, manifestly unusually versed in theological studies—and always presents his arguments rather with a view to truth than to victory.—We are surprised, we confess, at hearing a British military surgeon quoting in one of the Ionian islands, to a British peer, the works of Professor Stuart, of the Theological Seminary in Andover. It will grieve all well-disposed minds to hear that Dr. Kennedy died in 1827, of yellow fever, in the island of Jamaica—in the midst of an assiduous discharge of his professional duties among the suffering troops. The Journal of his conversations was not completed when he died, and is now given to the world in its unfinished state by his widow. It is altogether a book calculated, we think, to do good—for many will be induced, from its connection with Byron, to read it, who would not possibly be tempted to look a second time at such discussions as it presents, if put forth in a more formal manner.

THE CONSTITUTION OF MAN CONSIDERED IN RELATION TO EXTERNAL OBJECTS, by GEO. COMBE. *Boston: Allen & Ticknor.*—To all who have taken any interest in *Phrenology*, the name of this author is familiar by his Essays on this science. As a writer, his style is clear and easy—as a reasoner, he is lucid and fair; and his object in the work before us all must approve; for it is "to lessen misery and to increase happiness," by pointing out the relation of man to the external world, by explaining the causes of physical organic and intellectual being, and—by showing with Bishop Butler that "in the present state, all which we enjoy, and *a great part of what we suffer*, is put in our power—for pleasure and pain are the consequence of our actions"—to induce men to live in harmony with the laws of their moral and intellectual constitution. The phrenological views of the author are brought forward not to make converts, but to enforce general truths; and in this shape they become important auxilaries.

In the extracts that follow we do not aim at presenting any thing like an analysis of the work, but rather by some striking passages to stimulate our readers to the perusal of the book itself.

Take for example the view given in the annexed passage of the necessity of the operation and power of conscience, and of the reason why it is the province of that faculty to *punish*, and not to *prevent*, transgression:

Conscientiousness exists,—and it is necessary to prove that all the divine institutions are founded in justice, to afford it full satisfaction. This is a point which many regard as involved in much obscurity: I shall endeavor in this Essay to lift the veil, for to me justice appears to flow through every divine institution.

One difficulty, in regard to Conscientiousness, long appeared inexplicable; it was, how to reconcile with Benevolence the institution by which this faculty visits us with remorse, *after* offences are actually committed, instead of arresting our hands by an irresistible veto before them, so as to save us from the perpetration altogether. The problem is solved by the principle, that happiness consists in the activity of our faculties, and that the arrangement of punishment after the offence is far more conducive to activity than the opposite. For example; if we desired to enjoy the highest gratification of Locality, Form, Coloring, Ideality, and Wonder, in exploring a new country, replete with the most exquisite beauties of scenery and most captivating natural productions, and if we found among these, precipices that gratified Ideality in the highest degree, but which endangered life when we advanced so near as to fall over them, and neglected the law of gravitation, whether would it be most bountiful for Providence to send an invisible attendant with us, who, whenever we were about to approach the brink, should interpose a barrier, and fairly cut short our advance, without requiring us to bestow one thought upon the subject, and without our knowing when to expect it and when not,—or to leave all open, but to confer on us, as he has done, eyes fitted to see the precipice, faculties to comprehend the law of gravitation, Cautiousness to make us fear the infringement of it, and then to leave us to enjoy the scene in perfect safety if we used these powers, but to fall over and suffer pain by bruises and death if we neglected to exercise them? It is obvious that the latter arrangement would give far more scope to our various powers; and if active faculties are the sources of pleasure, as will be shown in the next section, then it would contribute more to our enjoyment than the other. Now, Conscientiousness punishing after the fact, is analagous in the moral world, to this arrangement, in the physical. If Intellect, Benevolence, Veneration, and Conscientiousness, do their parts, they will give distinct intimations of disapprobation before commission of the offence, just as Cautiousness will give intimations of danger at sight of the cliff; but if these are disregarded, and we fall over the moral precipice, remorse follows as the punishment, just as pain is the chastisement for tumbling over the physical brink. The object of both institutions is to permit and encourage the most vigorous and unrestrained exercise of our faculties, in accordance with the physical, moral, and intellectual laws of nature, and to punish us only when we transgress these limits.

The next extract we select is to prove how wisely man was endowed with *capacity* for acquiring knowledge, rather than with *intuitive knowledge*.

Supposing the human faculties to have received their present constitution, two arrangements may be fancied as instituted for the gratification of these powers. 1st. Infusing into them at birth *intuitive knowledge* of every object which they are fitted ever to comprehend; or, 2dly. Constituting them only as *capacities* for gaining knowledge by exercise and application, and surrounding them with objects bearing such relations towards them, that, when observed and attended to, they shall afford them high gratification; and, when unobserved and neglected, they shall occasion them uneasiness and pain; and the question occurs, which mode would be most conducive to enjoyment? The general opinion will be in favor of the first; but the second appears to me to be preferable. If the first meal we had eaten had for ever prevented the recurrence of hunger, it is obvious that all the pleasures of a healthy appetite would have been then at an end; so that this apparent bounty would have greatly abridged our enjoyment. In like manner, if, our faculties being constituted as at present, intuitive knowledge had been communicated to us, so that, when an hour old, we should have been thoroughly acquainted with every object, quality, and relation that we could ever comprehend, all provision for the sustained activity of many of our faculties would have been done away with. When wealth is acquired, the miser's pleasure in it is diminished. He grasps after *more* with increasing avidity. He is supposed irrrational in doing so; but he obeys the instinct of his nature.—What he possesses, no longer satisfies Acquisitiveness; it is like food in the stomach, which gave pleasure in eating, and would give pain were it withdrawn, but which, when there, is attended with little positive sensation. The Miser's pleasure arises from the *active state* of Acquisitiveness, and only the pursuit and obtaining of *new treasures* can *maintain this state*. The same law is exemplified in the case of Love of Approbation. The gratification which it affords depends on its *active state*, and hence the necessity for *new incense*, and *higher mounting* in the scale of ambition is constantly experienced by its victims. Napoleon in exile, said, 'Let us live upon the past:' but he found this impossible; his predominating desires originated in Ambition and Self-esteem; and the past did not stimulate these active powers, or maintain them in constant activity. In like manner, no musician, artist, poet, or philosopher, would reckon himself happy, however extensive his attainments, if informed, Now you must stop, and live upon the past; and the reason is still the same. New ideas, and new emotions, best excite and maintain in activity the faculties of the mind, and activity is essential to enjoyment. If these views be correct, the consequences of imbuing the mind with intuitive knowledge, would not have been unquestionably beneficial. The limits of our acquirements would have been reached; our first step would have been our last: every object would have become old and familiar; Hope would have had no object of expectation; Cautiousness no object of fear; Wonder no gratification in novelty; monotony, insipidity, and mental satiety, would apparently have been the lot of man.

As a proof and encouragement that life may be both lengthened and more enjoyed by a stricter adherence to the laws of the Creator, the fact stated, in our next extract, is important. It suggests moreover a question of interest to all who insure their lives. Whether the tables now in use for calculating the risk on life be ancient or recent?—since it is manifest that, as the average duration of life increases, the premium of insuring it should diminish.

About seventy years ago, tables of the average duration of life, in England, were compiled for the use of the Life Insurance Companies; and from them it appears, that the average of life was then twenty eight years; that is, 1000 persons being born, and the years which each of them lived being added together, and divided by 1000, gave twenty eight to each. By recent tables, it appears that the average is now thirty two years to each; that is to say, by superior morality, cleanliness, knowledge, and general obedience to the Creator's institutions, fewer individuals now perish in infancy, youth, and middle age, than did seventy years ago. Some persons have said, that the difference arises from error in compiling the old tables, and that the superior habits of the people are not the cause. It is probable, however, that there may be a portion of truth in both views.—There may be some errors in the old table, but it is quite natural that increasing knowledge and stricter obedience to the organic laws, should diminish the number of permature deaths. If this idea be correct, the average duration of life should go on increasing: and our successors, two centuries hence, may probably attain to an average of forty years, and then ascribe to errors in our tables our low average of thirty two.

DR. LARDNER'S CABINET CYCLOPÆDIA. Vol. 21.—Philadelphia: *Carey, Lea & Blanchard.*—This volume is the fourth of the History of Spain and Portugal, and in it, the view commenced in the preceding volume, of the religious, civil, and political state of the peninsula, during the domination of the Mohammedans, is included, and a full view follows of the Christian rule in the same particulars. The government, administration, laws, arts, sciences, literature, and the church, are all treated of with accurate brevity; and Robertson is shewn to be, in his Charles V.,—as he was shewn still more signally in his history of America—a Romancer.

FRANCIS THE FIRST, a Tragedy, with other poetical pieces, by Miss FANNY KEMBLE; together with an original memoir, and a full length portrait of the author: New York, *Peabody & Co.*—This, according to the publishers' notice, is the *sixth* American edition of this tragedy—so much have the talents of the actress added interest to the writings of the author. Of the merit of this composition—written at sixteen, before the future *Juliet*, or *Julia*, or *Bianca* had a thought of the stage as a profession—we have before spoken as superior to any thing we remember in the history of the early productions of genius. The lighter pieces annexed to it are graceful and pretty. The memoir—which the publisher warns us is forbidden fruit to journalists, a copy-right securing to him the monopoly—would we think be secure without the interdict; for it strikes us as hyperbolical rant

from beginning to end. The engraving is uncommonly pretty. The printing is not equal to the pretension of the exterior of this pretty pamphlet.

PARKER'S EDITION OF THE WAVERLEY NOVELS, Vols. 41, 42, with plates. *Boston*—and *C. S. Francis, New York.*—These volumes present *St. Valentine's Day*—and as they approach the close of the series, maintain the excellence of the preceding numbers, in the execution of the plates, and in typography.—Twelve more will complete the collection, making in all fifty four volumes.

The same publishers now propose to put to press *an edition of the Poetical Works* of Sir Walter, uniform with this of his novels—to be illustrated with notes, contemporaneous expositions, and various readings, at 62 1-2 cents per volume. It will be a good undertaking, and will supply, at a moderate price, the whole of the works of the man who has, more than any other, contributed to improve and delight the present age.

A NEW DICTIONARY OF MEDICAL SCIENCE AND LITERATURE, &c., by *Robley Dunglisson*, M. D., Professor of Physiology, &c. in the University of Virginia. 2 vols. 8vo. Boston: *Gharles Bowen.*—The title of these volumes explains their object. All that relates to the terms of Medical Science; to the nomenclature of science; to the biography and literature of eminent professional men, is to be found here arranged in the ordinary alphabetical order of a dictionary. There is probably scarcely any inquiry of a professional nature which may not find some solution in these volumes—which are printed with the accustomed neatness and accuracy of the Boston press.

THE PHYSICIAN'S POCKET SYNOPSIS, by *J. S. Bartlett*, M. D., of the Royal College of Surgeons, London; revised and enlarged by *Henry Coley*. New-York: *G. & C. & H. Carvill.*—This little volume differs from the work noticed in the preceding paragraph, by affording a *manual of practice* for the Surgeon and Physician, embracing all the material points in both. It is arranged alphabetically, and supplies brief accounts of diseases, as well as of their modes of treatment.

A GUIDE TO THE ORCHARD AND FRUIT GARDEN, by *George Lindley*, edited by *John Lindley*, Assistant Secretary of the Horticultural Society of London—with Notes, explanatory and practical, by *Michael Floy*, of New York. New York: *G. F. Hopkins & Son.*—This work of standard and acknowledged merit in England, is specially recommended to American patronage by the additions made to it by Mr. Floy—of which many consist in adapting its precepts and practice to the differing meridians of our climate. Another recommendation, in this quarter, will be, that Mr. Floy maintains the practicability, with proper care, of producing as good peaches now, as we used to have in former days—denying entirely the soundness of Mr. Knight's theory of particular fruits dying out by old age.

TALES AND NOVELS, BY MARIA EDGEWORTH; Harpers' uniform edition, vol. IV.—"Manœuvring," "Almeria" and "Vivian" are the tales which compose this volume—each of them excellent of its kind, and all differing in character and increasing in attraction, from lively entertainment in the first to vivid and powerful interest in the last. The distinguishing characteristic between Miss Edgeworth's "Tales of Fashionable Life" and most of the fashionable novels which have for a time usurped the place they once so justly held in popular favor, is easily traced. The former paint men—the latter deal chiefly with manners; and while scenes and characters are brought forward, or turn upon the operation of some general principle in human nature in the first, they illustrate or depend only upon some conventional rule of society in the last. In the one, the natural heart is painted as acted upon by the incidents of life in the upper spheres of society; in the other, the artificial disposition engendered by those incidents, is for the most part only represented. Both may be true to their original; but while the latter, like a landscape by a Chinese painter, gives the exact outline and shape of each object in the scene he would represent, the former, with the pencil of a European artist engaged upon the same subject, adds the just perspective and truth of coloring, the ground and atmosphere, by which alone we recognize the approach to Nature in the imitation of her forms. It is to this internal superiority over other works of a similar character, that Miss Edgeworth's writings owe that permanent value, which, among all the fluctuations of taste and fashion, will preserve a place for them in every well selected library, long after many a popular novel is forgotten.

Of the tales so elegantly republished in this volume of the Messrs. Harpers' uniform edition, Vivian is decidedly the best. It is in fact, when the admirable delineation of character, the arrangement of the story, the grouping of the dramatis personæ, and the finished style in which it is written, are considered, one of the finest of all Miss Edgeworth's productions. The conception of two such characters as those of Vivian and Russel, contrasted as they are here, is eminently happy; and the comparative importance of brilliant and aspiring talents, and of clear but humble sense united to fixed resolution of mind, in determining not only the individual happiness and general usefulness of its possessor, but even his chance of honorable distinction, is admirably shown. But it is hardly necessary to show the superior influence of *character* over talent in the affairs of the world; when in all the concerns of life, it is apparent how surely in the end a strong outstrips a feeble nature in the race of love, wealth or fame,—though one one may wear the winged cap of Mercury and the other have to trail the club of Hercules—though the one may step into Congress from having figured once in a Fourth of July oration, and the other have to work out his political salvation by years of sturdy service at Tammany. Talent alone, is like that gas which can raise the ærenout far above the earth, and propel him—but without the power to regulate his course—through the clouds; while character may be compared to that fluid, which, acting in an humbler sphere, carries the voyager over land and sea and allows him to choose his own track. The last quality, though it must be admitted that she unites a large share of the former to it, is we apprehend the distinguishing characteristic of Miss Edgeworth's own mind: it is the pervading force and justness of her sentiments and style of thinking, which impresses even common places from her pen more strongly on the understanding, than can all the charms of style, the happiest ideas of more brilliant writers. But in noticing works which have so often passed through the ordeal of criticism as these, we can do but little more than repeat the observations of others, as we have here perhaps even our own—made upon former volumes of this same collection. Inasmuch, however, as to the majority of our readers they need not our recommendation, we shall in future let them off more easily.

*

LESSONS ON SHELLS; New York, Peter Hill, 94 Broadway.—A very excellent and instructive little work, designed chiefly for children, by the author of "Lessons on Objects;" who originally gave these *lessons* in a Pestalozzian school at Cheam, Surrey, Eng. They are Illustrated by ten plates, drawn from nature

*

MUSIC.—Louisville March and Quick Step—"O bid me not that strain to sing"—"The Shepherd's Gift"—and "I'll follow thy fairy footsteps"—are the publications of the week at Arnott's, 137 Broadway.

METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, APRIL 1, 1833.

KEPT IN THE CITY OF NEW-YORK.

(Communicated for the American Railroad Journal.)

Date.	Hours.	Therm ometer.	Baro-meter.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Mar. 26	6 a. m.	36	29.78	WNW—NW	moderate	WSW	fair
	10	42	.85	NW	fresh	..	..
	2 p. m.	45	.86	..	..	..	..
	6	40	.92	..	..		..
	10	36	30.01	..			..
Wednesday, 27	6 a. m.	32	.05	..	moderate		clear
	10	44	.08	..			..
	2 p. m.	46	.02	SW			fair—hazy
	6	42	.02	..	..		hazy
	10	40	.01	..	..	SSW	..
Thursday, 28	6 a. m.	30	.10	NW by N	light		..
	10	40	.13	..	..	WSW brisk	..
	2 p. m.	43	.00	SW—NNW	moderate	..	.. —cloudy and hazy
	6	41	29.97	N by W	..	..	fair
	10	37	.94	..	..	..	..
Friday, 29	6 a. m.	30	.89	NNW	light	..	..
	10	34	.91	..	..	..	..
	2 p. m.	45	.81	W—NW	moderate	..	..
	6	43	.81	NW	..	..	..
	10	40	.89	..	light	..	..
Saturday, 30	6 a. m.	36	.99	W	..		clear
	10	40	30.05	WNW	fresh		..
	2 p. m.	50	29.98	..	moderate		..
	6	48	30.02	..	..		..
	10	44	.09				..
Sunday, 31	6 a. m.	40	.16	SW	light		..
	10	50	.19	..	..		..
	2 p. m.	60	.09	SW by W	..		..
	6	55	.02	..	..		..
	10	50	.05	..	..		..
Monday, Apr. 1	6 a. m.	43	.08	WSW	light		.. —moderately smoky, or dry fog
	10	50	.10	SW by W	faint		..
	2 p. m.	66	.06	..	light		..
	6	60	.02	..	..		..
	10	54	.03	..	faint		..

Average temperature of the week, 43.77.—Maximum of the barometer in March, on the 14th, 30.52—Minimum on the 25th, 29.57.—Range 0.95 inch.

The winds for the month of March were Northeasterly, including North, during 294 periods of observation; Southeasterly, including E, 21; Southeasterly, including S, 494; and Northeasterly, including W, 47.

The observations of the highest atmospheric currents, as indicated by the clouds during the month, are as follows: from the Northeastern quarter, 4; from the Southeastern, 4; from the Southwestern, 53; and from the Northwestern, 25.

CHARLESTON, S. C.

Date.	Thermometer. 7 a.m.	2 p.m.	9 p.m.	Wind.	Weather.
January 1	61	66	61	S	cloudy—rainy morning
" 2	58	67	62	NE	..
" 3	57	67	61	E	..
" 4	58	62	61	NE	rain
" 5	55	62	61	.	cloudy—drizzle
" 6	54	73	64	W	fair
" 7	57	70	64	SW	cloudy—rain at night
" 8	54	48	43	NW	..
" 9	46	57	51	SW	fair
" 10	42	42	29	W	cloudy—a little snow
" 11	20	35	31	..	..
" 12	30	32	42	..	fair
" 13	38	48	48	S	cloudy—rain at night
" 14	48	58	49	W	cloudy—drizzle
" 15	49	59	59	E	..
" 16	58	60	52	SW	.. —rain in morning
" 17	38	42	37	N	..
" 18	39	52	42	..	fair
" 19	34	48	45	NE	..
" 20	42	47	50	..	..
" 21	44	68	54	S	..
" 22	52	64	55	..	..
" 23	50	61	56	..	..
" 24	53	56	51	N	cloudy—drizzle
" 25	46	56	48	W	.. — ..
" 26	38	48	43	E	fair
" 27	40	58	46	S	..
" 28	44	60	47	E	..
" 29	52	60	56	..	cloudy—rain
" 30	62	61	58	S	rain—hazy rain at night
" 31	56	64	60	SW	cloudy—drizzle at night

MONTREAL, L. C.

Date.	Thermometer. 7 a.m.	3 p.m.	Barometer. 7 a.m.	3 p.m.	Weather.
Jan. 1..	38 x	43 x	29.88	30.43	rain—fair
" 2..	19	23	30.68	.62	fair
" 3..	17	31	.41	.33	..
" 4..	35	49	.04	.06	rain—cloudy
" 5..	33	23	.13	29.97	.. — ..
" 6..	37	28	29.94	.82	fair
" 7..	18	15	30.04	30.02	..
" 8..	23	30	29.94	29.88	..
" 9..	25	38	.54	.52	..
" 10..	31	34	.48	.61	..
" 11..	12	4	.89	.96	..
" 12..	3	14	.96	.98	snow—fair
" 13..	21	28	.92	.77	..
" 14..	19	6	.67	.89	.. —la'r
" 15..	9	12	.45	30.21	.. — ..
" 16..	20	25	.21	29.47	.. — ..
" 17..	19	2	30.38	30.26	fair
" 18..	14	8	29.95	.30	..
" 19..	25	13	30.76	.45	..
" 20..	21	34	.18	.04	fair—snow
" 21..	32	40	29.79	29.87	..
" 22..	37	30	.57	.16	..
" 23..	27	32	30.20	30.17	..
" 24..	23	43	.14	.06	..
" 25..	29	30	29.53	29.34	snow
" 26..	3	11	30.30	30.38	fair
" 27..	0	19	.37	.22	..
" 28..	6	11	.12	.47	..
" 29..	6	14	.36	.18	..
" 30..	10	22	29.84	29.87	snow—fair
" 31..	0	11	.93	30.01	fair

DEATHS.

Yesterday, after a tedious illness, JANE NICOLL, wife of John Denison, Jr. in the 26th year of her age.

In Havana, on the 6th inst. JAMES BOWDOIN, Esq. of Boston eldest son of the Hon. Thomas L. Winthrop, aged 38 years.

Yesterday morning, PETER WESTERVELT, son of John Van Brunt, aged 15 months.

On the 26th February, at Pará, Brazil, Mr JAMES LOUSON, of Arbroath, Scotland, in the 23d year of his age.

The circumstances of his death, which was occasioned by a fall from an elevated window during an attack of somnambulism, rendered his loss peculiarly distressing to a large circle of friends, whose esteem he had won.

This morning, after a short and painful illness, WM. STYLES, aged 51 years, late from England, and formerly of the New York Coffee House, William street.

At Montreal, 22d ult. JANE HUGHES, wife of T. S. Brown, aged 21.

On Monday morning, April 1st, FRANCES A. HOFFMAN, wife of Murray Hoffman, Esq.

Yesterday, after a lingering illness, STUART MOLLAN, Jr. in the 27th year of his age.

Yesterday afternoon, JOHN H. MABBETT, aged 45 years.

On Monday morning, MARTHA CHURCH, daughter of James W. Otis, aged 5 months.

This morning, 2d April, of consumption, Mrs. ELEANOR, wife of Thomas C. Hurlick, in the 31st year of her age.

On the evening of March 28, Mrs. CAROLINE, wife of Andrew G. Bell.

Early this morning of consumption, Mrs. SKERRETT, formerly of Athy County, Kildare Ireland.

At Rome, on the 15th of January last, of consumption, WILLIAM HENRY ELLIOTT, of New-York, in the 22d year of his age.

This morning, ALFRED ALEXANDER, infant son of Captain Wm. R. Hoodless.

At Fredericksburg, Virginia, aged 75, ABRAHAM MAURY, a soldier of the Revolution.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 30.

Between the ages of

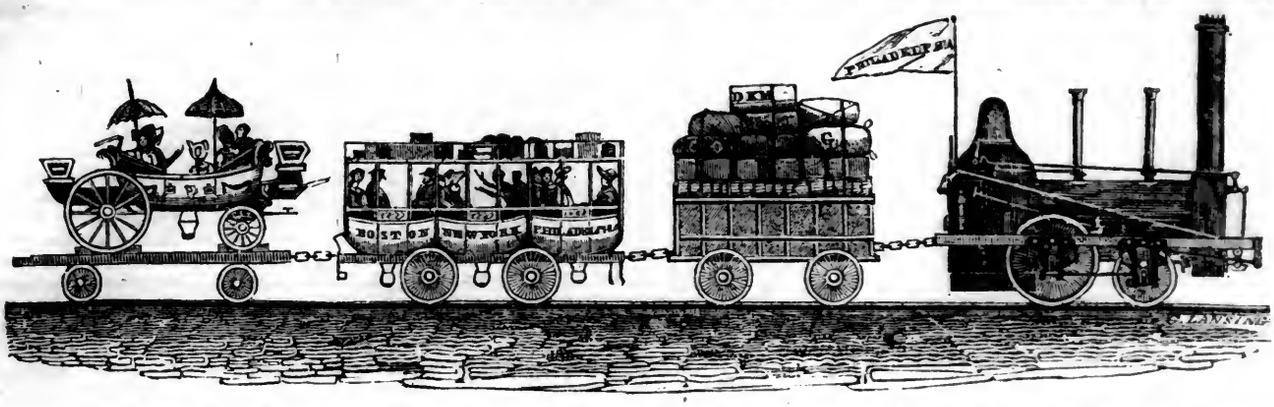
90 and 100— 1	50 and 60— 3	10 and 20— 3
80 and 90— 0	40 and 50— 8	5 and 10— 2
70 and 80— 5	30 and 40—11	2 and 5—10
60 and 70— 5	20 and 30—16	1 and 2— 6

Of and under one year, 32—Total, 102.

Diseases.

Abscess	1	Hives or croup	1
Apoplexy	1	Inflammation of bowels	1
Burned or scalded	1	Inflammation of brain	2
Casualty	2	Inflammation of chest	1
Childbed	1	Intemperance	2
Consumption	31	Marasmus	6
Convulsions	11	Measles	1
Diarrhœa	1	Old age	2
Dropsy	1	Peripneumony	7
Dropsy in the chest	1	Stillborn	9
Dropsy in the head	6	Suicide	1
Drowned	1	Tabes mesenterica	1
Dysentery	1	Teething	1
Fever, bilious	1	Unknown	2
Flux infantile	1	Whooping cough	1

ABM. D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, APRIL 13, 1833.** [VOLUME II.—No. 15.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 13, 1833.

We understand that the Ithaca and Owego Railroad Company are about to apply to the capitalists of this city for a loan, upon terms similar to those offered by the Paterson Railroad Company. We understand from a highly intelligent friend, who has been favored with an inspection of a few sheets of the first Report of the Company, now in press, that it appears beyond a question, that the first year's nett proceeds of the road can hardly fall short of 20 per cent. on the amount of capital necessary to complete the work. Prior estimates, indeed, make the amount nearer 30 per cent. ; but as the Report is to be circulated at the time that the Company advertise for the loan, they who have investments to make may examine for themselves. The result, however, by no means astonishes those who are at all acquainted with the immense amount of business and travel passing through the region traversed by this road—nor will it surprise any one who is at the pains to inquire into the resources and actual business of the southern tier of counties with their Pennsylvanian connexions.

Few are aware of the fact, that nearly one-eighth of the canal toll was paid, in the year 1828, at the Montezuma Collector's office, which was the revenue office to the Cayuga Lake business; and a New-Yorker would hardly believe that 350 tons of butter and lard leave Ithaca every season for his city! We shall look with much interest for the appearance of this Report ; and, judging from the information conveyed by our highly capable informant, we can hardly conceive more advantageous stock speculations and investments than will be unfolded by its contents. For what can be a more secure loan, than the mortgage of property on which $165,000 has been expended, for $145,000 more, to be laid out in completing the work ? And how can there be a better chance of speculation, than the privilege at any time, within three years', of converting any part of the loan into stock at its par value ?

We predict, that as certainly as the Ithaca Bank divides 10 or 12 per cent. a year, so surely the Ithaca and Owego Railroad Stock will, in three years time, divide 30 per cent. on its capital.

Alabama Railroad.—At a meeting of the stockholders of the Railroad Company at Courtland, the following gentlemen were elected directors for the next ensuing twelve months, viz : Ben. Sherrod, D. Hubbard, P. W. Taylor, H. W. Rhodes, Jas. T. Sykes, J. B. Wallace, Mr. Leach, D. S. Goodloe, Jas. Elliot, J. L. McRae, B. Merrill, Jas. Fennel, M. Tarver. The officers are, B. Sherrod, President ; D. G. Ligon, Secretary ; Dr. J. Shackleford, Treasurer; D. Deshler, Engineer.

We are enabled to state that a large additional supply of railroad iron is just received from Liverpool, and that other materials are likely to be furnished as fast as they may be required. All that is requisite now to enable the contractors to progress with renewed energy, is a little fair weather. The first annual report of the engineer is now preparing for the press, and will be forthcoming in a few weeks.—[North Alabamian.]

Our Railroad.—The Charleston Mail was delivered in Augusta, on Tuesday morning last, at about 5 o'clock, in 22½ hours after it left this city. The whole distance as now travelled is 145 miles. The Steam Car accomplished the distance of 72 miles in 6 hours, with 3 or 4 tons of iron and several passengers. The Augusta Chronicle of the 27th remarks, that "this is the quickest trip that has yet been performed on the route, and affords an earnest of the future success, and rapidity of travelling, which will be attained when the entire route of the Railroad is completed to Hamburg."—[Charleston Gazette.]

The Railroad.—The two Locomotive Engines, (the "Liverpool" and the "Pioneer,") lately imported, have been placed upon the Railroad, and, we are pleased to learn, have, from their speed and admirable adaptation to the construction of the Road, given perfect satisfaction. This increased facility will enable the Company to prevent the disappointment which was occasionally experienced by the planter and the traveller, when there was but one Engine upon which to rely for the purposes of transportation.

As an evidence of the power and speed of these Engines, it is only necessary to state the fact that, on Monday morning last, a party of gentlemen left town at half past nine o'clock, in the coaches drawn by the "Pioneer," for the purpose of attending Greensville Court, remained at the Court House about two hours and a half, and returned to town by six o'clock in the evening—the whole distance being 82 miles; When the necessary delays at the several depots are taken into consideration, this trip will, we think, justify the assertion that they cannot "order these things better in France."—[Petersburg. Intel.]

Manchester and Leeds Railway.—There is some talk of the revival of this great public undertaking, but the disgust of the gentlemen engaged in the former application to Parliament at the treatment the interests they represented experienced in the committee of the Commons, where one set of members heard the case, and another set, who had not heard it, decided against those claims, forms a serious impediment to the renewed application. Let us hope that a reformed Parliament will have reformed committees.—[Leeds Mercury.]

London and Gloucester Railway.—The establishment of a railroad between London and Gloucester is contemplated. One tunnel will be necessary, of about two miles in length. The surveys have been made, and it is calculated that, including all expenses, it will take £13,000 per mile to complete it. It is intended to terminate at Paddington.

Newly-invented Railroad.—Our attention has been again drawn to the National Gallery of Practical Science, where there is now exhibiting an Undulated Railroad, recently invented by Mr. Richard Badnall, whereon a locomotive carriage travels with a rapidity far exceeding that of a similar one when moving upon the common or level railroad, the propelling power being the same. The carriage model is worked by machinery, on three differently constructed roads ; and the object is to prove, that a much less power is required to obtain the same speed on the undulating than on the level road, and of course, that, by availing ourselves of the irregular surface of the ground, railroads may be constructed much cheaper than heretofore, and with an evident advantage in the lighter construction of the engines and the consumption of fuel.—[London paper.]

On City Railways and Water-Works, and Some Account of the Application of Steamboats to assisting Vessels over Shoals. To the Editor of the Railroad Journal.

Your widely circulating Journal may bring the following description of Mechanic Improvements within the knowledge of some persons interested in their use.

I think it will be soon found that where Railroads of great extent terminate in cities *at one place*, inconvenience will attend the management of the business. Most of the loading will be the produce of the soil—of mines and of manufacturing industry—increased in value by so much as may be saved in the transportation. The following modification of a city railway and carriages will probably be found convenient. At present I propose to give their outline and *effects*; and in a future number, the details, with a plate, should it be found desirable.

The carriage must have the usual properties of the railroad waggon, its smallness and flanches—and of the city carriage, its flexibility and tire. It must now run on an edge rail, and now on the street: the rails must change their principle at the point where the locomotive engine stops, and the *horse* is attached to convey each carriage to its destination.

On this city track, into which the other suddenly changes, the wheels run on their flanches, somewhat widened, and formed of wrought iron, guided by the horse, who has his path marked out by *its depression* between the rails, and being a little on one side the middle, and his shafts shifting a little to conform to it; NO OTHER carriage travelling with its horse in the same path will run on the rails.

One track will answer, if the contiguous pavement and the middle is smooth paved, with *cemented fragments*, so that the carriages going in opposite directions may turn out for each other. The ordinary travel may be expected to give place to railway carriage for the moment they are passing, as when it enters on the city track, it becomes a city carriage; its forward axle must be capable of taking various oblique relations to the perch, turn corners, and follow wherever the track leads—when, to return, the shafts are shifted to the other end—the now hind axle is fixed, and the other released—and on reaching the railroad, *both are secured square*. But while on the railway of the city, the wheels must revolve independently of each other, yet retain the advantage of fixedness on their axles, and of the friction saving apparatus belonging to them. The *model* will satisfactorily exhibit the consistency of these properties.

The iron rail may be about six inches wide, nearly *flush* with the surface of the stone line. It will be of consequence that the street should be kept clean where a *flush track* is placed along its centre, and with this view tubes may be sunk on the higher parts of the street to raise water from the deep rock veins that are found under each of our three principal cities, and the general cleanliness of the street would be the consequence.

Indeed, the whole street would be improved, as it is likely the *systematic pavement* required in setting the track would so contrast with the rough slight mode now customary, that before long it will be relinquished, as this branch of public expense is susceptible of much more economy in this perfect way in the long run.

According to the several charters already granted, there will be four great railroad routes from this city. The business of three of them must cross the ferries, and will more conveniently do so in the same waggons to enter on distributing railways.

In the competition about commencing between our great sea-ports for the western trade, New-York will be under some disadvantage. The financial power of the state government sustains Philadelphia; here the *public spirit of the moneyed interest* is alone relied on. This is stong indeed, if united; but just calculation must do this. There must be no sacrifice of interest, but certainty of ample recompense—and this the Legislature may make certain by liberal charters. There is no other way of uniting capital in public works but this; and this is the *best way*, especially if the state and city take a part of the stock, and *the* undertaking is a perpetuity, with banking privileges.

It is calculated that about ten millions are accumulated in this city annually. A considerable amount also comes from Europe, and not a small sum is ready to come here from other parts of our country. Perhaps there is to be no better form of property than the few railroads that are to be, or can be made from this great centre of commerce, as they must bring the bulky produce of the soil and the coal mines, and carry back direct, and therefore cheap, large returns of merchandize.

This growing city, thus to become the centre of American commerce, is still however unsupplied generally with that article of prime necessity, pure water; and yet no city in the Union might be so fully and agreeably supplied. Having mentioned the expedient for keeping the proposed railway clean, I will with your leave, go a little further into the explanation of that subject, referring to my recent publication, which contains the results of surveys, geological maps and considerations, which go far towards showing that this city *must mainly rely on its deep subterraneous sources.*

The range of stratified rock which affords this fine water happens to cross this city. It is about seven miles wide in the county of Berkshire, Massachusetts, and comes to the surface in strata dipping westward; it yields excellent water there when the wells are excavated into it. From thence it is distinctly traced along the west of the Housatonick, between the Croton and Bronx, giving out copious springs, which, in fact, form the ponds at the head of these streams; continuing southward it forms the greater part of this island, and here gives forth the large quantities which the great well contains, and which the perforation of these strata, by Disbrow's powerful instruments, affords. The range then passes under the Hudson, and most of New-Jersey, and at Philadelphia and Baltimore again re-appears, and affords there, also, the same fine water, free from all mineral taint and hardness.

Therefore, however otherwise the public munificence may finally decide to bring water for *public uses* into this city, *here is a method* which, at moderate expense, will afford a sure supply *to families.*

The required capital to give it liberally and cheaply to the whole city, can only be embodied under an incorporated company, with banking privileges, which would have probably been obtained the present session, had there not been unexpected impediments in the contrariety of opinion prevalent on the subject. Delay cannot, however, change the facts ascertained. They are in the nature of this kind of rock, and will, with the patented instruments, which reach and raise it at one-tenth the expense of excavated wells, be *the foundation* of an application to the Legislature the *next* session—for which the company will now forthwith begin to form, by the aid of philanthropic individuals, and probably operate, trusting that the guardians of the public weal will not refuse to concur, to sanction, and even to join in the work, as there can be no reasonable doubt that this must be the mode of supply. The surveys have shown, with the practical considerations I have pointed out, that the head of the Byram is not and cannot be ours; nor, were it so, is it worth the expense of obtaining under such uncertainties. I have shown that the Bronx is, in summer, a small stream, enough only for one mill, and runs too low to flow onto this island, except the *northern plain*, which will want it by-an'-by, as much as the southern alluvial part of the city—and could, with the best management, afford here only enough for washing the streets; the Croton does not lay high enough to be brought with the required slope onto this island, and is a very inadequate and uncertain source even at great expense; all which leads me to think that the rock water veins, as natural aqueducts, will be preferred; and were the city corporation, after success, to have the power of always increasing the stock as much as they might choose to put in, to *extend the supply*, the city would at length hold a predominant part, as well in the proposed bank as aqueduct, and thus in time derive a profit that would diminish taxes or sustain charitable institutions. But I do not see, as patentee (with Mr. Disbrow) of these instruments, how this is to be done, without *a beginning*, by a chartered company, to embody the capital required for the first ten or twelve years. There must be a private interest concerned in the general extension of the supply. Whoever will read Col. Clinton's Report, and especially my Supplement, with the quotations from it, will be convinced that this city cannot be otherwise very soon accommodated, generally, with good water.

But were it otherwise, when a boring that cost $1,000 gives water enough for 600 families—and when one that would now cost $5,000 gives enough for 2,000 families—it can scarcely be considered a doubtful operation as to quantity.

The Common Council, however respectable individually, is not a sufficiently permanent body, personally, for great undertakings. We have seen it to be necessary even to commit the *investigations* to a commission, and Philadelphia appointed her permanent Water Committee. A company, therefore, in which the city and state may take stock, and that may be carried through by one Board of Directors, is the best plan.

Having thus described two improvements applicable to use in our central cities, I will ask leave to mention another likely to be useful in some places at the south, and on the North River.

Having an interest in the general adoption of the late improvement in Steamboats by Blanchard, well known as a very successful mechanician, it has, in perceiving the troublesome delays at the Overslaugh Shoal, below Albany, occurred to me that it would be easy to apply the power of the steam-engine in this kind of boat, to the lifting up and carrying vessels over shoals.

This kind of steamboat is exceedingly light, stiff, and strong, and carries her impelling wheel in the stern, and operates very powerfully in ascending several of our most rapid rivers.

With two of them I form the *steam camel.* Between them a cradle of covered chains receives the vessel to be raised. The boats have each two masts. The engines draw these masts towards each other, heeling the boats inward. The chains are at the same time wound up. On releasing the masts the buoyancy of the steamboats lift the vessel, or barge, with the reaction of all the power used in producing it. *The three now share the load.* This machine is probably applicable to the shoals of the Delaware, and the bars and shoals of some of the southern rivers in North Carolina and Virginia. This sort of boat is peculiarly well suited to the Lake navigation, carrying her impulse in the stern, and being capable of great length, with *strength*, and of sailing on a wind, yet using her engine.

These three improvements may be the subject of contracts, into which I am disposed to enter, as having a legal special privilege for a long time to come, relative thereto.

JOHN L. SULLIVAN, Civil Engineer.

New-York, April 6, 1833.

Manufactories, Botanic Garden, of Liverpool, and Railway connecting Liverpool with Manchester. By B. P. [From the New-York Farmer and American Gardener's Magazine.]

Liverpool, though situated in the most extensive manufacturing *county* in the kingdom, is not in itself, properly speaking, a manufacturing town, still many branches of manufactured articles are on an extensive scale, viz. Potteries, breweries, foundries, &c. The making of files, watches, watch movements and tools used by watch makers, is carried on to a greater extent probably in Liverpool and its environs than in any part of the kingdom. There are also extensive manufactories of chain cables, anchors, steam engines, &c. There is also an establishment for glass staining in landscape, figures, or ornaments; the art is brought to a high degree of perfection, and has a most beautiful effect in church windows.

The *Botanic Garden* is pleasantly situated in the environs, and is enclosed by a stone wall with two ornamental lodges at the entrance, and a very large conservatory. It appears to be under the eye of those who have not only the taste but the means of gratifying it, as every thing appears to be of the most permanent construction. The taste for botanical studies, and the establishment of such a fine garden as that at Liverpool, is worthy of imitation by every large city. To describe the contents would be tedious; suffice it to say, the garden appeared to contain every species of useful and ornamental fruit or flowers. Strangers are admitted by taking a note from any of the directors to the superintendant.

Liverpool abounds in fine public buildings, charitable and literary institutions, several fine monuments, &c. but I pass over them to give you a short description of the railway which connects it with Manchester, and which is probably one of the most stupendous undertakings of the age. The work was commenced in June, 1826. The entrance commences in Wapping, near the Docks, and passes under the town in a gentle curve to the right or south-east, till it reaches the bottom of the inclined plane, which is a perfectly straight line 1,980 yards in length, with a uniform rise of $\frac{3}{4}$ of an inch to a yard. The tunnel under the town is 22 feet wide and 16 feet high, the sides being perpendicular for 5 feet in height, surrounded by a semi-circular arch of 11 feet radius—the total length is 2,250 yards. It is whitewashed throughout, and illuminated with gas. At the upper or eastern end of the tunnel, the traveller emerges into a spacious and noble area 40 feet below the surface of the ground, cut out of the solid rock, and surmounted on every side by walls and battlements. A massive Moorish archway stretches across the road, close by the engine houses, which are employed in the generation of steam power to draw goods from the mouth of the tunnel in Wapping, and the carriages with passengers through the tunnel on their return from Manchester. Crossing the street the road descends for five miles and a half at the rate of 4 feet in the mile. At a little distance it is carried through a deep marl cutting, under several stone arches, beyond which is the great rock excavation through Olive Mount; the depth is 70 feet.

A night journey through this artificial ravine must be highly interesting and sublime; a few minutes suffice to carry the traveller to the magnificent embankment between Broad, Green, and Roby, which in fine weather presents a portion of the most interesting and varied landscape which meets the eye during the journey to Manchester. On the right a superb line of trees partially bound the view for some distance, when Childwald Vale bursts upon the sight, with its gently rising green slope; on the side of which the church peeps through the trees, and forms an object of uncommon interest; its dark red color firmly contrasting with the masses of fine green foliage by which it is surrounded.

"—— The land was beautiful:
Fair rose the spires, and gay the buildings were,
And rich the plains."

The Abbey of Childwald and its grounds display themselves still farther in the rear; Roby Hall and domains, with the richly wooded townships of Little Woolton and Halewood, the lofty back ground of Runcorn in the distance; on the left, Summer Hill and its beautiful grounds, a richly cultivated country, broken up into picturesque variety by the nature of the ground and the varied bodies of foliage and forest scenery which mark the sight of Knowsley Hall, a glimpse of which may be caught *en passant*. The venerable tower of Huyton Church rising above the trees seems to dispute the way in front, whilst the spire of Prescot Church forms a conspicuous object a little more to the left. On the summit of the hill, eight miles from Liverpool, begins the inclined plane at Whiston, which rises at the rate of $\frac{3}{4}$ of an inch in a yard, and is a mile and a half long. About half a mile from the top of this plane the turapike road from Liverpool to Manchester crosses the line of the railway, by a substantial stone bridge of very curious mechanical construction. We then soon come to what is called Parr Moss, the depth of which is about 20 feet; and here the material forming the railway, as it was deposited, sank to the bottom, and now forms an embankment in reality 25 feet high, though only 4 or 3 feet appear above the surface of the Moss.

The borders of this waste are in a state of increasing cultivation, and carrying the railway across this Moss will hasten the enclosure of the whole area. Leaving Parr Moss the great valley of the Sankey speedily breaks upon the sight, with its canal at the bottom. Over this valley the railway is carried along a magnificent viaduct of nine arches, each 50 feet span, the height from the top of the parapets to the water in the canal being 70 feet, and the width of the railway between the parapets 25 feet; from this spot a splendid prospect of the country is obtained, with the meanderings of the canal through a richly wooded country, where the vessels which navigate the Mersey may frequently be seen moving along the canal, impelled by the wind apparently through fields, with all their canvass set, amidst trees and rising grounds, forming a view at once unique and picturesque—whilst the most distant part of the landscape, Newton race-course, and a luxuriant back ground, on the left, with Barton wood, Winwick spire, and all the varieties of a rich agricultural country, embracing the lonely vale through which the canal runs towards the Mersey, on the right, presents a scene on which the eye delights to rest. A distant view of Warrington with the upper reach of the Mersey and Helsby Hills in the distance, form prominent objects. On the other side of Newton is the great Kenyon excavation, near the end of this cutting the Kenyon and Leigh junction railway joins the Liverpool and Manchester line, pointing to the two towns respectively; this railway, at the same time, by means of the Bolton and Leigh line, perfects the communication between Bolton, Manchester and Liverpool. Beyond Bury-lane and the small river Gless or Glazebrook, lie the borders of the far-famed Chat Moss.

This barren waste comprises an area of about 12 miles square, varying in depth from 10 to 35 feet, the whole Moss being of so spongy a nature that cattle cannot walk over it, but it is now under a process of draining and cultivation: over this morass the road is carried. There is little of interest in the scenery except on the left, Worsley Hall and grounds, Tidsley Church, with the back ground of Billinge Hills. Having accomplished the passage of the moss and traversed the Barton embankment of about one mile, the railway crosses the Worsley Canal, and here the traveller first sees indications of a manufacturing district. Cotton factories begin to appear, and as the road approaches Manchester the scene acquires additional interest from the presence of several country seats. The immediate approach to Manchester is through Salford, over the river Irwell; a very handsome stone bridge and a series of splendid arches finally conduct the railway to the Company's station. The bridges alone, exclusive of the culverts and foot stages, are sixty-three in number, which have cost the Company £99,065 11*s.* 9*d.* As an instance of what may be accomplished by the railway, the following is annexed, which took place in February 1831.

The Locomotive Engine, called the Sampson, started from the tunnel mouth with thirty loaded waggons, occupying a line of 120 yards long. The weight of the whole was as follows:

Gross weight, 151 tons.

	Tons.	Cwt.	Qr.
Net weight of Oats and Sacks	82	10	0
Do. of Merchandize	24	15	0
Do. of 15 persons	1	00	0
	108	5	0

She performed the journey to Manchester, a distance of twenty-nine miles and three quarters, in two hours and thirty-four minutes, including a stop of thirteen minutes for taking in water—her greatest speed was twenty miles per hour, and the average about twelve miles per hour. Although the railway cost £820,000, equal to $3,630,800, still the profits are such that the shares bear a very high premium. The arrival of an American in a place like Manchester is generally attended with unpleasant sensations; the coach generally leaves passengers at the "Bridgewater Arms," an old inn, and more worthy of a preference from its antiquity than its excellence. A little observation will soon learn a traveller that passengers arriving in the coaches do not receive the attention that those who come in a post chaise or private carriage do. Appearances often command respect and attention even in our republican country, and in all countries often take the place of worth.

Manchester is larger than Liverpool, and is second only to the metropolis. Many of the dwellings and warehouses are built on narrow and crooked streets, principally of brick, of a very dusky hue, which is much increased by the coal smoke from the numerous manufactories and dwellings, hence they have a dark and gloomy appearance, which is much increased by the very frequent rains which fall in Manchester, and which are attributed to the mountainous regions in the vicinity. Few places are less interesting than Manchester, excepting always her manufactories; and the misery, want and wretchedness of the operatives would almost make one wish that manufactures had never advanced, and ancient modes of the wheel and distaff been confined to private families as formerly. A writer remarks, that of the thousands that throng Manchester, crowded together in narrow streets, where the everlasting din of machinery is heard, you scarcely see a person whose appearance bespeaks comfort. However, we saw some interesting objects, which I will describe in my next.

Yours truly, B. P.

THE CHIRAGON, OR GUIDE FOR THE HAND.—Mr. Wm. Stidolph, a schoolmaster at Blackheath, has invented an apparatus to which the name of Chiragon is given; by the assistance of which, a person who has become blind after learning the art of writing, may continue his practice without the risk of confounding words or lines together. It consists of a frame, with a raised margin, upon which margin is placed a narrow piece of wood, having a groove to receive a corresponding key that is attached to a collar or bracelet for the wrist. In the sides of the frame series of notches are cut, into which the grooved piece of wood is placed successively so as to form the regular intervals between the lines, whilst the hand is permitted by the collar to pass freely from the left to the right, but is confined to certain limits in its action up and down, or in the direction of the length of the paper used. The wri-

ting is effected with Mordan's patent pencils; and we have proved the efficiency of the invention, by writing a letter with its guidance while our eyes were bandaged so as to exclude the sight of every object.—[Athenæum.]

Who first invented Steamboats. By Robert Lyon. [From the London Mechanics' Magazine.]

In the Penny Magazine of the Society for the Diffusion of Useful Knowledge, there appeared lately an article extracted from an account published at New-York, awarding to Robert Fulton, of America, the right and merit of being the original inventor of steamboats. Knowing as I did the complete falsehood of the thing, I wrote them, and asked them if the dissemination of a notorious falsehood was the diffusion of useful knowledge? If so, I had nothing to add; but, on the other hand, if the correction of falsehood were a matter of any consequence to them (as I give them credit for not wilfully sinning), I would put them right. To make surety doubly sure, I referred them for proof to the Journals of the Royal Society of London, where they would find ample proof that they were not only doing a very great injustice to their own country, but likewise to the memory and family of the deceased Mr. William Symington, who was the man who had taught Fulton how to construct the machinery to impel vessels by steam.

What then must have been my surprise, Sir, when a Society, at the head of which is Lord Brougham, in place of referring to home documents to correct a most palpable falsehood, after some delay, and in a most flippant manner, replied to my communication by saying, they were content to let the matter rest as it was, as Judge Story's account of the matter from New-York was fully sufficient for them—*the plan of their work not permitting them to sift out the truth.*

Desiring most sincerely, Sir, that right alone should prevail over might, is the wish of Robert Lyon.

Willowfield, Upper Clapton, Middlesex,
December 24th, 1832.

School Statistics.—About one third of the population of a country are between the ages of three and sixteen or eighteen; and of course are the proper subjects of school education.

In the United States, more than four millions of children ought to be under the influence of schools.

In Maine, the law requires that the inhabitants of every town pay annually, for the support of schools, a sum equal, at least, to 40 cents for every person living in it. That amounts to about $120,000. Their expenditures are more than $140,000.

In New-Hampshire, a separate tax of $90,000 is raised for schools, besides an annual appropriation from a tax on bank stock of $9,000 or $10,000.

In Vermont, more than $50,000 are raised for schools, from a three per cent. tax on the grand list, and as much more from district taxes, besides an income of nearly $1,000 from banks.

In Massachusetts are nearly three thousand schools, supported by public taxes and private subscriptions. In Boston, the schools contain more than 12,000 children, at an expense of about $200,000.

In Rhode Island are about 700 schools, supported by a legislative appropriation of $10,000 annually, by taxes and by private subscriptions.

The Connecticut school fund is nearly two millions, but fails of its desired object. Children in the state, 85,000; schools about 1,500.

In New-York are more than 9,000 schools, and over 500,000 children taught in them. School fund, $1,700,000; distributed annually, $100,000, but on the condition that each town raise by tax, or otherwise, as much as they receive from the fund. A wise provision.

New-Jersey has a fund of $245,000, and an annual income of $22,000.

In Pennsylvania, during the last year, more than 250,000 children, out of 400,000, were destitute of school instruction.

Delaware has a school fund of $70,000.

Maryland has a school fund of $75,000, and an income for schools from the banks, which is divided between the several counties.

Virginia has a fund of $1,233,000, the income divided among the counties according to the white population, and appropriated to paying the tuition of poor children, generally, attending private schools.

North Carolina has a fund of $70,000, designed for common schools.

South Carolina appropriates $40,000 annually to free schools.

Georgia has a fund of $500,000, and more than 700 common schools.

Alabama, and most all the western and southwestern states, are divided into townships, six miles square, and each township into sections one mile square, with one section, the sixteenth, appropriated to education.

Mississippi has a fund of $280,000, but it is not available till it amounts to $500,000.

The Legislature of Louisiana grants to each parish, or county, in that state, $2 62½ for each voter, the amount for any other parish not to exceed $1,350, nor to fall short of $800.—$40,000 are applied to educate the poor.

Tennessee has a school fund of about half a million, but complaints are made that it is not well applied.

Kentucky had a fund of $140,000, but a portion of it has been lost. A report to the Legislature, from the Rev. B. O. Peers, says, that not more than one-third of the children between the ages of four and fifteen attend school.

In Ohio, a system of free schools similar to that of New-England is established by law.

In Indiana, Illinois, and Missouri, no legislative measures for the support of schools have been adopted. All the schools are supported by private tuition.—[Family Lyceum.]

On a Means of effecting an Useful Continued Motion. By J. Gorrie. To the Editor of the American Mechanics' Magazine.

It is in the nature of things that he who under any circumstances attempts an object that has been deemed of impossible attainment, will subject himself to the charge of presumption. If it is an object that has engaged and eluded the ingenuity and wisdom of men for ages, he will be accused of arrogance in supposing that he alone possesses knowledge superior to the rest of mankind. In endeavoring to persuade his fellow men of his success, he must not only encounter the intrinsic difficulties inseparably connected with every such attempt, by vanquishing or preventing objections which naturally present themselves to the most dispassionate understandings, but he must overcome the objections by which the judgments of men are disturbed at the first glance of such a pretension. The doubts of the sceptic, and the shafts of the satirist, are principles always enlisted against such propositions; for there is an almost uncontrollable propensity to persuade ourselves that what has never been found never will appear, and that nothing but folly would look for it. But while it would certainly be characteristic of weakness to admit any proposition, however gravely or plausibly advanced, without due examination, it no more follows, as a true consequence, that he who proposes it is a wild and visionary projector, than it does that he who ridicules it is a wise and practical philosopher.

The failure of the countless schemes for effecting an *useful* continued motion makes me deeply sensible of the good foundation for the doubts which will attend every plan for such an object, and of the necessity of removing preconceived prejudices. With the view of removing these obstacles I have made the preceding remarks; and I shall now call the attention of the reader to the means by which my plan avoids the errors that have caused the failure of its predecessors. Unlike all the plans of which I have seen or heard, I make no attempt by combining the simple mechanical powers, or by any application of magnetism, galvanism, gravitation, or the other *unvarying* laws of nature, to *create* a moving power, but have simply taken advantage of a well known and ever active, though varying, law of nature, to produce a mechanical effect. My project has occurred to me from a plain process of ratiocination on the principle and uses of the *thermometer*; and is, indeed, nothing more than a modified thermometer on a very large scale, with a more expansible fluid than is commonly used. This is not the first time that the plaything of the philosopher has become an instrument of utility and power in the hands of the mechanic.

It is an axiom of mechanics that "whatever communicates or tends to communicate motion to a body is a mechanical force." It is indisputably admitted that all bodies are enlarged on receiving accessions of heat, and in this process of enlargement they exert a mechanical force, and any obstacle which opposes this enlargement sustains an equivalent pressure. This force, when derived from solids, and more particularly from fluids confined in a limited space, may be produced to almost any degree of intensity, by the simple operation of the changes in atmospheric temperature. From this very simple though obvious source of power, I found my theory of a "perpetual motion"; and which I hope to prove, logically, is incontrovertible in its practical application. To this I may add, that I have constructed a machine, rude, it is true, from the absence in this part of the country of mechanical skill of the kind required, but sufficiently accurate to verify the correctness of the principle.

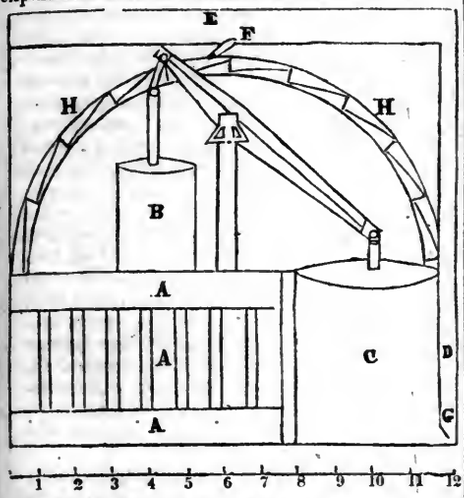
From an examination of a series of thermometric tables, I found that the average change of temperature, or the range of Fahrenheit's thermometer, from the minimum to the maximum, in this country, in the shade, was about fifteen degrees for every day in the year. Experiments on the expansibility of liquids show that ether, alcohol, and the oil of turpentine, (the fluids of the common kind that undergo the greatest changes in these respects,) are expanded six cubic inches in every one hundred cubic inches, on an exposure to an increase of 90° of heat, and consequently sustain an equal diminution of bulk under an equal diminution of temperature. If we employ a gallon of either of those fluids, it will, under the operation of the above laws of nature, undergo an average daily expansion and contraction of 2.74 cubic inches, which, if made to act upon a piston in a cylinder of one inch in diameter, would elevate, and the pressure of the atmosphere would depress it, about three and a half inches daily.

This is the power. It is necessarily of an irregular and intermitting kind, having, with the exception of the numerous daily fluctuations (which would each operate as a moving power) an interval of twenty-four hours between each exacerbation of action; but to convert it into an uniform and continuous motion, there are numerous means obvious to every practical mechanic. The grand object being obtained of moving a piston spontaneously in a cylinder, it will be no difficult matter to apply that power by a working beam, spring, or various other ways, to any mechanical purpose.

In the machine which I constructed, of which the attached figure is a roughly drawn elevation, I have applied the piston to a beam, the farther end of which works a pump large enough to receive thirty pounds of quicksilver.

This quantity of mercury is elevated through a tube by the action of the piston, cylinder B, to a cistern twelve inches above the bottom of the pump, and thence is discharged through a graduated orifice, in a small continuous stream (so as to give uniformity of motion) upon an overshot wheel. Reasoning from the comparative incompressibility of fluids, I consider that there is afforded, by the average daily expansion of a gallon of alcohol, and power enough to elevate, not simply thirty, but three hundred or more pounds, of mercury, twelve inches high; while if we give it, as I propose, a practical application to a common clock, the daily elevation of ten pounds will be sufficient to keep it in "continual motion."

It is obvious that the cylinder, &c. must be adapted in length to the varying bulk of the expansible fluid in summer and winter.



REFERENCES.—A A A, a vessel consisting of 2 common receivers and tubes, (48,) enough to hold a gallon of an expansible fluid. B, a cylinder with a piston, on which the expansion of the fluid in A, produced by change of atmospheric temperature, is to act. C, a pump, with a valve opening inwards, (not seen in the figure.) D, a tube, up which mercury is to be forced by the pump C, into the cistern E. F, a graduated orifice, for discharging the quicksilver on the overshot wheel, H H. G, a valve, to prevent the retrogression of the mercury into the pump C.

That this principle will fulfil the expectations generally entertained of a "perpetual motion," I do not expect, but that it affords a source of power sufficient for the purpose, I have received a sufficient demonstration; and that it can be made an useful improvement in mechanics, no objection has been presented that gives me reason to doubt. It is as yet scarcely more than an incipient idea, having received but a slight examination of one mind, and that not accustomed to such operations.

Columbia, S. C. March 11, 1833.

NEW-YORK, March, 1833.

To the Editor of the Mechanics' Magazine:

SIR,—In your last number you have given an account of Russell's Hydraulic Press, copied from the London Mechanics' Magazine, and put forth there as a recent invention. I beg to inform you that I assisted to construct a press on the same principle, in June, 1827, for Mr. Ward, Tallow Melter, in Third street, in this city, where it is now in use, and has been ever since that period. Now I think that sufficient notice has not hitherto been taken of inventions that have been made in this country. I am an old countryman, and I can assure you I have every disposition to do all possible justice to Brother Jonathan, and I do hope that in this instance, as well as in all others that come under your notice, you will not fail to make public the claims the people of this country have for ingenuity and industry in all that appertains to the Useful Arts. There is some trifling difference between the press at Mr. Ward's, and that of Russell's, as described in your last—but nothing that affects the principle; however, on that head you can satisfy yourself by seeing it. I am, Sir, your obedient servant,

A MECHANIC FROM SCOTLAND.

[We have seen the press alluded to by our esteemed correspondent, and certainly it is constructed exactly on the same principle as Mr. Russell's. There are several in operation in this city, but we believe none of them have the railway attached, which is a great acquisition. It does not exactly appear that the Editor of the London Mechanics' Magazine, or his correspondent, Mr. Russell, who claims to be the inventor, has put it forth as a very recent invention. Mr. R. in his letter says, that he "has made and constructed several presses of this description," but he does not make us acquainted with the period when he made the first—although as far as we can gather from his letter he claims the invention. That similar presses have been in use here for the last seven years is quite certain, and, the probability is, much longer. We should be sorry to call in question the claims of Mr. Russell, but we have had several communications of a similar nature to that of *a Mechanic from Scotland*, and most of them claim the invention for America. Our only wish is to elucidate the truth, and perhaps some of our correspondents can assist us in the attempt.—ED. M. M.]

INTERESTING CHEMICAL DISCOVERY.—A singular and highly important discovery has recently been made by Messrs. Capron & Boniface, chemists, at Chaillot, in France. By a process which they keep secret, and to which they have given the name of "Momification," they have succeeded, after passing a number of years in experiments, in so modifying and perfecting the known processes of preserving bodies, as to reduce them to mummies, leaving all the forms unaltered. All the elements of disorganization which show themselves in the human body so soon after death are completely destroyed, and not only the external body, but all the viscera, the lungs, the heart, the liver, and even the brain, are perfectly preserved; the features also remain so perfectly uninjured, that correct portraits may be taken at any length of time after death, and, as the body is not enveloped in bandages as in the Egyptian method, the natural forms are perfectly preserved. The operation requires but few days, after which the dead bodies may be preserved in a room or vault, or interred in the ordinary way, without being accessible to worms. They may also be exposed to all the variations of the air, either in a standing or sitting position, without undergoing any alteration.

NEW METHOD OF COMPUTING THE MOON'S DISTANCE FROM THE EARTH.—The data on which the computation is made are the Moon's sideral period, and the force of gravity on the earth's surface. The force of gravity on the earth's surface, as ascertained by the pendulum, is sufficient to make a heavy body descend in vacuo about $16\frac{1}{12}$ feet the first second of its fall. From this fact can be easily ascertained what the sideral period of a body would be, revolving round the earth in vacuo, one semidiameter of the earth from its centre.

When this sideral period is ascertained, then take the moon's sideral period, and say, by the Rule of Three: The squares of these two periods are to each other, as the cubes of the distances from the earth's centre.

We have made the computation, and find the moon's distance to be about sixty semidiameters of the earth from its centre; which corresponds with the general computation founded on the moon's horizontal paralax.

POTATOE PASTE.—Mash boiled potatoes very fine, and while they are warm add a sufficient quantity of butter to make them hold together; then, before the paste gets cold, flour the board to prevent it from sticking, and roll it to the thickness wanted.

ANIMAL POWER.—Dupin states, that in Great Britain the animal power is eleven times as the manual power, while in France it is only four times as great. Also, that Britain consumes three times as much meat, milk and cheese, as France. In Hanover there are 193 horses to every 1000 inhabitants, 145 in Sweden, 100 in Great Britain, 95 in Prussia, 79 in France.—[Bull. des Sc. Agri.]

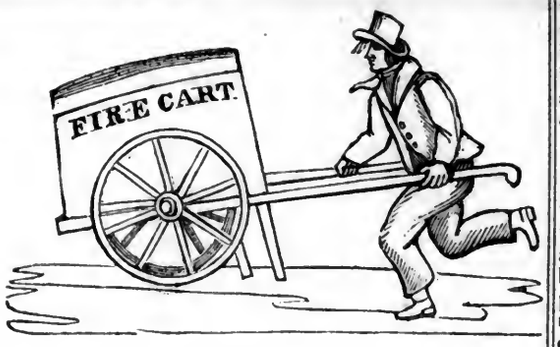
LOCOMOTION WITHOUT STEAM.—On the 23d of last month, Mr. Hoffman, an engineer of Dantzic, made a first experiment with his newly invented machinery for driving paddle wheels without the application of steam.—Several friends accompanied him in his trip, which his little vessel performed to admiration, though at a somewhat slow rate. We are told that the mechanism, by which the wheels are impelled derives its power from quicksilver instead of steam.—[Morning Herald.]

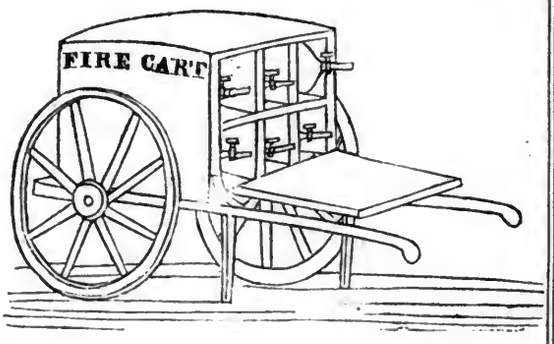
THE MECHANICAL ARTS.—Next to Agriculture, in point of necessity and usefulness, should be regarded the arts of mechanism. Who is more deservedly entitled to our respect and a rich pecuniary reward, than he who can so control the properties of motion, and calculate velocities so as at once almost to annihilate time and space? than he who is enabled, by the force of the elements themselves, to convert all, that is within reach in nature, to the most advantageous purposes—either to assist man in his enterprises, by supplying his weakness, or to satisfy his wants, or contribute to his convenience?

While our country abounds in the variety of materials necessary to be wrought by the ingenious mechanic into labor-saving machines, and while this supply of materials affords him, of ever so humble means, the required facilities of accomplishing the most surprising works within the compass of human agency, it offers, also, a stimulus to the capitalist to encourage the highest degree of perfection in machinery, for the economy of labor, of which the modifications of the mechanic powers are susceptible.

The vast extent of our territory; its cheap and luxuriant soil, inviting by the salubrity and variety of its climate, to all who may choose the honorable calling of husbandry, with a sure promise of a rich reward, renders nugatory the objections of some, that human labor will be out of demand. In this government, at least, while the best of wild lands, at a nominal price, are accessible to all, industrious and ingenious mechanics will never go unrewarded because machinery is too plenty.—And no other country offers the same reciprocal assurance of success in the cardinal pursuits of human industry; the field of our agriculture has no known limits; our commerce, resting on the industry and enterprise of a republican people, looks boldly to countries the most remote; while the motto over the entrance of our manufactories is "Onward." Already may it be truly said of the American Mechanist, as it was by the Grecian—Give him but a fulcrum and he will move the world.

With the ardent mechanist, a thorough knowledge of mechanical laws, and a power of referring effects to causes, and vice versa, which always depend upon and lend to each other reciprocal aid, is the basis of improvement and discoveries; and a judicious adaptation of materials, and a scientific combination of forces, constitute the perfection of his art.—[Syracuse Argus.]





A Plan for the Speedy Extinction of Fires.

[From Captain Manby's Circular to Insurance Companies in England.]

It must be obvious that the ready extinction of fire depends entirely on the facility with which water is brought to act upon it at its commencement; and that, when left uncontrolled during the delay of engines arriving, the procurement of water, and the further delay of getting the engines into full action, it reaches a height at which its reduction is highly doubtful, and at least very difficult. Many instances of destruction by fire have been caused by obstructions to the conveyance of engines to the spot, or from the impossibility of procuring water to enable them to act when they have arrived; and in every case some delay necessarily takes place in preparing the engines, even when water is at hand. It is a well-known fact that many of the great and destructive fires in London and other large towns, where water-pipes are laid, might have been controlled if water could have been obtained in time. In towns not so provided, villages, the detached residences of gentlemen, and other buildings in the country, the want of water at hand, or other means of extinction, makes their total destruction in case of fire almost inevitable.

From observations which I have made in witnessing fires, and from information of those persons constantly employed on such occasions, I am assured that a small quantity of water, well directed and early applied, will accomplish what, probably, no quantity would effect at a later period. This has excited my attempts to provide some prompt and efficient means by which the anxious and often important interval of delay would be obviated, and the fire opposed on the first alarm, thereby not allowing the flames to increase in fury; which so often occurs, that the efforts of the fireman are exerted rather with the hope of preventing the extension of the calamity to other buildings, than to save that in which it first broke out.

To attain this object, I propose a Fire Cart of light construction, requiring but one person to convey it to the spot, and apply a fluid, in the most efficacious manner, from portable vessels or engines, on a principle very long known—the artificial fountain in pneumatics. The engines are to be kept always charged, and one when slung across the body of a watchman or servant is easily carried to any part of the building, however difficult of access. The management required is simple: for on opening the stop-cock, the pressure of condensed air instantly propels a stream that can be directed with the most exact precision on the part in combustion,—a circumstance extremely important, when the incipient fire is not within the reach of effort by the hand, and when the air, heated by the flames, prevents approach to cast water upon it by common means.

Every fire, even the greatest, must arise from small beginnings, and when discovered in its infant and commencing state, is easily to be kept down and prevented from becoming destructive, if means of early application were at hand. We often hear of the alarm of fire given by watchmen long before the arrival of engines on the spot, and, if they were provided with a fire cart, the alarm of the watch and application of means of extinction would be simultaneous.

The cart contains six engines, each charged with the impregnated solution of an ingredient best adapted to extinguish fire. When the first engine has expended its store of antiphlogistic fluid, a supply of others in succession may keep up a constant discharge until regular engines and plenty of assistance arrive, should the fire not be entirely subdued by these first efforts.

When a small quantity of simple water is cast on materials in a state of violent combustion it evaporates into steam from the heat, and the materials thus extinguished readily ignite again; the addition of incombustible ingredients consequently becomes necessary to make quality supply the place of quantity, and thus with the smallest portion prevent the fire rekindling.

To give the most extinguishing properties to common water has engaged the experimental attention of many in different countries,* and it has been rendered by them more effective to extinguish fire than forty times the same quantity of common water (a circumstance not speculative, but conformed by trial made upon buildings erected for that purpose); but the simple ingredient of pearl-ash dissolved in water when applied on burning substances, forming an incrustation over the surface extinguished, and thereby preventing the access, has in my estimation a decided preference; it has likewise the superior recommendation of the readiness with which any person may imbue the water with it, while the compounds cannot be had but at considerable cost, nor be prepared without labor and nice accuracy in their respective proportions. Thus at the moderate ratio of twenty times increasing the quality, the cart would convey an extinguishing fluid equal to one tun and a half of common water.

Specification in reference to the Apparatus belonging to the Fire Cart.—Each machine is a strong copper vessel, of a cylindrical form, two feet in length and eight inches in diameter, capable of containing four gallons; a tube of the same metal, of one-fourth of an inch in diameter, curved so that its end is carried to the side of the vessel, with a stop-cock and jet-pipe, the vent of which is one-eighth of an inch in diameter at its top, reaches to within half an inch of the bottom, and is to be screwed so closely into the neck of the vessel as to preclude the possibility of the escape of the air.

Three gallons of water, holding in solution any ingredients* best adapted to extinguish fire, are to be put into the vessel, and then the room remaining for the fourth gallon to be filled with closely condensed air; to effect which, the jet-pipe is to be unscrewed, the condensing-syringe fixed in its place, and the air to be pumped in, to the utmost power of the strength of the vessel to contain it; the stop-cock is then to be closed, condensing-syringe taken off, and the jet-pipe replaced.

On turning back the stop-cock, the condensed air re-acts on the water, and casts it to a height proportioned to the degree of condensation.

That the machine may be more easily carried, where access is difficult, it is put into a leathern case with a strap, and, slung over the shoulders of the bearer, is thus conveyed easily, and then directed with the utmost precision to the point requiring the water.

As directions for the effective arrangement of fire carts in populous places, the following plan I should propose: That at each watch-house, from the time of the watch setting, there should be in attendance a regular fireman instructed in the use and management of the apparatus; and that each parish should be provided with one or more fire carts, according to its extent or number of wards, and the vessels or engines composing the complement of the cart to be kept charged ready for being immediately applied. When watch-boxes or stations are at a considerable distance from the watch-house, some central watch-box should have a single engine lodged ready for application, to be brought on the alarm by the watchman, and delivered to the fireman, who repairs to the spot on the alarm of fire being given with as much expedition as possible. Should the fire have broke out near the depot of the fire cart, the fireman in attendance will take the cart with him, or an engine from it ready to apply; if otherwise, the watchmen will each bring an engine, which the fireman will expend, and by receiving from others their engines, a regularly-continued and well-directed stream will be kept up, which, from the early opposition to the fire, will no doubt check the flames, if not entirely subdue the fire; should the distance be considerable, the fireman, aided by a watchman, would convey the cart to a place on fire with as much dispatch as possible.

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* 1734. M. Fuches, a German physician, by throwing balls into the fire, containing certain preparations, which burst with violence, instantly quenched the fire.

1761. Zachary Grey used the same process, in which were alum, sal ammoniac, and other saline matters, with water.

In the same year Dr. Godfrey, in a public exhibition in a house erected for that purpose near Mary-le-bone, applied the like ingredients with great success, by the action of confined gunpowder only, which, exploding, dispersed the solution on the materials in combustion, and effectively extinguished the same.

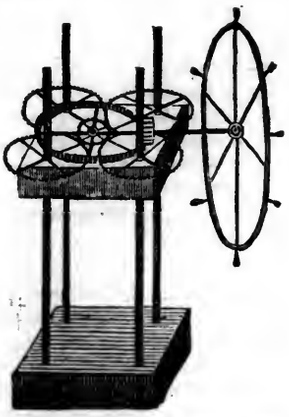
1792. M. Von Ahen, at Stockholm, made numerous public experiments to show the effects of several combined ingredients to render materials entirely incombustible; he is stated to have subdued an artificial fire by two men and forty measures of preparation, that would have required twenty men and fifteen hundred of the same measures of simple water.

In the same year, M. Nil Moshein made many public exhibitions to confirm that combustible materials might be made perfectly incombustible; as also did Mr. W. Knox, of Gottenburg.

* Pearl-ash, dissolved in water, when applied on burning substances, forms an incrustation over the surface extinguished, and prevents that part from reinflaming.

From the New-York Mechanics' Magazine.

MR. DUNHAM'S NEW PATENT SCREW PRESS.—We have been much gratified by an inspection of this new invention, a correct engraving



of which we insert, and witnessing its operation in pressing paper, at the office of Messrs. Schols & Co., printers, in this city.

It consists of a cast iron bed, on which are erected four iron columns, with a screw on the end of each; the head or platen is attached to four cog wheels, which move it up and down on the columns—the whole being acted upon by a pinion wheel in the centre, thus moving the platen in a perfectly straight line without the least variation, which is a great improvement on the old presses, producing a reduction of friction, a gain of power, and a saving of machinery. The press in question can be constructed with one to ten thousand tons power or more, retaining all its advantages, and can be worked either by manual or horse power, or by machinery, and is peculiarly adapted to the expressing of oils, the pressing of paper, or any thing requiring a perfectly uniform, gradual, and equal motion.

We are informed that one man can, with this press, perform in the same given time an amount equal to that which requires four men with a bar and capstan press. The whole is composed of iron, and built in a substantial and workmanlike manner by Messrs. Fry & St. John, 87 Eldridge-street, requiring but one-fourth part the space occupied by common presses.

The press can be made of almost any size, and at about the same price, as the old fashioned ones, and which we are of opinion in a very short time it will entirely supersede.

Mr. Torrey's Patent Safety-Apparatus for preventing the Explosion of Steam Boilers.

Communicated by the Inventor for the Mechanics' Magazine and Register of Inventions and Improvements.

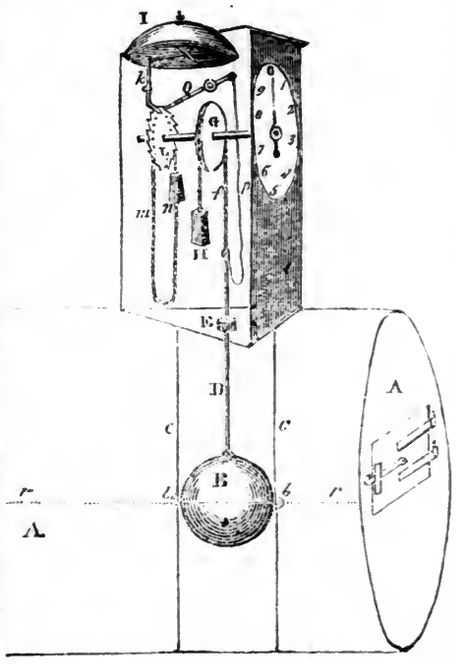
In consequence of the great destruction, both of lives and property, occasioned by the explosion of steam boilers, and the collapsing of their flues, it has been a subject of universal inquiry to find some method through the operation of which these disasters may be obviated; and that public excitement has become so excessive in the United States that the Executive of our General Government has issued a request to all scientific persons conversant with the subject, to send to the Secretary of the Treasury such information, or suggestions, as they may deem serviceable to explain the causes of these disasters, and the probable mode of preventing them. From all that can be gathered through the best of sources, and from engineers themselves, it is fully admitted that if the following requisites are strictly adhered to, there need be no apprehension of danger, either to life or property, from the operations of steam boilers:

First, Ascertain by experiment the pressure of steam which a boiler and its flues can safely sustain;

Second, Graduate the safety-valve so as always to be sufficiently within the *maximum* pressure of the boiler and its flues.

These precautions, faithfully attended to, will render steam as safe a power as any other now in use. The third and last precaution is, to keep the boiler at all times *sound*, when in use. Generally, from the diminutive circumference of the flues, when compared with that of the boiler, they can sustain more pressure from the steam acting on their outside, than the boiler within which they are placed can withstand inside; yet it is found that there have been more flues collapsed in boilers than there have been boilers exploded. Why should this be? The answer is, the metal of the flues must, from some cause, have sustained an injury. How can this injury accrue? The only reason apparent to the mind is, that the tops of the flues were left uncovered by the water; thereby permitting the heat within them to burn and weaken the metal of which they were composed—consequently, the want of a sufficiency of water in a boiler, whether with or without a flue, or flues, is the cause of a collapse. The same argument will apply to the boiler itself, provided the fire applied outside rises higher than the water within; therefore, agreeably to this reasoning, it must be inferred that if a boiler be proved strong enough to sustain a certain pressure, and the safety-valve is sufficiently loaded within that force, that the only cause why a boiler should explode, or a flue collapse, is from the want of a due quantity of water in the boiler. An engineer cannot tell the precise height of the water by the guage cocks, even should he be trying them all the while; for water will fly up when the cock is open, although above the water's level.

Viewing the importance of the foregoing considerations, and the darkness now surrounding the subject, the following apparatus has been made and applied successfully to a steam boiler in a steamboat:



REFERENCES.—A A, a cylindrical boiler, and *r r*, the water line inside of it; B, a globular float, intended to move perpendicularly—for which purpose it has two or more rings, *b b*, affixed to it, through which the rods *c c* pass, being made fast at their ends at the top and bottom of the boiler; D, a straight rod, or piston, the lower end of which is attached to the float B, and the upper, after passing through the stuffing box, E, on the top of the boiler, is fastened to one end of the chain *f*, which passes over the wheel G—on the other end is hung the weight H; I, is an alarm bell, and *k*, the tongue or hammer which rings the alarm: L, a wheel which communicates with the hammer *k*, and over which the chain *m* is placed, to which the weight *n* is hung; O, a ketch communicating with the top of the rod D, by the cord *p*.

Of the fact that this apparatus will give the true height of the water in any boiler, and thereby give sure warning of impending danger to the lives and property of all near about, whether on board of the boat, or elsewhere, there is no doubt; but this is not the only advantage resulting from the application of it, which the following remarks will amply demonstrate.

In order to generate the *maximum* of steam from a definite quantity of fuel, there is one thing to be observed—which is, the principle regulating the power. *Ice* and *caloric* are the material of steam. Ice is the mere body *acted on*: caloric is the *operator*. This great mover must be dealt with in an economical manner, for the expense of water is but trifling, and fuel is high. To instance a component of steam: it forms at the bottom of the boiler in the shape of a bubble—now, in order to produce this bubble, a certain quantity of caloric is received, *more* than is requisite to raise the temperature to 112 degrees Fahrenheit, which super-abundant heat is termed *latent*. This bubble rises through the water, which, in temperature, is below the evaporable point, at the ordinary pressure of the atmosphere: and in its ascent, from the difference of its and its surrounding water's temperature, loses more or less of the super-abundant heat of which it is possessed. Should it have to pass too far through this element, it would lose all of this super-abundance of caloric, and become a part of the water itself; hence, the shorter distance a bubble has to ascend through the water, the less liable it is to lose its character of steam. The history of one bubble will answer for the whole that causes the operations of a steam engine. The question may be asked, where does this extra or latent caloric go, when the bubble liquidates? The atmosphere passing around the sides of the boiler will answer for the fact.

Granting every thing in readiness, and the height of the water in the boiler at the level *r r*, it is evident that if the water falls the float must fall likewise, (always supposing the friction to be not too great for the weight or buoyancy of the float to overcome,) drawing the weight H up, and turning the wheel G, which moves the hand on the dial plate, which, by its figures, denotes the rise or fall of the float B, and the rods *c c* oblige it to move perpendicularly. The alarm can be given at any height of water for which it may be set, for the cord *p*, when tightened, loosens the ketch *o*, and the cord *p*, as it falls, stretches that cord; therefore, when the water has descended so far as to be considered dangerous, and the time of alarm is set at that point, the ketch *o* is sprung; the wheel L, then being at liberty to turn, is caused to revolve by the fall of the weight *n*, hung to the chain *m*, and this turning of the wheel L vibrates the tongue or hammer *k*, and the alarm is given. When the water rises, the float will necessarily raise with it, and the distance be denoted by the

figures 1, 2, 3, &c. on the dial plate. A spring, or rack and pinion, can be substituted for the weight H, should either be preferred.

[Of the utility of Mr. Torrey's invention there cannot exist a doubt in the mind of any reasonable person. Most of the accidents that have occurred in steamboats have been occasioned by the bursting of the boilers, and to find an effectual remedy for preventing a recurrence of similar disasters, has engaged the attention of practical and scientific men for a series of years. Mr. Torrey's plan, it appears to us, is an effectual one—it is so simple that it is almost incredible that it has hitherto escaped the notice of those whose avocations must bring the subject daily and hourly under their immediate notice. —The invention has been deemed of sufficient importance by several gentlemen to form a joint stock company for carrying into effectual operation the plan. The apparatus as above described has been placed by them on the *Delaware*, steamboat, plying between this city and Providence, and experiments have been made in the river, that leaves no doubt of the complete success of the undertaking. In a few days she will make her first trip, and we trust that in our next we shall be enabled to give a satisfactory account of its practical operation.—Ed. M. M.]

Taylor's Patent Improvements in the manner of hanging and effectually securing the Rudders of Vessels. [Communicated by the Inventor for the Mechanics' Magazine.]

These improvements in the manner of hanging and effectually securing the rudders of vessels render their rising and unshipping impracticable, and less liable to injury, and to be used with much less physical power on the wheel or tiller. Their superabundant weight is materially diminished, and rendered more effective for their easy and proper action. These improvements combine a powerful principle of union in their scientific simplicity of construction, and great utility, strength, and durability, in their practical operation: all which are of paramount importance for the proper government and safety of navigable vessels. These improvements are illustrated by reference to the respective sketches and figures, and the following is a description of their construction and application, viz:

Fig. 1.

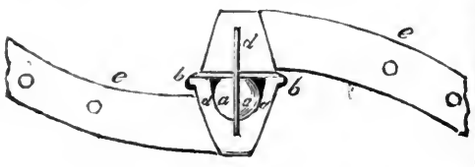


Fig. 1 is a section of a brass cup or joint, in which is formed a hemispherical socket, in working order. The following is a description of its parts, viz:—*a a*, a spherical bearing, in the centre of which is a groove for oil; *b b*, the recess, which contains a leather collar; *d d*, the hemispherical cavity, which contains the spherical bearing, (*a a*,) and also the fluid necessary to lubricate its surfaces, and thereby prevent friction; *c*, shows the groove, formed in the spherical bearing, which permits the fluid to flow up, and lubricates its surfaces every time the ball is moved; *d*, shows the groove, formed in the upper joint for the reception of the lubricating fluid; *e e*, elliptical straps.

Fig. 2 is part of the stern post, upon which is formed a groove (to match the projection on the rudder), and upon this figure are the lower joints or cups, with their hemispherical sockets and connecting straps, firmly secured to their stations. A A, represent strips of copper, secured to these parts, to give extra strength to the hollow groove, near the angles.

Fig. 2.

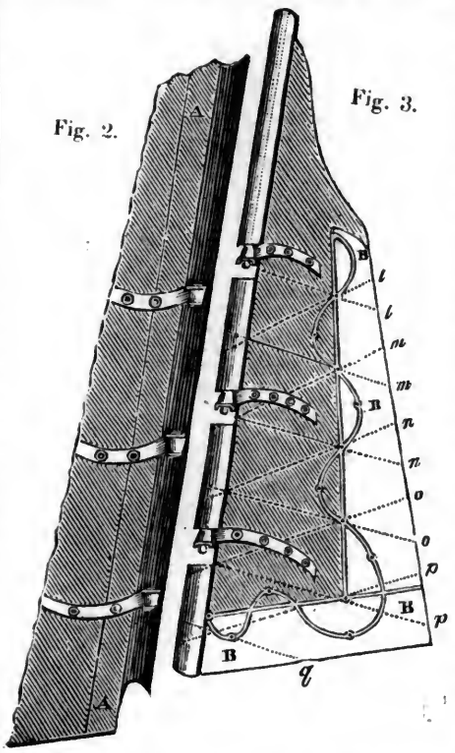


Fig. 3.

Fig. 3 is the rudder, with its projection (to fit the groove in the sternpost), and attached to which are the upper joints with their spherical bearings; when these balls are let into their stations, (see fig. 4,) this projection will fill the groove in the sternpost, and a hinge will thus be formed for the rudder to play or turn upon, of the *strongest*, *easiest*, and *most durable* kind. From the accuracy of the bearing surfaces they will perform their action with peculiar *facility*, and as the upper and lower joints are so correctly fitted together they will exclude the entrance of water, or other substance liable to injure or obstruct them. The projection of the rudder entering the corresponding cavity in the stern post will preserve an even surface with the sides of the stern post, reduce the passage and pressure of water acting on the inner surfaces, and lessen the exposure of the rudder from a blow upon this part. In this manner the rudder will be hung upon the most effective and powerful principle of all joints or hinges, and in the nearest possible position with the sternpost; and by giving the straps (attached to these hanging joints) an *elliptical curve*, with circular projections thereon, to increase the diameter and strength of the screw, or bolt heads, (and likewise the straps,) they are held together in the *strongest* and *most substantial manner*, and the rudder is, when thus hung, perfectly secured against a separation from the vessel, except by being unshipped, or raised out of the joints or hinges, to prevent which an effectual remedy is applied. The circular projections on the straps are hollowed out, to admit suitable screw heads of the same diameter, by which means the joints can be more easily stationed and fitted with *accuracy*, in their centrical positions, than by inserting *bolts*, and striking them to form rivets, which has a tendency, by the *vibration* of blows, to throw the joints out of their proper position. The dotted lines marked *l*, *m*, *n*, *o*, *p*, *q*, represent the *diagonal* direction in which the main bolts are to be driven, both in the rudder and stern post, (in lieu of horizontal,) which will give additional strength to the timbers. Within that part of the rudder post where the lever is let in, (as represented in Fig. 5,) a small circular groove is formed, and a brass tube is to be affixed in this cavity, to act as a channel to convey oil to the first hanging joint, to lubricate the bearing surfaces, and prevent friction. In lieu of oil being applied to the second and third hanging joints, a lubricating composition is to be inserted in the cups, through a tube, previous to hanging the rudder; this composition being heavier than water, a portion will remain in the cups after the rudder is shipped, and will diffuse itself to the bearing surfaces, and throw off friction. The introducing this lubricating composition in lieu of oil is in consequence of these hanging joints being constantly under water, and therefore precluding the insertion of oil to the cavities assigned for that fluid. The bearing surfaces of the hanging joints are not exposed to the violent and irregular action of the water, which would, in some degree, impede their motion, and create additional physical power to guide the helm; neither are they liable to the corrosive operations of rust, or other injurious causes, which now arise from the present mode of hanging ships' rudders.

On that part of the rudder marked B B B, is formed a projection, to receive a corresponding groove, formed in a wing of *cork*, to be attached and secured to it.

From the *elastic* and *buoyant* properties of cork, it will not only create the *first impetus*, or *spring*, to facilitate the action of the rudder, but will operate something like the tail of a fish, in governing the motion of its body,—will also reduce the superabundant weight of the rudder, and render it more easy and natural to perform its working operation. Another wing of cork is secured to the bottom part of the rudder, to act as already described, and to operate as a repulsive power, to preserve the rudder from injury, by the concussion of a blow that may strike this elastic substance.

The serpentine figure, with bars running through the centre of the rudder, is called the *guard*, which, secured on each side of the wings of cork and the rudder, gives *additional strength* and *security* to the rudder, and will preserve its hanging appendages from accident, as well as operate as a *repulsive* power to prevent injury.

Fig. 4.

Fig. 4 shows two sections of semi-circular brass clasps, to which are attached two of iron, to be affixed to the bottom part of the rudder post on deck. Within the semi-circular brass clasps are formed a groove to match the semi-circular iron clasps, on which is a projection, and when these figures are stationed and secured together, their surfaces will operate in mutual concert, something similar to a hinge, and act in conjunction with the rotatory motion of the rudder. It will also form a *rest*, *bearing*, and *guide*, for the upper part of the rudder. From which arrange-

ment the following benefits will result: First, it will materially *sustain the weight* of the rudder, and *relieve* the joints or hinges of their *burthen*. Second, it will effectually *prevent* the rudder from *rising* and *unshipping*. Third, it will form a *bearing* near the tiller, which communicates the motion, and keep it *steady*, and (in conjunction with the ease of the joints or hinges, and other important advantages) will *greatly lessen* the *power* and *labor* of its motion, so that the steersman's toil will be greatly reduced, and he can guide the helm to the respective points of the compass with great *facility and ease*, and thus steer the vessel *accurately* in its course. Two small circular cavities are formed in the two brass semi-circles, affixed to the rudder post, to admit oil, to lubricate the bearing surfaces, and prevent friction, this fluid will run into the grooves formed in the bearings of the brass and iron semi-circular clasps, and diffuse itself to the parts in contact.

Fig. 5.

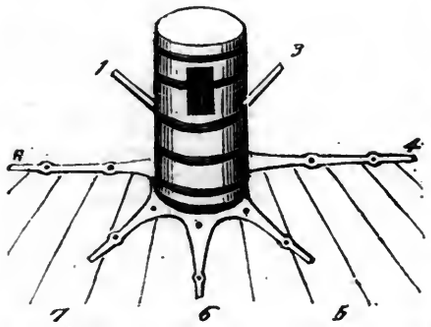


Fig. 5 is a perspective view of the parts complete, affixed to the rudder post on deck, which is secured by elliptical straps, three of which, marked 1, 2, 3, are to be a little elevated, and secured to the stern post and timbers adjoining. Those marked 4, 5, 6, 7, 8, to be secured by being let into the floor of the deck with screws. On the post is represented circular iron binders, and mortice for the lever.

Experiments in Canal Steam Navigation. By R. G. M. [From the London Mechanics' Magazine.]

Mr. Editor,—It may be deemed very imprudent for an individual with small means to attempt propelling a canal boat by steam, especially when there are many persons in his neighborhood more competent to the undertaking, having more money and better conveniences for the purpose. I well knew, however, that though their means and appliances were ample, they had more lucrative and agreeable channels wherein to apply both. With this impression on my mind, and having no employment for a small steam engine which I had by me, I commenced the experiment which I beg now to relate.

Selecting an old heavy-sailing canal boat, I tried several kinds of paddles placed in various situations of the boat, repeatedly altered the machinery, and travelled several voyages with her myself, the last of which was about five miles in three hours on the Birmingham canal, with twenty tons long weight on board her, exclusive of the machinery. With this heavy-sailing old canal boat, an engine, not built for the purpose, and machinery put together in a country place, where no such workmen or tools can be had as are to be found in large manufacturing towns,—with these disadvantages I have performed that voyage by steam alone, without the aid of any other power. By this dearly bought experience, I am in possession of the dimensions and capacity of every article necessary—the limits of the projection of the machinery and guards, above, below, and on the sides of the vessel, so as to clear locks, bridges, slopes, and other boats and lines, with the precise strength of the engine required to propel a boat at the utmost speed which the depth of canal will admit. I can, therefore, confidently state *that canal boats can be propelled by steam* to answer every purpose, except short voyages and frequent loading, up and down any locks, without injury to the canal banks, without injury to other craft, with the same manual labor, and with about five shillings in fuel for a hundred miles' voyage. The charge of steam navigation being injurious to the canal banks must have originated in error, or perhaps from prejudice, before the railroad system had been proved: for my own part, if I wanted to lessen the damage now done to the canal banks and other boats, I would propel them by steam instead of tracking by horses. In fact, any person acquainted with the business of a canal will acknowledge that a horse draws in an indirect line, while the steerer to keep his vessel straight, puts the helm to the opposite side, which causes a heavy surge, and this is much increased in windy weather, and with an increased speed still more; while a steamboat glides sweetly and majestically through the water, the paddles heaving in a direct line always ahead. With regard to speed, it must be in proportion to the shape of the boat, the quantity of lading on board, and the depth of water; and, generally speaking, the depth of canals is not such as to admit of a very great rate of speed, because, if a power sufficient were applied to a boat heavily laden, she would soon drag on the bottom. But it must be remembered, that if a horse draws a boat at the rate of seven miles an hour, that boat and horse, at the end of an hundred miles voyage, would be more than 20 miles behind one propelled by steam at the same rate, since passing the lines of other boats, and thus letting down the boat's momentum, would cause this difference.

At some cost, and much labor, I have enabled myself to state these facts, but at present I must lay my boat and engine aside, from necessity, however, not choice. If there be any thing in my experience acceptable to a more competent adventurer than myself in so laudable an undertaking (for it wants only competence), so as not to leave it in the hands of monopoly, I would gladly afford every information in my power.

December 13, 1832.

AGRICULTURE, &c.

Ploughing in Hot Dry Weather. By R. M. W. [For the New-York Farmer.]

Mr. Fleet,

In the fifth volume of the New-York Farmer, page 321, I have noticed some editorial remarks concerning ploughing and hoeing in the heat of the day. You will observe that the object is not to condense the moisture of the atmosphere. This moisture, in order to afford food to plants, I conceive must be dissolved in caloric. The moment it is condensed it affords little or no support to plants; the circulation of moisture in plants is said to be very similar to that of the arterial and vener circulation in animals, that is, the moisture received by the capillary vessels of the leaves reaches the roots, and little of this moisture ever reaches the earth, but is taken up before it reaches there by the leaves of plants. The moment this is condensed it can no longer enter by the capillary vessels into the vegetable circulation. To plough then in the afternoon, or to place cold bodies in the neighborhood of plants, would be rather injurious than beneficial. Such are my ideas on this subject, and I remain yours, &c. R. M. W.

February 11th, 1833.

Loudon's London Gardener's Magazine.

The December number of this periodical has just come to hand, having been several months in the Custom-House, packed with Messrs. Thorburn's seeds, which were delayed until the 4th of March, for the benefit of the reduction of duties.

This number, although interesting, contains but few articles which are of sufficient practical importance to transfer to our columns. We shall, therefore, only give the substance of a few paragraphs.

The Cholera.—A pamphlet of 32 pages is noticed, containing letters from thirty Physicians in answer to a committee of the Market-Gardener's Society. The conclusion drawn from the opinion of these medical gentlemen is, "that the impression of fear in the public mind with regard to vegetable diet may be entirely removed, and confidence again restored; as the general use of vegetables, as hitherto, is not only judicious, but highly beneficial and valuable."

Hawks to Frighten Birds.—A Hawk confined in a cage and placed in the garden or field is found to be of more service to frighten away birds than other scare-crows, including a sleepy boy.

Tobacco Liquid.—It is common to burn coarse tobacco leaves to destroy insects on plants. If the leaves are first soaked in water, and then burned, they answer equally well, and in addition, furnish the liquid which is used for the same purpose.

Pears Grafted on Thorn, 'planted in a good soil, come early into bearing; the fruit is larger than on the common stock, and the quality equally good, at least while the trees continue in a healthy vigorous state.'

Golden Leaf Tobacco.—*Mr. Minor:* From some pamphlets and papers on Agriculture, presented me by Judge Buel, of Albany, and some other sources, I find your paper, entitled the "New-York Farmer," highly spoken of as valuable to farmers. I therefore take the liberty to enclose you a paper of genuine Golden Leaf Tobacco Seed, which I procured through our Representative to Congress, William G. Angel, Esq. I procured it on the recommendation of the late Governor Clinton to our Legislature, after sending to the south part of Ohio, and two or three times to Maryland, the only two states Gov. C. mentioned in his Message where it might be had. I have (as Judge Buel thinks) been the only person that obtained it in the Northern States. I have raised it two seasons; it has four times the weight on each plant of our old kind here, and is worth much more in market, even three times, as I am informed by Messrs. Chapman & Sergeant, Murdock, and other tobacconists in Albany, and so I presume they will tell you in New-York. My son, Hiram Matteson, advertised the seed last year, and they sent for it from all parts of the Northern States, Ohio, Michigan, and Upper Canada; but the very extraordinary backward season did not permit much, if any, of the seed to get ripe. I therefore sent to Maryland for a fresh supply—its culture is considered of the greatest importance and value of any crop we can raise.

I have this seed for sale at one dollar per spoonful. Letters, post paid, directed to Matteson's Mills Post Office, Exeter, Otsego county, N. Y., will be attended to, and directions sent for culture. It must be sown in April.

Yours respectfully, Z. Matteson.

Exeter, Otsego co., N. Y., March, 1833.

Fig. 1.

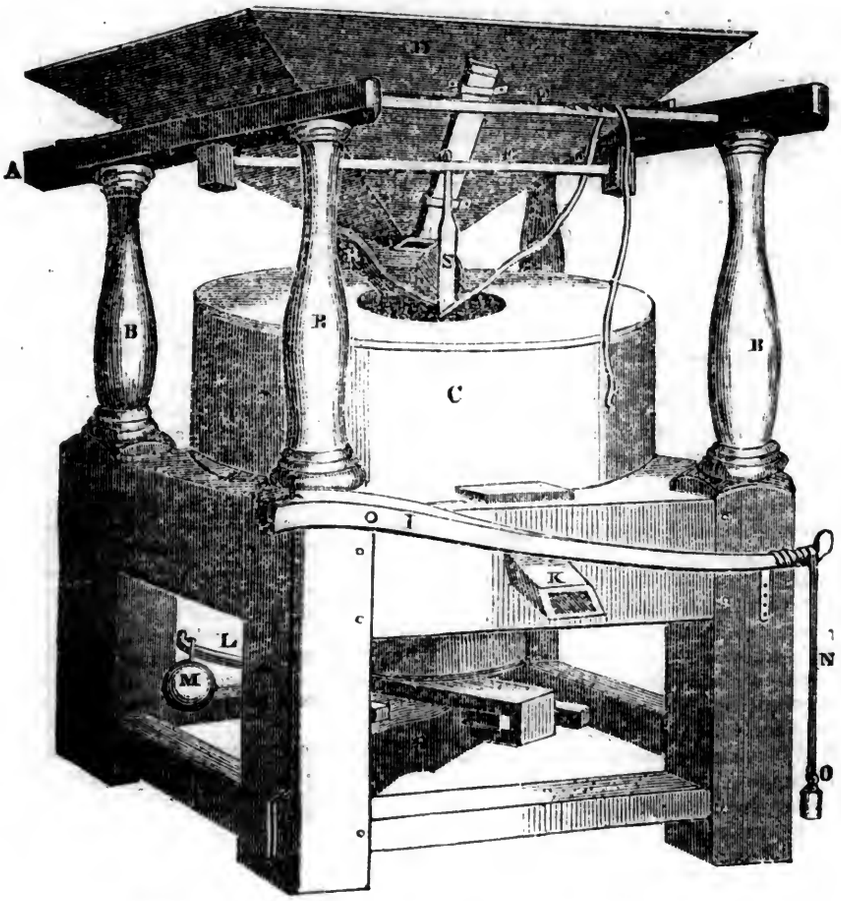
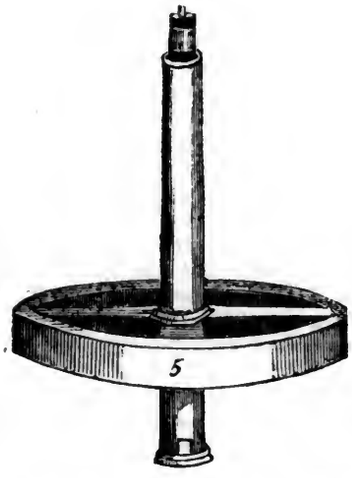


Fig. 2.

Fig. 3.

Fig. 4.



Mr. Hotchkiss' Patent Grist Mill. Communicated by the Inventor, for the Mechanics' Magazine and Register of Inventions and Improvements.

WINDSOR, Broome county, New-York, March 7, 1833.

SIR,—I herewith send you a drawing and description of my improved Grist Mill.

REFERENCES.—Fig. 1. A, the ladder, or top of the hopper frame; B, husk posts; C, hoop enclosing the stone; D, hopper; E, cross-bar, that receives the top of the damsel; F, do. over which the strap crosses that supports the shoe; G, the pressure lever, that gives weight or gravity to the runner; H, the shoe; I, lighter staff; K, meal spout; L, pressure lever; M, weight on the pressure lever; N, strap on the lighter staff; O, weight on said strap; P, rod, or sword piece, that connects the lighter staff and bridge-tree; S, the damsel.

Fig. 2. The top represents the screw part of the spindle; 2, balance rind and wings of flights; 3, driver, and do. do. (see also Fig. 3); 4, collar to spindle; 5, pully on lower end of spindle; 6, screws, or staples, to hold binding irons; 7, inside of oil-pot; 8, binding irons, two of which and foot of spindle form the lock joint; 9, tram block, which is fast to the bridge-tree.

Fig. 3. Driver, and balance rind and wings of flights (see also Fig. 2.)

Fig. 4. The propelling wheel.

The principal objects to be effected by my improvement are to perform fast grinding with small stones, without heating the flour; thereby lessening the expense in erecting the mill, and requiring less power to drive it.

Also to improve mills now in use, by placing the hereinafter described cylinder and flights in the eye of the runner, to keep the stones cool and to make the flour better.

The frame on which the stones, &c. are placed, is made by framing together four posts, one at each corner, and eight girts, four of which to be of sufficient width to receive and support the beams bearing the stones and the flooring around the bed stone. One of the lower girts is of sufficient size to receive an end of the bridge-tree inserted in a mortise in the same; the other end resting on the centre of the brake moving on a joint inside of the opposite girt.

On the middle of the bridge-tree rests a key or tram block, in which is secured the oil-pot or box. In the centre of the oil-box turns the foot or lower point of the spindle. The spindle is made of iron and steel, with a flange or circular projection near the lower end. An iron lock-joint made in two parts encircles the spindle immediately above the flange or projection, and is screwed to the tram block, which secures the foot or point of the spindle in the oil-box and prevents its escaping or bounding out therefrom. The spindle, as high as the collar, and square part on which is placed the driver, is made in the usual manner. The shoulders of the spindle above the driver are to be rounded off in a semi-globular form, on which rests the balance-rind and runner; the balance-rind, where it rests on the semi-globular shoulder, being of a semi-spherical concave shape, its upper side is convex; on which, and around the spindle, is put a circular washer or catteral concave on its under side, resting on the balance-rind. Above this is put a nut, screwed on the spindle, the threads of which being cut in a contrary direction from the turning of the stone, the catteral may be secured by a key passing through the spindle; or it may be otherwise fastened. The spindle is connected and suspended from the runner; the latter being nicely balanced on the spindle, having a motion similar to a ship's compass, and, whilst running, constantly forming itself to the bed-stone in the nicest manner. The damsel is screwed, or otherwise fastened, to the upper end of the spindle.

A pully whirl, drum or cog-wheel, is placed on the spindle to drive the same. A weight is added to the spindle in order to give greater power or gravity to the runner when required, which may, therefore, be of smaller size, and will move with greater velocity; thereby lessening the expense and power required in constructing and driving the mill.

The driver and balance-rind are curved or twisted in such a manner as to answer the purpose of flights or wings, which, during the operation of the mill, carry round and force the air which is in the eye of the runner between it and the bed-stone along deep channels cut in the runner—or pipes inserted to distribute the air—and out of the circumference thereof: also through grooves cut on the periphery of a hollow cylinder inserted in the eye of the runner, creating a current of air through these grooves, and a draft or suction through the eye, causing a more free, easy, and quick admission of the grain between the stones.

Mills that grind fast are liable to heat the flour, and consequently injure it,—but the currents of air, created as before described, and driven between the stones, prevent this from taking place.

To the brake may be attached a screw or lighter staff in the usual way, to raise or sink the runner at pleasure. Also, near one end of the brake, and on it are placed weights and springs, or a fulcrum supporting a lever, attached to one of the corner posts of the frame by a bolt passing through one of its ends, and having a weight suspended near the other end, in the manner of a steelyard, by which the gravity or power of the runner may be increased or diminished at pleasure, so that an equilibrium is formed between the power required and power applied.

The hoop, hopper-frame, hopper, and shoe, are made in the usual manner.

What I claim as my invention, and for which

I obtained letters patent, is increasing the gravity of the runner by means of weight attached to the spindle, or by means of the flange near the bottom of the spindle and the lock-joint fastened to the tram-block on the bridge-tree, with the lever and weight acting on the same; the spindle passing through the balance-rind, secured to and suspended from the runner; the inserting wings or flights in the eye; the shape of the driver and balance-rind causing currents of air to pass between the stones in pipes or otherwise, and through grooves on the circumference of a hollow cylinder placed within the eye of the runner, carrying off the dirt and keeping the stones from heating, likewise causing a draft through the eye, which allows the grain to pass more freely to the grinding stones.

The mills are portable, and can be attached to any machinery, horse, steam, or water, with about two horse power, and are constructed on such a principle as to perform fast grinding with small stones, without heating the flour, and thereby greatly lessening the expense in erecting mills, and requiring much less power to grind them. The improvement can also be applied to mills now in use of the common construction. I am, Sir, yours, &c.

GIDEON HOTCHKISS.

[We are much obliged by Mr. Hotchkiss' communication: it is from such sources that we look with confidence for much valuable matter to enrich our columns. Mr. Hotchkiss possesses certificates of the utility of his invention from upwards of seventy practical men, including many millers and millwrights, who have witnessed the operation.—ED. M. M.]

[*From the New-York Farmer.*]

Suggestions relative to Farmers' Work for April. By the EDITOR.

This is a very important month with the farmer,—all vegetation is bursting into life. Every agent in nature is brought into requisition. All animated nature begins to feel the vivifying influence of the genial sun. Imitating the activity of nature, farmers should be up and doing.

HORSES.—These should be kept in fine order, that they may be able to retain their flesh and strength throughout the laboring months of April and May. Breeding mares should not only be not worked hard, but care taken that they are not overheated, jerked about, kicked or frightened. They should not suddenly change from hard labor to ease, but should gradually have their work lightened.

COWS.—At this season of the year it is not uncommon to see cows wretchedly poor, particularly after calving. They are so weak and feeble, from light coarse feeding before calving, which is so trying to their nature, that they have scarcely energies sufficient to regain their wonted appetite and strength.

FENCES.—These should be righted and repaired immediately after the frost is out of the ground. It is very difficult to keep board fence from leaning, or blowing down, particularly in moist ground. This we should suppose might be remedied by having the posts much larger at the bottom, tapering towards the top. In this way there may be great economy in the posts. One as now used will make two that will be more than twice as serviceable. Posts do not decay at the top, but near the ground. Let the fence be as light as possible towards the top, in proportion to the bottom.

GRASS LANDS.—If a supply of fine manure is on hand, scarify your grass lands, and then give them a top dressing with manure. This will greatly increase the quantity of hay. If you have reason to think moles, ants, and the frost, have rendered ground uneven, the grass will be benefitted by rolling.

ARABLE LANDS.—Farmers should study and apply their means to obtain the greatest quantity and number of crops from the least ground, rather than to break up and plant as many acres as possible.

MANUFACTORIAL PLANTS.—Farmers should endeavor to become acquainted with the plants that are used in manufactories, with a view of introducing more or less of them in their routine of culture. Woad, madder, flax, hemp, mustard, oil plants, rape, poppy, rhubarb, and numerous others, are used in the arts, domestic economy, and medicine.

MULBERRY.—Let no farmer, who wishes to enhance the value of his own, provide for his children, and benefit his country, neglect to sow a sixpence worth of white mulberry seed, and buy one or more plants of the Chinese mulberry, morus multicaulis. By thus doing, in the course of two or three years he will have several thousand plants. If the multicaulis is increased, by laying it, buds sufficient to inoculate the others will be obtained.

SALT FOR SHEEP.—There have been instances when clear undissolved salt has been considered destructive to sheep. It appears to us unnatural to give any animal raw salt. If their food is rendered more palatable by a moderate portion of salt, it would seem as though it would be beneficial in all instances.

FOWLS.—At this season of the year fowls get but comparatively little food—neither insects, nor grain from the barn, and the grass is but short, without seeds; consequently, they should continue to be fed.

LOCUST.—By an expense of a few shillings, any farmer can procure seed sufficient for many thousands of this useful tree. A writer in a Kentucky paper says he sows the seeds in hills, and cultivates them as he does corn—puts six or eight seeds in a hill. An expeditious way of obtaining a plantation of locust is to set out a number of young trees in various parts of the fields, cultivate the ground as usual, and in the spring, after the trees have extended their roots, cut them down. Numerous young ones will sprout up.

PRUNING.—Forest and fruit trees that were not pruned last month should undergo the operation. Prune lightly, rather than severely. April is thought by many to be the best month for pruning, as the wounds heal over sooner.

Suggestions relative to Florists' Work for April. By the EDITOR.

Green House.

RE-POTTING.—Plants that were not repotted last month, should be put into fresh suitable soils. Care should be observed to disturb as little as possible the fibrous roots.

LIGHT AND SUN.—Health and luxuriance of growth cannot be expected in the absence of very considerable light and heat, as well as pure air. The last is required to habituate them to the exposure to open air.

WATERING.—As the warmth of the weather increases, the watering must be gradually increased. Those of soft shrubby nature, and growing freely, require more water at a time than those of a harder texture. Plants generally suffer more from superabundance of water than from dryness. The beauty of the foliage and the general health of the plants are promoted by being syringed two or three times a week in dry weather. The flowers, however, are rather injured by the water.

HEAT.—Should the sun injure the plants, particularly those near the glass, let the glass be lightly whitewashed.

HERBACEOUS PLANTS AND BULBOUS ROOTS.—Divide and re-pot those that were omitted last month. They should be moderately watered two or three times a day. Cape bulbs, that begin to lose their foliage, require a decrease of water. After the foliage is off, dry the bulbs, and pack them in dry moss. Pots containing Dutch roots that have flowered should be laid on their sides, to ripen the bulbs; or plant the contents of the pot in a bed in the garden.

FLOWERING PLANTS require but comparatively little sun while in flower. Flowering stocks for seed should be set out into beds.

Flower Garden.

ANNUALS.—The seeds of these generally may be sown from the middle of April to the latter part of May.

BIENNIALS AND PERENNIALS.—Biennials from the green house should now be transplanted, and the seeds sown.

PERENNIALS.—These should be divided and replanted, carefully watered and sheltered. Among the flowering plants which should be selected are the numerous varieties of the Chinese monthly roses, which are of all hues, the climbing roses, such as the splendid Champney, the Noisette, Musk Scented, Lady Banks', Greville, and numerous others, the various climbing plants.

DECIDUOUS SHRUBS.—In transplanting, great care should be taken to preserve as many fibrous roots as possible, and to keep them from becoming dry. They should be planted before the foliage puts forth, that they receive no check.

EVERGREENS.—During this month these favorite plants should be taken up and set out with as little delay as possible. After the roots are partly covered, water should be poured on in successive times. The appearance of the ground around the plant is not improved by pouring water on the last or top layer of earth.

THE WALKS.—Grass walks should be often mowed and swept, and gravel paths require to be rolled often in the spring, particularly after rain.

BOX EDGINGS.—This plant should be clipped about the middle of this month. Box edgings should seldom be allowed to grow but a few inches in height, generally only three or four.

Rooms.

AIR AND WATER.—If plants are judiciously supplied with these, as well as with light and sun, they will do well in windows or rooms. In mild days they should be taken out-doors in the shade, and syringed. Some ladies will make their plants in their rooms surpass in appearance those of many green houses. When first taken from a green house, they should not be exposed to much hot sun, but should have light to brighten the colors of the flowers.

ERGOT IN RYE.—Spurred rye is generally considered poisonous. It is often supposed to be the cause of epidemical diseases. A writer in the Genesee Farmer relates an instance of a person frequently eating a large tablespoonful of ergot with impunity.

SUMMARY.

Gen. Scott, who left Charleston in the Natchez sloop of war on the 29th ult, arrived in Washington on Saturday last. The ship was in Hampton Roads.

The Editors of the Norfolk Beacon were presented, on the 4th instant, with a few *Cucumbers and Strawberries*, from the garden of the United States Navy Hospital.

Of the handsome range of houses in Lafayette place, with their magnificent marble colonnade, which were to be sold to-day at suction, one only, No. 8, was offered. It sold for $26,000. Mr. Geer, the owner of the houses, then stopped the sale.

Rich Arrivals.— On Saturday last, there arrived at this port no less than four valuable cargoes of silks, teas, &c. from China, (a greater number than we recollect to have placed on record in one day,) viz, the ships Superior, Oneida, Florida, and Mary—also the ship Asia from Batavia, with coffee. The cargoes may be fairly estimated at 300,000 dollars each—making in the aggregate nearly two millions.—[Gazette.]

Important Decision.—Vice Chancellor McCoun yesterday morning gave his decision in the case of William Scott and others, stockholders of the late National Insurance Company, vs. Frederick Depeyster and others, President and Directors of the same. The suit was brought to recover *one hundred and seventy-nine thousand dollars*, which had been fraudulently abstracted from the funds of the company by Oliver G. Kane, Secretary. The general charges in the bill were, that the funds of the company had been illegally invested, and that there had been gross negligence to the affairs of the company on the part of the defendants, in consequence of which all these losses had occurred. The judgment of the Court was, that on none of the charges were the defendants to be made liable. The bill was therefore dismissed with costs.—[Journal of Commerce.]

There is, we think, both weight and fairness in the annexed observations of the New Brunswick Fredonian, ou the recent practice here with some of our contemporaries, of reporting arrivals.

The New York papers have commenced the publication of the names of persons daily arriving at the principal hotels in that city. We doubt both the policy and propriety of this. One does not, for instance, always choose to have it proclaimed where he puts up, because the price may be deemed too low for his dignity, or too high for his pocket. Neither is it at all times, quite convenient to every gentleman visiting the city, to receive the *attentions* which a notice of his presence and "local habitation" migh: draw upon him. But there is a real and substantial objection to this mode of advertising persons, on the ground that it is an unauthorized and frequently an unwelcome intrusion upon their privacy, an abridgement of unquestionable right, and a sort of *espoinage* which may, in some cases, materially interfere with both social and business relations. It might also, by construction, be deemed a violation of the rights of hospitality.

N. B. We perceive that our goodly city has credit for sundry crooked names never before heard of here. This is a piece of waggery which will frequently be practised, and will show that the design of the advertisers will not be accomplished.

Narrow Escape from a Bear.—A young man, in passing through the woods near Bangor, Me., a short time since, found himself within a few feet of a ravenous bear. He sprang to the nearest pine and climbed up, the bear clambering after him. Making good use of his feet he dashed his antagonist to the ground. The bear returned and was again repulsed, carrying with him one of our hero's boots. Bruin ascended a third time and with more caution. The young man, hoping to escape, ascended the tree about fifty feet, and as the bear approached him attempted to shake him off, but in vain, as his foot was held by the paws of the infuriated animal, who had lost his hold of the tree and hung suspended by the poor man's leg. The young man's strength becoming exhausted he let go his hold on the tree, and down they went with a tremendous concussion to the ground. Our hero struck on the bear and rebounded eight or ten feet distant. The affrighted pair sat eyeing each other for sometime, when the bear, who was the more severely bruised of the two, showing no signs of fight, the young man rose and fled, leaving his hat and the boot behind him, his friend of the shaggy coat casting at him an expressive look, accompanied by a growl and a shake of the head.

Naval.—The U. S. scooner Grampus, Lt. Com. Smoot, which sailed from Hampton Roads 22d inst. for the West Indies, via Charleston, was spoken 24th inst. in lat. 54, long. 77, by schooner Mercator, reported under our marine head.—[Norfolk Beacon]

Gold.—A very rich vein of gold has been recently discovered on the land of Mr. Smith, in Spottsylvania, Va. It is said to run horizontally for the distance of a quarter of a mile, and that a shaft, which has been sunk fifty feet, has not reached the bottom. The Fredericksburg Arena says, in reference to the productiveness of this mine, that about 50,000 bushels of ore have been raised, of which a small portion is said to yield 50 dollars per bushel; and that the least valuable part of it is estimated to be worth five dollars per bushel.

Death of Professor Ashmun.—The Law School at Cambridge and the legal profession at large, have met with a heavy loss in the death of John Hooker Ashmun, Esq. Royal Professor of Law in Harvard University, who died suddenly on Monday morning. He had for some time suffered from a pulmonary disorder, but had within a few days appeared in our Court, and was expected by his physician to have been able to go out yesterday.

He had the reputation of profound learning, and high hopes were entertained of his approaching distinction. But death has laid low these expectations. —[Boston Mer. Journal.]

The following gentlemen have been elected Directors of the Office of the Bank of the United States, in Washington City, for the ensuing year, viz.:— Samuel H. Smith, Thomas Swann, Benj. O. Taylor, Wm. Prout, Walter Smith, Robert H. Miller, Wm. S. Nicholls, Thomas W Pairo, Wm. C. Gardiner, William Laird, Darius Clagett. And at a meeting of the Board on the 2d instant, Samuel H. Smith was unanimously re-elected President.

Population of New Bedford.—The present population of this town, as appears by a statement submitted at the annual town meeting on Saturday, by the School District Committee, amounts to 9,260; shewing an increase since the census of 1830, of 1.768.— By the census of 1820, the entire population was only 3,947.—[New Bedford Mercury.]

It has been noticed as a remarkable coincidence, that the number of signers to the Declaration of Independence was *fifty-six*, and that the death of the venerable Carroll, and last of the signers, took place just *fifty-six* years after the signing of that instrument.

Military,—We learn from an officer of the Army, that an order has issued from the head quarters of the Western Department of the U. S. Army, for the temporary occupancy of Fort Smith, by a company of the 7th regiment of Infantry. One of the objects of this measure, we understand, is to prevent the illegal introduction of spirituous liquors among the Indians.—[Little Rock, Arkansas Gaz.]

Protests.—The Supreme Court have decided at their last special term, that by the Revised Statutes the fee for protesting a note or draft is 50 cents, and not $1, 50, as charged by the notaries.

The Lynchburg Virginian says, the Legislature of Virginia "has actually appropriated $2500 to remunerate Mr. Leigh for travelling to and from Charleston, and staying there six or eight weeks.

St. Louis, March 23.—We deeply regret the necessity of publishing the following extract from a letter received by express from the Rocky Mountains.

Missouri Establishment, Feb. 14th, 1833.

"Joseph Papin came in with the letters, and states that he had been sent out by Mr. Vanderburgh to kill Buffalo for the camp, of sixty persons; in a short time he returned, saying he had seen cows, just slaughtered, and was sure that Indians were near. Mr. V. was incredulous, but called on a few men to follow him, and said that he would satisfy himself. Remains of meat roasting, and fire still burning near a cow, a powder horn and fire steel lying by the fire convinced him that the Indians were then very near. He resolved to follow up their trail: he pursued it across the plain, until he reached some uneven ground, where it was lost, and suddenly a volley was discharged from an unseen enemy: a rush of near one hundred Indians quickly followed. Mr. V.'s horse was killed at the first discharge; he disengaged himself—levelled his rifle—killed one man, and, while raising his pistol at another, fell dead from a ball received in his back.

Alexis Pillon was also killed. Joseph Papin and four others escaped and found refuge in the Camp. The next day the party searched for the bodies, but could find no vestige of poor Mr. V. Mr. Pillon was buried by us, and the party then crossed the mountain to join Mr. Dripps and his party.

The Black Feet showed the rifle and pistol of Mr. V. to Mr. Bird,*and boasted of having killed a white chief, and one of his men.

*Mr. Bird is an interpreter, and happened to be with the Indians at the time.

St. Louis, March 23.—*Steamboat Disaster.*—The steamboat Enterprize, Capt. Beatty, bound with a full cargo, from this port to Galena, and Prairie Des Chiens, last Tuesday at 12 o'clok noon, struck a snag about three miles above the mouth of the Illinois river, and sunk immediately. The cargo will probably be saved, except such articles as are perishable by water.

Loss of the ship Glide.—By the arrival at this port of the brig Henry Tallman, Capt. Lemont, from Matamoras, we learn that on the 7th inst. he spoke a schooner bound from New Orleans to S. W. Pass, Vermillion Bay, which reported, that the new ship Glide, of Portland bound from Boston to New Orleans, with a small cargo of hay, &c. was cast away on the Tambelier Island, on the 5th. All the information which Capt. Lemont could gather, was, that the crew were all saved—the ship had 13 feet water in her hold—supposed to be entirely lost.—[Franklin Republican, March 13.]

New Orleans, March 19.—*Shipwreck.*—The new ship Knight, Capt Knight, from Portland, arrived and anchored at the S. W. Pass about ten days ago — Being in that situation, she struck an old anchor, buried in the sand. The wind coming to blow fresh, and being unable to get her anchor on board, the Captain was compelled to cut her cable away. She was driven out to sea, and was soon found to be leaking at the rate of 50 strokes of the pump a minute.— The crew being exhausted by continual exertion to keep the vessel fron sinking; the captain drove her on the Caillou Island, with eight feet of water in the hold. She had 200 tons of stone ballast and 160 bales of hay on board; was insured in Boston, we understand, for the sum of $14,000. The amount of property saved, is rated at $3000, in furniture, rigging, and spars. The Captain and crew came down in the Cora from Lafourche.

Steamboat Disaster.—We learn by the steamboat Arkansaw, that the steamboat Superior, on her way down recently burst one of her boilers, between Point Chicot and Washington, by which accident five persons were killed, and seven or eight severely scalded. Among the former was Mr. Carnes, the head engineer. The others were firemen and deck hands. This is the second accident of the kind that has happened on board the same boat within a few months.—[Arkansaw Gaz.]

FOREIGN INTELLIGENCE.

Later from France.—By the packet ship Louisa, from Havre, we have Paris papers to the 26th February. Our latest previous dates direct were of 18th February. The Gazette de France of 25th contains this paragraph:

"Letters by writers of credit received to-day from Madrid, announce positively that the Portuguese Government having satisfactorily explained the shots fired at a French vessel entering the Tagus, the matter may be considered as at rest. There was only left to be settled the affair of the *Alcyon*, sunk at the mouth of the Douro. It is understood at Madrid that this too would soon be arranged, and then no pretext be left for any atack against the Government of *Don Miguel*. The mission of Sir Stratford Canning has failed completely. The Spanish Government refused to lend itself to the views of the British Cabinet, and M. Zea, whose credit Lord Palmerston was desirous of overthrowing, seems destined long to remain at the head of the Spanish Cabinet."

The anniversary of the birth day of Washington (says a Paris paper of the 23d) was celebrated by a splendid fete, given by Mr. and Mrs. Welles. The prettiest women and most distinguished personages in Paris were of the party.

The Charles Carroll packet, which left here on the 1st of Feb., went out in 19 days.

The Journal of Commerce has received dates later than ours. From its Extra we take the following extracts. We presume the acknowledgment of her private marriage, made by "the prisoner of Blaye," about whom so much romantic chivalry has been expressed in France, and by the *diplomatic corps*, will

do more to crush the Carlists in France, than all the acts of the Government of Louis Philippe. It covers her partisans with ridicule, and that is mortal every where, but more speedily so in France than elsewhere.

By the article under the Vienna head from the Havre Journal of 2d March, it seems that the victorious *Ibrahim* refused at last to agree even to an armistice with the Porte, and that he was marching on Constantinople. Russia had been called on by the Grand Seignor for aid. Perhaps, after all, the spark of war which seems extinguished in the west of Europe, is to be rekindled in the East.

A later paper—the Gazette de France, of the 2d March, this moment received—states that Ibrahim had again halted by order of his father.

The affairs of Don Pedro are spoken of as more promising, disease and bad supplies having much impaired the efficiency of the Miguelite army.

M. de Chateaubriand had been acquitted in Paris, and was borne away from the Court in a sort of triumph.

[*From the New-York American of Tuesday.*]

LATEST FROM EUROPE.—There is a fleet of packets and other foreign ships announced as below. The Mary Howland, from Liverpool, of 8th ult. is the latest as yet.

The King of Holland, according to Brussels accounts of the 5th, had refused to comply with the summary demand of France and England as stated in this paper of —— last, and declared himself ready to meet all the consequences of such refusal. We see not how, under the circumstances, the march of a French army and the sailing of a British fleet against Holland is to be avoided—for these were the alternatives stated by Talleyrand and Lord Palmerston, in case of the non compliance of the King of Holland by the 15th March.

The publicity given to the declaration of the Duchess of Berri, and its deposition in the archives of France, is spoken of with unbounded severity by the liberal as well as loyal papers.

The *National* says "There is not in Paris a family of the working class, however poor, who would not rather forego its last morsel of bread, than brand the forehead of one of its members with the ignoble legend with which the Chancery of Louis Philippe proudly enriches its archives, after having soiled with it the walls of the Castle of Blaye. In our humble plebeian families, they know not how to turn over to public malignity the weaknesses of their own blood, in order to derive a gross benefit therefrom. This Protest of a wholly particular nature is only fit for upstart royalty."

In the *Messager des Chambres* of 2d March, we find the following article under the head of Falmouth (England,) Feb. 22:

"Among the passengers in the Lisbon packet,' bound to Oporto, is M. Cabral, an ex-magistrate and deputy from the Azores to the Portuguese Cortes. He is said to be the bearer of arrangements made with some bankers of Paris for a loan of *fifty million francs*, (ten million dollars,) negotiated by *Gen. Saldanha* for Donna Maria. If this be true, we should soon hope for the solution of the Portuguese question; for the party that has most money will assuredly beat the other."

The London Globe of 27th February quoted in the *Estafette du Havre*, of 2d March, says:

"Letters this morning from Lisbon agree in representing the army of Don Miguel to be in such a state of sickness and destitution, that it was thought the siege of Oporto would of necessity soon be raised. Wagons full of sick were arriving from all quarters. It is even said that some advanced works in front of Lisbon are about to be thrown up, in the event of Don Pedro's marching upon the capital."

Sir Walter Scott.—The Queen of Spain is the only one of the crowned heads of Continental Europe who has hitherto subscribed to the monument to be erected in memory of Sir Walter Scott.

Odd Combination.—Under this head, an English paper copies from an American one, an account of a meeting held at *Troy to* promote female education in *Greece.*

Young Ladies for sale.—In one of the Calcutta newspapers the following advertisement appeared—"Be it known that *six fair pretty young ladies*, with two sweet and engaging young children, lately *imported from Europe*, having the roses of health blooming on their cheeks, and joy sparkling in their eyes, possessing amiable manners, and highly accomplished, are to be *raffled* for next door to the British Gallery. Scheme, twelve tickets at twelve rupees each.

Blasting Rocks under Water by means of the Diving Bell.—Three men are employed in the diving bell: one holds the jumper, or boring-iron, which he keeps constantly turning; the other two strike alternately quick smart strokes with hammers. When the hole is bored of the requisite depth, a tin cartridge, filled with gunpowder, about two inches in diameter, and a foot in length, is inserted, and sand placed above it. To the top of the cartridge a tin pipe is soldered, having a brass screw at the upper end. The diving-bell is then raised up slowly, and additional tin pipes with brass screws are attached, until the pipes are about two feet above the surface of the water. The man who is to fire the charge is placed in a boat close to the top of the tube, to the top of which a piece of cord is attached, which he holds in his left hand. Having in the boat a brasier, with small pieces of iron red hot, he drops one of them down the tube; this immediately ignites the powder, and blows up the rock. A small part of the tube next the cartridge is destroyed; but the greater part, which is held by the cord, is reserved for future service. The workmen in the boat experience no shock; the only effect is a violent ebullition of the water arising from the explosion; but those who stand on the shore, and upon any part of the rock connected with those blowing up, feel a very strong concussion. The only difference between the mode of blasting rock at Howth and at Plymouth is, that at the latter place they connect the tin pipes by a cement of white lead. A certain depth of water is necessary for safety, which should not be less than from eight to ten feet.—[Repertory of Patent Inventions.]

From Liberia.—The ship Lafayette was below on Saturday from Liberia, via St. Thomas. Capt. Hardie came up in the Norfolk steamboat. He reports that the Colony was healthy at the time of his sailing. Dr. Mechlin, the Colonial Agent, had succeeded in concluding a treaty with the people of Grand Bassa, and had returned to the Colony in safety.—[Baltimore American.]

[*From the Charleston Patriot of April* 1.]

FROM THE WEST INDIES.—By the schr. *Naomi*, Captain Lubbock, from Dominica, we have the Colonist, of the 9th ult. The only item of intelligence it contains is an account of several shocks of an Earthquake, in the Island of St. Christopher commencing at 8 o'clock on the night of the 8th March, and continuing with little intermission for eight days, during which time the inhabitants of St. Christopher were kept in a state of constant terror. All the stores of St. Christopher were closed and many of the residents fled for refuge on board the vessels in the harbor.

The injury (says the Dominica Colonist) done to the Buildings in Casseterre is very great—there is scarce a stone building or store we think, that has not been injured in some degree; and several old walls and chimneys have been thrown down. The Church, the Wesleyan Chapel, the Jail, the Custom House, the Reading room, the Tavern, have all received damage, and several private dwelling houses have been so shaken as to cause the walls to separate in many places. The Parish Church of St. Thomas, Middle Island has suffered materially.

The works on several of the Estates have been much rent—particularly those on the *Spring Lodge Otley's* (*Cayon*) and *Olivees*, with many others that we have not yet had an accurate account of; and several chimnies and walls were thrown down.

A considerable quantity of bottled liquor was destroyed, by the first shock of the earthquake—the value, supposed to be some hundred pounds sterling.

At no period since the awful visitation of 1797, when a dreadful convulsion in South America, destroyed many cities, and buried in the ruins some thousand of persons, and which was severely felt here, have such severe shocks been remembered in this island. We remember many shocks which caused a momentary alarm, but no injury was sustained, and there was no repetition of them, so as to create any apprehension.

The shocks of earthquake, we understaed, were sensibly felt at Nevis. At Antigua, it is stated, they were very slight. By the Mail Boat, from St. Thomas and Tortola, we learn, that at those Islands they were not at all felt.

The Cholera appears to be making sad ravages at the Havana. The news in the annexed extracts, from the Baltimore Chronicle of Saturday, is later by a week than our previous accounts. Still no one who remembers the exaggerated statements sent abroad of the mortality of the Cholera in this city last summer can doubt that the story of 500 deaths a day in Havana is gross exaggeration. We learn with regret, hat private letters from Matanzas, speak of the disease as just appearing there.

THE CHOLERA AT HAVANA.—The schooner Fan Fan, at this port yesterday from Havana, brings advices to the 24th ult. The Gazette states that the accounts received by her represent the progress of the cholera as truly appalling. From the 24th of February till the 24th of March, *five thousand*, (1,000 whites, and 4,000 blacks,) had died of the disease—and on the day before the sailing of the Fan Fan, *five hundred persons* are stated to have been taken off, and nearly the same number had been buried each day for several days previously. The Captain General has issued an order, that all the artillery shall be fired at sunrise each day, in the hope of purifying the atmosphere. The Board of Health of Havana have issued an order prohibiting the sale, by the Apothecaries, of any medicines under the name of specifics for the cure of the Cholera. Several of the Apothecaries have offered to furnish medicines gratis to the poor. The Superintendents of the Hospitals make the same complaints which were urged in this country, as to the patients being brought to the Hospitals in the last stage of the disorder, and absolutely incurable.

Since the above was in type, we have received the following letter, dated

"HAVANA, MARCH 23, 1833.—The Cholera is making such ravages among our population, that business is almost entirely suspended, and the Clerks in commercial houses, brokers, and cartmen, launch men and day laborers, are unwilling to work. Our daily list of deaths, *publicly known*, falls not far short of 500, but it is supposed that the number is greater. Strangers are not permitted to go outside the walls, lest they should discover the mortality.

One individual has lost 50 out of 200 slaves, and nearly the whole black population has been attacked.

NEW-YORK AMERICAN.

APRIL 6, 8, 9, 10, 11, 12—1833.

LITERARY NOTICES.

A SERMON ON THE RELIGIOUS EDUCATION OF CHILDREN, by GARDINER SPRING, Pastor of the Brick Presbyterian Church in New York. New York: *Jonathan Leavitt.*

DOMESTIC PORTRAITURE—or the successful application of religious principle in the education of a family—exemplified in the Memoirs of three of the deceased children of the Rev. Legh Richmond. N. York: *Jonathan Leavitt.*

The education of children is an inexhaustible theme. On no concern of such deep interest have more varying theories been broached, than on the proper manner of developing and properly directing the intellectual, moral and physical faculties of youth. All, or nearly all, will agree in the general results to be aimed at; but there is an infinite and irreconcilable diversity in the means proposed for attaining them. Hence, as well as from the intrinsic importance of the topic, there can be but few higher or more fitting objects of solicitude to the faithful pastor of a church, than that the children of those to whom he ministers should be early taught to walk in the right way. To such a feeling as this do we owe the Sermon of Dr. Spring—and to a somewhat similar feeling the other publication from the same press, which we have named with it at the head of these remarks. The general views of Dr. Spring in regard to the special objects to which the attention of parents should be early directed in the education of their children, command our entire assent. The habit of subordination, a sacred regard to truth, industrious habits, temperance, caution in the selection of associates, respect for the sabbath, judicious instruction in the estimate to be formed of the world,

and a spirit of benevolence—all these cannot be too strongly inculcated and required—but the manner in which most surely to inculcate them with success and acceptance on the part of the learner, constitutes the whole difficulty of education. Both Dr. Spring and the gentle and highly gifted Legh Richmond insist, and wisely and truly insist upon the inappreciable importance of making *home* the happiest place to the children of a family. "Every family," says Dr. Spring, "ought to be a little world within itself. Absolute exclusion from the world is undesirable; but if I mistake not those families are best educated, and exhibit most of moral feeling, that are most tenderly attached to home." So in regard to Mr. Richmond's views: the editor of "the Domestic Portraiture" tells us, "Mr. Richmond's first object was to make home the happiest place to his children; to render them independent of foreign alliances in their pursuits and friendships; and so to preclude the feeling too common in young people, of restlessness and longing to leave their own firesides, and wander abroard in search of pleasure and employment."—Even this object however must be effected by attraction and not by prohibition, by rendering home more agreeable than other places, not by denying the opportunity of instituting any comparison.

Among the measures to be adopted for accomplishing the great ends of education, Dr. Spring lays great and deserved stress upon the force of example. "Be *yourself* what you wish your *child* to be," it is justly said, "is perhaps the most weighty axiom in the education of children. Example influences, long before instruction can inform, or authority can bind. Precept constrains, example allures; precept compels, example persuades; precept is a dead, example is a living law." And herein in truth consists the great difficulty of the task of education, for most parents, and instructors. It requires a degree of self-denial, forbearance, constant watchfulness of one's own acts and expressions, which few can practice, and which it is nevertheless most dangerous to forego. We must be indulged with making an extract from the view of this subject, so well put by Dr. Spring:—

Children are imitative beings; and few persons are aware how soon they understand the import of what they see and hear. The example of an affectionate and watchful parent can scarcely fail of exerting a most insinuating and powerful influence. No child is too young to be the accurate observer of its parent's conduct, and to be purified, or contaminated, by his example. The remark cannot be too strongly enforced on parents, that however insensibly, they are incessantly moulding the minds, the habits, the character of their children, by the power of their example.

You do not mean that your child should possess an unyielding, imperious, spirit; that he should be overbearing and contemptuous; or that he should bef unkind, unamiable, and uncourteous. But what i; he discovers in you a hasty, uncontrollable, temper what if he sees that you are haughty and disdainful; that you are fond of sharp contention, and disregard all the laws of kindness and courtesy: the effect will be, in spite of all your efforts, that your example will be the governing motive of his conduct. You do not wish to see your child idle and slothful, and afraid of toil and hardship. But what if you yourself are a man of fashion and leisure; what if your child suspects that you do not deem it reputable to labor; and that instead of redeeming your time, and being diligent and unwearied, you are satisfied with living at your ease: is it very probable, that your child will aspire to great activity, energy and usefulness? You desire that your child should be a man of honorable feeling and unbending veracity; that he should be punctual in his engagements, and thorough in his business. But, if while he hears you commending and extolling these virtues, he knows that you descend to what is little and mean; that you are disingenuous, equivocal, and false; that you are loose and immethodical: will not your habitual conduct be apt to have more influence with your child, than your most positive precepts? You wish your children to be discreet in the choice of their associates. But what if you yourselves are devoted to dissipation and convivial intercourse; what if you occasionally resort to corrupt and corrupting society; * * * * is it not possible, that you are thus most effectually alluring your children to become the victims of sense and sin? You would not wish your child to be an atheist, or an infidel. But what if he hears you sometimes expressing your doubts, whether there be any such being as God; whether there be any difference between what is right and what is wrong, except what arises from custome, or education; whether there be a world of everlasting retribution; and whether, after all, the Bible may not be a cunningly devised fable; would it be surprizing, if your child should be deeply imbued with this unhinging scepticism? You who profess to be Christian parents, wish to lead your children to seek first the kingdom of God and his righteousness. But what if they discover, that you yourselves, are conformed to this world; that your great object is to be rich and splendid, and to seek the honor that cometh from men; that you are influenced more by the maxims of fashion and the approbation of the world, than by the approbation of God and the unerring judgment of his word: will you have any just ground for disappointment, if your example defeats your instructions?

We would gladly pursue this subject, but are admonished that others claim our notice, and therefore take leave of thess two publications, with sincere respeet for their authors, and excepting some matters of detail, with general assent to their opinions.

Loretta—*The History of* Louise, *Daughter of a Canadian Nun: exhibiting the Interior of Female Convents.* New York: *Wm. A. Mercein.*—This is a most reprehensible publication, and quite unfit to be introduced into any family. It is intended as is professed, to unveil the depravity of Catholic Convents, and Confessors in Canada; and in order to do so, a tale of gross, incredible, and revolting depravity is invented, which becomes the more shocking from the mingling up with it of religious dissertations.—We are ashamed that the New York press should have ushered such a publication to the light.

Semi-Serious Observations of an Italian Exile, during his Residence in England. *By Count* Pecchio.—Philadelphia: *Key & Biddle.* N. York, *D. Appleton.*—The Lions have turned Painters, and they who have heretofore enjoyed the monopoly of delineating the characteristics of others, are themselves at last subjected to frequent and unsparing scrutiny and exhibition. After Prince Puckler, this lighter little book of the Italian Count must have been felt by the English themselves as merciful. It is amusing, original, and short—and will be read with pleasure here.

Encyclopædia Americana, Vol. XIII. Philadelphia, Carey, Lea & Blanchard.—With this volume closes this most useful and valuable publication, which, as in its progress we have had repeated opportunities of praising, we now, that it is finished, commend to all who can afford any sort of library, as an indispensable work. On any and every question that can arise and lead to discussion, in government, religion, morals, science, philosophy, politics, biography, or as to the ordinary occupations of men, whether professional, agricultural, commercial, or mechanical, there is scarcely any general principle or leading fact, which will not be found either illustrated in this volume, or so referred to, as to show where a further illustration is to be found. Brought down, too, as it is, to our own times, and adapted to our own country, we do bare justice only to the publishers and editors when we say, they have given us a work of universal, lasting, and unquestionable utility.

Parley's Magazine, No. 1: Boston, *Lilly, Wait & Co.*—Peter Parley's tales and travels have amused many a youth. This magazine is intended in the same familiar way, to attract the attention of those who do not like to read as a *task*, and to induce them to read for *pleasure*. It is to be published semi-monthly, and will treat of the manners and customs of foreign countries, of voyages and travels, of natural history,—sometimes interesting stories, sometimes explanations of various trades and pursuits will enliven its columns, which will be illustrated with abundant engravings: the whole at the price of *one dollar* per annum. This number before us, which is a specimen number, affords great promise of usefulness and sound instruction, by the dissemination in plain language and in short narratives, of things meet to be known. A contemporary, we observe, expresses apprehension that religion is not to be acknowledged in this publication; but on the very first page of the magazine in the address to the public, explanatory of the little medallion prints on the cover, it is said—"One of these round pictures is a church; by which I intend to tell you, that in my pages you will occasionally see something about religion, and those duties and pleasures which spring from it."

We are much pleased ourselves with this little Magazine, and hope it may succeed.

The Toilette of Health, Beauty and Fashion, &c., &c.: Boston, *Allen & Ticknor:* for sale in N. York by *John Wiley*, Nassau street.—There are mysteries developed in this little volume, which far be it from us to quote; but one might almost suspect that beauty, either male or female, is, if this record be accurate, a more artificial concern than simple men suppose.

American Quarterly Temperance Magazine.—No. I.—We give a part of the Introductory to this new periodical, as expressing with clearness and precision the objects and mode of proceeding of the friends of the noble cause of temperance.

"The end aimed at, we believe to be, not an individual, a local, or a sectional interest. The members of this society are banded and pledged, it is true, but to the pursuit of no doubtful object. They are leagued for the support of one great maxim, a plain and simple principle, not only consistent with, but as they suppose, inseparable from, the prosperity and welfare of all.

The appeals they propose to make, like those heretofore so often repeated, they would address to the understanding and conscience of their fellow citizens, not with the design to foster any peculiar set of opinions, or to engage support for any favored order of men. Their invitation is not a call to enter any field of vague discussion, or of party or sectarian strife. They seek not to assemble men together in crowds, that the artful and designing may ride on their shoulders into places of power or profit. They demand no relinquishment of true and substantial independence—no burthensome sacrifice of time and money; their pledge imposes no inconvenient or useless observance of rites and ceremonies, days and seasons; requires no qualifying test but the simple promise to abstain from the use of *proved, denounced*, and *detested* poison. This it is, and no more. There is nothing kept back, no concealed machinery, no hidden wires, by which those who engage to support temperance, can be made to play an unconscious part in other game. The associated friends of Temperance, who adopt this method of addressing the public, rely for success upon the intrinsic merit of their cause. They have but a single design, and that is of easy comprehension. * * *. They would inculcate wisdom and prudence, with the hope that the sum of happiness may be thereby increased. If a man is in health, they request him to do what he can to remain so; of the strong man they ask the preservation of his strength; of the wealthy to maininin and secure his independence; of him who has character and influence, to use those advantages for the good of his companions, that they may be continued to himself; of the poor and unfortunate, they require nothing but to take hold of the friendly hand that is stretched ont for their relief, and by a moderate exerciso of self control and an easy aspect, assist to advise themselves to competence and comfort.

In its organization, the Society is strictly republican. Its basis is the principle, that the proper end of Government and of all human institutions, is to secure the greatest amount of happiness; that to be competent to the duties of self-governmen, men need only be virtuous, and to be virtuous they need only be enlighten'd.

The second article contains a correspondence between his Prussian Majesty's Consul and the Executive Committee of the New York State Temperance Society, requesting on the one part and furnishing on the other, for the use of the Prussian Government, information relative to "the great temperance reformation which is now scattering its rich and precious blessings throughout all the States of the American Republic."

Article 3d, some lines "on the sale of ardent spirits by christians." Article 4th, "causes which oppose the Temperance Reform." Fifth, sixth, "Medical advice," "Pathology of Drunkenness," &c. &c.

We recommend this truly philanthropic production to those who are, as well as those who are not, convinced what great results may be expected by united acts in this noble cause. Whatever profit may arise from its circulation, will be carefully devoted to the furtherance of the great object of the society.

Travels and Researches of Von Humboldt, Harper's Family Library No. 64.—Familiar as is the name of this illustrious individual to the lovers of science throughout the world, his writings, from the form in which they have appeared, have never enjoyed that general circulation which their interest and importance should command. The splendid folio edition of his works (Voyage de Humboldt et Bonpland) which appeared at Paris, Hamburgh, and London in 1810, a work to which, like that of our own Audubon, "the modern literature of Europe can hardly, in gigantic extent and richness, offer a parallel," is of course far beyond the means of the majority of readers, while other editions have not, as we are aware, been much circulated in this country. The present abridgement therefore is both highly acceptable in itself, and a most valuable addition to the "Library" of which it here forms a part. Like all abridgements, however, by other hands than those of the original author, it is in its very nature somewhat crude and unsatisfactory. The general information, and even the minute details of facts, experiments and scientific observations, made by the great naturalist in his celebrated expedition over the southern part of this continent, seem to have been retained: But the eloquent and glowing description, the learned dissertation, and the animated narrative of Humboldt, is missing, only enough being retained in his exact words, to give the reader of this epitome an eager desire to go at once to the fountain head of the information it embraces. Still within the same limits to greater advantage, the original work could hardly have been compressed, and as those limits are nearly the same as have been prescribed for all the books which make up the Family Library, it is unfair to make that an objection to a single work which is one of the greatest recommendations of the whole collection—brevity and comprehensiveness. With these passing observations about the work before us, we will endeavor, with the assistance of a memoir of Humboldt, now before us in another shape, briefly to sketch a portion of the labors of the hero and subject of it, during his arduous tour through the remote and secluded regions of South and of Central America.

It was in July, 1799, that Humboldt and his companion Bonpland landed at Cumana, in South America, and after botanizing on the summit of Ceripa and Silla de Avilla, proceeded into the interior to the Equator. They then traversed the plains of Calabozo and Apura, and entered upon a voyage of 500 leagues, performed in canoes. Descending the Rio Apura to its junction with the Orinoco, they ascended the latter to the mouth of the Guaviare, and then followed up the streams of the Atahapo Tuamini and Temi; and carrying their canoes through the thick forests of the country, they descended the Rio Negro to the boundaries of Grand Para, in Brazil, and after undergoing incredible hardships, and being prevented by the ferocious Guarjaribes from reaching the sources of the Orinoko, which they had again struck, by passing through the Cassiquiare, they returned upon the former stream to Cumana: Having, with the assistance of chronometers of Jupiter's sattelites and the moon's amplitude surveyed a great portion of this immense extent of country, and made many interesting scientific observations upon a variety of natural phenomena in those regions. After spending some time, partly on the coast, and partly among the West India islands, in arranging their notes and collections and adding to their stores of observation, these enterprising naturalists embarked again for the Main; and indulging their love of nature and taste for botany in the magnificent forests of Turbaco, they descended the river Magdalena and travelled on foot through the woods, reached the centre of New Granada, pushed on through the continuous rains of the wet season to Quito, crossed the Andes near the snow capped summits of Tolina, and wandering thro' the province of Choco, scaled the volcano of Sotara, and looked into the boiling cauldron of hissing water that steams up through the snow-crowned crater of Purace. The gold washings of Quilichao, the wax-palms and gigantic passion flowers of Tolina, and the poisonous vale of Patia, were successively left far behind, and the precipitous Cordilleras of Almaguer opposed no obstacle to those who, after a short rest at Iberra, scaled the burning Pichincha, and left their foot prints in the eternal snows of Cotopaxi and Chimborazo, where the blood started from their eyes and gums, and their muscles grew rigid with the intense cold. But our limits will not allow us to follow the adventurous Philosophers through half of that wonderful career, where every step was marked with daring enterprise, and every pause with scientific observation. In all these rich and stupendous regions, they found time and opportunity, amid every disadvantage of travelling through a country so little civilized, to conduct their researches, and make their scientific observations, with as much coolness and success as if experimenting in a laboratory or museum at Paris. At one time we find them studying the mines of Mariquita, or dissecting Caribbean mummies in the cave of Atarnipo; at another, ascertaining the composition of the air at the mouth of a volcano; and again taking a trigonometrical survey from the crest of a glacier; now finding the astronomical situation of the Chamaya at its junction with the Amazon, while floating on a raft on its bosom; now wading through the snowy fields of Assonay, and piercing the dense forests of Gonzanama to study the productions of the vegetable kingdom, and again plunging to the bottom of the crater of Joruli to analyze the gases which exude through the thousand crevices of the Ætna of Mechoachan. Labors and researches, which, for their stupendous and comprehensive character, deserve the epithet of *Herculean*, more than those of half the conquerors that ever strode over the nations, and left dismay and desolation in their path. How much more indeed, is that hardihood and daring adventurousness, that deep and still determination of character, to be admired, which carries a man like Humboldt or Audubon to the depth of the wilderness, and sustains him amid all the dangers and privations of such solitudes, while pursuing his lonely career of useful inquiry, to the drunken valor of him, who, to the inspiriting sound of drum and trumpet, hurries amid thousands of excited beings like himself, to bring war and destruction on his fellows? The courage of the one lies in meeting, before the eyes of a gazing and admiring world, the conflict of the elements he has himself set in motion; the daring of the other consists in braving the convulsions of nature herself, and battling with floods and snows, with the tornado and the thunderbolt, the lava torrent and earthquake—far away from the cheering sympathies of his fellows, and where no eye can sparkle for his success, or grow dim at his discomfiture, and no heart can beat with interest for his fate till long after it may have overtaken him,—where there is nothing but the intense love of nature, and the invigorating influence of his own free thoughts to bear him up against the thousand perils that assail his "unhoused condition."

But our pen, like an arrow sent on an aimless errand, is unconsciously shooting beyond our limits; and the length to which this notice is already protracted, has usurped the room allotted to us for several other works still on our table,—all of which shall be properly cared for next Saturday. But we must add, what our readers will agree with us in rejoicing at, that *Gulian C. Verplanck* and *Wm C. Bryant* have undertaken to edit the forthcoming volume of the writings of the late *Robert C. Sands*. It is a gracious office on their part, to a man of kindred genius, prematurely cut off—and will be duly appreciated, as well by the public, as by his friends.

POETRY.

[For the New-York American.]

RESEMBLANCES.

"Catch [*if you can*] the Cynthia of the minute!"

Her heart is like a harp whose strings
At will are touched alike by all—
Her heart is like a bird that sings
In answer to each fowler's call—
That harp has still one secret tone
Reserved for master hands alone—
That bird has still one meaning note
Which only toward its mate will float.

Her heart is like a gallant bark
Whose hold with precious freight is stowed,
While on the deck you only mark
Traces of a less costly load.
That bark her course will sometimes veer,
As if no hand were there to steer,
But yet the pilot does not sleep
That guides that vessel o'er the deep.

Blest will he be, whose listening ear,
Thrilling to sounds that none have heard,
Shall in their finest cadence hear
The music of that harp and bird.
But, lady, more will envy him
For whom that freighted ship may swim—
Who, by the light of those bright eyes,
Shall steer to port his noble prize. M.

A VOICE FROM THE WINE PRESS.

By Miss H. F Gould.

'Twas for this they reared the vine,
Fostered every leaf and shoot,
Loved to see its tendrils twine,
And cherished it from branch to root!
'Twas for this, that from the blast
It was screened and taught to run,
That its fruit might ripen fast,
Oe'r the trellis, to the sun.

And for this they rudely tore
Every cluster from the stem;
'Twas to crush us till we pour
Out our very blood for them.
Well, though we are tortured thus,
Still our essence shall endure,
Vengeance they shall find, with us,
May be slow, but will be sure.

And the longer we are pent
From the air and cheering light,
Greater, when they give us vent,
For our rest shall be our might.
And our spirits, they shall see,
Can assume a thousand shapes;
These are words of verity,
Uttered by the dying grapes.

Many a stately form shall reel,
When our power is felt within;
Many a foolish tongue reveal
What the recent draught has been:
Many a thoughtless, yielding youth,
With his promise all in bloom,
Go, from paths of peace and truth,
To an early, shameful tomb.

We the purse will oft unclasp,
All its golden treasure take,
And, the husband in our grasp,
Leave the wife with heart to break.
While his babes are pinched with cold,
We will bind him to the bowl,
Till his features we behold
Glowing like a living coal.

We will bid the gown-man put
To his lip a glass or two,
Then we'll stab him in the foot,
Till it oversteps the shoe,
And we'll swell the Doctor's bill,
While he parries us in vain;
He may cure, but we will kill
Till our thousands we have slain.

When we've drowned their peace and health,
Strength and hopes within the bowl,
More we'll ask than life or wealth,
We'll require the very soul!
Ye who from our blood are free,
Take the charge we give you now;
Taste not, till ye wait and see
If the grapes forget their vow.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, April 8th, 1833.

[Communicated for the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. April 2	6 a. m.	30.10	45	N—NNE	faint		clear—moderately smoky (dry fog)
	10	.15	56	NE—ESE	light		.. — ..
	2 p. m.	.12	62	ESE—SE by E	..	WSW	fair — ..
	6	.10	56	ESE	..	..	.. — ..
	10	.10	50	E	..	..	.. — ..
Wednesday, 3	6 a. m.	.09	44	NE—E	..	SSW	.. — ..
	10	.09	48	ESE—SSE	..—mod.	..	cloudy — ..
	2 p. m.	.01	57	SSE	moderate	SSW / SSE	..
	6	.00	55	..	..	.. / ..brisk	.. —rain
	10	29.91	54	..	fresh	SSW	rain
Thursday, 4	6 a. m.	.75	52	..	faint	..	cloudy and foggy—rainy
	10	.72	56	SSE—SW	..	SSW—W—SW	cloudy—fair at 1 p. m.
	2 p. m.	.72	64	SW	light	WSW	fair
	6	.65	60	S	..	SSW	..
	10	.67	57	..	..	WSW	..
Friday, 5	6 a. m.	.61	53	W—WNW	moderate	..	.. —light smoke
	10	.71	56	WNW—NW	..—fresh	NW	.. — ..
	2 p. m.	.75	58	NW—NW by W	fr'h-mod.	..	.. — ..
	6	.85	50	NNW	moderate	..	..
	10	.90	47	..	..		clear
Saturday, 6	6 a. m.	30.02	43	NNW—N	light		..
	10	.09	50	N—SW	..		..
	2 p. m.	.08	60	SSW	..		..
	6	.05	55	S by W	..	WSW	fair
	10	.10	49	..	..		..
Sunday, 7	6 a. m.	.18	46	S by W—SE	..	WSW	.. —light smoke
	10	.20	56	SE	..	..	.. —smoky and hazy
	2 p. m.	.18	56	SE—ESE	mod.-fr'h	WSW / SSE	cloudy
	6	.07	50	ESE	fresh	SSE	..
	10	29.98	50	..	strong	..	.. —rain
Monday, 8	6 a. m.	.70	50	..	light	..	cloudy and foggy
	10	.66	54	SE	..		rainy
	2 p. m.	.62	56	variable	faint	SSW—WSW	fair
	6	.60	59		calm	WSW	..
	10	.65	49		..		..

Average temperature of the week, 53.22

Note.—In the Meteorological Table in our last number, in speaking of the Winds for March, it should have read "Southwesterly, including S. 49; and Northwesterly, including W. 47."

MARRIAGES.

On Wednesday evening, by the Rev. Wm. Quarter, Mr. EDWARD CRONLY, to Miss MARIA, second daughter of Mr. Andrew Fallen.

In Moore county, North Carolina, on the 7th inst. by Malcolm Blue, Esq. DANIEL D. PATTERSON, Esq. measuring 4 feet 10 inches in height, to Miss MARY M'FARLAND, measuring 6 feet 4 inches, both of Richmond county.

DEATHS.

On Tuesday evening, MARY, wife of Samuel D. Wilkins, of Gowanus, L. I. and daughter of Nehemiah Denton, Esq.

This morning, 10th inst., JOHN W. STEVENSON, son of the late Frederick P. Stevenson, in the 23d year of his age.

Last evening, after a short illness, SAMUEL JUDD, son of Jas. F. Penniman, aged eight months.

On Saturday night 6th instant, I. I. SAUTER, (of the firm of Hess & Sauter.)

On Sunday 7th instant, after a short and severe illness, in the 86th year of his age, Mr. ARCHIBALD NISBET, a native of Scotland, and for the last 40 years a resident of this city.

On Saturday morning 6th instant, of consumption, SYLVIA, wife of Timothy Dewey, aged 44 years.

On Sunday, of Dropsy, WILLIAM L. ROSE, Esq. in the 59th year of his age.

Monday, 8th inst,. A. OBERTEUFFER, of Switzerland.

On Monday morning, 8th inst., Mr. LOUIS CHARIVER, a native of France.

Tuesday morning, 9th instant, after a lingering illness, Mr. GEORGE COOK ABEL, in the 21st year of his age.

Monday evening, 8th inst., of a lingering illness, Mrs. BRIDGET MEHAN, widow of the late Dennis Mehan, in the 47th year of her age.

Saturday morning, 6th April, after a long and painful illness, Mrs. MARTHA RODGERS, in the 55th year of her age.

On Friday evening, 5th April, Miss ANN LAMB, aged 90 years.

On Wednesday the 3d inst. Mrs. ANNA MCVICKAR, relict of the late John McVickar, of this city, in the 73d year of her age.

In Chillicothe, Ohio, on 22d March, after a severe illness of about four weeks, Mr. ROBERT KERCHEVAL, Editor and Proprietor of the Scioto Gazette, in the 45th year of his age.

At Orbow, Jefferson Co. N. Y. on the 16th ult. Mrs. C. C. HOWELL, aged 24 years, wife of the late Henry Howell, of Tully, N. Y.

At Albany, on Monday, HANNAH TYLEE, daughter of Benj. F. Butler, in the 6th year of her age.

On Thursday last, at the National Hospital, (Norfolk) after a protracted illness of a pulmonary character, Lieut. JOSEPH M. NICHOLSON, of the U. S. Navy, a native of Maryland. Lieut. N. had been many years in the public service, and was favorably known as an officer faithful in the discharge of his duty.

REPORT OF DEATHS—WEEK ENDING SATURDAY, APRIL 6.

Between the ages of

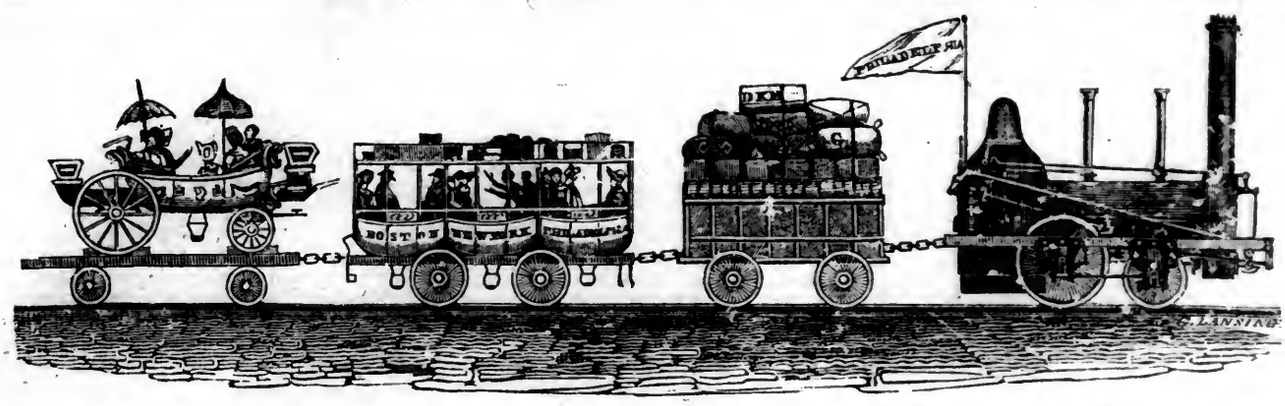
90 and 100— 0	50 and 60— 5	10 and 20— 3	
80 and 90— 0	40 and 50—11	5 and 10—10	
70 and 80— 3	30 and 40—14	2 and 5— 4	
60 and 70— 6	20 and 30—13	1 and 2—11	

Of and under one year, 25—Total, 105.

Diseases.

Apoplexy	2	Inflammation of bowels	4
Burned or scalded	1	Inflammation of brain	4
Cancer	1	Intemperance	2
Casualty	3	Killed or murdered	1
Consumption	31	Marasmus	2
Convulsions	8	Measles	1
Diarrhœa	1	Old age	1
Dropsy	2	Palsy	1
Dropsy in the head	7	Peripneumony	6
Drowned	3	Pleurisy	1
Dysentery	1	Pneumonia typhodes	1
Fever, puerperal	2	Stillborn	8
Fever, scarlet	1	Tabes mesenterica	1
Fever, typhus	1	Teething	1
Hæmoptysis	1	Unknown	3
Hives or croup	2	Worms	1

ABM. D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, APRIL 20, 1833.** [VOLUME II.—No. 16.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 20, 1833.

☞ An advertisement will be found in our paper for a skilful Engineer to survey and construct a Railroad. Application may be made to the Editor of this Journal.

In this number of the Journal will be found a communication from J. L. Sullivan, Esq. upon the subject of the "New-York Guard Rail," a description, with engravings, of which was published in No. 14 of the present volume. Our impressions were, and still are, strong in favor of Mr. Bulkley's invention—yet from a want of knowledge in such matters, we solicited the opinion of those more experienced and better informed upon the subject, as we are desirous to make the Journal useful to those who are engaged in works of internal communication.

Note.—At the commencement of the fifth paragraph, for "It is not," read "Is it not," &c.

We have copied from the New-York American, a description of the village of "Little Falls," in this state, by Benjamin Wright, Esq. than whom no gentleman living is better acquainted with its great advantages. It affords us much pleasure to learn that the superior advantages of that delightful village are to be brought into use. The proprietorship, we understand, has fallen into the hands of a gentleman of this city, who is preparing to construct dams and canals, which will turn to the best possible advantage the immense water-power of the Mohawk, which has so long been useless to the public, in consequence of its being owned by a foreigner, who would only *lease*. That day however is passed, and the water privileges are not only to be brought into the market, but the village is to be regularly laid out and improved, and it will, we predict, in a few years be one of the most extensive manufacturing places in the state.

Providence and Stonington Railroad.—We have been politely furnished with a report made by Capt. M'Neill, of the preliminary surveys of the route for a Railroad from Providence, R. I. to Stonington, Conn., in continuation of the Boston and Providence Railroad. By a reference to the map, it will be seen that this route from Boston to Stonington, a distance of about 90 miles, varies but a trifle from a direct line. By this route the passage from New-York to Boston will be far less hazardous, and be performed in considerably less time, than by the present route in steamboats to Providence. We shall in a subsequent number give the Report entire.

Undulating Railways.—An interesting article will be found in our columns to-day, relative to a Railway upon a new plan, copied from the London Athenæum. The present appears, indeed, to be a period of discoveries. We would ask of our Railroad friends a discussion of this subject.

Canal—Canal Funds.—Mistakes in relation to the several boards and officers having charge of the canals and the canal funds, are of every day occurrence. The following brief statement on this subject may be useful to the public.

Canal Commissioners.—This is a board of canal commissioners consisting of five members, of whom three are designated as acting commissioners. The canal commissioners have the general charge and superintendence of all the canals; and on them devolves the duty of constructing new canals when authorized by the legislature.

Commissioners of the Canal Fund.—The lieutenant-governor, the secretary of state, the attorney-general, the surveyor-general, the comptroller and the treasurer, are by right of office commissioners of the canal fund. They are authorized to make loans and deposits of the moneys in their hands belonging to that fund, and to purchase the canal stock.

The Canal Board.—This board consists of the canal commissioners and the commissioners of the canal fund. It has the appointment of collectors of tolls, superintendents of repairs and other canal officers. It has power to order extraordinary repairs and improvements on the canals—to make extra allowances to contractors—to fix the rates of tolls—to prescribe regulations for the collection of tolls—to impose forfeitures—and to remit certain penalties. —[Albany Argus.

Chesapeake and Ohio Canal.—There are one hundred and two miles of the Canal let out, under an obligation, on the part of a select body of contractors, to finish it by the 1st day of September next—thirty-five days before the expiration of five years from the commencement of the work; and there is no reason to believe that the work will not be completed within the stipulated period. On the contrary, such is the progress already made, and now making, towards its completion, that it is expected sixty-four and a half miles will be in use before the 1st of June next, and the residue by the 1st of September. There are 4,500 men at present on the various works, aided by the weekly consumption of 7,000 pounds of gunpowder, and the labor of 800 horses, oxen, and mules, and a full complement of waggons, carts, &c. Success to the great enterprise !

The Great British Railway.—There is now every reason to believe that the London and Birmingham Railway Bill will pass the legislature in the course of the coming session, and that the projected plan for a railway communication between Birmingham and the two northern hives of industry, Liverpool and Manchester, will also be shortly carried into effect. Proposals are also on foot for continuing the line through Carlisle to Glasgow, with a branch to Newcastle; on the completion of which the metropolis would enjoy the facility of a rapid intercourse with all the great towns of the north. As either the Southampton or the Brighton railroad scheme may be expected to succeed, we shall only want our northern friends to extend the Glasgow railway to John o' Groat's, to have an iron road from one extremity of the island to the other! Would not this afford a good opportunity of putting in practice some method for the instantaneous communication of intelligence by means of electricity ?—[London paper.]

China.—The first specimen of an Anglo Chinese Kalendar and Register has been published in China for the year 1832. According to this authority, the population returns of the celestial empire, in 1813, amounted to 362 millions; of which number the capital, Pekin, alone is said to contain five millions.

Objections to Mr. Bulkley's Guard Rail, with some Suggestions on the Preservation of those of Timber. [Communicated for the American Railroad Journal.]

Mr. Minor,—The object of your Journal being to spread useful information, no inventor will object to a candid and frank discussion of objections. I venture to express some doubts, therefore, respecting the Rail described in your number of the 6th instant, invented by Mr. Bulkley.

He says it comprehends the principle of the arch. If so, it is an inverted one; and the force is on the wrong side for strength, which is in tension, not resistance, to pressure.

It is, however, a *guard rail;* that is, when a superstructure of cast iron breaks, the wrought iron is to catch or prevent the fall. Its useful effect depends not on the sure result of a principle, but on labor faithfully done in riveting down the ends of the bar embedded in the casting.

What, then, is the primary strength of the rail—for the moment the guard comes into use *is it not spoilt?* Will the wrought bar *prevent* the cast from breaking? Not if there is the least conceivable *yielding*.

When melted iron is poured around a cold bar of wrought iron, the latter expands, and on cooling, *contracts*, and the cast iron in cooling, shrinks, leaving it loose in the bore, towards the centre of the mass. All depends, then, on this subsequent operation, and the quantity of *heading* produced by percussion.

It is not a maxim in engineering to depend as far as possible on principles; and as little as possible on *manipulation*.

Besides, the claim of this improvement is founded in the assertion of a necessity for it, assumed contrary to experience. It is denied by some of the most distinguished of the English engineers, that wrought iron rails *exfoliate* under the wheels.

I will refer you to Wood's Treatise, page 69. It seems Mr. Chapman asserted this, but it was instantly contradicted, not from theory, but experience, by Longridge; and by Thompson, who, as agent to Lord Carlisle, had charge of Tinsdale Fell Railway, made of wrought iron, *these having been in operation* 16 *years, and no appearance*, he says, *of lamination or exfoliation*.

Mr. R. Stevenson, of Edinburgh, bears testimony to the preference of wrought iron, of which he says half the weight of cast iron will suffice.

Mr. G. Stevenson, of New-Castle, says, as quoted by Mr. Wood, "The malleable iron rails are more constant and regular in their decay, by the contact and pressure of the wheels, but they will, on the whole, *last longer than cast iron rails*. It has been said by some engineers that the wrought iron *exfoliates* or separates in their laminæ, on that part which is exposed to the pressure of the wheel. *This I pointedly deny*, as I have closely examined rails which have been in use for *many years*, with a heavy tonnage passing along them, and on no part are such exfoliations to be seen."

At page 71, mention is made of a Mr. *Hawkes*, who attempted an improved rail of *this kind*, cast over wrought iron, but without success, from the occurrence of practical difficulties which, perhaps, Mr. Bulkley's method may have overcome.

The *uncertainty of soundness* in cast iron does, on all occasions, require additional allowance of quantity.

In a material so uncertain, whether it be better to use an adequate quantity of that iron which can be depended on, or whether use some to guard the other, is of very questionable expediency.

The method of doing it is ingenious, but the occasion may not exist, or be needed in practice, unless it be sometimes in cities.

Nor is Mr. Bulkley wholly right, in my opinion, in his assertion, that railroads in timber cannot last over *five* years. Although it is best that all works should be permanent as possible, yet there are some parts of our country where it is very convenient to employ timber: and I have reason to think it can be done in such wise as to last thirty, perhaps fifty years. It has not been usual to take precaution for its durability, as in other occasions, but, on the contrary, there has been very little care applied to this branch. In building bridges, houses, and ships, precautions are taken, but none for the preservation of railroads: and why not!

Although it be true, as Mr. B. says, that a post will rot off soon at the surface of the ground, the durability of *sleepers* under the surface will depend mainly on the *kind* of timber used. It is the co-operation of heat and moisture that produces the decay. Below it is cooler; above, dryer. In piling canals we embed the plank in clay, which preserves them permanently.

Farmers surround their posts with stones, and these keep them cool at the surface. Were a railroad set on posts or piles, and these surrounded with *clay and stone*, they would (if covered at top) last very long.

And the reason suggested by Mr. Bulkley for the premature decay of the timber *under the rails*, is not the *whole explanation*. The iron absorbs the sun's rays, or *heats*, and shrinks the fibres of the timber immediately beneath the rail; the cracks let in the rain; here, combining heat and moisture, very early decay takes place, and the pressure of the carriage then promotes it by, as he says, 'bruising' the wood.

For these effects there is a very simple remedy, which I long since suggested to the public. It is, first to cover the upper surface with a resinous cement; drive three rows of *flat headed nails*, one inch apart, and fasten the *rail* down thereon, as usual. It now bears on *piles in miniature*, and the cement prevents the surface from being penetrated by the water. Having at the time devised some instruments to facilitate the work, I suppose this precaution will cost 500 dollars a mile per track. But, simple as it is, the added duration will be *three or four fold*, and the cheaper kinds of timber may be used, as chesnut, white pine, cyprus, larch, &c.; while locust and cedar should be preferred for the posts.

No *earth* should be allowed to come near these timbers. It must be *laterally* sustained—it should be alone by *stone*.

Although this is the best method of building with timber, I am an advocate for *durable materials* in most instances. But when *long lines* are to be formed for the sake of the *profits of the trade* the company opens for itself, the case may be different. It is then an object to get as little of the capital into the road as will answer the purpose of the trade for the next 50 years.

Suppose it were to be to make the (*chartered*) Railroad from the Hudson or the Passaic to the Coal Mines of Susquehanna. If there is a mode of making timber, defended against premature decay, thus answer—and *one track answer for two*—and half the usual embankment and graduations answer—then it should be preferable. But for a railroad for travelling between great cities, iron and stone are to be preferred, though in such mode as to make *one track* answer every purpose of two, except excessive speed.

It will prove a great mistake to have imported the *cheap brittle iron of Wales, rolled out at the first heat*, which may well cost but 4 or £5 a ton. But if it requires a wrought bar to sustain it, it may yet be of questionable economy.

The calculations are much wanting to a just opinion: Quantity per mile, and *cost here in good iron*, calculated as small as principle permits, then adding the wrought bar.

In cities, where the object is to have few supports, and guard against shocks, it is highly probable it would be comparatively useful. I regret that the necessary defence of other methods should have given occasion for any remarks against it. The claim is only too broad.

Respectfully yours,
J. L. Sullivan, Civil Engineer.
New-York, April 8, 1833.

Importance of Railways.—Mr. Richard Miles has communicated to us some highly interesting facts on this subject, which he has collected for his forthcoming work "On the National Advantages of Public Railways." The impulse which the Stockton and Darlington Railway has given to the trade of the port of Stockton-upon-Tees is perfectly astonishing; and accustomed as we are in this country to see great public works quietly proceeding until they burst into action and exhibit their wonderful powers, we confess in the present case it looks more like magic than reality.

Previous to the opening of this railway, no coal had been exported, the expense of getting it from the mines to the shipping place by the ordinary roads being too great. The quantity shipped since is as follows:

1826,	97 ships, carrying	8,192	imp'l chald'ns
1827,	280 do.	24,047	do.
1828,	530 do.	51,017	do.
1829,	450 do.	29,646	do.
1830,	1026 do.	93,779	do.
1831,	1665 do.	161,123	do.
1832,	2436 do.	263,009	do.

In 1829 the export fell off, owing to an extraordinary competition with the coal owners on the rivers Tyne and Wear. Large as the Stockton export has become, we believe that no sensible diminution has taken place in the shipments at the other coal ports, but the contrary.

The augmented population of London, and the additional steamboats, manufactories, &c. call annually for an increased supply.

As regards the argument that railways will tend to diminish the demand for labor, and therefore ought to be discouraged, we will briefly state their effects, as exemplified on the Stockton and Darlington Railway:

1st. The number of persons employed in making it.

2d. Ditto ditto in building carriages, warehouses, houses for workmen, agents, &c.

3d. Ditto ditto in working the railway.

4th. Ditto ditto in raising the extra quantity of coal.

5th. Ditto ditto in loading and navigating 2436 ships

6th. Ditto ditto in building, repairing, and fitting out such a large additional number of ships.

But the increased demand for labor which it has been the direct and indirect cause of creating does not stop here: it gave rise to a rival undertaking, namely, the "Clarence Railway," the main line of which will be open for business next month. And the "Tees Navigation Company" have been able, by the dues which such an extensive trade brings in, to undertake works of great magnitude, and to employ thousands of persons in improving and deepening the river.

With such facts before us, and looking at the benefits which must have resulted to the landowners by the beneficial letting of the mines beneath their property, we are almost tempted to ask, Are the resources of this country at all developed in the way of which they are capable? We believe not, and this can only be effected by means of railways.

Mr. Miles has ascertained from unquestionable authority here, that in the United States they are availing themselves much more largely of this invention (entirely of British origin) than we are; and that for one mile of railway going on or contemplated here, there are ten miles in the United States of America.

We look forward with pleasure to the publication of this work, which, as far as we have seen, promises to give to the public much valuable and interesting information on a very important subject.—[Liverpool Mercury.]

Liverpool and Birmingham Railway.—In the House of Commons on Friday, Mr. Patten obtained leave to bring in a bill for making a

railway from Warrington to Birmingham: the company intending to use the Liverpool line to Warrington.

UNDULATING RAILWAY.—Hitherto it has been received as a practical axiom, that railways can only be advantageously applied between points where a uniform dead level can be obtained. Now the patentees of the undulating railway maintain a proposition which is the logical contradictory of this. They hold, that even if the projected line be naturally a dead level, it must be artificially cut into ups and downs, so as to keep the load constantly ascending and descending until the journey is completed; and in so doing, they assert that the transport is produced in a considerably less time with the same moving power, or in the same time with a much less expenditure of the moving principle. Again, it has been held as a practical axiom, that if on a railway it becomes necessary to ascend from one level to another, the ascent is most advantageously made by a plane uniformly inclined from the lower to the higher level. On the contrary, the patentees of the undulating railway hold that the ascent is effected with a lesser power, by dividing the interval into ups and downs, so as to cause the carriage alternately to descend and ascend until it arrives at the upper level. Indeed, one of these propositions follows from the other, for if a greater momentum is generated in going from one point to another of the *same level*, by undulation in the railway, that *excess of momentum* will carry the load to a *greater height* than the momentum which the *same power* would generate on a *level railway*.

These facts have been illustrated by a small model on a wooden railway in the Adelaide street exhibition room. We have ourselves at that place instituted the following experiments, with the results here detailed. The moving power was a spiral main-spring, regulated by a fusee: a load was placed on a level railway of such an amount that the moving power was barely able to overcome the friction, but incapable of moving the load. In this state the carriage and load were transferred to the undulating railway, and the same moving power impelled the load with ease, and with considerable velocity, from one end to the other; and lest any difference of level should exist between the extremities, we caused the same experiment to be made in the contrary direction, which was attended with precisely the same result. Hence it was evident that, at least with the model, a *power incapable of transferring the load between two points at a given distance on a level railway, transferred the same load with facility and despatch through the same distance on the undulating railway.*

Our second experiment was as follows: We loaded the carriage in the same manner on the level railway, so that the power was barely equal to the friction, but incapable of moving the load. We then transferred the power and load to a railway, the remote extremity of which rose above the nearer extremity at the rate of one inch in eight feet. The power, which was thus utterly incapable of moving the load on the level, easily transferred the same load from end to end of the undulating railway, and at the same time actually raised it through one perpendicular inch for every ninety-six inches of its progress along the horizontal line.

Among the scientific men who have witnessed this exhibition, many, it is said, have declared, what indeed appears at first to be the case, that the result is contrary to the established principles of mechanics. We do not perceive, however, any difficulty in the phenomenon.

The effective impelling power, when a load is tracked upon a railway, must be estimated by the excess of the actual impelling power above the friction. Now, it is well known that the friction, being proportional to the pressure, is *less on an inclined than on an horizontal railway*. The same impelling power which on the level railway is *only equal to the friction*, and therefore incapable of accelerating the load, becomes effective on the inclined railway, where *it is greater than the friction*. The excess therefore becomes a means of generating velocity, so that when the load arrives at the extremity of the undulating line, a quantity of velocity has been communicated to it, which is proportional to the excess of the friction on the undulating above the friction on the level line. This is, theoretically speaking, a decided and undeniable advantage which the inclined railway possesses over the level. We could make this point still more clear, if we were addressing mathematical readers.

Now, if it be admitted that, at the extremity of the undulating line, a velocity is generated in the moving body much greater than any which could be produced by the same power acting on the level line, it will follow demonstratively that this velocity will be sufficient to carry the load up a certain height, bearing a fixed proportion to the velocity itself; and hence it will be perceived that a moving power, which is incapable of moving the load on a dead level, will be capable not only of moving it between the extremities of an undulating line when at the same level, but even of raising it to a higher level.

But the practical application of this principle seems to promise still greater advantages. In the above reasoning, we have assumed that the impelling power acts with a uniform energy in accelerating the motion of the load. This, however, is not the case when steam power is applied: the load soon attains a maximum velocity, and the engine becomes incapable of supplying steam fast enough to produce effective pressure on the piston. The cylinder, in this case, receives steam from the boiler only at the same rate as it is discharged by the motion of the piston, and scarcely any direct effect is produced by its pressure on the piston. In the undulating railway, the working of the engine will be suspended during each descent and a part of the succeeding ascent. In this interval the steam will be *nursed* and accumulated so as to be applied with its utmost possible energy the moment the velocity on the brow of the hill begins to decline. When the load surmounts the summit, and begins to descend the next hill, the operation of the engine will be again suspended, and its powers reserved and accumulated for the next ascent. The duty of the engine will thus be, *not to produce steam constantly at a great rate*, but to *produce steam of excessive energy for short and distant periods*. Every one who knows the practical working of high-pressure engines will see the advantage likely to result from this circumstance.

When the line connecting two points at the same level is thus resolved into curves, the motion of the engine may not inaptly be compared to that of *a pendulum*, and the moving principle stands in the place of the *maintaining power*, the functions of which are the same precisely as those which it discharges.

On the other hand, it is right to consider the practical objections to this projected improvement. The very small amount of friction on iron railways renders the rate of motion, when descending an incline, frightfully great. It would be premature, however, at present to pass judgment on what, after all, can only be satisfactorily decided by experiment.

We are glad to learn that the patentees have obtained the means of constructing an undulating line of railway of some miles in extent, for the purpose of testing on the large scale what they have already proved on a model.—[Athenæum.]

The Real Capabilities of Steam Carriages on Common Roads. By SAXULA. [From the London Mechanics' Magazine.]

The doubts and sneers that have been cast upon steam travelling on common roads have, I believe, been principally caused by the exaggerated statements of over-sanguine inventors. The disease is not cured because the patient deceives the doctors.

I have labored hard for many years at the theory and practice of locomotion, and found I am somewhat wiser for my trouble; but being wholly unassisted, my progress is necessarily slow. I consider all the noted steam carriages that have started have been overdriven, and will knock up in consequence. My theory and practice show me that a steam horse will do just as much as a living horse. It so happens that the working pace of steam (or piston rate) is about the working rate of a horse at his best; namely, 2¼ or 2½ miles an hour, and at this rate either horse will draw a ton on common roads, good and bad, up hill and down, for a day together, and this is a fair horse's work.

Now, if a *real* 8 horse-power engine be made, and its total weight be 4 tons, it will draw itself and 4 tons of goods at the rate of 2½ miles an hour. At five miles an hour it will draw only itself, and at 10 miles an hour it will only exert a power able to draw half of its own weight, through all roads; for locomotive machinery follows the laws of common machinery,—if the speed be increased the load must be lessened. 'Tis true, this 8 horse engine may be forced to much higher exertion, at the risk of speedy destruction.

It may be urged that coach horses do much more in proportion to this. True; but they can only work a few hours each day. Let our steam horses be considered as perpetual coach horses (which is allowing a great strain on the machinery, compared with stationary machinery,) and then how will the account stand? Four horses can take a stage coach of two tons at 8 miles an hour; consequently a steam engine of 8 horse power, to equal this, must weigh of itself only two tons, and have a load of two tons, being half a ton for each horse. But if the required speed be 16 miles an hour, then the engine must weigh only one ton and draw another ton. Therefore, *Query*,—Can a full 8 horse power engine be made, capable of continual work, that shall weigh only one ton? If so, 16 miles an hour can be maintained, and if not, the speed must be reduced as the weight is increased; and even in this parallel, where hills or bad roads occur that require the living horses to drop their speed to a walk, and then do their best, the steam engine (at the 8 miles an hour pace) must act on a lever nearly equal to the radius of the propelling wheels. This is a simple calculation, and involves the true capabilities of steam carriages on common roads.

Theoretically, I think Mr. Walter Hancock's boiler the best, having the greatest heating surface with the least weight; but I imagine thin metal heated by blast will not wear to pay charges. In fine, I think at present a locomotive engine cannot be made substantially for regular economical work under half a ton weight per horse power; and if so, great speed cannot be expected, and long levers must be used in difficulties, which is only coming round again to my old story. I understand Mr. Hancock has been fitting up his carriage with longer leverage.

Has it ever been well considered, that in stage coaches the first mover (the horses) goes at the same rate as the vehicle? The power and resistance work an equi-armed lever, namely, the spokes of the wheels; whilst in steam carriages, *the first mover* (*the*

pistons) *never exceeds* 2½ *miles an hour*, yet the vehicle is wanted to go 20 miles an hour: consequently 8 times the power are required to do it, that would be required at 2½ miles an hour.

He who builds an engine to propel a common stage waggon, will, in my opinion, soonest find his reward; and even here two steam horses will have to be maintained to do the work of one living horse, by reason of the weight of the engine, fuel, water, &c.

November 5, 1832.

The *Village of Little Falls*, of which the property was, within a few years past, acquired from foreign owners by some of our citizens, is beginning to attract attention, from its position on the Mohawk and the Erie Canal, its great advantages in point of water power, and its proximity to Albany and Utica. A report by Mr. Wright, the engineer, made to one of the chief proprietors of this village, which, by request, we publish to-day, will explain the actual state of the place.

Report of B. Wright, Engineer, on the advantages and water privileges of the village of LITTLE FALLS, *on the Mohawk River.*

NEW-YORK, JANUARY 24th, 1833.

To R. R. Ward, Esquire.—Sir: I have the honor to acknowledge the receipt of your favor of —— January, requesting my views of, and the knowledge I possess in relation to, the particular local advantages of the village of Little Falls, on the Mohawk River, in the County of Herkimer, in this State, where you inform me, you are largely interested.

This village is situated seventy-two miles from Albany, fifty-six from Schenectady, sixty-nine from Troy, seven miles from Herkimer Village, (the present locality of the Courts for the County), and twenty-two miles from Utica, in the county of Oneida.

Through it, along the southern edge of the River, passes the Erie Canal, and on the northerly side the Old Canal, now, in part, abandoned, but still subserving the purpose of a lateral Canal, and also a feeder to the Erie Canal, with which it is connected by a very important acqueduct. It has also the great Post Road from Albany to Niagara, Rochester, Buffalo, and all the Lake Country, and branching off either at the Little Falls or at Utica, the great Post Road to the Black River in Jefferson and Lewis Counties, and thence to the St. Lawrence and Upper Canada.

There are from ten to fifteen Stage Coaches running through the village every day, and from twenty to sixty Boats passing daily on the Canal in the season of navigation.

I have been perfectly acquainted with this part of the country, from having resided thirty-seven miles beyond it, at Rome, since forty-two years past, until I removed to this city, a few years ago, and while I had the charge of constructing the Erie Canal of which I was the principal Engineer from one thousand eight hundred and seventeen, its commencement, to one thousand eight hundred and twenty three, when I saw its completion from Rochester to Albany; in which time, we having had two years operation in finishing the work about the Little Falls, I had great opportunity to examine all the localities and peculiar advantages of this place; its hydraulic privileges, and as well also, the difficulties and obstacles it had to encounter, by the owner being a Foreigner, and not entering into the proper plans and views for promoting the growth and prosperity of the village. These things were all familiar to me, and are yet, fresh in memory.

An examination of the map of the State will shew, that the Mohawk river, in its general course from Rome in the county of Oneida, where it first becomes a navigable stream, to its discharge in the Hudson River, between Waterford and Troy, runs about east southeast, distance one hundred and twenty miles. But, from the village of Herkimer, where the West Canada Creek falls into the Mohawk, its course to the Little Falls (seven miles) is east northeast, and from Little Falls, it runs southeast, forming a large bend or elbow, northwardly, and thereby making this place a more accessible depot for all the country northerly of it, than any other in its vicinity, which can ever be raised up as a rival point on the Canal, or on the great post road.

These natural advantages have already forced the roads from northwest, north and northeast to concentrate at that point, and nature has so formed the country, that nothing which art can accomplish can ever change them.

These advantages, together with the canal, and the extraordinary hydraulic privileges which it possesses, afford unrivalled facilities and advantages for making it a large inland manufacturing town;—when, too, it is considered that the country about it immediately after leaving the broken ground near the Falls, is one of the most fertile soils for twenty or thirty miles around, of any portion of the State. It is now pretty well cultivated, and is considered as what is called a well settled part of the State, with thrifty industrious farmers, and having villages and towns, churches and school houses, scattered over every part.

I have observed above that "this is a well settled country." I do not mean to be understood that the country is fully peopled; on the contrary, the fertility and products of the soil for twenty miles around this place, are fully capable of sustaining a population of two or three times its present inhabitants.

The products of the soil are wheat, corn, rye, oats, grass, and all the other productions of a first rate farming district in this latitude. The soil is generally of a limestone formation, which is considered by geologists as the most productive of any of the soils.

The village as now laid out, is situated in the valley of the river, where it has evidently forced its passage though the rocks and earth, until it separated the limestone strata, and cut down a considerable depth into the granite or gneiss, which is its present bed, and over which it forms a cataract or fall of forty-two feet in three quarters of a mile.

The north side of the river is much the best and most eligible situation for a village, by having the advantages of the great Road, and in not being so much covered from the sun by the hills, as the South side. The water power is also much more available at the north than on the south side, and there being a good stone bridge across the river, which gives access to all on the South, the village must grow on the North side in preference to any other.

The amount of water power which may be commanded at this place, and applied to all kinds of manufacturing purposes, I have never taken the trouble to calculate, by ascertaining what quantity of water passes over the Falls at the driest time of the year; but I think I can venture to say that there is enough to carry seven or eight hundred thousand spindles (perhaps more) in the driest season.

The local advantages for building cheap, I consider to be very great. There is at and about the village good granite for all kinds of cellar walls and other rough work, and at the distance of half a mile there is excellent limestone, laying in regular strata, so that in quarrying they come out in parallel blocks of from four to twelve inches thick, and work easy under the hammer or chisel. Excellent lime is also found in the same neighborhood. Timber and lumber of all kinds is to be procured north of the village, or may be had very cheap at the Canal, along which it is transported in very great quantities.

These are a part of the local advantages, and to these may be added, that it is well supplied with excellent water, which comes from springs on the hills, and may be brought by pipes into every house, for free and copious use in all domestic purposes.

The valley of the Mohawk is so situated, that it must and will continue to be the greatest thoroughfare in any part of the State, or perhaps of the United States. It is a kind of funnel, which receives travellers from all the Lake countries, from Upper Canada, from Ohio, Indiana, Illinois, Missouri, Michigan, North-Western Territory, and in a very few years, it will not be uncommon to see travellers from the Rocky Mountains, and the head waters of the Missouri and Mississippi, pass by the Little Falls. Nature has so determined, that it will become the greatest travelled road to be found in the United States, and the regular and natural passage for many hundred thousands of inhabitants, annually going to tide water from the interior of this continent, when it shall be fully peopled.

In your letter you remark, that none of the water power on the north side of the river, has been disposed of; and you ask me if I know the reasons "why these valuable privileges have been so long kept out of use, except in a very small degree?"

I am perfectly acquainted with many facts in relation to this matter. I well knew the late Mr. John Porteous, the agent of the late Mr. Alexander Ellice, the former owner, who resided in England, and had purchased all these privileges, and a considerable tract of country about the Falls, before the Revolutionary War. I saw Mr. Porteous when he was building the first small flouring mill, near the present old Red Mill, in 1789, and I knew him for many years after until his death; after which event, Mr. Alexander, who had married Mr. Porteous' daughter, was the agent of Mr. Ellice. After the death of Mr. A. Ellice, it fell to his son, Edward Ellice, now or late a member of Parliament, of some notoriety, and I have been informed, that neither the father or son would dispose of any water power; and it has been said, with what truth I know not, that Mr. E. Ellice was hostile to any manufacturing establishments being raised up there; and even the old Canal, which was commenced in one thousand seven hundred and ninety-three, and finished in one thousand seven hundred and ninety-five, was not a work which was patronized by Mr. Ellice, because it took away his exclusive right of carrying boats and their lading by the Falls, when the river was navigated by boats of one to two tons burthen. Mr. Ellice, the father, had made a large sum of money, as a trader among the Indians, before the war of the Revolution, in one thousand seven hundred and seventy-six; and it appears to have been his desire to retain the title of the property in himself, and to give nothing but leases, with ground rents, after the custom in general practice in England.

This practice of leasing, and having a village made up of tenantry, not being congenial to the minds of American born citizens, had a tendency to retard the growth of the village; and this course of proceeding on the part of the proprietor, added to his refusal to permit the advantages of the water power to be used, has heretofore operated as a serious check upon its increase—enterprizing business men being unwilling to settle themselves there, under all the disadvantages.

If the present proprietors of this village should adopt a judicious and proper plan for constructing the necessary dams and canals to bring the water into efficient use—and then sell out water rights for all kinds of manufacturing purposes, there is no doubt that a manufacturing village of from six to ten thousand persons would soon be located there.

In addition to the present advantages of the Erie Canal and the great Post Road passing through it, I can say with perfect confidence that within three years from this time, a Railroad will be commenced, to extend from Schenectady to Utica, and eventually through to Lake Erie.

I am indueed to give this opinion both from a perfect knowledge of the conntry and as professionally understanding the great importance of such a communication, adapted to the interest and growing population of the western part of the state.

As to a plan for improving the water power to the greatest possible extent and advantage, on this point you want the most judicious advice and skill of the Engineer.

You have no doubt informed yourself of the water power requisite to carry one thousand spindles of cotton, &c. This or the quantity necessary for carrying a pair of mill stones of five and a half or six feet, in diameter, proper for a flouring mill, is the most common way of estimating the value of water power.—This value you can obtain at our large manufacturing towns, such as Paterson, in New-Jersey; Lowell, in Massachusetts, or Pawtucket, in Rhode Island, and at other places.

As to the construction of the necessary dams and canals, so as to bring this water into use, there can be no difficulty in effecting it: but all depends upon the skill of your engineer; and, as I have before observed, the situation of the place for a great manufacturing town, such as Little Falls is destined by nature to become—surrounded by a healthy and fertile country, with such an extraordinary intercommunication with the world, cannot be equalled, much less surpassed, by any other place, within more than fifty miles of it, and as I now view it, there can never spring up rival establishments to counteract its growth and prosperity.

You ask, whether the demand for water power in that part of the State, is not in a great measure independent of a tariff of duties, and if so, you request me "to state in what particular."

In reply to this, I consider that every kind of manufacturing of cotton, iron, leather, wood, and I may say all except woollens, will go on in that part of the country whether the tariff of duties is maintained or otherwise. In my opinion an alteration of the tariff to the lowest point, which any anti-tariff man will ask, will not prevent cotton, iron, leather, brass and wood, and many other manufactures, requiring water power from progressing—it may check the rapid increase for a few years, but the final effect will be to

bring down the price of operatives in these establishments to a point, that will permit the principals to compete with foreign fabric. The reduction of the tariff will produce a reduction in labor and in provisions, and this will enable our manufacturers to rival successfully those of other nations. As an evidence of it, we know that our cotton goods can compete in South American markets with the English; as also many other smaller manufactures, such as buttons of every kind. All our coarser articles of iron, &c., such as shovels, spades, and a thousand articles of domestic use, can and will continue to compete with the English; and for the present manufacture of many of these, the interior of the country is more favorable than the seaboard, because the living will always be much cheaper there.

A part of your inquiry relates "to the quantity and value of the products of the country, which will naturally fall into, and concentrate its trade at, the Little Falls."

As I have before observed, the soil of the whole adjacent country, north, south, east and west, is very fertile and productive. In one direction, (i. e.) N. and N. E., however, the good soil does not extend more than twenty-five or thirty miles; it then becomes what is termed by farmers frosty, i. e. having late frosts in spring and early in fall, and is only adapted to grazing. The products of the country, for the first twenty-five miles, are some wheat and rye, oats and a good deal of Indian corn—together with large crops of hay. There are also large dairies kept in Herkimer county—some of eighty to one hundred cows in each, where great quantities of butter and cheese, are made, at present for the supply of the New York market.

It would be difficult for me to estimate the value of these products, but they are probably equal to any district of country of equal extent, in the interior of the State.

The country north of twenty-five or thirty miles, as before observed, is cold, and not very fertile.

Having surveyed some of the northern part of Herkimer county, into townships and farms, more than thirty years since, I found it a poor country for farming, but rich in minerals, particularly iron, and with considerable of good timber upon it.

I have marked with a pencil, a dotted line for a route for a canal for hydraulic works, so as to gain the greatest possible advantage of the fall of water, and you will see how I propose to work the same water twice over on a part of the line.

As I before observed, I have made these marks from the recollection I have of the ground, and nothing but a personal examination with instruments, and a calculation of costs, will test the correctness of these views; and such an examination and plan, well digested, are all important to your interest in this project, and will add or diminish thousands, perhaps tens of thousands of dollars, whether they are judiciously done or otherwise.

I have the honor to be, sir,

Very respectfully, your ob't serv't,

BENJ. WRIGHT.

PAPER CARPETS.—Paper carpets are formed by cutting out and sewing together pieces of linen, cotton, Scotch gauze, canvass, or any similar material, &c., to the size and form required; then stretching the prepared cloth on the floor of a large room, and carefully pasting it round the margins so as to keep it strained right. If cotton be the material, it will require to be previously wetted. When the cloth thus fixed is dry, lay on it two or more coats of strong paper, breaking joint, and finish with colored or hanging paper, according to fancy. Centre or corner pieces, cut out of remnants of papers, which may be bought for a mere trifle, may be laid on the self-colored ground, and the whole surrounded by a border; or any other method adopted which may suit the taste or circumstances of the occupier, or accord with the other furniture of the room. When the carpet is thus prepared, and quite dry, it should receive two coats of glue, or size made from the shreds of skins, such as is used by carvers and gilders. This size should be put on as warm as possible, and care should be taken that no part of the carpet should be left untouched by it, otherwise the varnish to be afterwards laid on will sink into the paper and spoil it. When the size is perfectly dry, the carpet should have one or more coats of boiled oil; and when that is dry, a coat of copal or any other varnish. The varnish is not absolutely essential, as boiled oil has been found to answer very well without it: but where oil only is used, it requires several more coats to be applied, and takes a much longer time to dry. These carpets are portable, and will roll up with about the same ease as oil cloth. They are very durable, are easily cleaned, and, if made of well chosen patterns, have a very handsome appearance.—[Encyclopædia of Cottage, &c. Architecture.]

PACES OF THE SNAIL.—The locomotion of animals which have no feet is a curious subject of physiological investigation, and has in some instances well rewarded the study of naturalists. The leech, the earth-worm, serpents, &c. have each their peculiar modes of progression; but the snail, as any person may observe, moves differently from all these, gliding along without jerks or undulations in any part of its body, and each point of the surface advancing simultaneously; for, the belly being smooth, with no appendages to perform the office of feet, the whole body consequently moves at once. Mr. J. Main, who has written an ingenious paper on the subject, has studied the motions of the Limax maximus, L. ater, L. rufus, and L. agrestis; and, by placing them on glass, the muscular motion was remarked to be from the tail to the head, and, of course, the movement cannot be by impulses. Mr. Main thinks the movement is produced by the propelling force of the slime projected in a retromissive manner from all parts of the body at once.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, April 15th, 1833.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

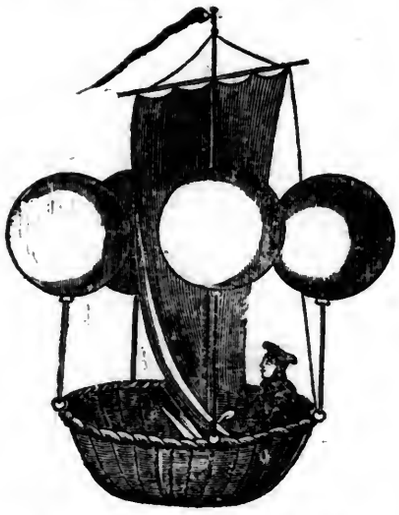
Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, Ap'l 9	6 a. m.	52	29.75	NNW	fresh	SSW / N	fair
	10	56	.81	..	..		clear
	2 p. m.	63	.85	..	..		..
	6	61	.97	..	moderate		..
	10	54	30.01	..	light		..
Wednesday, 10	6 a. m.	48	.08	..	faint		..
	10	53	.11	..	..		..
	2 p. m.	62	.08	WSW—NW	light		..
	6	62	.04	NNW	faint	NNW	fair
	10	54	.05				cloudy
Thursday. 11	6 a. m.	50	.03	NE	light-moder'e	NW	fair
	10	52	.05	ESE	moderate	..	..
	2 p. m.	55	29.95	SE	..	W & NNW / SSW.brisk	..
	6	52	.79	SE by E	light	.. / ..	.. —(clouded horizon)
	10	51	.70	..			.. —cloudy
Friday, 12	6 a. m.	51	.50	SSE—S	light	SW	cloudy
	10	58	.47	SSW—SW	faint	SSW	..
	2 p. m.	68	.42	SW & variable	light	SW	fair—changeable
	6	51	.45	NNW	fresh	SSW / NNW	..
	10	53	.56	..	..		cloudy
Saturday, 13	6 a. m.	42	.65	..	moderate	NW	fair
	10	47	.72	..	fresh	..	..
	2 p. m.	47	.72	..	..	..	..
	6	46	.72	..	..	..	..
	10	43	.83	..	..	..	..
Sunday, 14	6 a. m.	42	.94	WSW	moderate		clear
	10	54	30.01	W by S	..		..
	2 p. m.	57	29.89	..		W	fair
	6	53	.91	..	..	W by S	..
	10	52	.95	..	..	..	..
Monday, 15	6 a. m.	38	30.25	S	..		..
	10	42	.27	..	..		..
	2 p. m.	47	.28	SSE	..	WSW	..
	6	39	.29	..	..	SW	..
	10	38	.30	..	..	..	..

Average temperature of the week, 51.51.

Passage of Musket Bullets through the human body.—A number of curious cases of the progress of musket balls from the place where they were first lodged, have been observed by military surgeons.—We have heard of a very remarkable case, where the musket ball struck the forehead above the nose, and having divided into two halves, one half went round beneath the skin, on the right side, and the other on the left, advancing in contact with the skull. We do not ask our readers to believe the poetical edition of this fact, that the two half bullets met again behind, after having performed the circuit of the head in opposite directions, and, advancing with a slightly diminished force, united, and killed an unfortuneate man who stood in their way; but the fact of the splitting of the bullet, and the advance of each half in opposite directions, is unquestionable. The singular progress of a musket bullet from the forehead to the throat, has been recorded by Dr. Fielding. At the first battle of Newbury, in the time of civil wars, a medical gentleman was shot near the right eye. The skull was fractured at the place, but though the surgeon could see the pulsation of the brain beneath the wound, yet the bullet had turned to one side, and could not be discovered. Various bones were discharged from the wound, the mouth and the nostrils. At the time of the second battle of Newbury, the wound healed, and could not be kept open; but about twelve years afterwards, when the doctor was riding in a cold dark night, he felt a pain on the left side of his head, about the "almonds of the ear," which occasioned a partial deafness. Having stopped his ear with wool, he was surprised one day, in March 1670, by a sudden puff or crack in his ear, when all that side of his cheek hung loose as if it had been paralytic, and a hard knot was felt under the ear. Various tumors now appeared about the throat, and in August 1672, the bullet was taken out of the throat near the *pomum adami*.—[Fraser's Magazine.]

London University.—At a general meeting of proprietors on Wednesday, Mr. Abercromby in the chair, it appeared from a report of the committee on the finances of the establishment, that the original capital subscribed, 158,882*l.*, had been expended, and a debt of 2946*l.* incurred. An addition of nearly 1000*l.* was anticipated within a few months; and an annual subscription of 1000*l.* a year was earnestly recommended, in order to restore the University to independence and a competent revenue.

[*From the Mechanics' Magazine and Register of Inventions and Improvements.*]



[We copy the following interesting account of Balloons from "Mr. Partington's British Cyclopædia," a work of unparalleled cheapness and of great merit.]

The idea of inventing a machine which should enable us to rise into the air appears to have occupied the human mind even in ancient times, but was never realized till the last century. The first suggestion for a sailing vessel, with any pretensions to the character of science, is due to Francis Lana, a distinguished Jesuit. This occurred in 1670; and the arrangement of the apparatus will be best understood by referring to the preceding figure.

Lana, it will be seen, proposed to support his car by the aid of four balls. These were to be exhausted of air; and the inventor argued that their diminished weight would cause the balls to support themselves and the aeronaut. We notice this apparatus, as similar schemes have been put forth even within our own times; but it must be obvious to any intelligent mind, that the external pressure of the atmosphere would destroy the vessels, even if they could be rendered light enough. Henry Cavendish having discovered, about 1766, the great levity of inflammable air or hydrogen gas, Dr. Black, of Edinburgh, was led to the idea that a thin bladder, filled with this gas, must ascend into the air. Cavallo made the requisite experiments in 1782, and found that a bladder was too heavy, and paper not air tight. Soap bubbles, on the contrary, which he filled with inflammable air, rose to the ceiling of the room, where they burst. In the same year, the brothers Stephen and Joseph Montgolfier constructed a machine which ascended by its own power. In November, 1782, the elder Montgolfier succeeded, at Avignon, in causing a large bag of fine silk, in the shape of a parallelopiped, and containing 40 cubic feet, to mount rapidly upwards to the ceiling of a chamber, and afterwards, in a garden, to the height of 36 feet, by heating it in the inside with burning paper. The two brothers soon afterwards repeated the experiment at Annonay, where the parallelopiped ascended in the open air 70 feet. A larger machine, containing 650 cubic feet, rose with equal success. They now resolved to make the experiment on a large scale, and prepared a machine of linen, lined with paper, which was 117 feet in circumference, weighed 430 pounds, and carried more than 400 pounds of ballast. This they sent up, June 5, 1783, at Annonay. It rose in ten minutes to a height of 6,000 feet, and fell 7,668 feet from the place of ascension. The method used to cause it to ascend was, to kindle a straw fire under the aperture of the machine, in which they threw, from time to time, chopped wood. But, though the desired effect was produced, they had no clear nor correct idea of the cause. They did not attribute the ascension of the vessel to the rarefaction of the air enclosed in it by the operation of the heat, but to a peculiar gas, which they supposed to be developed by the burning of the straw and wood. The error of this opinion was not discovered till a later period. These experiments roused the attention of all the philosophers of Paris. It occurred to some of them, that the same effect might be produced by inflammable air. M. Charles, Professor of Natural Philosophy, filled a ball of lutestring, 12 feet in diameter, and coated with a varnish of gum-elastic with such gas. It weighed 25 pounds, rose 3,123 feet in two minutes, disappeared in the clouds, and descended to the earth, after three-quarters of an hour, at the village of Gonesse, about 15 miles from Paris. Thus we see two original kinds of balloons: those filled with heated air, and those filled with inflammable air.

The process of filling balloons on the small scale for this species of aerial navigation, will readily be understood by a reference to the accompanying sketch, in which a simple condenser is employed. The common mode is to generate hydrogen gas in a bottle, by pouring dilute sulphuric acid on granulated zinc, but the hot and moist vapor from the acid speedily destroys the balloon. To prevent this, the experimentor has only to employ a second bottle containing water, and carry a bent-pipe from the first bottle through a cork in the second; it dips beneath the surface, and is condensed, and the pure hydrogen ascends by the second pipe to the balloon.

To continue: Montgolfier had gone to Paris, and found an assistant in Pilatre de Rozier, the superintendent of the Royal Museum. They completed together, in October, 1783, a new machine, 74 feet in height, and 48 in breadth, in which Rozier ventured for the first time to ascend, though only 50 feet. The balloon was from caution fastened by cords, and soon drawn down. Eventually the machine, being suffered to move freely, took an oblique course, and at length sunk down gradually about 100 feet from its starting place. By this the world was convinced that a balloon might, with proper management, carry a man through the air; and the first aerial expedition was determined on.

November 21, 1783, Pilatre de Rozier and the Marquis d'Arlandes ascended from the castle la Muette, in the presence of an innumerable multitude, with a machine containing 6,000 cubic feet. The balloon, after having attained a considerable height, came down, in 25 minutes, about 9,000 yards from la Muette. But the daring aeronauts had been exposed to considerable danger. The balloon was agitated very violently several times; the fire had burnt holes in it; the place on which they stood was injured, and some cords broken. They perceived that it was necessary to descend without delay; but when they were on the surface of the earth, new difficulties presented themselves. The weak coal fire no longer supported the linen balloon, the whole of which fell into the flame. Rozier, who had not yet succeeded in descending, just escaped being burnt. M. Charles, who had joined with M. Robert, soon after informed the public that they would ascend in a balloon filled with inflammable air. To defray the necessary expenses of 10,000 livres, he opened a subscription. The balloon was spherical, 26 feet in diameter, and consisted of silk coated with a varnish of gum-elastic. The car for the aeronauts was attached to several cords, which were fastened to a net, drawn over the upper part of the balloon. A valve was constructed above, which could be opened from the car, by means of cords, and shut by a spring. This served to afford an outlet to the inflammable air, if they wished to descend, or found it necessary to diminish it. The filling lasted several days; and, December 1st, the voyage was commenced from the Tuilleries. The balloon quickly rose to a height of 1800 feet, and disappeared from the eyes of the spectators. The aeronauts diligently observed the barometer, which never stood at less than 26°, threw out gradually the ballast they had taken in to keep the balloon steady, and descended safely at Nesle. But as soon as Robert stepped out, and it was thus lightened of 130 pounds, it rose again with great rapidity about 9,000 feet. It expanded itself with such force, that it must have been torn to pieces, had not Charles, with much presence of mind, opened the valve to accommodate the quantity of gas to the rarity of the surrounding atmosphere. After the lapse of half an hour the balloon sunk down on a plain, about three miles from the place of its second ascent.

Another ascent, which nearly proved disastrous to the aeronauts, may now be noticed. On the 15th of July, 1784, the Duke of Chartres, the two brothers Roberts, and another person, ascended with an inflammable air balloon from the park of St. Cloud, at 52 minutes past 7 o'clock in the afternoon. This balloon was of an oblong form, measuring 55½ feet in length, and 34 in diameter. It ascended with its greatest extension nearly horizontal; and after remaining in the atmosphere about 45 minutes, it descended at a little distance from whence it had ascended, and at about 30 feet distance from the *Lac de la Garenne*, in the park of *Meudon*. But the incidents that happened in this aerial excursion deserve to be particularly described, as nothing like it had happened before to any of the aerial travellers. This machine contained an interior smaller balloon, filled with common air; by which means, according to a mode hereafter to be mentioned, the machine was to be made to ascend or descend without any loss of inflammable air or ballast. The boat was furnished with a helm and oars, intended to guide it, &c.

On the level of the sea the barometer stood at 30.25 inches, and at the place of departure it stood at 30.12. Three minutes after its ascending, the balloon was lost in the clouds, and the aerial voyagers lost sight of the earth, being involved in a dense vapor. Here an unusual agitation of the air, somewhat like a whirlwind, in a moment turned the machine three times from the right to the left. The violent shocks which they suffered prevented their using any of the means prepared for the direction of the balloon, and they even tore away the silk stuff of which the helm was made. Never, said they, had a more dreadful scene presented itself to any eye, than that in which they were involved. An unbounded ocean of shapeless clouds rolled one upon another beneath, and seemed to forbid their return to the earth, which was still invisible. The agitation of the balloon became greater every moment. They cut the cords which held the interior balloon, which consequently fell on the bottom of the external one, just upon the aperture of the tube, which went down into the boat, and stopped it up. At this time the thermometer showed a little above 44°. A gust of wind from below drove the balloon upwards, to the extremity of the vapor, when the appearance of the sun showed them the existence of nature; but now, both the heat of the sun and the diminished density of the atmosphere occasioned such a dilation of the inflammable air, that the bursting of the balloon was apprehended; to avoid which they introduced a stick through the tube that proceeded from the balloon, and endeavored to remove from its aperture the inner balloon, which closed it; but the

dilation of the inflammable air pushed the inner balloon so violently against the aperture of the tube, that every endeavor proved ineffectual. During this time they still continued to ascend, until the mercury in the barometer stood not higher than 24.36 inches, which shows their height above the surface of the earth to be about 5,100 feet. In these dreadful circumstances, they thought it necessary to make a hole in the balloon, in order to give an exit to the inflammable air; and the Duke of Chartres, by means of one of the banners, made two incisions, which caused a rent of between seven and eight feet. They then descended very rapidly, seeing at first no object on earth or in the heavens; but a moment after they discovered the fields, and were descending straight towards a lake, into which they must have fallen had they not thrown overboard about sixty pounds weight of ballast, which occasioned their coming down at about thirty feet beyond the edge of the lake. Notwithstanding this rapid descent, occasioned by the great quantity of gas which escaped out of the two rents in the balloon, none of the four adventurers was hurt, but spoke in the highest terms of excitement of the pleasures of their expedition.

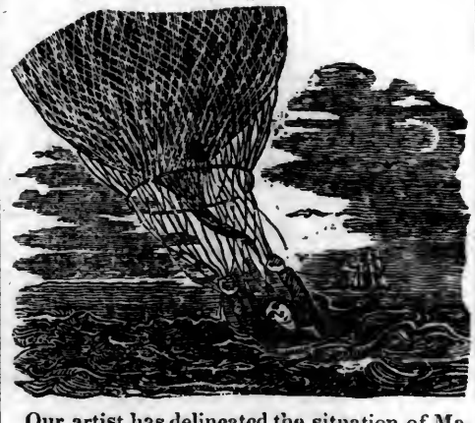
These successful aerial voyages were soon followed by others. Blanchard had already ascended several times, when he determined to cross the channel between England and France, which is about 23 miles wide, in a balloon filled with inflammable air. He succeeded in this bold attempt, January 7, 1785, accompanied by an American gentleman, Dr. Jeffries. About one o'clock they left the English coast, and at half-past two, were on the French. Pilatre de Rozier, mentioned before as the first aeronaut, attempted, June 14, 1785, in company with Mr. Romain, to pass from the French to the English side; but the attempt was unsuccessful, and the adventurers lost their lives. M. de Rozier had on this occasion united the two kinds of balloons; under one, filled with inflammable air, which did not alone possess sufficient elevating power, was a second, filled by means of a coal fire under it. Rozier had chosen this combination, hoping to unite the advantages of both kinds. By means of the lower balloon, he intended to rise and sink at pleasure, which is not possible with inflammable air; for a balloon filled with this, when once sunk to the earth, cannot rise again with the same weight, without being filled anew; while, on the contrary, by increasing or diminishing the fire under a balloon filled with heated air, it can be made to rise and fall alternately. But this experiment caused the death of the projectors. Probably the coals, which were only in a glowing state near the surface of the ground, were suddenly kindled to a light flame as the balloon rose, and set it on fire. The whole machine was soon in flames, and the two aeronauts were precipitated from the air. The condition of their mangled bodies confirms the conjecture that they were killed by the explosion of the gas. This unhappy accident did not deter others; on the contrary, the experiments were by degrees repeated in other countries.

However important this invention may be, it has as yet led to no considerable results. Its use has hitherto been confined to observations in the upper regions of the atmosphere. But should we ever learn to guide the balloon at will, it might, perhaps, be employed for purposes of which we now have hardly an idea; possibly the plan of Professor Robison might be accomplished by the construction of a gigantic balloon, which would enable us to perform an aerial circumnavigation of the earth. During the French Revolution, an aerostatic institution was founded at Meudon, not far from Paris, for the education of a corps of aeronauts, with the view of introducing balloons into armies as a means of reconnoitering the enemy. But this use of balloons was soon laid aside, for, like every other, it must be attended with great uncertainty, as long as the machine has to obey the wind. Among the French, Blanchard and Garnerin have undertaken the greatest number of aerial voyages; among the Germans, Professor Jungius, in Berlin, in 1805 and 1806, made the first. Since that time, Professor Reichard and his wife have become known by their aerial excursions. Even in Constantinople such a voyage was performed, at the wish and expense of the Sultan, by two Englishmen, Barly and Devigne. Blanchard has rendered an essential service to aeronauts by the invention of the parachute, which they can use, in case of necessity, to let themselves down without danger.

The arrangement of the parachute, with reference to its use for aeronautic purposes, may now be more fully illustrated.

In the right hand figure, M. Garnerin's apparatus is seen as it ascended from St. George's parade. A cylindrical box, about three feet in height, and two in diameter, was attached by a straight pole to a truck or disc at the top, and from this was suspended a large sheet of linen, somewhat similar to an umbrella. The form it assumed on the descent of the aeronaut is shown in the next figure. When first cut from the balloon, it descended with amazing velocity, and those who witnessed its progress considered the destruction of the aeronaut as certain; but after a few seconds the canvas opened, and the resistance was so great, that the apparatus diminished in its speed, till on its arrival near the earth it was not greater than would have resulted from leaping a height of two feet.

Amongst the unfortunate aeronauts we may place Major Money, who ascended from Norwich, under the full impression that the aerial current would take the balloon in the direction of Ipswich. Scarcely, however, had he attained an altitude of one mile, when a violent hurricane, operating in a new direction, drove the balloon towards Yarmouth. Several small row boats immediately put out from that port, and endeavored to keep pace with the balloon, but without success; and Major Money first touched the sea about nine miles from land, and more than three from any means of assistance.



Our artist has delineated the situation of Major Money at the period we have now been describing, or rather about ten minutes after he had parted with a portion of his clothes and instruments; and it was only by the assistance of a fast sailing cutter, which happened to lay in the track of the balloon, that he was saved, when almost exhausted.

Having thus given a brief account of the early history of the aerostatic art, and of the successive improvements which the balloon has undergone both in its external form and appearance, and the nature of the material used for inflation, we may now speak of the very beautiful machines which are employed for aerial excursions by the aeronauts of the present day.

The preceding illustration exhibits a very picturesque view of the ascent of that veteran, Mr. Green, from the Park, on the occasion of the coronation of his late majesty, George IV. The balloon itself, the form of which is similar to, but infinitely more beautiful than, a pear, is composed of strips of variegated silk, the harmony of which has a particularly pleasing effect on the eye. Over this is thrown an envelope of net-work, which passing down serves as a support to which the car is attached.

The utility of aeronautic studies and experiments has been very much questioned, even by philosophical minds. M. Cavallo, well known in the philosophical world, suggested long ago that small balloons, especially those made of paper, and raised by means of spirits of wine, may serve to explore the direction of the winds in the upper regions of the atmosphere, particularly when there is a calm below; and we see the French aeronauts adopted this idea, that they might serve also for signals in various circumstances, in which no other means can be used; and letters or other small things may be easily sent by them: for instance, from ships that cannot safely land on account of storms, from besieged places, islands, or the like. The larger aerostatic machine, he adds, may answer all the above-mentioned purposes in a better manner; and they may, besides, be used as a help to a person who wants to ascend a mountain or a precipice, or to cross a river; and, perhaps, one of the machines tied to a boat by a long rope, may be, in some cases, a better sort of sail than any that is used at present. Their conveying people from place to place with great swiftness, and without trouble, may be of essential use, even if the art of guiding them in a direction different from that of the wind should never be discovered. By means of these machines the shape of certain seas and lands may be better ascertained; men may ascend to the top of mountains they had never visited before; they may be carried over marshy and dangerous grounds; they may by that means come out of a besieged place, or an island; they may, in hot climates, ascend to a cold region of the atmosphere, either to refresh themselves, or to observe the ice which is never seen below; and, in short, they may be thus taken to several places, to which human art hitherto knew of no conveyance.

AGRICULTURE, &c.

Proceedings of the New-York State Agricultural Society, at the first Anniversary held at Albany on the 14th and 15th Feb. 1833.

Communication from JESSE BUEL, *Esq. on the Culture of Indian Corn.*

There is no crop more beneficial to the American farmer than Indian corn. An eminent agriculturist, the late John Taylor, of Virginia, called it the "meal, meadow, and manure," of the farm. It is convertible into human food in more forms than any other grain; its value in fattening domestic animals is not exceeded by any product of the farm; and no crop returns more to the soil than this does in the form of manure. There are two important requisites, however, to its *profitable* cultivation. The first is, that the soil be adapted to its growth; and the second, that the crop be well fed and well tended: for food and attention are as important to the plant as to the animal. Ordinarily speaking, it costs less to take care of a good crop of corn, on proper corn land, than it does of a bad crop on land not adapted to its culture. The first is light and dry. The latter stiff, wet, or grassy. I put the average expense of cultivating and securing an acre at $15,* including a fair rent, though it ordinarily exceeds this sum. The farmer, therefore, who obtains thirty bushels from the acre, estimating the grain at 50 cents per bushel, gets a fair compensation for his labor, and the use of his land. Whatever the product falls short of this is an absolute loss; and whatever it may exceed it is net gain. Thus the man who gets but twenty bushels from the acre loses, upon this estimate, $20 worth of his labor, on four acres. He who raises 80 bushels an acre, on the other hand, realizes a net profit of $100 from four acres—making a difference in the profits of the two farmers, in the management of four acres of corn, of *one hundred and twenty dollars!* These data are sufficiently accurate to show the importance of the two requisites I have suggested, and the value of a little calculation in the business of farming. The habit of noting down the expense, as well as the product of a crop, and thus ascertaining the relative profit and loss, is highly advantageous to the practical farmer, and one which cannot be too strenuously inculcated. It will perhaps be said, that I ought to add the value of the manure which is employed in the large crop; but I reply, that I offset this against the increased forage which this crop furnishes. Besides, by applying the manure in the unfermented state in which it is generally found in the spring, it will be as beneficial to the succeeding crops as though it had lain and fermented in the yard, and been applied in the usual way in the autumn.†

* *Estimated expense of cultivating an acre of Indian corn:*

One ploughing, (suppose a clover lay)	$2 00
Harrowing and planting, - - -	2 00
Two hoeings, 4 days and horse team,	3 75
Harvesting, 2 days, - - - - -	1 50
Cutting and harvesting stalks, - -	1 50
Rent, - - - - - - - -	5 00
	$15 75

† Stable and yard manures lose 50 per cent. by the fermentation they undergo in the yard during the summer. This loss consists of the gases which are evolved in the process of rotting, and of the fluids which sink into the earth, or are carried off by the rains. Plants receive their food either in a gaseous or liquid form. If manure rots in the soil, neither these gases or fluids are lost: the earth retains, and the roots of the plants imbibe them. Yet recent manures are not proper to be applied to small grains. They cause too rank a growth of straw, and are apt to induce rust and mildew. Thus a crop of corn, potatoes, or ruta baga, may be *fed* and *fattened*, if I may use the expression, upon the dung which is destined to nourish the wheat crop, without deteriorating its value for the latter purpose, if it is applied to the corn, &c. before it has fermented.

The soils adapted to the culture of Indian corn are such as are permeable to heat, air,* and the roots of the plant, and embrace those denominated sandy, gravelly, and loamy. Corn will not succeed well on grounds that are stiff, hard, or wet. The roots grow to as great a length as the stalks, and the soil must be permeable to permit their free extension.

The manures used are generally yard and stable dung, and plaster of paris, (*sulphate of lime.*) The first ought to be abundant, as upon the fertility which it induces depends the profit of the crop. Long or unfermented manure is to be preferred. It decomposes as the wants of the plant require it; while its mechanical operation, in rendering the soil light and porous, is beneficial to the crop. It should be equally spread over the whole surface, before it is ploughed under. It then continues to afford fresh pasture to the roots till the crop has matured, and is in its place to benefit the succeeding crop. If put into the hills, the roots soon extend beyond its influence, it does not so readily decompose, and the subsequent crop is prejudiced from its partial distribution in the soil. In a rotation of four or five years, in which this crop receives the manure, twenty-five or thirty ordinary loads may be applied to *one* acre with greater profit than to *two* or *three* acres. Every addition tells in the product; and there is scarcely any danger of manuring too high for this favorite crop. Gypsum is applied broadcast before the last ploughing or harrowing, or strewed on the hills after hoeing. I pursue the first method, at the rate of a bushel to the acre.†

The best preparation for a corn crop is a clover or other grass lay, or lea, well covered with a long manure, recently spread, neatly ploughed, and harrowed lengthwise of the furrow. A roller may precede the harrow with advantage. The time of performing these operations depends upon the texture of the soil, and the quality of the sod. If the first is inclined to clay, or the latter tough or of long continuance, the ploughing may be performed the preceding autumn; but where sand or gravel greatly preponderate, or the sod is light and tender, it is best performed in the spring, and as near to the planting as convenient. The harrow at least should immediately precede planting. All seeds do best when put into the fresh stirred mould. Stiff lands are ameliorated and broken down by fall ploughing; but light lands are rather prejudiced by it. When corn is preceded by a tilled crop the ground should be furrowed, and the seed deposited in the bottoms of the furrows. Where there is a sod, the rows should be superficially marked, and the seed planted upon the surface. Where the field is flat, or the sub-soil retentive of moisture, the land should be laid in ridges, that the excess of water which falls may pass off in the furrows.

* We are on the northern border of the maize zone, and should make up for defect in climate by selecting soils into which the heat readily penetrates. Air, besides conveying warmth in summer, imparts fertility by the vegetable food which is always suspended in it in the form of gases. Dews are also charged with these properties of vegetable nutriment, and, when the soil is porous, they settle down as in a sponge, and impart fertility to the roots (the true mouths) of plants.

† I adopt the opinion of Davy, as the *modus operandi* of plaster of paris, that it forms a necessary constituent of plants which it benefits, and is of no direct benefit to plants which do not afford it on analysis. Among the first are the clovers, corn, potatoes, and generally such plants as have broad or succulent leaves; while the latter embrace culmiferous grains and grasses, as wheat, rye, timothy, &c. Critical observation for years has confirmed me in this conclusion. Gypsum must be rendered soluble before it can be taken up by the mouths of plants, and it requires 600 parts of water to dissolve one of this mineral. I infer from these facts that, by burying it in the soil, it more readily dissolves, and is more accessible to the mouths of plants than if spread upon the surface of the ground. I am induced, from these views of the subject, to sow plaster, on grass grounds, in March, and upon corn and potato grounds before the last ploughing for these crops. The latter was recommended and practised by the distinguished agriculturists, the late Mr. Taylor, of Virginia, and Judge Peters, of Pennsylvania.

The time of planting must vary in different districts and in different seasons. The ground should be sufficiently warmed by vernal heat to cause a speedy germination. Natural vegetation affords the best guide. My rule has been to plant when the apple is bursting its blossom buds, which has generally been between the 12th and 20th of May.

Preparation of the Seed. The enemies to be combatted are the wire-worm, brown grub, birds and squirrels. Of these the first and two last prey upon the kernels, and against these tar offers a complete protection. I soak my seed 12 to 20 hours in *hot* water, in which is dissolved a few ounces of crude saltpetre, and then add (say to 8 quarts of seed) half a pint of tar, previously warmed and diluted with a quart of warm water. The mass is well stirred, the corn taken out, and as much plaster added as will adhere to the grain. This impregnates and partially coats the seed with the tar. The experience of years will warrant me in confidently recommending this as a protection for the seed.

The manner of planting is ordinarily in hills, from two and a half to six feet apart, according to the variety of corn, the strength of the soil, and the fancy of the cultivator. The usual distance in my neighborhood is three feet. Some, however, plant in drills of one, two, and three rows, by which a greater crop is unquestionably obtained, though the expense of culture is somewhat increased.* *The quantity of seed* should be double, and may be quadruple,† what is required to stand. It is well known that a great difference is manifest in the appearance of the plants. Some appear feeble and sickly, which the

* The following table exhibits the difference in product of various methods of planting, and serves also to explain the manner in which large crops of this grain have been obtained. I have assumed in the estimate that each stock produces one ear of corn, and that the ears average one gill of shelled grain. This is estimating the product low; for while I am penning this (October) I find that my largest ears give two gills, and 100 fair ears half a bushel of shelled corn. The calculation is also predicated upon the supposition that there is no deficiency in the number of stocks, a contingency pretty sure on my method of planting.

	Hills.	bush.	qts.
1. An acre, in hills 4 feet apart, will produce, each way, -	2722	42	16
2. The same, 3 by 3 feet, - -	4840	75	20
3. The same, 3 by 2½ feet, -	5808	93	28
4. The same in drills, at 3 ft. plants 6 in. apart, in the drills, - *Stalks*	29,040	113	14
5. The same in do. 2 rows in a drill, 6 in. apart, and the plants 9 in. and 3 ft. 9 in. from centre of drills thus,	30,970	120	31
6. The same in do, 3 rows in a drill, as above, 3 ft. from centre of drills,	43,560	170	5

The fifth mode I have tried. The ground was highly manured, the crop twice cleaned, and the entire acre gathered and weighed accurately the same day. The product in ears was 103 baskets, each 84 lbs. net, and 65 lbs. over. The last basket was shelled and measured, which showed a product on the acre of 118 bushels 10 qts. I gathered at the rate of more than 100 bushels the acre, from 4 rods planted in the third method, last summer, the result ascertained in the most accurate manner. Corn shrinks about 20 per cent. after it is cribbed. The sixth mode is the one by which the Messrs. Pratts, of Madison county, obtained the prodigious crop of 170 bushels per acre. These gentlemen, I am told, are of opinion that the product of an acre may be increased to 200 bushels.

† I am told the Messrs. Pratts, above alluded to, used seven bushels of seed to the acre, the plants being subsequently reduced to the requisite number.

best nursing will not render productive. The expense of seed, and the labor of pulling up all but three or four of the strongest plants in a hill, it is believed will be amply remunerated by the increased product. If the seed is covered as it should be, with fine mould only, and not too deep, we may at least calculate upon every hill or drill having its requisite number of plants.

The after culture consists in keeping the soil loose and free from weeds, which is ordinarily accomplished by two dressings, and in thinning the plants, which latter may be done the first hoeing, or partially omitted till the last. The practice of ploughing among corn, and of making large hills, is justly getting into disrepute: for the plough bruises and cuts the roots of the plants, turns up the sod and manure to waste, and renders the crop more liable to suffer by drought. The first dressing should be performed as soon as the size of the plants will permit, and the best implement to precede the hoe is a corn harrow, adapted to the width of the rows, which every farmer can make. This will destroy most of the weeds and pulverise the soil. The second hoeing should be performed before or as soon as the tassels appear, and may be preceded by the corn harrow, a shallow furrow of the plough, or, what is better than either, by the cultivator.* A slight earthing is beneficial, providing the earth is scraped from the surface, and the sod and manure not exposed. It will be found beneficial to run the harrow or cultivator a third and even a fourth time, between the rows, to destroy weeds and loosen the surface, particularly if the season is dry.†

In harvesting the crop, one of three modes is adopted, viz. 1. The corn is cut at the surface of the ground, when the grain has become glazed, or hard upon the outside, put immediately into stocks, and when sufficiently dried, the corn and stalks are separated and both secured. 2. The tops are taken off when the corn has become glazed, and the grain permitted to remain till October or November upon the buts. Or, 3. Both corn and stalks are left standing till the grain has fully ripened, and the latter become dry, when both are secured. There are other modes, such as leaving the buts or entire stalks in the field, after the grain is gathered; but these are so wasteful and slovenly as not to merit consideration. The stalks, blades, and tops of corn, if well secured, are an excellent fodder for neat cattle. If cut, or cut and steamed, so that they can be readily masticated, they are superior to hay. Besides, their fertilizing properties, as a manure, are greatly augmented by being fed out in the cattle yard, and imbibing the urine and liquids which always there abound, and which are lost to the farm, in ordinary yards, without an abundance of dry litter to take them up. By the first of these methods, the crop may be secured before the autumnal rains; the value of the fodder is increased, and the ground is cleared in time for a winter crop of wheat or rye. The second mode impairs the value of the forage, requires more labor, and does not increase the quantity or improve the quality of the grain. The third mode requires the same labor as the first, *may* improve the quality of the grain, but must inevitably deteriorate the quality of the fodder. The corn cannot be husked too promptly after it is gathered from the field. If permitted to heat, the value of the grain is seriously impaired.*

Saving Seed. The fairest and soundest ears are either selected in the field or at the time of husking, a few of the husks being left on, braided, and preserved in an airy situation till wanted for use.

In making a choice of sorts, the object should be to obtain the varieties which ripen early, and afford the greatest crop. I think these two properties are best combined in a twelve-rowed kind which I obtained from Vermont some years ago, and which I call Dutton corn, from the name of the gentleman from whom I received it. It is earlier than the common eight-rowed yellow, or any other field variety I have seen, and at the same time gives the greatest product. I have invariably cut the crop in the first fourteen days of September, and once in the last week in August. The cob is large, but the grain is so compact upon it, that two bushels of sound ears have yielded five pecks of shelled grain, weighing 62 lbs. the bushel.

In securing the fodder, precaution must be used. The buts become wet by standing on the ground, and if placed in large stacks, or in the barn, the moisture which they contain often induces fermentation and mouldiness. To avoid this I put them first in stacks so small that the whole of the buts are exposed upon the outer surface; and when thoroughly dry they may be taken to the barn, or left to be moved as they are wanted to be fed out—merely regarding the propriety of removing a whole stock at the same time.

* The cultivator is made in the form of a triangular harrow, with two bulls; or if intended to be graduated to different widths, a centre bull is added, to which the exterior ones are attached by hinges. Iron slats, fixed to the exterior bulls, pass through a mortice in the centre one, perforated with holes, through which an iron pin passes to hold them at the graduated width. The teeth may be in any approved form, or reasonable number. The cultivator I use has five teeth, two in each of the outward and one upon the centre timber. The teeth have a stout shank, with a duck's foot termination, four inches broad, somewhat cylindrical, rounded at the point, and inclined forward in an angle of 30 or 40 degrees. This implement is useful for other purposes; and may be used, like Beatson's, as a substitute for the plough, in preparing light soils for a crop. The handles are attached to the centre piece. The teeth have a shoulder, on the under side of the timber, and are fastened with screws and nuts above.

† Some entertain a mistaken notion, that it is prejudicial to stir the soil among corn in dry weather, and others that weeds serve to prevent the evaporation of moisture by a hot sun. The reverse of these opinions is true. The exhaustion of moisture by a plant is in the ratio of the surface of its leaves and stocks presented to the sun and air.

* The leaves are the necessary organs for elaborating the food of plants, and when these are taken away the plant must cease to grow. The sap is useless until it undergoes elaboration in the leaves. Hence, when corn is topped in the usual way, the supply of food is cut off from the grain, except what may be elaborated in the husks. On comparing corn gathered by the first and second modes, it was the opinion of those who assisted in husking, that the first was soundest, brightest, and heaviest. The third mode I have not tried, but it seems probable that the grain might acquire an increase of volume, though it would lose again by depredation and waste. The first method has these further advantages, that it preserves the cob from being saturated with rains, and secures the fodder when in its highest perfection and greatest quantity.

TEA WHEAT.—THE SEASON.—Extracts from a letter from Elisha Marvin, Esq., of Ripley, N. Y. to the Proprietor of the N. E. Farmer.

The tea wheat which I have sent you I had from the Province of New-Brunswick, soon after it was first noticed in your paper. I have sown this wheat every spring since, from the tenth of March to the first of May. The choice of time depends on the season; a dry season sometimes injures late sowing, for which reason I prefer sowing as soon as the ground will admit.

This grain does well on what we call a natural wheat soil, and just as well on any good soil. In wet or low places in your field, where winter wheat would be killed by ice, or thrown out by frost, this wheat will give a fair crop.

On our dividing ridges, which are generally a wet cold soil, and covered four or five months with deep snow, this wheat does well. Winter wheat, if grown at all in such situations, would give but an indifferent crop, and that of a light and poor quality. The tea wheat weighs 63 pounds to the bushel; other spring wheat, in this region, 58. The tea wheat yields a far better crop than either the bearded or bald spring wheat; and suits much better to every variety of soil. With these advantages I think I can with all safety call the tea wheat the best spring crop of grain we have in this region of country.

Our season is now (March 15) mild. The coldest day the present year was the 2d of March, when the ice in the lake fastened for the first time, and is not yet started.

CULTURE OF THE VINE.—For some years past, (says a correspondent of the American Farmer, under date of Baltimore, March 20, 1833,) my attention has been drawn to the cultivation of the vine, as the means of giving to our country a new agricultural product, which, supplying the farmer with a wholesome beverage, and adding to his resources, may take the place of whiskey with the generations that are to come.

I have reluctantly convinced myself, that we shall never be able to produce from our native vines, in this latitude, a wine that will be fit to drink—and indeed, I may say that it has never been my lot to taste a sample of wine from our grapes which could give place for hope. On the other hand, the severity of our climate, during the winter and spring months, proves fatal to almost all imported varieties. I have sought, therefore, with great earnestness, for a foreign vine which combines the hardihood of some of the Rhenish vines with those qualities which are necessary for the vat. That *desideratum* has, I think, at length been found in the Herbemont Madeira or Warrenton grape. In No. 50, vol. xiv. of the American Farmer, Mr. Thomas McCall, of Georgia, has traced it satisfactorily to a foreign origin, and it indeed possesses many of the qualities of the best foreign wine grapes I have ever seen. It is an abundant bearer, the bunches are generally perfect, and if left to become quite ripe, it is not unlike, in flavor and appearance, the Miller's Burgundy.

In the spring of 1831, I received from Mr. Herbemont five hundred roots, very well put up and in the finest condition. I had them carefully planted at eight feet apart one way and six the other, and pruned to two buds each. The growth of the vines was very luxuriant and beautiful. Nothing more was done but to keep them free from weeds and tie up the leading shoots. The wood ripened well, and no further attention was paid to them until March, 1832, when they were again pruned to three or five buds each. Two only had died; and these were indifferent plants through the summer. I consider this a sufficient proof that they will stand our winters, for that of 1832 was severe.

They were again pruned about ten days since; I have carefully examined them, and perceive throughout that perfect *coupe*, which to a French vigneron is a sure indication of health and promise.

I have reason to believe that I shall be able this fall to make some barrels of wine as an experiment.

NEW-YORK AMERICAN.

APRIL 13, 15, 16, 17, 18, 19—1833.

LITERARY NOTICES.

THE NORTH AMERICAN REVIEW, No. LXXIX. Boston, CHAS. BOWEN: New-York, G. & C. & H. Carvill.—We have read this number of the North American Review with great pleasure. Its leading paper on Sir *Walter Scott*, descants, *con amore*, upon the beautiful character and immortal literary labors of the man who has done more for the virtuous gratification, and exercised a more wide and potent sway over the minds and hearts, of men of all nations, than probably ever was effected before by the genius of one individual. And yet, there are men who think it wrong to speak praisingly of Walter Scott!—pious, good men! who deem it a reproach that a Christian clergyman should pronounce a eulogy upon one, whose life nevertheless was a model of the Christian virtues in practice, and whose heart knew no guile. If to the eyes and understandings which thus consider things, any avenue be yet open, through which truth without prejudice may penetrate, we commend to their attention this article of the North American. Next come a history of Spanish poetry, previous to the XVth century, and of the formation of the present Castilian language; a paper which among the numberless learners now-a-days of the glorious Spanish tongue, will find many readers. *The Evidences of Christianity, by Bishop M'Ilvaine*, as contained in the Lectures delivered by that Prelate in this city some two years ago, furnish the next subject; and this valuable treatise is praised with a just discrimination of its merits. These lectures were designed for young men, to whose habits, taste, and circumstances, they are admirably adapted. "If we do not greatly mistake," says the Reviewer, "it will be found, that the fact of the author's having written with this class of hearers and readers in his eye, in connexion with the uncommon perspicuity, and felicitous arrangement, and general excellence of the work, will secure to it an introduction as a text-book into some of our literary institutions." We pass over the article on Watson's Annals of Philadelphia, on the Law School at Cambridge, and the more elaborate and ambitious one on the Progress of Society, to speak of that on Southey's Life of Bunyan, and on the character and genius of Bunyan himself; a most eloquent article, reminding one of Macaulay of the Edingburgh, and written with a full perception of the genius of Bunyan, and his extraordinary work, the Pilgrim's Progress; a work which interests and attracts childhood, and commands the admiration and reverence of mature age. Thatcher's Indian Biography, Abercrombie on the Intellactual Powers, and Swallow Barn, are the subjects of the three remaining papers.

EBEN ERSKINE, OR THE TRAVELLER: by *John Galt*, author of *Laurie Todd*, 2 vols. Philad. CAREY, LEA & BLANCHARD.—"This may be my last novel; for the latter part has been dictated from a bed of sickness, and the disease is not of a very equivocal kind!" Such is the melancholy announciation with which Mr. Galt ushers these volumes into the world: may their success console the hours which disease is wasting! Lord Byron, in one of his conversations with Lady Blessington, lamented that, having had an opportunity by making a sea-voyage with him, of cultivating an acquaintance with Mr. Galt, he had neglected it; for that he had since learned to think highly of him as a man and a writer. Whether this work is destined to add to his fame as an author, we think doubtful: yet we have seen it highly praised, and we will not gainsay the good thus spoken.

A VINDICATION OF THE RIGHTS OF WOMAN, &c. &c. by *Mary Wollstonecraft*: New York, A. J. MATSELL.—"The evil that men [and women too] do, lives after them;" and here at the distance of half a century almost from its first publication, we have a new edition put forth of the original from which the Fanny Wrights and other men in petticoats have imbibed their crude notions of the social system, and desolating views of the rights and dignity of women. It is a poor compliment to the spirit of the age, and to the state of society with us, that ensouragement should be supposed to exist for such a work as this. We hope the event may disappoint the calculations of the publisher.

CHARACTERISTICS OF WOMEN, MORAL, POETICAL AND HISTORICAL; by MRS. JAMESON, author of a Diary of an Ennuyée 2 vols.: Philadelphia, *Carey, Lea & Blanchard*.—It is not without design that we place these two works on women, and by women, in juxtaposition; for truly they are bane and antidote; and just in the degree that all well ordered minds and real admirers of the worth of women must deplore the wild, licentious, gross and impracticable views of Mary Wollstonecraft, they will rejoice at seeing the true and noble "characteristics of women," set forth so eloquently and illustrated so happily by Mrs. Jameson in these volume. We cannot more satisfactorily explain the aim of this delightful book than by letting the author speak for herself in the annexed quotation from the introductory dialogue:

Alda.—I have endeavored to illustrate the various modifications of which the female character is susceptible, with their causes and results. My life has been spent in observing and thinking; I have had, as you well know, more opportunities for the first, more leisure for the last, than have fallen to the lot of most people. What I have seen, felt, thought, suffered, has led me to form certain opinions. It appears to me that the condition of women in society, as at present constituted, is false in itself, and injurious to them,—that the education of women, as at present conducted, is founded in mistaken principles, and tends to increase fearfully the sum of misery and error in beth sexes; but I do not choose presumptuously to fling these opinions in the face of the world, in the form of essays on morality, and treatises on education. I have rather chosen to illustrate certain positions by examples, and leave my readers to deduce the moral themselves, aud draw their own inferences.

Medon.—And why have you not chosen your examples from real life? you might easily have done so. You have not been a mere spectator, or a mere actor, but a lounger behind the scenes of existence—have even assisted in preparing the puppets for the stage; you might have given us an epitome of your experience, instead of dreaming over Shakspeare.

Alda.—I might so, if I had chosen to become a female satirist, which I will never be.

Medon.—You would at least stand a better chance of being read.

Alda.—I am not sure of that. The vile taste for satire and personal gossip will not be eradicated, I suppose, while the elements of curiosity and malice remain in human nature; but as a fashion of literature, I think it is passing away:—at all events it is not my *forte*. Long experience of what is called "the world," of the folly, duplicity, shallowness, selfishness, which meet us at every turn, too soon unsettles our youthful creed. If it only led to the knowledge of good and evil, it were well; if it only taught us to despise the illusions and retire from the pleasures of the world, it would be better. But it destroys our belief—it dims our perception of all abstract truth, virtue, and happiness; its turns life into a jest, and a very dull one too. It makes us indifferent to beauty, and incredulous of goodness; it teaches us to consider *self* as the centre on which all actions turn, and to which all motives are to be referred.

Medon—But this being so, we must either revolve with these earthly natures, and round the same centre, or seek a sphere for ourselves, and dwell apart.

Alda—I trust it is not necessary to do either.—While we are yet young, and the passions, powers, and feelings in their full activity, create to us a world within, we cannot look fairly on the world without: all things are then good. When first we throw ourselves forth, and meet burrs and briars on every side, which stick in our very hearts—and fair tempting fruits which turn to bitter ashes in the taste, then we exclaim with impatience, all things are evil. But at length comes the calm hour, when they who look beyond the superficies of things begin to discern their true bearings; when the perception of evil, or sorrow, or sin, brings also the perception of some opposite good, which awakens our indulgence, or the knowledge of the cause which excites our pity. Thus it is with me. I can smile,—nay, I can laugh still, to see folly, vanity, absurdity, meanness, exposed by scornful wit, and depicted by others in fictions light and brilliant. But these very things, when I encounter the reality, rather make me sad than merry, and take away all the inclination, if I had the power, to hold them up to derision.

Medon.—Unless by doing so, you might correct them.

Alda.—Correct them! Show me that one human being who has been made essentially better by satire! O no, no! there is something in human nature which hardens itself against the lash—something in satire which excites only the lowest and worst of our propensities. That line in Pope—

> I must be proud to see
> Men not afraid of God, afraid of me!

—has ever filled me with terror and pity, and sends me to think upon the opposite sentiment in Shakspeare, on "the mischievous foul sin of chiding sin." I remember once hearing a poem of Barry Cornwall's (he read it to me,) about a strange winged creature that, having the lineaments of a man, yet preyed on a man, and afterwards coming to a stream to drink, and beholding his own face therein, and that he had made his prey of a creature like himself, pined away with repentance. So should those do, who having made themselves mischievous mirth out of the sins and sorrows of others, remembering their own humanity, and seeing within themselves the same lineaments—so should *they* grieve and pine away, self-punished.

Medon.—'Tis an old allegory, and a sad one—and but too much to the purpose.

Alda.—I abhor the spirit of ridicule—I dread it and I despise it. I abhor it because it is in direct contradiction to the mild and serious spirit of Christianity; I fear it, because we find that in every state of society in which it has prevailed as a fashion, and has given the tone to the manners and literature, it marked the moral degradation and approaching destruction of that society; and I despise it, because it is the usual resource of the shallow and the base mind, and, when wielded by the strongest hand with the purest intentions, an inefficient means of good. The spirit of satire, reversing the spirit of mercy which is twice blessed, seems to me twice accursed;—evil in those who indulge it—evil to those who are the objects of it.

This is surely fine writing, and just and delicate thinking. The examples chosen from Shakspeare are divided into four classes—*Characters of Intellect*, which include Portia, Isabella, Beatrice and Rosalind; *Characters of Passion and Imagination*, under which class, Juliet, Helena, Perdita, Viola, Ophelia and Miranda, are introduced: *Characters of the Affections*, illustrated by Hermoine, Desdemona, Imogene and Cordelia; and *Historical Characters*, embracing Cleopatra, Octavia, Volumnia, Constance of Bretagne, Elinor of Guienne, Blanche of Castile, Margaret of Anjou, Katharine of Arragon, and Lady Macbeth. Those to whom Shakspeare is familiar, will see at once that this range embraces almost every possible modification of female character; but we may venture to say even to those who think they understand Shakspeare best, that they will find new views of his beauties developed with such taste, such fineness of perception, and delicacy of feeling combined with reach and strength of intellect, as will alike surprize and gratify them. Well has Mrs. Jameson merited of her own sex, and thrice well of ours which is exalted and improved by all that exalts woman, by the publication of these admirable "Characteristics."

THE DEATH OF THE RIGHTEOUS, *or the way of Holy Dying*, translated from the French of *M. de la Placette*, by LEWIS P. BAYARD, A. M. Rector of St. Clement's Church, N. York, 1 vol. New York: *Protestant Episcopal Press*, and *Swords, Stanford & Co.*—The aim of this valuable little volume is to teach men how to die, by instructing them how to live as christians. It is a profitable lesson—and well taught in these pages—of which the translation is so good, as not to have the air of a translation at all.

THE BOOK OF BEAUTY; a Collection of Tales Poems, &c., by L. E. L.; Philadelphia, *Carey and Hart.*—The beautiful English book, of which the reprint before us furnishes the letter press only, is remarkable for the superiority and excellence of its engravings. Here we have the literary portion of the volume handsomely printed, and in this shape it will be more generally [illegible] in the splendid original—and it is worth reading.

THE WESTMINSTER REVIEW, } Philadelphia.
THE FOREIGN QUARTERLY REVIEW, }

Mr. Condy Raguet, well known as a champion of free trade under "the banner of the Constitution," has undertaken to republish in this country these two distinguished foreign periodicals, and at a price much below that at which they could be obtained from abroad. The first number of the American edition is now before us; and though we dislike the double columns and the smaller type, we are aware at the same time, that in order to render such works cheap, and thereby put them into general circulation, these expedients are indispensable. Our best wishes attend the enterprize. The agents in New York are *Bliss & Wadsworth.*

THE LADIES' MEDICAL GUIDE, &c. &c. By *Richard Reece, M. D.* Philadelphia: *Carey, Lea, & Blanchard.*—We do not like Medical guides for either ladies or gentlemen—for they are seldom used with discretion; and frequently, though not resorted to for instruction in time of need, distemper the fancy of readers, who cannot distinguish surely the difference in cases, and thus they produce disease by the very means intended to prevent it. In all ordinary cases a mother is the best medical guide for young women, and when her skill and experience are at fault, send for the regular physician.

THE SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE, No II.—Boston: *Charles Bowen.*—It is a pleasure to read a journal printed on such paper, and with such a clear type as this. We are free to confess it—though it may have the effect of placing us in the category of *growing old* persons—that our eyes are much more sensible to the superiority of clear type and white paper than in days of yore.

The selections, literary and critical, of this number, are made with judgment and good taste, and are of great variety. The Quarterly, the Foreign Quarterly, the Asiatic Journal, and the Magazines generally, contribute to its contents, which are not tho less interesting for being occasionally condensed from the original articles, and explained by short editorial notices.

PROTESTANT EPISCOPAL PULPIT, Vol. III., No 2.—New York: *John Moore.*—Tke Sermon which constitutes this number is on the "Unity of God," by the Rev. *Benjamin Hale*, Professor of Dartmouth College, N. Hampshire.

THE AMERICAN LANCET; Philadelphia, TURNER & SONS.—This is a periodical of which four numbers have been issued. Some valuable original communications, as well as excellent selections from foreign journals have appeared, and give promise of its being a channel through which much information will be disseminated. 'Although we cannot,' says a young medical friend, 'exactly coincide with some of the articles on the medical institution of this country, which are rather too sweeping, still the merits of this journal are of a high order. The proper education of a physician is a matter in which the whole community is interested; and as to this subject particular attention is to be paid in its pages, it alone entitles it to the patronage, not only of the medical profession, but of the public at large.'

ADDRESS ON THE PATRIOT CHARACTER OF THE TEMPERANCE REFORMATION; delivered before the Charleston Temperance Society and the Young Men's Temperance Society, on Tuesday evening, 26th Feb. 1833. BY THOMAS S. GRIMKE.—The great cause of Temperance has found an able and eloquent advocate in this distinguished Philanthropist.

AMERICAN TURF REGISTER, for April; Baltimore, J. S. SKINNER.—Among the unfailing attractions of this number is a memoir, with a capital engraving, of the famous Virginia horse *Timoleon*, a *Sir Archey* colt. This must, from the dimensions given in a tabular form, have been one of the tallest and largest race horses ever foaled. He was two hands or eight inches taller at the withers and the loins, than Eclipse.

PATTERSON'S CÆSAR, VALPY'S GREEK GRAMMAR, and THE LATIN READER, are the titles of three duodecimo volumes. which we have received from Mr. Dean, the Publisher, and which are for sale by Collins & Hannay, and others. The edition of Cæsar is from that of Oberlin, and to the emendations of other learned individuals adds the revision of its present Editor, David Patterson, A. M. It is illustrated with English Notes, and is supplied with an ample historical and geographical index, at the end. The Grammar is the 8th edition of Valpy's popular work, enriched with additions by Professor Anthon, who, from the Grammar of Buttmann, Golius, Weller and others, and with the assistance of the last English edition received direct from Dr. Valpy, has compiled a work that will prove invaluable to the young Hellenist. The work contains some observations on the Sanscrit tongue, and the Dissertation of Thiersch on the Homeric Digamma, among other improvements upon the last edition. The next book, the Latin Reader, is founded upon the celebrated work of Jacobs and Doring, with Notes and Illustrations, by John D. Ogilby, Principal of the Grammar School of Columbia College. The present being the fourth American, from the seventh German edition, it would be idle to pass here upon a work of such established reputation. All three of these works bear the strong recommendation, as school books, of being printed in a neat, compact, and cheap form. *

THE LIFE OF A SAILOR; 2 vols.; HARPERS.—This is an agreeable piece of book making, containing a great variety of sea adventures strung together in an easy and entertaining manner, with no great literary pretensions, and some marks of carelessness. The work is a reprint from an English book—a little matter, by the by, which should have been mentioned in the title page, instead of only putting it forth as written "by a Captain in *The Navy*," (quere, what navy is THE navy?) and leaving us as much in doubt as to the place of birth, as to the parentage of the thing. A glance at the contents of the book, however, soon solves any question as to the source whence it emanates. The terms "refined American diction," (p. 223,) "nasal intonation wonderfully discordant to the musical (!) ears of an Englishman," (p. 227,) and occasional sneers at "the free-born Americans," peppered over the pages, betray at once a Grub street origin; and show that though the general materials of the work may really have been supplied by an officer and man of liberal observation, there must have been some Cockney hand in the working up, to have made a Georgian planter talk like a Connecticut pedlar, and put the farrago of one of Mathew's Yankees in the mouth of a Savannah merchant. This want of truth to character, however, though it may raise a doubt as to the justness of the more important representations of the author, occupies but a small portion of the work, there being many animated descriptions of fights and storms at sea, and sundry accounts of the land voyages of the true blue jackets. Several of these we have already given in anticipation; and those of our readers who remember the well-told account of the death of Sir Peter Parker, and the destruction of a boats's crew by sharks, will want no more striking scenes to recommend "The Life of a Sailor." *

THE TREASURY OF KNOWLEDGE AND LIBRARY OF REFERENCE; Connor & Cooke.—The third and last volume of this valuable publication has just appeared and completed one of the most useful little works that has for some time come from the press. Upon looking through the three parts together, we find no occasion to alter the favorable opinion heretofore expressed concerning them individually, except that in the Dictionary of Phrases, the proof-reader has overlooked some blunders of the press, which might tend somewhat to lessen the confidence of a casual observer in the authenticity of other parts of the work. In one case, for instance, there is a French proverb marked as Italian, and in another as Spanish. Then there are such misprints as, *sono*, (are,) Italian, for *sonno*, (sleep,)—*pobreza* (Spanish) for *probeza*; for *spesso, spepo; bisoyna* for *bisoqua; mittere* for *mettere*, &c.,—a degree of confusion of tongues which no oversight should have allowed to occur. To show how well other parts of the work are executed, however, we quote the following account of the most ancient city in the new world, and one whose growing commercial relations with our own country makes it desirable that we should be more familiar with its condition. *

MEXICO, a celebrated city and capital of the republick of Mexico, situated in the state of the same name, 7400 feet above the level of the sea, 252 miles west of Vera Cruz, 300 S.W. of Tampico, on the Gulf of Mexico, and 270 north of Acapulco, on the Pacifick Ocean. From Washington City, United States, it is 2750 miles. The present city occupies only part of the site of the ancient Mexican city of Tenochtitlan, which was founded, according to the traditions of the natives, in 1331, or two centuries before its conquest by Cortez. The location is near the Lake Tezcuco, the waters of which, with the other lakes in the vicinity, have been on the decrease for several centuries. "Mexico is undoubtedly," says Humboldt, "one of the finest cities ever built by Europeans in either hemisphere. With the exception of Petersburgh, Berlin, Philadelphia, and Westminster, there does not exist a city of the same extent which can be compared to the capital of New Spain for the uniform level of the ground on which it stands, for the regularity and breadth of the streets, and the extent of the publick places. The architecture is generally of a very fine style, and there are even edifices of a very beautiful structure. Two sorts of hewn stone give to the Mexican buildings an air of solidity, and sometimes of magnificence. The balustrades and gates are all of Biscay iron, ornamented with bronze; and the houses instead of roofs, have terraces like those of Italy and other southern countries."

Many of the streets are nearly two miles in length, perfectly, level and straight, with the ends terminating in a view of the mountains that surround the valley. The houses are in general of a uniform height, most of them having three stories, each from 15 to 20 feet high. The fronts of most of the houses are painted in different colours, viz. white, crimson, brown, or light green, and retain their beauty for many years, owing to the dryness of the atmosphere. The city is built in the form of a square of about four miles on a side. The *Plaza Major* is one of the finest squares to be seen in any city in the world. The east side is occupied by the cathedral, a magnificent building; the north by a splendid palace, formerly occupied by the viceroys; the south by a fine row of houses, in the centre of which is a palace, called the *Casa del Estada*, built on the site of the palace of Montezuma; and on the west is a range of shops, publick offices, granaries, &c., with piazzas in front. Near the suburbs, to the north, is the Alameda, or great promenade.

The botanical garden is small, but rich in rare and interesting productions. It is handsomely laid out in the Spanish fashion, with flagged walks, bordered with elegant large pots of flowers. In the centre is a large stone basin, supplied by a fountain with water.

The publick buildings are very numerous. A late traveller counted 105 cupolas, spires, and domes, within the city, and there are 56 churches, besides the cathedral, 38 convents, namely:—23 of monks and 15 of nuns. The Franciscan convent is a large establishment, with an income of about 90,000 dollars, arising principally from alms. The hospital is well supported, and the mint is the most extensive establishment of the kind in the world. The university, founded in 1551, and the public library, are worthy of notice, as well as the academy of painting and sculpture.

The dwelling houses of the citizens, although many of them are elegant, lofty, and spacious, are not as well furnished as those of cities in the United States. The city is supplied with water by aqueducts, and the canal of Chalco which extends from the lake of that name to the city, affords an avenue for conveying in canoes, the products of the surrounding country, and the fruits, flowers, and vegetables, raised in the beautiful gardens in the vicinity, to market. The remains of the celebrated floating gardens, called Chimpas, are near the lakes, and are now stationary, surrounded by a broad ditch.

Mexico was formerly subject to inundations from the lakes, to prevent which a drain has been cut through a gap in the mountains, 12 miles long and 300 feet wide, at great expense. The climate is bland, and the atmosphere pure and healthy. There are many pleasant rides out of the city; among others, that to the village of Tacubaya, four miles distant.

This city enjoys an extensive commerce, which is carried on through the ports of Acapulco, on the Pacifick, and Vera Cruz, Alvarado, and Tampico, on the Atlantick Ocean. Merchandise is transported on mules from these seaports, and companies of traders with the goods generally go armed to protect themselves from robbers, who occasionally frequent the roads to the capital.

The people are much addicted to pleasure and gambling. The ladies, when they are seen in the the streets, are dressed in black, except on holydays and other publick occasions, when their dresses are gay. They generally are in carriages when they appear in publick, and but seldom on horseback. The dress of the higher classes of the men is similar to those of Spain. Long cloaks are worn in the streets, and light jackets in the houses. American, English, and French manufactures of cotton and wool, and German linens, are more worn. English earthenwnre, beer, and porter, are also in great request.—Some breweries have however been established in the city.

Beggars, called *leperos*, similar to the lazzaroni of Naples, are very numerous in this city; they are said to amount to 20,000.

The ancient city of Mexico, or Tenochtititlan, was taken by Cortez, in 1521, after a siege of 75 days, when a great slaughter of the inhabitants took place. The houses were razed to the ground, and the present city built on the ruins. Lat. 19 26 N., lon. 103 45 W.

FOREIGN INTELLIGENCE.

Later from England.—The Pacific, Capt. Waite, from Liverpool, brings us London papers to the 16th ult., inclusive. The enforcing bill made slow progress in the House of Commons. The Times of the 16th thus remarks on it—

Very little progress was last night made in the Irish Disturbance Bill. Only 3 clauses out of 41 were got through. Yet, notwithstanding this delay, the bill, we take for granted, will pass the House of Commons, in spite of the repugnance of its principles which pervades the whole liberal majority of that assembly, and which has been frankly acknowledged by the very Ministers, who felt themselves constrained to bring in that unusual and most offensive measure. It is certain that in the progress of the discussions, both in doors and out, upon some of its obnoxious clauses, the symptoms of an increasing dislike to even the temporary admission of such intruders upon our domestic policy as courts-martial, domiciliary visits, and suspensions of the Habeas Corpus Act, became more perceptible every hour; and we had hopes, not many days ago, that the bill, ere it passed, would have been cleansed of most of its unwholesome attibutes. But, unhappily, the activity of murderous outrage in Ireland has proceeded without a moment's relaxation. As if to refute all objections and all reasonings drawn from the spirit of the constitution itself, and from general experience of its efficacy in the maintenance of order, and in the protection of peaceable and unoffending citizens from violence,—as if to deride and mock the simpletons who love to cherish the forms of freedom, for the sake of that precious substance of which they are the types and guarantees,—as if to take away from English gentlemen, jealous of the rights of their fellow-subjects, all pretence for further opposition to this bill, and from the Government all excuse for failing to push it vigorously through the remaining stages of legislation, the Irish ruffians and assassins never once suspended the course of their barbarities. To say nothing of outrages less critically timed, as well as less conspicuous from the station and character of the victims, the foul and brutal murder of Mr. Leonard transpired in London just the day before that appointed for going into committee on the bill, and the minds of members of Parliament were thus sickened by fresh evidence of the audacious contempt for law and confidence of impunity exhibited in the noon day murder of a gentleman whose only crime, it is said, was that of threatening to recover by legal process those arrears of rent which he had no other means of obtaining.

The state of Don Pedro becomes more critical—want of provisions in Oporto being the chief difficulty; but it is said that both recruits and provisions were on the way.

A new Ambassador from Holland, M. Dedel, had arrived in London and had his first audience; and that would arrest for a time at least, we presume, the forward movement of the French army and English fleet, which was threatened after the 15th March.

The Egyptians and Turks had certainly concluded an armistice; so that the advance of Russia to the aid of its late enemy, the Turks, was checked.

Lord Durham had resigned the Privy Seal—on the score of domestic affliction, as one version says,—of his political views differing from those of his colleagues, according to another version.

[*From the London Times, of March* 16.]

Paris.—A French brig of war arrived at Toulon on the 7th inst. from Napoli di Romania, which place she left on the 16 ult. She brings despatches to the French Government announcing that King Otho had arrived at Napoli on the 6th. On the following day he published a proclamation, in which he professes a multitude of good intentions and wishes for the future prosperity and welfare of his newly adopted country. He recommends that all internal dissensions should cease, and promises to use his utmost efforts that all cause for their continuance should be removed. He also engages to protect the religion of the Greeks.

The Greeks will not perhaps be greatly deserving of blame if King Otho's reign proves a short one. How can it be expected that they should be sincere in their allegiance to a man who is so entirely a stranger to them as a Bavarian Prince, and whom not one of them had ever dreamt of choosing as their King? The Greeks, besides, are Republicans in their hearts. The sentiment of republicanism, in a manner, is born with them. Even under the iron yoke of the Turks, the unconscious possession of that sentiment was evinced in all their acts, in all their words. Their institutions were of a republican form, though subject to the despotism of the Turks.

It appears that Colcotroni was still at open war with the Government, and it was publicly affirmed and believed at Napoli that he was supported by Russian aid. It is not however probable that the Russians would encourage a war against the authority of the very man for whom their influence has so materially contributed in procuring the throne of Greece. There were several English, French, and Russian ships of war in the port of Napoli, when King Otho arrived, with the three Admirals of the same Powers, commanding the station in the Archipelago. They had, it seems, made it a point to be present at the landing of the King whom their Governments had sent to Greece.

By the packet from Havre, we have no later intelligence than before received. We publish, however, some extracts from our correspondent at Havre, of March 10th, giving a bird's-eye view of things.

"I have a letter of the 19th ult. from Mahon; the United States and Constellation were there; the John Adams is now at Marseilles, but will quit for Mahon on the 15th."

"The papers will inform you of what is passing here, There has been some *sparring* in the Chamber of Deputies during the debate upon the pension list. Baude and Dubois, two Councillors of State, took part against the Government, and have been dismissed in consequence. It is the opinion of some, that this rigid step may lead to a change of Ministry, but if it should, I am well persuaded it will not lead to a change of policy.

"The last advices from the Hague and London, speak morefavorably of an early arrangement of the Dutch and Belgian question. It appears a malignant fever or cholera is raging in the armies of Miguel and Pedro.

It is believed that the affair of the Porte and the Pacha of Egypt, will be settled by the intervention of the great powers, or some of them.

Ireland is in a dreadful state. The Whigs have some difficult matters to manage. The emancipation question, it is said, will be brought forward soon. This concerns us, and the sooner we prepare for it the better."

Later from Europe.—The George Washington, from Liverpool of 24th ult., furnishes later dates, but nothing very material. Our own files are not yet received. We take from the Journal of Commerce and the Courier & Enquirer. The cause of Don Pedro in Portugal seems to have revived a little, by a check given to an attack on Oporto by the troops of Miguel. In Paris, the two men charged with shooting at Louis Philippe were acquitted, as were the prisoners taken in the steamboat which landed the Duchess of Berri last year in the South of France.

The Irish Enforcing Bill hastened slowly through the House of Commons, but will ultimately prevail. The 23d of this month, it is perceived, is the day fixed by Lord Althorp for introducing the ministerial plan of Slave Emancipation in the West Indies. We shall look anxiously for the development of that plan.

From a passenger we learn that the Ministry were nearly left in a minority on the evening of the 21st in the House of Commons, on a motion of Mr. *Atwood*, of Birmingham, respecting the currency. The division gave only 26 majority to Ministers.

The *Rev. Ed. Irving*, who has made such a noise in the world, has been formally deposed as a minister of the Scotch Church by the Presbytery of Annan.

A serious accident occurred at Edinburgh, at the sale by auction of Lord Eldin's Pictures. Just as Mr. *Winstanley*, the auctioneer, was holding up a celebrated *Teniers* to the admiration of a large assembly, the flooring on which they stood gave way, and the auctioneer, pictures, and part of the crowd were precipitated into the room beneath. Many limbs were broken, and one life, that of *Alexander Smith*, Esq., banker, was lost.

Turkey.—Important advices have been received at Vienna, by a Dragoman, despatched from Constantinople by the Internuncio, at the desire of the Reis Effendi. It appears that the French Admiral, Roessin, with the concurrence of the English Chargé de Affaires, Mr. Mandeville, had prevailed on the Porte to accept the mediation of France between the Sultan and the Viceroy of Egypt, and that a treaty has been signed by the Frenchman and the Ottoman minister, by which the Porte cedes to the Egyptians the whole coast of Syria from Tripoli to the borders of Egypt, with a tract in the interior which includes Jerusalem (but not Damascus.)

Aleppo, Scanderoon, and all the older conquests of the Egyptian army, are to be restored to the Ottoman Porte. A messenger had been despatched to Ibrahim Pacha with intelligence of this convention, and a declaration that if he advances farther into Asia Minor, France will consider Egypt as her enemy. Little doubt is entertained but that this message will stop Ibrahim in his career, and that his father will not hesitate to make peace on the terms proposed. The Russian fleet, which had arrived at the mouth of the Bosphorus, being no longer wanted, will return to Sebastopol.

Mecca, Dec. 21.—Here in the Holy City, preparations are making for the solemn expiation of the anathema pronounced by the Sultan and the Mufti against Mahemet Ali and the Princes of his family. The ceremony is fixed for the beginning of spring, and is considered in all Arabia as the commencement of Arabian nationality and independence. The Sheriff of Mecca expects from Constantinople the firman of the Sultan, relative to the restoration of Mehemet Ali to all his dignities and honors. The hatti scheriff to this effect is to be read inthe Kaaba, and the galleries and 240 pillars of that temple are to be splendidly adorned on this occasion. It is also expected that Mehemet Ali will shortly receive homage as King of Egypt, in Cairo and Syria in Damascus.

Such an event is looked for with the more impatience by all the faithful, as it will put an end to all the ravages of war, and restore tranquility both to Egypt and the Ottoman Empire. The priests in particuler seem to wish for it, as they may then expect more numerous caravans of pilgrims in the spring, and richer presents from the new dynasty.

[*From the Courier and Enquirer.*]

LATEST FROM BUENOS AYRES.—We have received by the brig Eric, Capt. Penniger, a file of the *Gaceta Mercantil* of 14th Feb., and the British Packet of the 9th. We have already laid before the public the particulars of the taking possession of the Falkland Islands by the British. It appears that the excitement which this event produced among the people of Buenos Ayres had in a measure subsided.

BUENOS AYRES, Feb. 9.—We feel considerable pleasure in having this week to notice an abatement in the excited feelings respecting the late late event at the Falkland Islands. It is now a question left for the discussion of the respective governments. In the first moments of effervescence, it was natural to suppose some ebullition would take place, but we never for one instance thought that insult or molestation would be offered to British residents for the political acts of their government, and we rejoice to find that our opinion thereon has been fully confirmed.

SUMMARY.

Mr. Audubon returned to this City yesterday.—From him we learn, and it affords us pleasure to state the fact, that within the last six months more than fifty subscribers have been added to his list, for his great American Work on Ornithology. These at $800 each, make the sum of $40,000.—[Philad. Com. Herald.]

We would call the attention of our readers to the prospectus which appears in our columns, for the opening of a female Seminary in this village on the first of May next, under the immediate charge of Miss A. Riley, and the general superintendence of the Rev. Reuben Sherwood. The project is one which cannot fail to meet the approbation of every individual of this community, to whom the prosperity of this rapidly growing settlement is a matter of interest. Institutions of the character intended to be maintained in the one in question, have a bearing and importance beyond the immediate accomodation and advantages accruing to the limited number in the neighborhood who may have occasion to avail themselves thereof. They give a general tone and character to the manners and morals of the place, and in that view alone are entitled to the zealous co-operation and support of every respectable resident. It will be seen by reference to the prospectus, that the terms are sufficiently moderate to afford a very general access to this establishment No similar institution, we venture to say, combining so many advantages of location with so high an order of tuition, will be found as reasonable in the respective charges.

We know of no location offering greater advantages for the establishment of an Academy for boys, and have no hesitation in saying, that should one be organized upon a proper basis, it might be rendered profitable to all parties concerned. We trust that amidst the multitude of improvements in agitation, we may shortly hear of a Seminary for boys becoming a prominent one.—[Ulster Star.]

[*From the Baltimore Patriot, of Tuesday evening.*]

GREAT FIRE.—An endorsement on the Western Mail way-bill, dated Hagerstown, April 15, says—"THE TOWN OF CUMBERLAND IS BURNT." Cumberland is situated in Alleghany county, (Md.) on the Potomac River, and about 130 miles from Baltimore. The conflagration it is presumed cannot have been so extensive as the endorsement implies—the town being nearly equally divided by a broad stream. The ravages at the worst, it is probable, have not extended beyond one or the other side of this natural division. The eastern side is the most compactly built, and being chiefly of wood, would suffer most severely from such a calamity.

[*From the Philadelphia Chronicle.*]

Mr James Page, we understand, is appointed Post Master in this city; with directions to supersede Mr. Sergeant on the first of May.

FROM MATANZAS.—We learn from Capt. Staples of the brig Haiti, from Matanzas, that the Cholera was raging very badly at Matanzas when he left, 5th April, from 200 to 250 dying of a day. The Governor had issued a proclamation, forbidding any of the launches or boats manned by the negroes of the place from doing any work; and also forbidding the blacks from coming from the interior during the prevalence of the cholera there—it had got among the shipping, but very few had died—business very dull.

The corner stone of the Monument to be erected to the memory of the Mother of Washington, near this place, will be laid on Tuesday the 7th day of May next.—The President of the United States will be present to perform the chief ceremony. Accompanied by some of the Heads of Departments, he will arrive in town on the previous evening, the 6th of May. The necessary arrangements for the occasion will no doubt be made known in due time.—[Fredericksburg Herald.]

Capt. BACK and his associates arrived at Montreal on Tuesday last, whore he intends to remain until the Lakes are sufficiently open to admit of a passage and in the mean time, he will make arrangements for engaging thirteen Canadians, equal to the important task this expedition requires. In a note to the Editor of the Herald, in reference to the attentions paid him in this city, and the notice we took of his departure hence, he says—"Nothing would be more agreeable to me than to acquiesce with your wishes, and endeavor to express the deep sense of gratification which I shall always feel for the warm and enthusiastic reception that awaited the arrival of my little party at New York. Many were the letters also directed to me from different parts of the Union, expressive of the interest which the writers took in the fate of the expedition; nor can I forbear mentioning the very spirited and handsome conduct on the part of the Directors of the Hudson River Steamboat Association, who tendered the Ohio for our conveyance to Albany."

The Herald adds—"we have seldom been so wrought upon by such acts, so honorable to human nature, so happily influential upon all that contributes to the welfare of the human family. May the reception of this band in New York, so delightful, so animating, be the forerunner of final success in their heroic undertaking. They have brought with them, we doubt not, the prayers and good wishes of our countrymen and enlightened Europe; they have received those of the United States, wafting them on to their destined object; and shall not we unite, who are almost at the last stage of civilization where they repose, in aiding and encouraging them in their noble pursuit?"

CITY HALL, Saturday, March 6.

Special Meeting of the Board of Health.

His Honor the Mayor in the Chair.

The Chairman stated that the meeting had been called, for the purpose of presenting to the Physicians of the Second Ward, the pieces of Plate which had been voted to them by a resolution passed the 22d December, 1833, in testimony of the high respect entertained by the Board, for the liberality and benevolence displayed by those gentlemen, in their gratuitous attendance on the poor of that Ward, during the prevalence of the Cholera.

The names of the Gentlemen are

Doctor Thomas Cock	Doctor Jacob F. Gilford
" E. Mead	" Lynde C. Ferris
" Benj. B. Coit	" C. F. Wilcoxson
" N. Edson Sheldon	" J. C. Wright.
" Peter Pratt	

One of the number, Doctor Gerardus A. Cooper, fell a victim to the cholera during the gratuitous exercise of his service as Physician.

The silver vases, which were elegantly finished, were prepared by Mr. William Gale, an artist of the Second Ward. Those presented to the physicians bore the following inscription:

"Presented by the Board of Health to ——, for professional services gratuitously rendered to the poor of the Second Ward during the prevalence of the cholera, A. D. 1832."

Two smaller vases were likewise presented to Master Edward Bruce, and Miss Catharine Cooper, the children of the late Doctor Cooper.

A dreadful accident occurred at Bedford on Thursday last, when a man of the name of Macintosh lost his life when engaged in clearing his farm. He had succeeded in cutting a very large tree, and while falling it unfortunately struck another, which broke and striking him on his head, instantly deprived him of life. It is a singular circumstance that his wife, as if with a presentiment of some such accident, cautioned him against going to the woods, that day; but under the excuse of clearing the barn, he left his house and having subsequently commenced the felling of a tree, the catastrophe occurred, and deprived a wife of an industrious husband, and a large family of a kind and generous parent.—[Montreal Gaz.]

MELANCHOLY SHIPWRECK.—The schooner Elizabeth, of Bordentown, (N. J.) Douglass, master, from Plymouth, (N. C.) with a cargo of staves and shingles, bound to Kingston, (Jam.) sailed from the former place on the 7th of March, and from Ocracock on the 13th, and on the 16th following, sprung a leak, and immediately filled with water. On the next day, her foremast was carried away. The crew, with the exception of Thos. Bozman, mate, who was drowned, Nathan Phelps, and Samuel M'Carty, seamen, who perished for want of water, were taken off the wreck ten days after, (during which time they had nothing to subsist on but a few potatoes) by Captain Harding, of schr. Banner, from Plymouth, bound to Kingston, (Jam.) who transferred them, on the 31st. in lat. 26, lon. 69, to the schr. Jason, Duncan, of and for Folly Landing, from St. Thomas, which put into Hampton Roads yesterday, for the purpose of landing them. The surviving crew lost every thing but the clothes which they had on. Mr. Bozman and Mr. Phelps belonged to Plymouth (N. C.) and McCarty to Baltimore. Captain Douglass takes this opportunity, in behalf of himself and surviving crew, to return thanks to the above named gentlemen, for their kind attentions to them.—[Norfolk Herald.]

NEW ORLEANS, MARCH 28.—The steamer *Reaper*, Capt. Harrison, which left here for Pittsburgh on Tuesday evening, was snagged about 8 o'clock last night near Lafourche, and sunk instantaneously.—We have understood from one of the passengers that nothing was saved, and that several lives were lost.—[Louisville Courier.]

BURNING OF THE TREASURY BUILDING.—The Globe of yesterday publishes the official report to the President of the investigation of this occurrence. It is signed by Secretaries Livingston, McLane and Cass, (Mr. Woodbury being absent in the execution, according to the report, of "some official duties,") by the Attorney General Taney, and the Postmaster General Barry. Chief Justice Cranch presided at the investigation.

The report and documents are too long to re-publish, and are moreover of no general interest. The result of the inquiry is given in these words—"We have endeavored in vain to trace the origin of the fire, and are unable to impute it to any particular cause." Respecting the papers destroyed, although it cannot be settled "with precision" what they are, the report says—"We believe very few papers have been lost, that are of much importance to the government or to individuals, and that the great mass of the most valuable books and papers have been saved."

CHARLESTON, S. C. April 8.—*Important Decision.*—The Appeal Court this morning reversed the decision of Judge Bay in Chambers, made in the case of George Granstein, that an Alien on application for Citizenship is bound to take an oath of Allegiance to the State, in addition to the oath required by Act of Congress.—[Patriot.]

MOBILE, March 29.—*The Freshet.*—We have heard from a gentleman of respectability who came down the Tombigbee yesterday, in the Hunter, of the distressing particulars of the almost unparalleled rise of that river. At Demopolis, the rise is said to be not less than 60 or 70 feet. It has every where overflowed its banks on one or both sides, and in some places spread out to a sheet of 5 or 6 miles in width, looking as it was expressed, "like a sea."—The plantations are of course inundated, and in several instances, our informant saw people white and black, and of all ages *on the roofs of their buildings!* which were apparently on the point of being borne away by the overwhelming, and still increasing flood. Great numbers of drowned cattle were seen, and many others struggling in the last effort of self preservation, unable to reach the shore, which sometimes receded by rapid stages. It was not stated that any human lives had been lost, but the loss in buildings and live stock must be great.

We learn from a gentleman direct from the interior, that the Alabama River has risen to a height greater than it has attained in many years. At Cahaba, the water was on a level with the floor of the State House, and it was supposed the term of the Circuit Court would fail in consequence. The damage to the plantations on the rivers must be immense.

SHIPWRECK.—The ship Anacreon, Capt. White, from Liverpool, (sailed about the 24th Feb.) bound to City Point, with a cargo of Dry Goods, Salt, Iron, &c. went ashore on Hog Island, on Thursday night last. Capt. White had two vessels along side for the purpose of taking out the cargo—the vessel will be lost.——[Norfolk Herald.]

FROM HAVANA.—Captain Chamberlin, of the brig Franklin, in ten days from Havana, reports that when he sailed, the cholera had a good deal abated. The deaths were supposed to be about one hundred and fifty a day. The official reports for the city and suburbs, made the whole number of deaths by Cholera, FOURTEEN THOUSAND SIX HUNDRED AND SIXTY FOUR.

The North River Steamboat Association are about to render the travelling on the Hudson most convenient. In addition to a morning and evening boat daily, there is, we understand, to be a third boat, leaving this city and Albany every day at 10 or 11 o'clock, so that each of these places, and every intermediate one on the river, will have three daily opportunities of intercommunication during the season of navigation. The price fixed, of three dollars for the whole distance, (meals being paid extra) every one will admit to be reasonable. The Albany, under her old and well known and esteemed commander, *Jenkins*, is now a magnificent boat indeed, and very fast. Forty-five feet have been added to her length, and in the distribution and decorations of the cabins convenience and good taste have been alike consulted. We have as yet only been on board of one other boat of this extensive line, the *Constitution*, and there, we think, a little brushing up, as to the fare of the table, and the costume of the waiters—who should not be permitted to move about the cabins in shirt sleeves—is needed.

Cholera at Havana.—Mr. Erben of this city, who returned recently from Havana, furnished us with the following official list of interments in the Roman Catholic burial ground, up to the 25th March, received from the hands of the Governor's Secretary at Havana.

	White.	*Black.*			*White.*	*Black.*	
Feb.	28	10	37	March	13	31	120
March	1	8	35		14	41	127
	2	5	21		15	35	174
	3	13	56		16	39	170
	4	14	54		17	30	162
	5	37	101		18	47	272
	6	13	65		19	41	235
	7	24	115		20	35	228
	8	24	89		21	24	235
	9	42	106		22	75	333
	10	43	134		23	60	314
	11	32	149		24	62	252
	12	38	128		25	54	261
Total						876 3107	3983

There are five other burial grounds, where no accounts are kept; but the number supposed to have been interred is between 2 and 3000. The death of Mr. Shaler and of the Bishop of Havana were calculated to shed deep gloom on the city.

Late and Important from Havana—*Cholera subsided.*—The brig Whim, Capt. Hatch, arrived here on Sunday last in 9 days from Havana, having sailed on the 4th inst. at which time the Cholera had *entirely subsided* and business had assumed its usual activity. The death of our Consul. Mr. Shaler, is confirmed.—Mr. Cleaveland was acting as Consul.

The President has recognized Andreas Anton Melly as Consul of the King of Saxony for the Port of New-York.

[*From the Boston Globe of Friday.*]

The Ship Hellespont.—The safety of this vessel, for which so much interest has been excited, is at length ascertained. The first favorable news on the subject was brought to Baltimore by the brig George and Henry, from Rio Janeiro. She reported the arrival there of a vessel from Boston on the 10th of February, after a short passage, but did not learn her name. It was presumed to be the Hellespont, as no other vessel from this port was expected to be there at that time.

We are now happy to state, that letters were received here last night which dispel all remaining doubt on the subject. Benj. T. Reed, Esq. owner of the Hellespont, received last evening a letter from Capt Wm. Henry, master, via Baltimore, dated Rio Janeiro, Feb. 10, 1833, in which he says, "I arrived at this place in the short and pleasant passage of forty four days—all well. The ship proves every thing I expected.

Another Melancholy Shipwreck.—The Schooner which was sunk below the Light Boat, in the heavy gale on Sunday night last, was the *Friends*, Capt. Anderson, from Newport's News, with a cargo of Sand for the Dry Dock. *All on board* (four in number) *went down with the vessel.* She lies in about 11 fathoms water. The schooner belonged to Capt. Freeman of Portsmouth.—[Norfolk Herald.]

The number of letters from foreign countries received at the Post Office in this city during the last two days, is upwards of *ten thousand.*

Our City.—Business has commenced unusually early this season, and present appearances indicate extended and successful operations. Our streets seldom, if ever, so early in the spring, have presented such bustle and cheering activity. The whole business community of the west, already appears to be in motion, and throngs of the enterprising merchants and traders of the interior of our state are constantly arriving, and opening the business campaign with us, or passing through, to take a look at the "world," that lies one hundred and fifty miles south. As the canal is not yet navigable, large quantities of merchandise, for the last ten days or two weeks, have taken their departure for the west by the way of the rail-road, which, incomplete and imperfect as its arrangements for the transportation of freight, at present, necessarily are, has enabled the merchants of Schenectady and the neighbouring country, to get up their goods at infinitely less trouble and inconvenience than usual. One of the locomotives took over at one load, last week, about fifteen tons. The number of passengers that have passed over the road for the last two weeks, must have been very great. Who can fail to see the advantages to the whole state, of continuing this road from Schenectady to Utica? And if a private company is willing and desirous to undertake it, we hope the legislature will not refuse them a liberal charter. —[Albany paper, April 11th.]

Mr. Hasler's Report on Weights and Measures seems to have attracted more attention in England, even than at home. We published some days ago a letter from a distinguished English Hydrographer, in relation to it. We have just seen the following additional evidence of the esteem in which the work is held in England. It may be well to add that some few copies of it are for sale at Messrs. Carvill's, in Broadway.

Extract of a letter from Mr. Wm. Vaughan, of London, dated 17th January, 1833, to a gentleman in Philadelphia.

"I enclose a copy of a letter from my friend, Mr. Francis Bailey, one of the most active members of the Astronomical Society of London, requesting the purchase of a number of copies of our friend Mr. Hassler's Report to Congress, on Weights and Measures.

"Extract from Mr. Francis Bailey's letter to W. Vaughan, dated London. 16th January.—'I have just seen a very valuable pamphlet which you were good enough to forward from America to the Astronomical Society, written by Mr. Hassler, on the Comparison of Weights and Measures. I have read it more than once, and am sorry that we are not likely to have more copies of it circulated in this country, than appear to have been sent over; for I find it is an official document, and therefore probably not for sale.

'Should you be able to procure me any reasonable number of copies, I shall be most happy to defray cost and expense, and should at the same time consider myself much obliged, as would the several parties to whom I should distribute the same.'

Shipwreck.—The ship Anacreon, Capt. White, from Liverpool, (sailed about the 24th Feb.) bound to City Point, with a cargo of Dry Goods, Salt, Iron, &c. went ashore on Hog Island, on Thursday night last. Capt. White had two vessels along side for the purpose of taking out the cargo—the vessel will be lost.——[Norfolk Herald.]

Centegenarian Pensioner.—There is in Washington a man by the name of *Andrew Wallace*, applying for an increase of pension, his present allowance from Congress amounting to only 26 cents per diem. He is 103 years of age, having been born in Inverness, Scotland, March 14, 1730, and arrived in America in 1752, and his present residence is in Chester county, Pa. He retains a fine intelligent countenance and full possession of his faculties, though his body continually shakes from paralysis. He was a soldier at the battle of Culloden, Scotland, on the side of the Stuarts. He was after his arrival in this country, appointed an orderly sergeant, above which post he never rose, and fought both in that war, and in several battles of the revolution. He was engaged in the battle of the Iron Hills, under Col. Wayne, and the battle of Brandywine, where he aided in bearing Gen. Lafayette off the field when wounded. He was in the Mohawk war in 1785, and in the Indian war of 1791, and was in the terrible slaughter, called St. Clair's defeat, in which he was wounded in the right arm by a ball. His arm was so injured that it has never since been straight. He nevertheless remained in the army and was in the battle fought by Wayne with the Indians in 1794. He afterwards served five years in the 3d U. S. Sub. Legion, under Capt. Pike, the father of the late Gen. Pike. When the Legion was dissolved, he fell into the 2d Regiment of Capt. Schuyler's company, and was at last marched to New Orleans in 1812 in the regiment commanded by Col. Thomas Cushing, and was finally discharged in 1813, at the age of *eighty three*, by Gen. Wade Hampton, on account of disability. He is poor—has a wife and two children—the youngest about 15 years of age.

Movement of Troops.—It is rumored that eight companies of the U. S. Troops at Charleston, (S. C.) are to return immediately to Fortress Monroe, and that three of the Companies now stationed at the Fortress, are to be transferred to New London and one to New York.—[Norfolk Beacon.]

Three Companies U. S. Troops left the Arsenal at Augusta, on the 28th ult. for Fort Mitchell.

Appointment by the President.—Arthur Middleton, Jr. of South Carolina, to be Secretary of the Legation of the United States at Madrid, in the place of Charles S. Walsh, removed.

Philadelphia, April 9.—The good ship Walter now below at this port, sailed from Baltimore on the 1st of May last—floated off to Liverpool—discharged her cargo—took in another, and proceeded to Canton, (China) unloaded and loaded again,—and then bustled back to Philadelphia, in the short period of *eleven months and seven days!* If any sister craft can outjump the Walter—whether in the port of the empire city, or in any of the harbors along shore, even to the regions of Cape Cod, and parts adjacent, it would be well to have it known.

We may add, in passing, that the Walter is the same ship which, some two or three years ago, made the passage from Liverpool to New York, in fifteen days, only one days excess over a fortnight, between the Mersey and the Hudson!—[Phil. Gaz.]

A lad was accidentally killed at Cambridgeport on Sunday afternoon, while playing with other boys on the gravel cars of the Lowell Railroad. One of his companions upset one of the cars, and threw him on the ground with so much force, as to cause almost instant death.

Power Wheel Grindstones.—Several melancholy accidents have recently occurred by reason of the separation of large grindstones, while revolving rapidly by means of powerful machinery. In Oxford, in this State, a man was killed instantly by one of these dangerous machines. It is stated, that the stone weighed nearly two tons, that it was six feet in diameter; and was, at the time of the accident, making 300 revolutions in a minute. Every one acquainted with centrifugal forces, will perceive the immense tendency of the parts to separate in such a case. The centrifugal force of bodies, is the tendency of their particles to fly off from the circle of the revolving bodies in tangents, or straight lines touching their outward circles. The tendency to fly off is, in a degree, proportioned to their velocity. A stone of 6 feet diameter would give a circumference of nearly 18 feet. Such a stone, revolving at the rate of 300 times in a minute, would cause the particles on the outer surface to move with the enormous velocity of 5400 feet, or more than a mile in a minute.

The tendency therefore of every particle of matter of which the circumference of such a stone was composed, to fly off, would be at the rate of more than a mile in a minute. As the particles of the stone were situated towards its centre, the tendency to fly off in tangents, would of course be diminished, but they would still have more or less tendency from the centre. Hence is the great danger: and if there is any flaw in the stone, it will sooner or later burst asunder with tremendous violence. The person who lately suffered in Oxford, was in the act of grinding a scythe. One fragment of the stone, weighing about 800 pounds, flew upward, killed the man, and broke through the floor over his head, and lodged in the second story. The man was mangled in a shocking manner. Such instruments are too dangerous for common use.—[Boston Centinel.]

Sailing of the Second Whale Ship.—The Siroc, the second ship fitted out by the Poughkeepsie Whaling Co. sailed from this place early yesterday morning with a fine northerly breeze, on her intended voyage. The Siroc is a fine ship of 370 tons burthen, and is fitted for the Brazil Banks, in pursuit of the Black Whale. May prosperous gales and good luck attend her.—[Poughkeepsie Journal.]

Appointment by the President.—T. A. Howard, of Indiana, to be attorney of the U. States for the District of Indiana, in the place of Samuel Judah, removed.

POETRY.

Drinking Song of the Men of Basle.—[Close by the city of Basle is the field of St. James, where, in the year 1444, a sanguinary battle was fought between 1600 Swiss and 30,000 French! It lasted ten hours, the French being led by the Dauphin, afterwards Louis XI. The Swiss were not so much vanquished as they were tired with fighting, and exhausted by the number of their adversaries. Out of the 1600 only 16 survived, who brought the news of the battle to Basle. The French lost 6000 men. On this spot grows a red wine which is called, from this memorable circumstance, "the blood of the Swiss."]

Drink! drink!—the red, red wine
That in the goblet glows,
Is hallow'd by the blood that stained
The ground whereon it grows!

Drink! drink!—there's health and joy
In its foam to the free and brave;
But 'twould blister up like the elk-king's cup,
The pale lip of the slave!

Drink! drink! and as your hearts
Are warmed by its ruddy tide,
Swear to live as your Fathers lived,
Or die as your Fathers died!

[Lays and Legends of the Rhine.

[For the New-York American.]

DEPENDENCE.

How good and pleasant 'tis to be
Subjected to another's whim!
To eat and drink, to hear and see,
And breathe, as pleaseth him!

To tread the daily mill horse round
Of anxious still-recurring care;
To labor, ass-like, burthen bound,
Receiving asses' fare.

To stop and go, to rest and run
Obedient to a master hand;
To sleep and wake, as doth the sun,
Controlled by fixed command.

To waste, in base earth-tending toil,
The vigor of immortal mind,
And slave-like to the sordid soil
The lofty soul to bind.

From forth her chambers in the brain
To summon Fancy, fair and free,—
Then yield her up, with all her train,
To stern Necessity.

To quell, at want's unceasing call,
Each glorious impulse of the heart,
And, for the means of life, bid all
The *life* of life depart!

J. C. S.

STANZAS.

"Born in a world where flowers of fairest hue
First fade away;
Herself a rose, she lived. as roses do,
But for a day."

And thus, belov'd and cherish'd one, didst thou,
In thy young years, and thy bright visioned dreams,
Fade from this earth of flowers and moonlight streams,
As stars fade from the sky, when morning's brow
O'er all the world in dewy glory gleams.
Yes! in thy happiest years, when thou didst cling
With all of nature's fondness to this earth,
Thy sinless spirit reared its undimm'd wing,
And sought the home of its immortal birth.

And was it strange that many tears were shed,
When lowly bending o'er thy couch of death,
We saw thee yield serenely up thy breath,
And felt the withering knowledge thou wert dead.
Thou wert too spiritual long to remain
Amid the darkness of this shadow'd earth;
Thy spirit loved a loftier, holier strain,
Than that which echoed in the bowers of mirth;
Then not in vain were all our tears;—we felt
Thou wert far happier in thy quiet grave,
Than if before earth's shrine thou fondly knelt,
And yielded up thy heart its fetter'd slave.

The morning smiles; and yet thy gladsome voice
Comes not to bid us welcome that lov'd hour,
When Nature's minstrels gratefully rejoice,
And tune their harps within their leafy bower,
And when the sunlight gleams upon the brightened earth,
And all is beautiful beneath the sky,
We miss the brightness of thy gladdening eye;
And dark to us is earth's most sunny hour,
And tears are shed within the lonely bower,
Where thou didst wreathe the spell of melody and mirth.

And when the twilight hour is softening o'er
The faded glory of the sunset sky,
Its soft and shadowy spirit doth restore
Thy starry image to the dreamy eye;
And in the depths of memory are stirr'd,
The thoughts that there in broken visions lie;
And in the ear a mournful song is heard,
Lamenting that the loved so early die;
That over all that's beautiful and young,
Too oft a withering destiny is flung.

Yes! thus it is with earth;—but oh! my soul,
There is a hope that Heaven hath given to thee,
O'er which a darkened earth hath no control,
For it shall blossom in eternity;
When time hath passed and every heart is hushed,
That hope shall live, undying and uncrushed;
Through everlasting ages it shall shine,
With glory uncreated and divine.
Farewell! beloved one;—I would that thou
Hadst lived to heal a crushed and broken heart,
To scatter sunshine o'er a darkened brow,
And to a mournful eye bright smiles impart,—
But thou art gone!—and oh! I would not break
The spell that binds thee with eternity;
I would not that thy spirit should awake,
From its bright dream of immortality;
For thou art with the happy and the blest,
And I would not disturb thy glorious rest.

H. G. P.

POPULATION OF THE UNITED STATES.

FROM A CORRESPONDENT OF THE NATIONAL INTELLIGENCER.

		North of Potomac and Ohio.		South of Potomac and Ohio.	
1790	White	2,155,835		1,016,629	
	Slaves	147,293	186,344	556,604	571,019
	Free colored	39,051		20,415	
	Total,	2,342,179		1,587,648	
1800	White	2,877,643		1,426,846	
	Slaves	150,978	226,771	742,063	774,667
	Free colored	75,793		32,604	
	Total,	3,104,414		2,201,513	
1810	White	3,977,023		1,884,981	
	Slaves	151,595	279,995	1,030,769	1,097,815
	Free colored	128,400		58,046	
	Total,	4,257,018		2,982,796	
1820	White	5,436,737		2,429,892	
	Slaves	138,817	295,301	1,399,221	1,476,261
	Free colored	156,484		77,040	
	Total,	5,732,038		3,906,093	
1830	White	7,349,334		3,188,044	
	Slaves	134,945	341,836	1,874,098	1,986,806
	Free colored	206,891		112,708	
	Total,	7,691,170		5,174,850	

VIRGINIA.

		White.	Slaves.	Free colored
1790	East of the Mountains,	507,885	291,273	12,703
1830	do. do.	375,940	416,259	40,708
1790	West of the Mountains,	34,230	2,154	63
1830	do. do.	318,505	53,465	6,323

SOUTH CAROLINA.

	White.	Slaves.	Free colored.
1790	140,178	107,094	1,801
1830	257,878	315,665	7,915

PASSENGERS—

In the packet ship George Washington, from Liverpool—Mr and Mrs G A Brown, of Manchester; Thos Sands, Thos B Sands, of Liverpool; G J Goodhue, of York. U C; William Ritchie, H Chapman, Wm Smith, Jas Connell, of Montreal; R F Maitland, R P Ross, D Bellhouse, of Quebec; Thos Winn, of Philada; H Abbotson, of Sheffield; E J Coates, of Boston; S C Lister, of Bradford, Eng; Wm Brooks, of Manchester; Chas Clegg, of do; R H Jones, of Liverpool; Rev R Calvert, of Keswick, Eng; S B Hargroves, of Leeds; Mr and Mrs Booth, of Huddersfield, Eng; John A Stevenson, E Cotton, of Staffordshire; Geo Cripps, J H Reed, W C Maitland, of New York, and 30 in the steerage.

In the ship Ontario, from London—R Johnson, lady and family, of Jamaica; D Fox, of Belleville, N J.; Henry Todd, and Geo C Thorburn, of New York; Master H De Kuven, of Middletown, Ct.; John Poore, W Walker, Miss Nicholson, Miss Rolfe, and George Miller, of London, and 144 in the steerage.

MARRIAGES.

On the 11th inst. at Friends Meeting House in Hester street, NEELY LOCKWOOD, to ELIZA BOWNE, daughter of the late Richard M. Bowne, all of this city.

On Wednesday, 10th inst, by the Rev. Wm. Quarter, Mr. EDWARD CRONLY, to Miss MARIA, second daughter of Mr. Andrew Fallen.

Last evening, 16th instant, by the Rev. Dr. De Witt, PETER R. BRINCKERHOFF, to MARIA JEANETTE, daughter of the late John T. Lawrence, Esq., all of this city.

DEATHS.

On Tuesday evening, MARY, wife of Samuel D. Wilkins, of Gwanas, L. I. and daughter of Nehemiah Denton, Esq.

Monday morning, April 15th, Mrs. SARAH TAYLOR, aged 84 years and 9 months.

This morning, April 16, after a lingering illness, Mrs. BRIDGET BANKS, wife of Henry Banks, in the 42d year of her age.

On Thursday, the 11th inst, Mrs. JANE POST, in the 86th year of her age, widow of the late Jacob Post, of Yonkers, West Chester County.

This morning, after a long and painful illness, which he bore with christian fortitude, WILLIAM ANDERSON, aged 78 years.

This morning, April 17, CHARLOTTE JANE, wife of JOHN R. KNOX, M. D. and daughter of the late John Rullus, Esq.

On Tuesday afternoon, 16th instant, after a lingering sickness, which he endured with great christian fortitude, Mr. JACOB JUSTISON, in the 31st year of his age.

Of Consumption, on Sunday afternoon, the 14th instant, in the 40th year of her age, Mrs. ELIZA, wife of James Kearley.

On the 5th of April, in the village of Jamaica, Queen's County, WM. PUNTINE, aged 80 years.

At Charleston, S C. CHARLES WINTHROP, of the house of F. & C. Winthrop, aged 34 years.

REPORT OF DEATHS—WEEK ENDING SATURDAY, APRIL 13.

Between the ages of

90 and 100— 1	50 and 60— 9	10 and 20— 3	
80 and 90— 1	40 and 50—10	5 and 10— 7	
70 and 80— 1	30 and 40—10	2 and 5— 3	
60 and 70— 3	20 and 30—19	1 and 2—12	

Of and under one year, 16—Total, 95.

Diseases.

Apoplexy	5	Inflammation of brain	2
Burned or scalded	1	Inflammation of chest	2
Childbed	1	Inflammation of liver	1
Consumption	28	Intemperance	1
Convulsions	5	Marasmus	2
Dropsy	3	Old age	3
Dropsy in the head	6	Peripneumony	6
Dyspepsia	1	Pneumonia typhodes	1
Fever, bilious	1	Small poz	1
Fever, remittent	1	Sore throat	1
Fever, typhus	2	Sprue	1
Hæmorrhage	1	Stillborn	5
Hæmoptysis	1	Teething	2
Hives or croup	7	Tumor	1
Jaundice	1	Unknown	1
Inflammation of bowels	4	Whooping cough	1

ABM. D. STEPHENS, City Inspector.

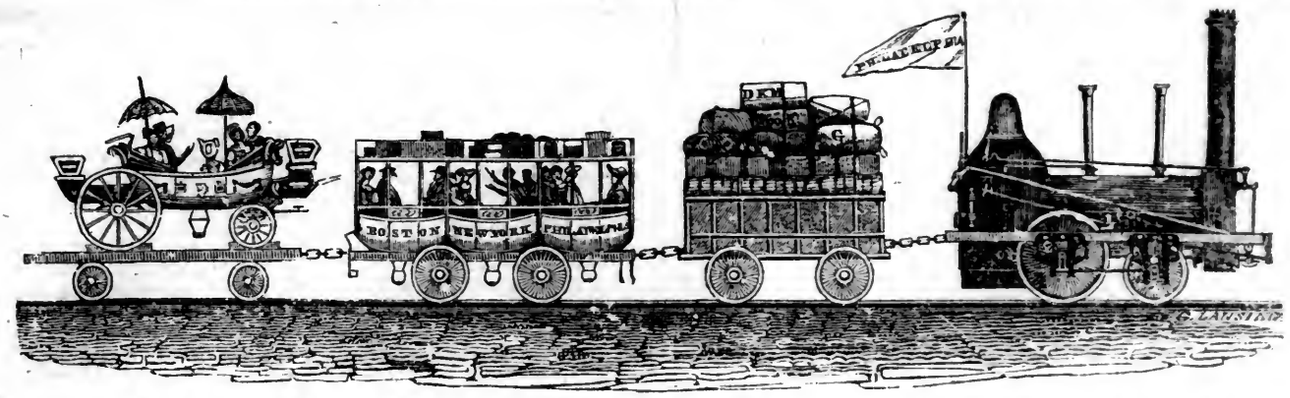
TO ENGINEERS.

☞ Any person who can recommend an Engineer of the best school, to survey, locate and construct a Railroad, will please address a line to the Editor of the Railroad Journal, 35 Wall street. A20 3t

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, April 17th, 1833.

ASHES—				
Pot, 1st sort 1832.	100 lbs	4 30	a	—
Pearl	do	4 55	a	4 60
BEESWAX—				
White	lb	32	a	36
Yellow	do	19	a	20
BREAD—				
Navy	lb	—	a	3½
Pilot	do	—	a	4½
Crackers	do	5½	a	6
BRISTLES—				
Russia, first sort	lb	60	a	—
Do. common	do	20	a	36
American	do	15	a	44
CANDLES—				
Mould, tallow	lb	12	a	13
Dipped	do	10½	a	11½
Sperm	do	33	a	34
CLOVERSEED	lb	12	a	13½
COAL—				
Liverpool	chaldron	9 60	a	9 50
Scotch	do	7 50	a	8 00
Sidney & Bridgeport	do	—	a	10 00
Albion	do	—	a	9 00
Virginia	do	8 00	a	9 00
Anthracite	ton	6 00	a	7 00
COCOA—				
Caraccas	lb	16	a	—
Trinidad	do	—	a	7
St. Domingo	do	6	a	—
Para	do	—	a	6
COFFEE—				
Cuba	lb	10¾	a	12½
Brazil	do	13	a	13
Porto Rico	do	12½	a	13½
Laguira	do	11½	a	12½
St. Domingo	do	11½	a	11
Java	do	12½	a	14
Jamaica	do	11	a	12
COPPER—				
Sheathing	lb	23	a	—
Pig	do	—	a	17
Old	do	17	a	18
Bolt	do	24	a	—
CORDAGE—				
Foreign	lb	9½	a	11
American	cwt	10½	a	11
CORKS—				
Velvet	gross	40	a	50
Common	do	20	a	33
Phial	do	5	a	12
COTTON—				
New Orleans	lb	11	a	13½
Upland	do	10	a	13
Alabama	do	10	a	12
Tennessee	do	10	a	11
COTTON BAGGING—				
Hemp	yd	13	a	20
Flax	do	11	a	15
Do. American	do	19	a	20
DIAPERS—				
Russia, broad	piece	2 15	a	2 25
DUCK				
Russia, U. X.	oolt	17 50	a	18 00
Do. Brulsguins				
Do. Zotoff & Konop'ff		—	a	16 00
Do. 3d quality	do	15 50	a	—
Do. inferior	do	11 00	a	14 00
German, Half	do	11 00	a	—
Holland, A. A.	do	24 00	a	—
Ravens	do	7 00	a	8 50
Amer. Joy's, all flax. No. 1 a 8	do	14 00	a	16 50
Do. Phenix Mills, Paterson, flax, No. 1 a 8.		16 00	a	12 00
Do. cotton, Paterson, No. 1 a 10	yd	26	a	39
DYE WOODS—				
Braziletto	ton	28 00	a	30 00
Camwood	do	80 00	a	82 50
Fustic, Cuba	do	25 00	a	27 00
Do. Tampico	do	23 00	a	23 00
Do. Maine	do	19 00	a	21 00
Logwood, Camp'hy	do	26 00	a	27 00
Do. St. Dom.	do	28 00	a	21 00
Do. Jamaica	do	17 00	a	18 00
Nicaragua, Bonaire	do	42 00	a	45 00
Do. Coro	do	45 00	a	50 00
Do. Hache	do	—	a	70 00
FEATHERS—				
Live, Foreign	lb	14	a	20
Do. American	do	38	a	40
FISH—				
Dry Cod	cwt	2 75	a	—
Scale	do	2 00	a	—
Pickled Cod	brl	4 25	a	—
Do. Salmon	do	12 50	a	13 50
Smoked do.	lb	—	a	—
Mackerel No. 1	brl	6 75	a	7 00
Do. No. 2	do	—	a	5 00
Do. No. 3	do	—	a	3 37½
Shad, Conn. Mess	do	8 25	a	9 50
Do. Bucksport, do.	do	—	a	6 00
Herrings	do	2 25	a	2 50
Do. Smoked	box	40	a	90
FLAX—				
Russia	lb	11½	a	—
American	do	8½	a	9
FLAXSEED—				
Clean	cask	—	a	—
Rough	do	—	a	11 50
FLOUR AND MEAL—				
New York superfine	brl	5 62½	a	—
Troy	do	5 62½	a	5 75
Western Canal	do	6 1½	a	6 25
Philadelphia	do	—	a	5 62½
Baltimore Howard st.	do	5 87½	a	6 00
Richmond City Mills	do	—	a	6 87½
Do. Country	do	—	a	5 62½
Alexandria & Georgetown	do	5 62½	a	6 00
Fredericksburg	do	5 56	a	5 62½
Petersburg	do	5 62½	a	5 75
Scratched and fine	do	5 25	a	—
Fine middlings	do	5 00	a	—
Rye Flour	orl	3 75	a	3 87½
Indian Meal	do	3 87½	a	4 00
Do.	hhd	—	a	17 00
FRUIT—				
Raisins, Malaga	cask	6 50	a	6 75
Do. bloom	box	1 65	a	1 87½
Do. muscatel	do	2 00	a	2 06
Do. bunch	do	2 06	a	2 28
Do. Smyrna	lb	3¼	a	5
Currants, Zante	do	3½	a	5
Almonds, soft shell	do	14	a	12½
Do. shelled	do	—	a	20
Figs, Smyrna	do	3½	a	6½
Filberts	do	3	a	4
Pruner, Bordeaux	do	18	a	20
Tamarinds	do	3	a	4
GRAIN—				
Wheat, North riv.	bshl	—	a	—
Do. Genesee	do	—	a	—
Do. Virginia	do	1 15	a	1 18
Do. N. Carolina	do	1 12	a	—
Rye, Northern	do	80	a	82
Corn, Yellow, North.	do	73	a	78
Do. White, L. I. & N. J.	do	—	a	—
Do. Southern	do	66	a	70
Barley, North river	do	56	a	60
Oats, South & North.	do	40	a	46
Peas, white dry	bshls	9 00	a	10 00
Do. black eyed	do	75	a	—
Beans	do	9 00	a	12 00
HEMP—				
Russia	ton	195 00	a	200 00
Manilla	do	240 00	a	—
Sisal	do	—	a	—
American dew-rot	do	130 00	a	130 00
Yarns, Kentucky	lb	—	a	—
HIDES—				
La Plata & R. Grande	lb	14½	a	14½
Brazil	do	11	a	12
Do. wet salted	do	7	a	—
Oronoco	do	12½	a	13
W. India & Southern	do	10	a	12
S. A. Horse	piece	1 15	a	1 35
HOPS—				
First sort, 1832	lb	25	a	33
Second sort, do	do	—	a	—
HORNS—				
Ox	100	5 00	a	20 00
INDIGO—				
Bengal	lb	94	a	1 20
Manilla	do	60	a	90
Caraccas	do	94	a	1 10
Guatemala	do	60	a	1 00
IRON—				
Pig, Engl. & Scotch	ton	37 50	a	45 00
Do. American	do	30 00	a	40 00
Bar, do.	do	72 50	a	75 00
Do. Russia, P. S. L.	do	—	a	97 50
Do. new Sable	do	82 50	a	85 00
Do. Swedes	do	82 50	a	87 50
Do English ass'td.	do	—	a	75 00
Sheet, English	cwt	6 75	a	7 50
Peru I. Co. flat & sq.	ton	—	a	—
Do. round	do	—	a	—
Hoop, American	cwt	6 00	a	6 25
Do. English	do	6 25	a	6 50
JUNIPER BERRIES		2	a	3
LEAD				
Pig	lb	5¾	a	—
Bar	do	5½	a	—
Sheet	do	6	a	—
Old	do	4⅝	a	4½
LEATHER—				
Sole, Oak tanned	lb	20	a	27
Do. Hemlock	do	17	a	20
Do. damaged	do	14	a	16
Upper, dressed	side	75	a	2 75
Do. undressed	do	1 00	a	2 50
LUMBER—				
Boards, N. R.	M ft	—	a	15 00
Do. East'n Pine	do	16 00	a	17 00
Do. Albany do.	pce	16	a	17
Plank, Georgia do.	M ft	25 00	a	35 00
Staves, W. O. pipe	do	56 00	a	58 00
Do. do hhd.	do	36 00	a	42 00
Do. do brl.	do	28 00	a	30 00
Do. R. O. hhd	do	25 00	a	—
Heading W. O.	do	42 00	a	45 00
Hoops	do	25 00	a	—
Scantling, Pine	do	15 00	a	16 00
Do. Oak	do	20 00	a	25 00
Timber, Oak	sq. ft	20	a	25
Do. Geo. Yell. Pine	do	25	a	30
Shingles, Cypress	M ft	4 00	a	4 25
Do. Pine	bundle	—	a	—
MOLASSES—				
Martinique & Guad.	gall	27	a	30
English Islands	do	28	a	31
Havana & Matanzas	do	26	a	29
Trinidad de Cuba	do	30	a	31
New Orleans	do	31	a	32
NAILS—				
Cut, 4d to 40d	lb	—	a	6
Cut, 3d	do	6½	a	7½
Cut, 2d	do	8	a	8½
Wrought	do	10	a	16½
NAVAL STORES—				
Tar	brl	1 50	a	1 62½
Pitch	do	1 50	a	1 62½
Rosin	do	1 12½	a	1 75
Turpentine Wilm. soft		—	a	2 62½
Do. North Co.	do	—	a	2 25
Spirits Turpentine	gall	40	a	42
OILS—				
Florence 50 flasks	box	4 50	a	4 75
French 12 bottles	bskt	3 00	a	3 75
Olive	gallon	1 08	a	1 10
Linseed, American	do	96	a	98
Do. Eng. & Dutch	do	97½	a	1 00
Whale	do	21	a	25
Do. refined	do	—	a	—
Sperm, Summer	do	85	a	87½
Do. Winter	do	80	a	95
Liver, Straits	brl	15 00	a	15 50
Do. Shore & Bank	do	14 00	a	14 50
PROVISIONS—				
Beef, Mess	brl	8 75	a	9 50
Do. Prime	do	5 50	a	5 75
Do. Cargo	do	4 50	a	4 75
Butter, N. Y. Dairy	lb	16	a	20
Do. Shipping	do	12	a	13
Do. Philadelphia	do	11½	a	12
Hog's Lard	lb	7½	a	9
Pork, Mess	do	12 50	a	14 25
Do. Prime	do	10 75	a	11 25
Do. Cargo	do	9 00	a	9 50
Cheese, American	lb	6½	a	8
Hams, Virginia	do	9	a	10
Do. Northern	do	8½	a	10
RAGS—				
Foreign	do	2	a	8
Country	do	3	a	5
RICE	100 lb	2 75	a	3 25
SALT—				
Turk's Island	bshl	42	a	—
Isle of May	do	40	a	—
St. Ubes	do	40	a	—
Cadiz	do	—	a	40
Lisbon	do	40	a	—
Liverpool ground	do	33	a	—
Do. blown	do	—	a	—
Do. sack do.	sack	1 75	a	1 81
SALTPETRE—				
Refined	lb	8½	a	9
Crude E. I.	do	—	a	7
SHEETINGS—				
Russia, white	piece	10 50	a	11 25
Do. brown	do	8 75	a	9 00
SOAP—				
New-York, Brown	lb	5½	a	6½
Castile	do	11	a	12
SPELTER	lb	3	a	3½
SPICES—				
Cassia, in mats	lb	14	a	15
Cloves	do	25	a	26
Ginger, race	do	9	a	9½
Do. ground	do	6	a	11½
Nutmegs	do	85	a	1 25
Pepper	do	8½	a	8½
Pimento, Jam.	do	8½	a	8½
SPIRITS—				
Brandy, Ot. D. & Co.	gal	1 62½	a	1 69
Do. Rochelle	do	1 50	a	1 62½
Do. Bordeaux	do	1 30	a	1 40
Rum, Jam. 4th proof	do	95	a	1 10
Do. St. Croix, 3d do.	do	95	a	1 00
Do. Wind. Isl. 3d do.	do	85	a	—
Do. NOrl'ns, 1st do.	do	40	a	45
Do. N. Eng. 1st do.	do	35	a	36
Gin, Holl'd, Meder Swan	1	19	a	—
Do. Hour Glass	do	—	a	1 15
Do. Pine Apple	do	—	a	1 19
Do. Imperial	do	1 12½	a	1 15
Do. Country	do	38	a	42
Whiskey, Rye	do	31	a	35
Cider Brandy	do	—	a	—
STEEL—				
German	lb	10½	a	12½
English	do	11	a	14
Trieste, in boxes	do	5	a	5½
American	do	5½	a	6
SUGARS—				
British Island	lb	7½	a	9
St. Croix	do	8	a	10
New Orleans	do	6¾	a	7½
Havana, White	do	9	a	11½
Do. Brown	do	7¾	a	8½
Do. Muscovado	do	7	a	7¾
Porto Rico	do	7½	a	9
Brazil, White	do	8	a	9½
Do. Brown	do	7	a	7½
Manilla, Brown	do	7½	a	—
Lump	do	12	a	13
Loaf	do	14	a	17
SUMAC—				
Sicily	ton	75 00	a	80 00
Trieste	do	—	a	40 00
American	do	—	a	30 00
TEAS—				
Imperial	do	65	a	1 00
Gunpowder	do	65	a	1 00
Hyson	do	60	a	88
Young Hyson	do	60	a	80
Hyson Skin	do	36	a	66
Souchong	do	25	a	40
Bohea	do	13	a	16
TIMOTH. SEED	tce	13 00	a	15 00
TOBACCO—				
Richmond & Petersb.	do	3½	a	6
North Carolina	do	3	a	4½
Kentucky	do	3½	a	6
Cuba	do	8	a	16
St Domingo	do	9	a	15
Manufactured, No. 1	do	10	a	12
Do. No. 2	do	7	a	—
Do. No. 3	do	6	a	7
Ladies' Twist	do	14	a	16
Cavendish	do	8	a	30
WINES—				
Madeira	gall	1 12½	a	2 25
Sherry	do	80	a	2 00
Canary, Cogswell's	do	95	a	1 37½
Teneriffe L. P.	do	70	a	1 00
Do. Cargo	do	60	a	65
Malaga, dry	do	40	a	45
Do. sweet	do	40	a	44
Claret	cask	14 00	a	22 00
Do. in bottles	doz	2 25	a	6 00
Port	gall	70	a	1 87½
Lisbon	do	80	a	1 25
Marseilles Madeira	do	36	a	45
Catalonia	do	30	a	44
WOOL—				
Merino, Am. fleece	lb	42	a	56
Do. pulled	do	40	a	45
Common	do	30	a	35
Pulled, spinning	do	40	a	42
Lambs, 1st quality	do	—	a	—
Do. 2d quality	do	25	a	33
Do. 3d quality	do	20	a	28



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 33 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, APRIL 27, 1833. [VOLUME II.—No. 17.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, APRIL 27, 1833.

To Engineers, *and others having the care of Railroads.*—The Editor of the Journal presents his compliments to those gentlemen, engineers and others, having charge of the different Railroads in the United States, and requests of them another, in addition to the many favors he has already received from them in furnishing him with reports and communications relative to the works under their care. Having been requested by a distinguished Engineer of Liverpool, to furnish him with a brief but accurate outline of *all* the Railroads now in use, as well as those in a course of construction and in contemplation, for which charters have been granted, in the United States, "to form a portion of the article Railroads, now preparing for the *Encyclopædia Metropolitana* of England," the Editor is desirous to obtain from those intimate with each a description of their particular work at the earliest possible date, that he may be enabled to forward them in time for the above publication. He would suggest the idea of their forwarding the *latest* report published, and, in addition thereto, a written description of the progress of the work since its publication. Mr. Vignoles, the gentleman for whose use they are designed, requests also a transverse and longitudinal section, shewing distinctly the mode of laying down the rails on each road, with such other minute particulars as may be useful to the public. In return for these documents, Mr. V. offers to furnish us with copies of the article as soon as printed, for the use of the Journal—and we, in turn, will furnish each gentleman who aids us in obtaining the information, with additional copies of the Journal, in which the article shall be published when received.

Guard Rail.—Mr. Bulkley's reply to Mr. Sullivan's "Objections," published in our last, will be found in this number of the Journal; also, a communication signed "U. A. B.," upon the same subject.

Iron Railways.—We give at length, in this number, "Scrivenor's Specification of an Improvement in the Construction of Iron Railways," with *fifteen engravings*, showing the machinery for, and describing the process of, making the rails, chairs, &c.

It was our intention to have given a condensed analysis of Mr. Babbage's work on the "Economy of Machinery and Manufactures," but, on a close examination of the book, we find it is written in so concise a style that to abridge it would be almost impossible. Its contents are so valuable, and of such great interest to the lovers of Science and the practical Artizan, that we conceive we shall be doing an acceptable service to our readers by inserting the whole of it in our pages, giving portions from time to time. It will be so arranged that the whole will be found in this volume of the Journal.

Mr. Freeman Hunt, late one of the editors of the New-York Traveller and Spirit of the Times, has issued proposals for publishing a new work, in monthly parts, to be called "The Story Teller." We make the following extract from the prospectus, and wish him a liberal patronage:

"The 'Story Teller,' will be published in monthly parts of at least 40 pages, quarto, equal to one hundred octavo of the ordinary size, in a superior style, forming a splendid volume of about five hundred pages per annum, and afforded to subscribers at the low price of twenty-five cents per number, payable on delivery. No subscription will be received for a less term than one year. To persons who pay for the year, in advance, a liberal discount will be made. The work will be published simultaneously in the different cities of the Union.

"The aid of some of our most distinguished ladies and gentlemen is promised."

The following remarks are designed to show the advantages of the proposed Railroad from Providence to Stonington:

"To those acquainted with the utility of roads, it is unnecessary to point out the importance of having them established upon all our principal thoroughfares, and the route between New-York and Boston will, it is presumed, be considered as one of them. Upon the introduction of railroads into this country, one from Boston to Providence was among the first thought of, which road is now, after some delay, in the progress of rapid construction. Very soon after that was determined upon, the original projectors of that work foresaw the necessity of continuing the road to some place upon the Sound, so as to lessen the distance from Providence to New-York, and to have the connection between the railroad and steamboats at some point where the navigation would be unobstructed by ice during the whole year: Providence river, as is well known, being generally closed a part of the winter. After a good deal of reflection and examination, Stonington was fixed upon as the best location for those objects, the harbor being always free from ice, and having been made perfectly safe by a breakwater recently erected by government, and the three cities of Boston, Providence, and Stonington, being (as will be seen upon a map) very nearly in a direct line. Accordingly, measures were taken to procure charters from the states of Rhode Island and Connecticut, which were granted with the most liberal provisions, giving to the company a perpetual right, and excluding all competition for thirty years from the time this road shall be opened for use. Very soon after these charters were obtained, an engineer of the highest standing in his profession, *Wm. Gibbs McNeil*, Esq. was employed to make a survey of the contemplated route, which has been completed, and a report of the same, with the maps, profiles, &c. are at the office of the Company, No. 46 Merchants' Exchange, where they can be examined by those who feel an interest in the subject. It will be perceived, upon a perusal of the report, that the route is an exceedingly favorable one for the construction of a railroad, the soil being good, with abundance of granite for foundations, requiring

but few excavations or embankments, and no stationary power, the elevations averaging only twelve feet per mile. The engineer has also made an estimate of the cost of the road predicated upon this first survey, which is considerably within the amount of capital of the company, and the estimate will no doubt be much lessened by further surveys, as Capt. *Swift*, the assistant engineer, in his report accompanying Capt. *McNeil's*, remarks, as follows:

"In the preliminary surveys which have been made, it cannot be expected that we have been fortunate enough to select the most favorable route between Stonington and Providence. In the absence of all knowledge of the topography of the intermediate country, it could not be supposed that the first line which we might chance to pursue should, upon more thorough examinations, prove to be the best that could be found. It is true that the results of one survey furnish all material facts necessary to a determination of the general character of the route, viz. distances, elevations, nature of ground, amount of bridging, &c. It also furnishes much information which will be useful in future examinations. It may be added, moreover, that the estimates of cost are predicated upon the data which were collected in running the experimental line, and it will readily be seen that every improvement that can be made in the direction of the route, will result in a saving in the cost of construction."

The following is the Report of Captain McNeil:

Boston, March 2, 1833.

To John S. Crary, Esq. President of the New-York, Providence, and Boston Railroad Company, New-York City:

Sir—In compliance with the wish expressed by your Company in an application addressed to the Honorable Secretary of War, for the aid of the United States' Engineer Department in the examination of the country between Stonington, Connecticut and Providence, Rhode Island, and the execution of the requisite surveys to determine the practicability of, and the general circumstances under which a railroad may be constructed between those points, Captain Swift, of the United States' Topographical Engineers, with the requisite number of assistants, was, during the month of August last, assigned to that duty under my direction, and I have now the honor to submit to you, agreeably to the instructions of the Topographical Bureau at Washington, the results of the examinations and surveys alluded to. They will be found embodied in the accompanying descriptive memoir of the country by Captain Swift, which is illustrated by the following maps, in plan and profile, to wit:

1st. A general map of the country between Stonington and Providence, exhibiting the routes surveyed, with those which have been suggested and may be worthy of further examination.

2d. Three sheets, which comprise a map of the routes surveyed, on an enlarged scale of 4 inches to a mile.

3d. Two sheets, which exhibit the profile of the routes on which the calculations of cost will at this time be based; and referring to these documents generally for details and descriptions of the country, which it will not in consequence be requisite I should recapitulate. I shall, as summarily as may be, present the facts which pertain to the question, "under what circumstances is a railroad practicable between Stonington and Providence?"

Before I attempt, however, to answer this question, I would premise, and desire that it be borne in mind, that the surveys which have as yet been made are purely *experimental* in their character, or such as necessarily precede those on which would subsequently be established the definite location or actual position of the railroad—that various deviations may be expected to be made from the general trace of the route, and the assumed grades or inclinations, sometimes advantageously modified, and that in consequence the estimates of cost (which do not properly belong to the incipiency of operations of this nature) are not intended to be otherwise than *approximate*.

Nevertheless, if at this time we are not enabled to assert that the country offers *greater* facilities than those which, in the limited period allotted to the surveys, we have found to exist, we have the satisfaction to know that a railroad between Providence and Stonington, (a work so important in its character that, in connexion with the Boston and Providence railroad, which is now in rapid progress of construction, it may be said on its completion to have perfected the important avenue between New-York and Boston,) is practicable under the following favorable circumstances, to wit:

Pursuing in general a very direct course, and avoiding throughout its extent the occurrence of a single abrupt curvation, its total length from the termination of the Boston and Providence Railroad, to Stonington, on Long Island Sound, (from which point we know that throughout the year the safe navigation by steamboats remains uninterrupted,) would be say 47¾ to 48½ miles, (as it shall be computed either through Shannock Hill or around it,) and in traversing this distance we surmount a summit dividing the waters of the Pawcatuck, which empty themselves near Stonington, from those which, flowing in the opposite direction, contribute to the Narragansett Bay, elevated 200 feet above tide, or conforming in a measure to the undulations of the ground on either side of this summit, the total elevation to be overcome amounts (as will be seen on reference to the memoir) to 293 feet,—or 302 feet, if we shall take that which Captain Swift describes as the "*south route*," which, instead of being directed through a gap in Shannock Hill, passes around its southern extremity.

This elevation can, however, be so distributed, that throughout its extent your railroad may be adapted to the use of locomotive engines; and the calculations of cost, based upon the supposition that it will be, in consequence exhibit a far larger expenditure than would be required, if occasionally, and but for short distances, only steeper inclinations (within, however, the ability of a locomotive engine,) should be introduced. This will be apparent from a statement of the inclinations within which the railroad would be graduated, (supposing even the trace of the route shall not, as is highly probable it may be, materially improved,) which are as follows, to wit:

14,75	miles level, and under 2 feet per mile.				
7,00	"	under 8 feet per mile.			
13,66	"	"	13	"	"
3,81	"	"	20	"	"
7,19	"	"	26	"	"
1,36	"	"	34	"	"

Or the average inclination is about 12 feet per mile.

The length of the road, as will have been seen, we have assumed to be 47¾ or 48½ miles, as the distance shall be computed either through the gap of the Shannock Hill, or by passing around its southern extremity; but although in the former case there would be a saving of three fourths of a mile in distance and a few feet inclination, these advantages are acquired at a cost which leads us unhesitatingly to prefer the longer route. Subsequent surveys may, however, determine, and we think it probable they will, that, even by winding around Shannock Hill, the total distance will not exceed 48 miles.

On this supposition I proceed to submit the following estimate, based upon the data to be obtained from the accompanying memoir, wherein I have inserted the cost of excavation, embankment and masonry, or in other words, all that pertains to the formation or graduation of the road-bed, the calculations of the *quantity* of excavation or embankment having been furnished me by Captain Swift.

The road-bed is supposed to be graduated for a double track, or to a width of 26 feet, the slopes, in both excavations and embankments, being in the ratio of 1½ to 1. Frequently, doubtless, steeper slopes will be admissible from the greater tenacity of the soil—in which event there will be a correspondent reduction in the quantity of excavation; but I have thought it safer to assume the slopes which I have stated, and I therefore directed the calculations to be made accordingly.

Whenever streams are to be crossed, (and they are but few, and generally unimportant in their character,) if the structure is of such importance as to be classed as a viaduct, I have supposed it to be built, as for the most part in our country it is advisable they should be, of wood, supported on piers and abutments of substantial masonry. The comparatively few culverts required will uniformly be built of stone, for the construction of which materials abound.

The railway I assume to be a single one, in the first instance, with occasional passing places, constructed similarly to that proposed for the Boston and Providence Railroad, with an iron edge-rail of sufficient strength to admit its supports at intervals of four feet.

Its maximum cost may be stated at $10,000 per mile; and if it shall be preferred, as may be deemed expedient, to substitute a lighter rail with a continuous support on wood, an equally effective railway, (the weight of the rail being about 32 lbs. per yard,) may be constructed for $7,000 to $7,500 per mile.

On the first supposition, the approximate cost of a railroad from Providence to Stonington may be estimated as follows, to wit:

1.	Formation of the road-bed for a double track of railway, including excavations, embankments, and masonry, or all the operations preparatory to the reception of the rails, - - -	505,830 90
2.	Single track of railway, with occasional passing places, constructed with an iron edge-rail, and in all respects in the most durable manner, 10,000 dollars per mile, and for 48 miles, - - - - -	480,000 00
3.	Land and fences, say -	50,000 00
4.	Contingencies, including agencies, surveys, &c., purchase of cars and the moving power, say 10 per cent. on the above,	103,583 09
	Total cost,	$1,139,413 99

Or substituting a lighter rail, with a continuous support on wooden string pieces, the cost may be assumed at:

1.	Formation of road-bed, -	505,830 90
2.	Single track of railway, with occasional passing places, at $7,500 per mile, - -	360,000 00
3.	Land, &c., as above, -	50,000 00
4.	Contingencies, &c. 10 per cent.	91,583 09
		$1,007,413 99

Which is most respectfully submitted by, sir, your obedient servant,

Wm. Gibbs McNeil,
Captain U. S. T. Engineers.

Lowell, April 17, 1833.

To the Editor of the American Railroad Journal:

Sir,—You having given in the Railroad Journal, Vol. 2, No. 14, Mr. Bulkley's description of his Patent Guard Rail, with his remarks on it, and solicited the opinions of engineers, and as the importance of the subject demands all the light which can be obtained, I will give some of my thoughts on the subject.

In his description he says, "The Guard Rail is constructed on an entirely new principle, being by *combination* in the process of manufacture, of *two kinds* of metal, namely, wrought

and cast iron." Soon after malleable iron was first used for rails, they were formed by combining wrought and cast iron, and the invention patented. Some notice of this may be found in Strickland's Reports to "The Pennsylvania Society for the Promotion of Internal Improvements," page 26, and in Wood's Treatise on Railroads, second edition, page 49, and in most other books on railroads. If he had been aware of this, I should have expected him to have shown in what his rail differs from any which has been tried.

I believe that most of those who have attempted this have not been sufficiently acquainted with the mechanical properties of the different kinds of iron. Mr. Bulkley says that, in the construction of rails, strength of a peculiar description is required, by which he means resilience, or the power to resist percussion. He says that his description of rail has probably four fold more of this kind of strength than can be produced from either kind of metal, if used separately, of equal weight. This seems, by referring to the properties of the two kinds of iron, to be impossible. The lower side of the rails have to resist a tensive force, or a force to draw the parts asunder. The tenacity of wrought iron being much greater than that of cast iron, the former, for this reason, cæteris paribus, must be more suitable than the latter for this part of the rail. The force which acts on the upper side of the rail tends chiefly to compress or crush it; therefore, that kind of iron would seem best for this part which can bear the greatest compressing force. The *mean* strength of cast iron to resist a compressing force is probably not much different from that of malleable iron, though there is much difference in the various kinds both of malleable and cast iron. Tredgold says, in his treatise on cast iron, that the greatest compressing force which cast iron can bear per square inch, without producing a permanent alteration, is 15,300 pounds, and that good English malleable iron will bear 17,800 pounds per square inch without producing a permanent alteration: from which it seems there can be nothing gained in point of strength by making the upper part of the rail of cast iron, though there are many other properties, both of cast and malleable iron, which should be taken into account in calculating *accurately* the strength of bars—one is, that in most castings some parts tend to expand or compress the other parts, which is produced by unequal shrinking in cooling. The interior part of square cast iron bars is usually strained by tension, while the outward part is compressed, when it is not subjected to any extraneous force. When such bars are subject to transverse strain, the neutral axis is between the centre of the bar and the compressed side, hence more than half of the metal acts by tension, and also acts at a greater mechanical advantage than if the neutral axis were in the centre of the bar: hence the strength of such bars to resist transverse strain is much greater than it would be if the metal shrunk equally in cooling. This unequal shrinking in cooling diminishes the strength of a bar to resist a force which acts merely by compression, or merely by tension. Mr. Bulkley says, that when melted metal flows round the bar of wrought iron, it causes the wrought iron to expand, and contraction therefore becomes uniform in both cast and wrought iron. I am not aware that sufficient experiments have been made to determine whether cast and wrought iron expand or contract equally by equal changes of temperature, at high temperatures; but at low temperatures, as between 30 and 200 degrees, malleable iron expands or contracts most. If it be so at high temperatures, and the wrought iron bar be so constructed that it cannot slip in the cast iron, the wrought iron bar, when the rail is cool, will be strained longitudinally, and the cast iron which encloses it compressed longitudinally, when the rail is not subjected to any extraneous force. Hence the wrought iron bar may be nearly or quite torn asunder without any extraneous force being applied to the rail.

Mr. Bulkley says that practical results in England prove that the upper side of malleable iron rails are liable to destruction, "partly in consequence of the great weight of the wheels, which, being rolled upon the rails, extends the laminæ composing their upper surfaces, and at length causes those surfaces to break up in scales." When malleable iron was first used for rails, some engineers supposed it would be liable to the objection above-mentioned, and some have even said that practice proved it so. There has now been sufficient experience in the use of malleable iron rails to put this question at rest. Mr. Wood, in the second edition of his Treatise on Railroads, page 45, speaks thus: "It has been said by some engineers, that wrought iron rails exfoliate, or separate, in their laminæ, on that part which is exposed to the pressure of the wheel. This I pointedly deny, as I have closely examined rails which have been in use for many years, and on no part are such exfoliations to be seen."

Mr. Bulkley says, "*Wrought metal* is observed to decay and become weakened in crusts of rust, when laid near the surface of the earth in damp situations." Some wrought iron rusts very fast, but I do not think it generally oxydates much faster than cast iron. When malleable iron was first used for rails, it was supposed by some people that its tendency to oxydate would be a great objection to it; but experience has proved the contrary. I will again quote Mr. Wood, as I know of no better authority on this subject. He says, in the second edition of his Treatise on Railroads, page 47, "On no malleable iron railway has oxydization, or rusting, taken place to any important extent."

Sufficient experiments and observations have not yet been made to determine, exactly, how much faster cast iron is worn away by the action of the wheels on the rails, than wrought iron; but it seems that cast iron wears off about five times as fast as wrought iron.

I am of opinion that malleable iron rails, such as those of the Liverpool and Manchester Railroad, are, in most cases, more safe, durable, and economical, than any rail composed wholly or in part of cast iron yet brought before the public. I have considered the chief of the supposed advantages of the cast and malleable iron rail; the other supposed advantages being dependent on those already considered, need no comment.

U. A. B.

Downington, April 6th, 1833.

To the Editor of the American Railroad Journal:

Sir,—In passing over several lines of railroad during the last three months, I have perceived that hickory brooms are almost universally attached to the cars in front of the wheels, so as to remove any dust or small stone from the rails that happen to be on them, and sometimes they are depended upon to remove light snows. Their general adoption proves their utility. These brooms are generally attached to the frame of the car, by means of staples. To this plan for attaching them there are several objections: when the brooms become worn off at the bottom, it is necessary to set them lower; and in order to do this, the staples must be drawn, and, after the brooms are put to their proper places, driven up again, or, what is more common, broken off and replaced with new ones. When new brooms are to be affixed, the staples must be drawn and replaced with such new ones as suit the new brooms. The frequent repetition of these operations, (as is evidently necessary,) not only exhausts a great deal of time, but materially injures the frame of the car. In order to obviate these difficulties, I propose substituting screw bolts for the staples, terminating at one end with an oval. The shaft of these bolts being made to pass through the cross timber of the frame, the wood must be cut away so as to admit about half the ovals, then, when the broom handle is put into the ovals, turn the screws at the other end of the bolts until the handle is brought so closely in contact with the frame as to hold it in its place. When it is necessary to lower the broom, nothing has to be done but to loosen the screws, put the broom to its place, and screw them up again.

The above may be considered too simple to receive general attention, but I am of opinion that if any persons engaged in railroad transportation adopt it, they will thereby save both time and money.

If you consider it worthy your attention, you will oblige me by publishing it.

An Observer.

[A drawing accompanied this communication, but it came too late to have it engraved to appear in this number of the Journal: we regret this the less, as we think "An Observer's" description is sufficiently explicit without it.]

The British Iron Trade.—Great Britain has been particularly fortunate in possessing inexhaustible mines of coal and iron—two natural products which give the country a prodigious superiority over the adjacent continental nations. By means of these valuable materials, and the skill of the inhabitants, we are able to export hardware goods and machinery of every description, on the most advantageous terms, to all parts of the world. From an early period the natives have enjoyed a high reputation for the manufacture of warlike weapons; and, what is justly esteemed a compliment to the people, it has more than once occurred that they have supplied fire-arms, bayonets, swords, and daggers, to the very nations with which they are at war: thus furnishing instruments for their own annoyance and destruction.

The iron trade of England is one of the chief staples in the country, and gives employment to a vast body of laborers and artizans. Every where our observation is attracted towards the combinations and results of this extensive branch of traffic, and we find that there is even less to create astonishment in the multitude and variety of the products, than in the exquisite perfection of the machinery employed—machinery seeming almost to usurp the functions of human intelligence. "No one, for instance," says a writer in the Quarterly Review, "can adequately comprehend the mighty agency of the steam engine, who has not viewed the machinery of some of our mining districts, where it is employed on a scale of magnitude of power unequalled elsewhere. In Cornwall especially, steam engines may be seen working with a thousand horse power, and capable (according to a usual mode of estimating their perfection as machinery) of raising nearly 50,000,000 pounds of water through the space of a foot, by the combustion of a single bushel of coal. No Englishman, especially destined to public life, can fitly be ignorant of these great works and operations of art which are going on around him; and if time can be afforded in general education for Paris, Rome,

and Florence, time is also fairly due to Manchester, Glasgow, Leeds, Birmingham, and Sheffield. Nor, speaking of the manufactures of England, can those be neglected which depend chiefly or exclusively on chemical processes. It may be conceded, that the French chymists have had their share in the suggestion of these processes; but the extent, the variety, and success with which they have been brought into practical operation in England, far surpass the competition of any other country. These are, perhaps, from their nature and from their frequent need of secrecy, the least accessible of our manufactures to common observation; yet they, nevertheless, offer much that is attainable and valuable. Connected with our manufactures are the great works of the civil engineer, which cover every part of the kingdom—the canals, roads, docks, bridges, piers, &c.: works which attest, more obviously than any other, the activity, power, and resources of the country."

It was lately computed that about 700,000 tons of iron are annually made in Great Britain, a very large proportion of which are the produce of South Wales and Staffordshire. In Scotland, 36,500 tons were, at the same time, made. The chief consumption of this immense quantity of metal is in the island itself, there being little more than 100,000 tons exported. The value of that which was exported was, for British iron £1,226,617, and for hardware and cutlery £1,387,204.

The great seat of the iron manufacture in Scotland is at Carron, a place in Stirlingshire, situated on the north banks of the river Carron, about three miles from the south shore of the Firth of Forth, and a short way north of Falkirk. The Carron iron works, which are reckoned one of the greatest wonders in North Britain, are the property of a chartered company, established in 1760. They are employed in smelting ores, and the manufacture of all kinds of cast iron goods, whether used in war or agriculture, domestic economy, or any other purpose. Cannon, mortars, howitzers, and carronades of every description, are here made in the greatest perfection. The *carronade* now used in warfare was first made at Carron, and hence assumed its name. Shot and bomb shells of every sort and size are also made, and on a scale which rivals the manufactories of Germany and Russia. This large establishment is placed in the midst of a country, possessed of inexhaustible stores of the materials of its manufacture, and has every facility of export. Besides these qualifications, the country is rich in every species of produce, and able to support a dense population. Including those employed in the works, and those engaged in the mines and pits, with the individuals employed in the coasting and carrying trade, the whole will amount to between 2,000 and 3,000 persons, who subsist directly by the works. To a stranger, the approach to the establishment from the north, in a calm night, is striking and terrible, from the illumination of the atmosphere, which is seen at a great distance, the noise of the weighty hammers resounding upon the anvils, the groaning of blast machines, and the reflection of the flames in the reservoir which bounds the works on the north, as in a large mirror. The scene is much admired, and often resorted to in "the calm summer e'en," even by the local inhabitants.—[Chambers' Journal.]

Specification of Mr. Scrivenor's Patent for Improvements in the Construction of Iron Railways. [From the London Repertory of Patent Inventions.]

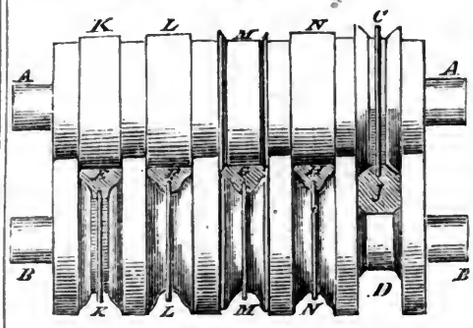
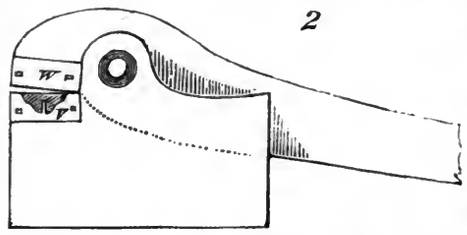


Fig. 1.-A B represents a pair of cast-iron rolls or rollers, which must be mounted in proper frames or bearings as usual in iron works; these said rollers must have a series of grooves or mendations in their peripheries corresponding with the several shapes which the metal is intended to take in its progress through these rollers, until it at length attains the exact shape to form the chairs or pedestals. Thus, for example, the grooves at C D must be adapted to receive an ordinary short thick bar of wrought iron, say about two feet long and about six inches square, properly heated for rolling, and, in fact, of a size adapted for these said grooves, all which is well understood by persons accustomed to roll iron.

The bar is first passed through the rollers at C D, which causes it to assume the shape shown at J. It is then passed in succession through the other grooves on the rollers at KK, LL, MM, and NN, whereby it successively takes the forms shown at E, F, G, and H. Having thus obtained a long bar of iron, of the form shown in section H, I next proceed to cut it into lengths for chairs, which I perform by means of a pair of mill shears, shown at fig. 2; these shears may be worked



in the ordinary manner, but must be provided with steelings or jaws to receive the chair, as shown at VW, otherwise the action of the shears in cutting off the lengths would be apt to force the chair out of shape. It may be here as well to observe, that as the form of the chair would necessarily vary to suit the form of the rail to be used with it, and it would lead to an unnecessary variety of shapes if I did not take one as a standard, for the purpose of describing my invention, I have selected that form of rail which I believe to be one of the most approved and most generally in modern use, and need only state that chairs may be made of wrought iron, on the same principle which I am now describing, to suit any of the ordinary forms of rail now in use; but for the purposes of this specification I shall confine my description to the form of chair required for the form of rail shown in section at fig. 3.

Having, in manner hereinbefore described, cut the rolled bar into proper lengths for chairs, they will assume the form shown at

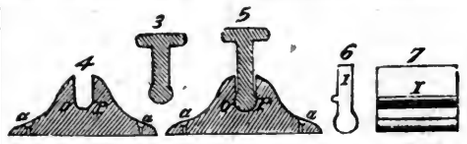


fig. 4, which is a transverse section, *aa* being the holes for the spikes or fastenings which hold it to the block or support; and I next proceed to shape the cheeks OP, more accurately to fit the under side of the rails, which if placed in the chair in its present state would have the appearance shown at fig. 5, and would be too unsteady for their purpose. In order to effect this, and to form at the same time a proper recess in the cheek O, for the wedge or key, which is used to wedge or key up the ends of the rails tight in the chair, I make use of a cold wrought or cast iron mandrel, as shown at figs. 6 and 7, in the following manner: Having heated the chair again in the furnace, I place the mandrel between the cheeks, OP, of the chair, and present it with the mandrel in it to pass through another pair of rollers, as shown at

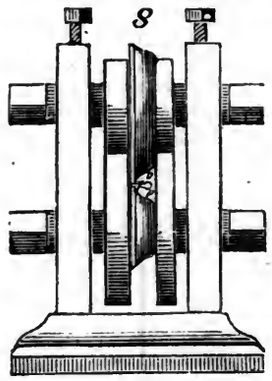
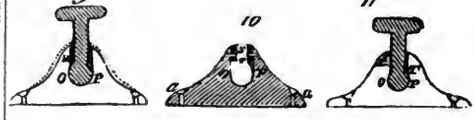


fig. 8, which rollers press the cheeks OP close upon the mandrel, I; and when the chair leaves these rollers it is complete; and if the mandrel be withdrawn, and the rail now inserted in it, will have the appearance shown at fig. 9, being the recess or aperture



into which the wedge or key is to be driven to fix the rails firmly and steadily in their places. The dotted lines in this figure show the alteration in form which the chair has experienced by passing through the rollers shown at fig. 8.

Fig. 10 represents a wrought iron chair, made of more than one piece, and in this chair the cheeks of the chair are made to fit the rail by rivetting pieces of iron rolled to the proper shapes, to the cheeks of the chairs, after they leave the rollers at NN, fig. 1, in which case they will not require to be passed through the rollers shown at fig. 8. Fig. 10, which is now under description, represents a chair in the state in which it is left by the action of the rollers at NN, fig. 1, and as shown at fig. 4, the cheeks O P having plane sides, or being parallel to each other. This fig. 10 exhibits a section of the chair, in which S T represent pieces of rolled iron firmly secured to the insides of the cheeks O P, by rivetting, as aforesaid.

Fig. 11 exhibits it in this latter state, with a wrought iron placed within it, and secured firmly by means of an iron wedge or key,

driven tightly underneath the overhanging piece S, and pressing upon the shoulder of the rail at Q. This plan of wrought iron chair will be found useful when the lower part of the rail for which it is intended may be of any shape, differing from the ordinary kind.

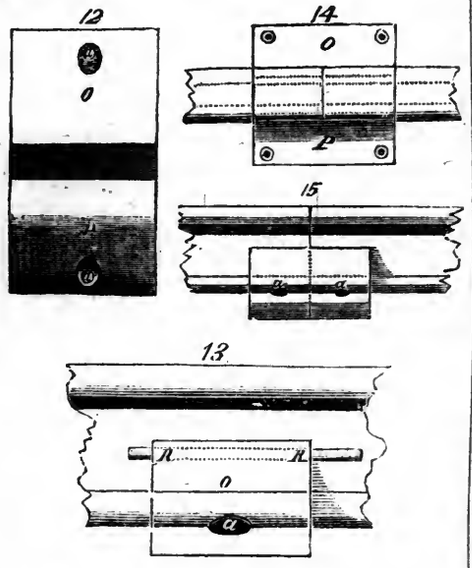


Fig. 12 is a plan of a chair of the full size, and fig. 13 a side view of it with part of a rail placed in it: and fig. 14 is the plan, and fig. 15 the elevation, of another and broader chair, calculated to receive the ends of two rails, and to hold them more firmly than the narrower one shown before.

Now, whereas I claim as my invention the substitution of wrought or malleable in the place of cast iron, in the construction of those parts of iron railways called chairs or pedestals, whether the same be made in one single piece or of separate pieces, rivetted, or otherwise fastened together as hereinbefore described; and such, my invention, being to the best of my knowledge and belief entirely new, I claim the exclusive right and privilege to my said invention.

In witness whereof, &c. &c.

[*For the American Railroad Journal.*]

Mr. Editor,—I perceive in the last number of your Journal a communication from Mr. Sullivan, which is *commenced* as follows, "Objections to Mr. Bulkley's Guard Rail, with some Suggestions on the Preservation of those of Timber;" and *terminates* as follows, "In cities, where the object is to have few supports, and guard against shocks, it is highly probable it would be comparatively useful; (and adds,) I regret that the necessary defence of *other* methods should have given occasion for any remarks against it. The claim is only too broad;" The claim may indeed *seem* too broad for persons who have favorite projects of their own. but so far as relates to "*necessary defence* of other methods," I will, in reply, only remark, that if *other methods* are affected by the publication of notorious *facts*, and by extracts from publications of others, the fault is not mine. My remarks in regard to the practical defects in wrought metal, were noted as *extracts* from an English publication; and my remark that "*wood rails* had, in this country, been observed so far to decay as to require renewing the *fifth year*," were not observations of my own, but by information derived from a Director of a Railroad Company, who stated, "that they (the Directors) had made an appropriation for renewing wood rails, which were only in the *fifth* year of their use." It would be improper publicly to mention the *name* of any Company, in connection with a circumstance of that nature, but there could be no objection to mentioning the name of the Company to any individual who feels interested in furthering an inquiry on the subject.

Mr. S. in that communication has stated much in *favor of wood rails;* and made many remarks purporting to be in opposition to the "Guard Rail." Alluding, therefore, to *wood rails*, Mr. Sullivan states that "he has reason to think that timber can be applied in such wise as to last thirty, perhaps fifty years." When he becomes enabled to satisfactorily establish that point, he will be deemed to have discovered an important improvement.

But his views in allusion to the *principle* of the "Guard Rail," and of the *effects produced* in the uniting of *wrought* and *cast* iron, are totally at variance with practical results. Mr. S. has not read my *specification* of the principle and manufacture of the "Guard Rail," which specification was predicated on *practical results*—nor has he examined the *castings* in my possession; had he have done so, he would have been satisfied from occular demonstration, that the *remarks* touching those points, "principle and manufacture," were made from a misapprehension of the effects produced. Indeed, my explanation was too brief to convey a minute description: hence I remarked in my explanation, that "Rails made on this principle have been examined by many scientific gentlemen, among whom were several eminent engineers, *and approved of by all of them.* A remark by one of those engineers was, '*that in his opinion this discovery would be the means of producing a revolution in the construction of railroads.*' An eminent Professor in this city, whose opinion was solicited, remarked, '*that it was decidedly the best rail that has ever been invented.*' I allude to these remarks, as resulting from a particular examination of *rails in full size for use* by those gentlemen, as it seems difficult in writing a brief description to be so sufficiently explicit as to convey a clear and full understanding of it to persons who have not an opportunity of examining the rail itself."

One of the most singular views expressed by Mr. S., on the subject of the "Guard Rail," is in that sentence in which he opposes the idea of the rail being strengthened on the principle of the *arch*. He says, "*If* it comprehends the principle of the arch, it is an inverted one; and the force is on the *wrong side* for strength, which is in tension, not resistance, to pressure."

In view of his error, I will suppose the *cast iron* part of a "Guard Rail" to be broken crosswise into short sections, each section of course to have in its *lower* edge an aperture for the wrought iron rod to pass through; the *wrought iron rod to be passed through those sections, and to be strongly rivetted at both ends:* thus a rail would be formed of *cast iron sections*, or segments, secured together in the *lower edge* by a wrought iron *bolt* or *rod*. If the *ends* of such a rail were placed upon blocks and the *edge containing the rod* placed *downwards*, and if weights were then applied upon the *upper* edge of the rail, it surely would be sustained on some principle. If not on the principle of the *arch*, I should like to know on *what principle* the weights would be sustained; and I presume it will be admitted that the wrought iron rod, in such case, is on the *right side* for strength, in resisting pressure.

Again, Mr. S. states, "It is however a 'Guard Rail,' that is, when a superstructure of cast iron breaks, the wrought iron is to catch or prevent the fall; its useful effects, he remarks, depend not on the sure result of a *principle*, but on *labor faithfully done* in rivetting down the ends of the *bar* embedded in the casting."

So far from the remarks in the above quotation being correct, I will merely remark that the rails, *eight feet long*, alluded to in my description published, which were placed with supporters at their *ends* only, and upon which ten tons at a single bearing were applied without affecting them, and without doubt will sustain twenty tons or more, have yet the *wrought iron* rods projecting at the ends beyond the cast iron. The reason that the experiment was made without cutting off and rivetting the bolts, was because it was considered as *depending* on principle, and not on *labor performed in rivetting* as stated by Mr. S., it being found in practice that the cast metal binds the wrought so closely as to render rivets at the ends unnecessary. The *primary* strength of the Rail, therefore, is in the combination of the two kinds of metal: the *lower* edge of the cast iron, in full size for use, being secured from end to end by a *wrought rod*, which, as now applied, would require a *distending* force of some forty tons to draw it apart endwise, and the action is such, that it, the wrought iron rod, must be drawn *endwise* before a fissure can commence in the lower edge of the cast iron: and applied in that manner, the *strength* of the wrought rod alone will be sufficient to sustain safely twice or thrice the weight usually applied upon railroads, and may on the same principle be made of any required strength.

With permission, I propose to add some further remarks in the next number of your Journal; and am respectfully, yours, &c.

R. Bulkley.

New Jersey Rail Road.—The Elizabethtown Journal states that a survey and estimate of the expense of this Rail Road has been submitted to the Commissioners, as follows:—

The estimated cost of the road from Somerville to Belvidere—a distance of about 45 miles—is $541,250; or about $12,000 per mile. The branch from New Hampton to Easton—14 miles—at the same rate will cost 168,000. The estimated cost of the road from Elizabethtown to Somerville—20 miles—was 200,000, or 10,000 per mile. Making for the whole extent of the road and branches, a distance of 79 miles, $909,250. This improvement runs entirely across the State of New Jersey, in its most fertile part, and comes in close connexion with the agricultural and mineral wealth of Pennsylvania.

Stocking Knitter.—The Lancaster, Pa. Miscellany notices the invention of Mr. McMullen, of Huntingdon county, in this state, of a machine of the above name. It is described as being turned by a crank, and requiring about as much power as a small hand organ. It is capable of performing the work of six expert knitters, and adapted to the knitting of wool, cotton or silk.

On Calculating by Machinery—Mr. Babbage's Plan. [From Partington's British Cyclopædia.]

The great Pascal was the first who succeeded in reducing to pure mechanism the performance of a variety of arithmetical operations, and a description of the instrument by which he effected this object is to be found in the fourth volume of the *Machine Approuvees* of M. Gallon. In 1673, Sir Samuel Morland published an account of two different machines which he had invented, one for the performance of addition and subtraction, and the other for that of multiplication, without however developing their internal construction. About the same period the celebrated Leibnitz, the Marquis Poleni, and M. Leupold, directed their attention to the subject, and invented instruments for accomplishing the same purpose by different methods. Leibnitz published his plan in the *Miscellanea Berolensia* of the year 1709, giving, however, only the exterior of the machine; and Poleni communicated an account of his to the same work, but also explained its internal construction. Both of these machines, together with that of Leupold, were subsequently described in the *Theatrum Arithmetico-Geometricum* of the latter, published at Leipsic in 1727. We must not omit to mention the *Abaque Rhabdologique* of M. Perrault, inserted in the first volume of the work which we have referred to above, the *Machines Approuvees*, by the Paris Academy, which contains also an account of a *Machine Arithmetique* of M. Lespine, and of three distinct ones of M. Hillerin de Boistissandeau. In 1735, Professor Gersten, of Giessen, communicated to the Royal Society of London a very detailed description of an instrument of this nature which he had invented, and the hint of which, he says, "I took from that of M. de Leibnitz, which put me upon thinking how the inward structure might be contrived." * *

Notwithstanding the skill and contrivance bestowed upon instruments of a nature similar to that we have just described, their power is necessarily but very limited, and they bear no comparison either in ingenuity or magnitude to the grand design conceived, and nearly executed, by Mr. Babbage. Their very highest functions were but to perform the operations of common arithmetic; Mr. Babbage's engine, it is true, can perform these operations; it can also extract the roots of numbers, and approximate to the roots of equations, and even to their impossible roots; but this is not its object. Its function, in contradistinction to that of all other contrivances for calculating, is to embody in machinery the method of differences, which has never before been done; and the effects which it is capable of producing, and the works which, in the course of a few years, we expect to see it execute, will place it at an infinite distance from all other efforts of mechanical genius. Great as the power of mechanism is known to be, yet we venture to say, that many of the most intelligent of our readers will scarcely admit it to be possible, that astronomical and navigation tables can be accurately computed by machinery; that the machine can itself correct the errors which it may commit; and that the results, when absolutely free from error, can be printed off without the aid of human hands, or the operation of human intelligence. "All this, however," says Sir David Brewster, in his entertaining *Letters on Natural Magic*, "Mr. Babbage's machine can do; and, as I have had the advantage of seeing it actually calculate, and of studying its construction with Mr. Babbage himself, I am able to make this statement on personal observation." It consists essentially of two parts, a calculating and a printing part, both of which are necessary to the fulfilment of the inventor's views, for the whole advantage would be lost if the computations made by the machine were copied by human hands and transferred to types by the common process. The greater part of the calculating machinery, of which the drawings alone cover upwards of 400 square feet of surface, is already constructed, and exhibits workmanship of such extraordinary skill and beauty, that nothing approaching to it has hitherto been witnessed. In the printing part, less progress has been made in the actual execution, in consequence of the difficulty of its contrivance not for transferring the computations from the calculating part to the copper, or other plate destined to receive them, but for giving to the plate itself that number and variety of movements which the forms adopted in printed tables may call for in practice.

The practical object of the calculating engine is to compute and print a great variety and extent of astronomical and navigation tables, which could not otherwise be done without enormous intellectual and manual labor, and which, even if executed by such labor, could not be calculated with the requisite accuracy. Mathematicians, astronomers, and navigators, do not require to be informed of the real value of such tables; but it may be proper to state, for the information of others, that *seventeen* large folio volumes of logarithmic tables alone were calculated under the superintendence of M. Prony, at an enormous expense to the French government; and that the British government regarded these tables to be of such national value, that they proposed to the French Board of Longitude, to print an *abridgment* of them at the joint expense of the two nations, and offered to advance £5000 for that purpose. But, besides logarithmic tables, Mr. Babbage's machine will calculate tables of the powers and products of numbers, and all astronomical tables for determining the positions of the sun, moon, and planets; and the same mechanical principles have enabled him to integrate innumerable equations of finite differences—that is, when the equation of differences is given, he can, by setting an engine, produce at the end of a given time any distant term which may be required, or any succession of terms commencing at a distant point.

On the means of accomplishing this, we need make no apology for quoting Mr. Babbage's own words. "As the possibility of performing arithmetical calculations by machinery may appear to non-mathematical readers too large a postulate, and as it is connected with the subject of the division of labor, I shall here endeavor, in a few lines, to give some slight perception of the manner in which this can be done; and thus to remove a small portion of the veil which covers that apparent mystery. That nearly all tables of numbers which follow any law, however complicated, may be formed, to a greater or less extent, solely by the proper arrangement of the successive addition and subtraction of numbers befitting each table, is a general principle, which can be demonstrated to those only who are well acquainted with mathematics; but the mind, even of the reader who is but very slightly acquainted with that science, will readily conceive that it is not impossible, by attending to the following example. Let us consider the subjoined table. This table is the beginning of one in very extensive use, which has been printed and reprinted very frequently in many countries, and is called a table of square numbers.

Terms of the Table.	A. Table of squares.	B. First Difference.	C. Second Difference.
1	1	3	2
2	4	5	2
3	9	7	2
4	16	9	2
5	25	11	2
6	36	13	
7	49		

Any number in the table, column A, may be obtained by multiplying the number which expresses the distance of that term from the commencement of the table by itself; thus 25 is the fifth term from the beginning of the table, and 5 multiplied by itself, or by 5, is equal to 25. Let us now subtract each term of this table from the next succeeding term, and place the results in another column (B), which may be called first-difference column. If we again subtract each term of this first-difference from the succeeding term, we find the result is always the number 2 (column C); and that the same number will always recur in that column, which may be called the second-difference, will appear to any person who takes the trouble to carry on the table a few terms further. Now, when once this is admitted as a known fact, it is quite clear that, provided the first term (1) of the table, the first term (3) of the first-difference, and the first term (2) of the second or constant difference, are originally given, we can continue the table to any extent, merely by simple addition: for the series of first-differences may be formed by repeatedly adding the constant difference 2 to (3) the first number in column B, and we then necessarily have the series of odd numbers, 3, 5, 7, &c.; and again, by successively adding each of these to the first number (1) of the table, we produce the square numbers."

Having thus thrown some light on the theoretical part of the question, Mr. Babbage proceeds to shew that the mechanical execution of such an engine as would produce this series of numbers is not so far removed from that of ordinary machinery as might be conceived. He imagines 3 clocks to be placed on a table, side by side, each having only one hand, and a thousand divisions instead of twelve hours marked on the face; and every time a string is pulled, each strikes on a bell the numbers of the divisions to which the hand points. Let it be supposed that two of the clocks, for the sake of distinction called B and C, have some mechanism by which the clock C advances the hand of the clock B one division for each stroke it makes on its own bell; and let the clock B by a similar contrivance advance the hand of the clock A one division for each stroke it makes on its own

bell. Having set the hand of the clock A to the division I, that of B to III, and that of C to II, pull the string of clock A, which will strike one; pull that of clock B, which will strike three, and at the same time, in consequence of the mechanism we have referred to above, will advance the hand of A three divisions. Pull the string of C, which will strike two and advance the hand of B two divisions, or to Division V. Let this operation be repeated: A will then strike four; B will strike five, and in so doing will advance the hand of A five divisions; and C will again strike two, at the same time advancing the hand of B two divisions. Again pull A, and it will strike nine; B will strike seven, and C two. If now those divisions struck, or pointed at by the clock A, be attended to and written down, it will be found that they produce a series of the squares of the natural numbers; and this will be the more evident, if the operation be continued further than we have carried it. Such a series could of course be extended by this mechanism only so far as the three first figures; but this may be sufficient to give some idea of the construction, and was in fact, Mr. Babbage states, the point to which the first model of his calculating engine was directed.

In order to convey some idea of the power of this stupendous machine, we may mention the effects produced by a small trial engine constructed by the inventor, and by which he computed the following table from the formula x^2+x+41. The figures, as they were calculated by the machine, were not exhibited to the eye as in sliding-rules and similar instruments, but were actually presented to it on two opposite sides of the machine, the number 383, for example, appearing in figures before the person employed in copying. The following table was calculated by the engine referred to:

41	131	383	797	1373
43	151	421	853	1447
47	173	461	911	1523
53	197	583	971	1601
61	223	547	1033	1681
71	251	593	1097	1763
83	281	641	1163	1847
97	313	691	1231	1933
113	347	743	1301	2021

While the machine was occupied in calculating this table, a friend of the inventor undertook to write down the numbers as they appeared. In consequence of the copyist writing quickly, he rather more than kept pace with the engine at first, but, as soon as five figures appeared, the machine was at least equal in speed to the writer. At another trial, thirty-two numbers of the same table were calculated in the space of two minutes and thirty seconds, and as these contained eighty-two figures, the engine produced thirty-three figures every minute, or more than one figure in every two seconds. On a subsequent occasion, it produced 44 figures per minute; and this rate of computation could be maintained for any length of time.

It may be proper to add, that Mr. Babbage stated to the editor of this work, that he considered the powers of his machine as scarcely at all developed—indeed, that the automaton was yet but in its infancy. If such be the childhood of this gigantic engine, what may we not expect from its maturity? There is a general belief that this gentleman has received a large parliamentary grant as a reward for his invention; this is, however, a vulgar error. He has superintended the construction of the instrument at the expense of the Government, but he has not directly or indirectly received the slightest pecuniary compensation for his services.

London Mechanics' Institution. [From the London Farmer's Magazine.]

Mr. Alexander Gordon concluded his short course of lectures on steam carriages on Friday night. The following is his conclusion:

Why, then, it is always asked, are steam carriages not running already on the highway, if the advantages be so great? Ignorance is the reason. You must remember, very few know any-thing of a steam engine; their business, their habits, their pleasures, their urgent duties, have prevented them. I venture to believe, that even in well educated society there is not 1 in 200 who knows wherein consists the difference of a high-pressure steam-engine and a low-pressure steam engine. It has not been necessary for them to know.

You know very well that you cannot pass your hand from the crown of your head to the sole of your foot, and detect any piece of dress which is not directly or indirectly the produce of steam labor. Yet 1 in 200 of well educated society might be puzzled to say with certainty that steam had been instrumental in any part of their dress. Did they but know what it has done, they might speculate on what it can do. That mighty agent, which at the word of the Omnipotent removes hills and overturns mountains, exalts valleys, and rends the earth, which may be instrumental in the "wreck of matter and the crush of worlds," when lent to man does weave a fabric delicate in texture as the gossamer's web.

How few know that in one factory alone steam spins in a single day thread 60,000 miles in length, and yet so delicate that your breath would break its continuity.

Still we are told that steam carriages will never do the country any good.

It were a curious but a fair analogy to draw betwixt cotton productions and agricultural productions. In the former it does every thing—in the latter, what? Had not this beneficent agent been extended to us, our cotton and other manufactures would now be requiring protecting duties to encourage home production. The steam engine renders such unnecessary, and we have not only abundance at home, but a ready market abroad.

India was formerly our rival in cotton fabrics. How has the steam engine altered the case! Now, although at Calicut (the place that gives calico its name), in the East Indies, labor costs only 1-7th of what it does in England, we are enabled, I may say, by the steam engine, to card, spin, and weave Calicut-gown cotton at Manchester, to dye it, to print it, and, after affixing the Oriental mark, we export it again to India. Not only is the cheap labor of the natives of no avail; we rival them in their own market, after a carriage of 28,000 miles, and they cannot tell the difference of the article.

Corn can as certainly be produced for less than 60s. in England. The anticipations of the future are strongly connected with the history of the past. We see the dawn of brighter things for renovated England,—not an obscure indication, but a distinct appearance. * * * * Agricultural produce costs in England twice the sum it does on the continent. The question then is,—Can it be produced for less? Certainly. We remember that 60 years ago a pound of cotton could only be extended to a thread of 17,000 yards, and this by the close and diligent application of a man for the whole day. But by steam power, a pound of fine cotton can now be extended into a thread of 167 miles long, with the attendance of a mere child.

Is it then too much, I ask, to expect that when the steam engine is our motive power on roads, and extends its blessings to agriculture,—to plough, to harrow, and to reap,—that then corn restrictions will be nugatory,—that then we shall have abundance at home, and may even export our corn? The cases are analogous. The results of machinery will be similar.

I cannot close this short course without thanking you for your attention, and expressing my delight that I have found you interested in the subject. It is a momentous one. I have only shown you a meagre outline; you will find much to fill it up with by allowing it space in your thoughts.

Let me remind you, that the decision of the committee of the House of Commons was conclusive in every particular, that "the steam carriage is one of the most important improvements ever introduced."

Let me remind you, that though Hargraves, the mechanic, was an illiterate weaver, he revolutionized the cotton trade. But the members of the Mechanics' Institution, having that knowledge which is power, are a thousand times more able in this instance to change the customs of the age. Hargraves contended single-handed; but here we can unite.

Now let each costermonger's wretched horse remind you of what horses suffer.

Let each quick-going stage remind you that the effective tractive power of the horse is, by the speed which obtains, reduced to a mere fraction, and is maintained at a loss of physical power equal to 88 per cent. That the horses employed for every coach plying betwixt London and Birmingham are 100 in number, and that they do, in reality, consume the food of 800 human beings.

Let each pair of post-horses remind you that they consume the food of three fat oxen; in short, that the horses of the country consume the food of 16,000,000 of our fellow creatures. And when you hear of a ship-load of emigrants, remember that, twist the case as you may, still the affecting truth will meet your inquiries—they are torn from home, country, kindred, and friends, to leave a sufficiency for the now unproductive consumers of their food.

History seems to point exultingly to the record of mechanics, and radiant with splendor shines the name of their philanthropic founder. Our excellent President (Dr. Geo. Birkbeck) has set you an example, and you will dim the lustre of his name if you remain silent or inactive spectators of this master movement in mechanics. Nay, you will betray a lack of sound philosophy and humanity,—a want of feeling for your starving fellow man, as well as a disregard for the appointments of our Maker.

Ogle's Steam Carriage.—On Saturday morning last, Mr. N. Ogle, accompanied by Mr. Baggage, Mr. C. Bisheoff, and several other gentlemen, proceeded from the Bazaar in Portman street, to the residence of Mr. Rothschild on Stamford hill. The distance of seven miles was accomplished, notwithstanding the crowded state of the roads, in 31 minutes.—[True Sun.]

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, April 22d, 1833.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, Ap. 16	6 a. m.	38	30.29	NE by E	fresh	sw by s / E by N	fair
	10	43	.33	..	..	sw	..
	2 p. m.	58	.27	ENE—E	moderate	..	.. —cloudy
	6	48	.24	E—ENE	..	..	cloudy
	10	46	.20	ENE	..	..	..
Wednesday, 17	6 a. m.	42	.12	..	light	..	..
	10	44	.13	variable	faint	..	..
	2 p. m.	48	.08	..	..	ssw brisk	..
	6	47	.10		..	..	..
	10	46	.13		calm		..
Thursday, 18	6 a. m.	44	.16	wsw	faint	wsw	foggy—fair
	10	51	.21	ssw—s	..—light	..	fair
	2 p. m.	62	.20	s	moderate	wsw / nw	..
	6	56	.18	..	..	wnw	..
	10	53	.24	..	..	..	..
Friday, 19	6 a. m.	48	.36	NE—E—ENE	light		clear
	10	55	.40	sw	..	wsw	fair—(thin & elevated *cirri*)
	2 p. m.	63	.38	..—s	moderate	..	.. — ..
	6	56	.29	s	..	..	.. — ..
	10	50	.30		calm		.. — ..
Saturday, 20	6 a. m.	50	.26	sw	light	wsw / w	.. — ..
	10	58	.28	..	moderate	.. / — / ..	.. — ..
	2 p. m.	68	.22	..	..	wsw	.. — ..
	6	64	.15	..	..	..	..
	10	58	.15				..
Sunday, 21	6 a. m.	52	.09	sw	light	..	.. —foggy—fair
	10	62	.09	s	..	..	fair—(thin *cirri*, highly elevated)
	2 p. m.	68	29.91	..	moderate	..	.. — ..
	6	62	.85	..	light	..	.. — ..
	10	59	.84	..	..		..
Monday, 22	6 a. m.	54	.89	NW	moderate		clear
	10	60	.94	NNW	..	wnw	fair
	2 p. m.	68	.94	N—NE—ENE	light	..	..
	6	61	.94	ESE	..		clear
	10	57	.96	..	..		fair

Average temperature of the week, 53.62.

Account of the Arrival of the "Comet" Fire-Engine at Berlin, and of the Experiments there made with it. [From the Allgemeine Preusische Staats-Zeitung, for Dec. 2, 1832.]

To the many useful applications of steam power which have been witnessed of late years, we have now to add that of working fire engines by steam. The merit of having first manufactured such an engine is due to Messrs. Braithwaite & Co., of London.—This machine, which consists of a 6-horse power steam engine, and the pumps worked thereby, rests upon a carriage, which can easily be drawn by two horses, and, in consequence of the peculiar construction of the steam boiler, can be brought into action in the course of thirteen minutes. Its effects are extraordinary; and its utility has been already exemplified at several large fires in London, among which may be mentioned the Argyll Rooms in Regent street—English Opera House, Strand—and, lastly, the celebrated brewery of Messrs. Barclay, Perkins & Co. On the last occasion the engine particularly distinguished itself; and after the fire, and the total loss of the steam engine and pumping apparatus, it was of extraordinary service to the proprietors of the brewery in pumping, for 25 days, the beer brewed in the part of the building that was saved, to the vats, 50 feet above the level of the street.

As the double-acting pump of the engine, which is worked by a 6-horse steam engine, is 6½ inches diameter, and makes 30.14 inches double strokes per minute, it can pump in a
of 10 hours, 8,640 cubic feet, and, in 25
6,000 cubic feet, English measure, to
nt of 50 feet.

Russian Ministry of the Interior for trade, traffic, and building, has had a similar engine, but of still greater power, made by Messrs. Braithwaite & Co It works by an engine of 15-horse power, and is the first of its size made at their manufactory. The makers have named it the "Comet." There were several trials made of it to-day on the Building-ground of the Court-marshall office, in University street, which proved equally satisfactory with those made for two whole days at London. The engine consists of two horizontal 10 inch double-acting pumps, which are worked by two small steam engines of the united power of 15 horses. The pumps, engines, and boiler, with connectors, rest on four of Jones's (of London) patent wheels, (cast iron boxes, with wrought iron spokes and rims,) and can, notwithstanding the immense weight of four tons, (when the boiler is charged,) be easily drawn by four horses on a paved road. Those patent wheels are on the same principle as those with which the Artillery Company at Woolwich have made, according to the *United Service Journal*, such satisfactory experiments. In the course of 20 minutes from lighting the fire in the boiler, the engine was started, and made then 20 to 25 strokes per minute. The pumps being 10 inches diameter, they will draw, with 25.14 strokes, 57 cubic feet per minute, or 3,130 cubic feet per hour, and throw it through the hose to great heights and distances. To the air chamber there may be fixed four sets of hose, which can be used together or separately. By using one hose, and a jet of 1¼ inch diameter, the water was thrown vertically to the surprising height of 120 feet; and at an angle of 45° to 50°, to a distance of 164 feet. The effects of this engine are accordingly very great, and can even be increased by giving it a quicker stroke. The engine is destined, in particular, for the protection of the Royal Palace, the Cathedral, Museum, new Sufferance Warehouses and Courthouse, the Governor's Palace, his Majesty's Palace, that of her Grace the Princess of Lignitz, the Life-Guard House, the Finance Ministry Office, the Academy for Singing, the University, the Palaces of the Queen of the Netherlands and of his Royal Highness Prince William, the Library, the Office of the Minister of the Interior for Trade, &c., the Opera House, and the Royal buildings in Burg street.

For the supply of the great quantity of water necessary for the engine, cast iron suction pipes are to be laid under the pavement, with plugs to which the suction of the engine may be fixed. In consequence of this arrangement, the engine may be used as well for extinguishing the fire itself as for supplying other engines with water. As there are 400 feet of hose belonging to it, the water may even by that means be conveyed to great distances; and a large plane may be protected by placing the engine into a circle, the radius of which is 400 feet. Finally, it is scarcely necessary to observe how advantageous the application of steam is for working fire engines, whether they be on barges or carriages; in the first case without exception—in the latter where there is no want of water. The time of 13 or 20 minutes, which the generating of steam requires, with small or larger engines, is no drawback to their utility, as steam is generated whilst the horses are being put in, and while the suction is being connected to the water pipes by engines on carriages. The engine requires an engineer, a stoker, and one to four men to attend to the hose. It saves the strength of 42 to 105 men, according to its size, from six to fifteen horse power; it does not tire, works regularly, and requires no relief. The diminution of a crowd, which is so disagreeable at a fire, and of the space necessary for many small engines—the greater distance from the fire in which this engine may be placed, and the simplification of directing firemen's exertions,—are certainly undeniable advantages. If, therefore, even the application of steam fire engines by land may be with us but small, as sufficient water can only be produced near rivers or canals, (there being no water-works,) the utility of these engines must call for their general adoption in barges, where there is no such impediment.

AGRICULTURE, &c.

TURNING IN CLOVER FOR A WHEAT CROP.—I shall in this essay treat of the wheat crop, which is the most important of all crops to the farmer. A man who has one hundred acres of cleared land, of common quality, ought to raise on an annual average *one thousand bushels of merchantable wheat*, and also rye, corn, oats, and potatoes, sufficient to defray the expenses of carrying on the farming. The wheat crop should always be *clear gain*.

Don't startle at this, farmer; if you do, it is a sure sign of the improper manner in which you manage your farm. A man who has a farm of one hundred acres of cleared land, can yearly put forty acres of it in wheat, and if the land be in order as it should be, and as every farmer may have it, every acre of the forty will give twenty-five bushels, amounting in the whole forty to one thousand. I shall now shew how land must be farmed in order to produce in this way. Never break your land before harvest and stir it after, as is cus-

tomary with many farmers. Much ploughing impoverishes land and is productive of no good effects. Your wheat ground must be heavily set in clover, and broken up after harvest with three horses, when the seed in the clover is ripe. By thus turning clover down after harvest, when the seed is ripe, it will never miss coming up in the spring, which frequently is the case when sown in the spring with seed. You also save between forty and fifty dollars worth of seed annually, which it would take to sow your ground. When clover is ploughed down after harvest, before you seed the field, you must harrow it with a light harrow the way you have ploughed it, in order to level the ground and prevent the seed when sown from rolling between the furrows, and coming up in rows. Never plough your seed in with shovels, nor harrow it in across the ploughing, when you have turned down clover after harvest, lest you raise the clover, but always harrow it in by twice harrowing with light harrows the way you have broken up your ground. Many farmers have ploughed down clover once, and finding that their crop was not bettered by it, but injured as they believed, have never attempted it again. This is almost invariably the case the first time clover is ploughed down after harvest, especially if the fall be dry and the winter frigid and close. In turning clover down you necessarily must plough the ground deep, and the first time you do it you turn up the clay, which being unmixed with manure of any sort on top, it is in a bad state to sow wheat in. The wheat after some time will sprout and come up, but will look yellow and very spindling. Its roots, after some time, will get down among the unrotted clover, and there will choak, and for want of moisture a great deal of the wheat will dwindle away and die. The unrotted clover, too, below, will keep the ground loose and springy, so that the frost will injure the wheat no little. But when clover is ploughed down a second time on a field, those bad effects to the wheat crop, arising from unrotted clover, are not experienced. You then turn up the clover from below, which was ploughed down before and which is a manure on the top. The seed sown on it now springs up directly, and before the winter sets in has taken deep root, and spread in large green flourishing branches. The clover now turned down rots very soon, in consequence of the rotten clover turned up, which, as manure, always keeps the ground moist, however dry the fall. You may go on now in this way farming: every time you turn up a coat of clover, turn down one, and your wheat crop will never fail, until your land become so rich that you will have to reduce it with corn.—[Hagerstown Torch-light.]

Butter.—A friend waited on us yesterday, to communicate the result of a process, which had been recommended to him, of restoring butter to its original sweetness. Incredulous as he was, he made the experiment, and he authorizes us to say it was entirely satisfactory. It consists simply of churring the butter with sweet fresh milk, in the proportion of about 3 lbs. of the former to half a gallon of the latter. Butter, thoroughly rancid, by this simple process, was rendered sweet and good. Our citizens, in view of the present scarcity and dearness of butter, of even tolerable quality, will not ail to appreciate this discovery.—[Fredericksburg Arena.]

Feeding upon Turnips and Straw.—Adam Ferguson gives us, in the Quarterly Journal of Agriculture, the result of feeding two steers twenty-five weeks, upon *turnips and straw*, the turnips half Swedes, or ruta baga. The steers were half and two-thirds short horned blood. No. 1 gained 406 lbs., No. 2 gained 336 lbs. The daily consumption of turnips was about 200 lbs. per day to each animal. I once fed four bullocks about seventy days upon ruta baga, at the rate of two bushels each per day. They ate hardly any thing else, even refusing oil cake. They required no drink. The turnips thus fed produced me about $75.—[Genesee Farmer.]

On the Cultivation of Bees in Single Hives and Dwelling Houses.

The following cuts represent Dr. Thatcher's hive, which is considered altogether preferable to any that has yet been brought before the public. For the description and drawing, we are indebted to Dr. Smith's treatise on the raising of bees in cities.

DR. THATCHER'S HIVE.

Fig. 1. This is a view in outline of a very valuable hive. The box is to be from one foot to twenty inches square. A back view, as presented in the above diagram, shows that there is a horizontal floor passing through the middle, dividing it into two equal apartments. In the lower, are cross bars for suspending the comb, as common to all hives. In the upper room, are two drawers, side by side, as represented, just filling the whole space. Through the bottom of these drawers, are small orifices, corresponding with two others through the horizontal flooring. Thus, it will be clearly understood, when the drawers are entirely in, the holes will correspond, so that the bees can run freely from the lower to the upper apartments or drawers. At the outside extremity of the drawers, (the one in sight,) a pane of glass is grooved, through which it can be ascertained what state of forwardness the deposition of honey is in. Outside of that, on a line with the box, is a slide door, represented, on the left side, as raised up, the object of which is to close it, for the exclusion of light. When the drawer is drawn out, a slip of tin is slid over the lower opening, to keep the bees below. First one drawer, then the other, may be taken out, alternating, according to circumstances.

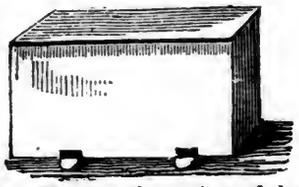


Fig. 2. This is a front view of the doctor's bee-house,—being made large enough to hold two hives, as will be noticed by the two lighting boards: no particular description is necessary, as its shape can be recognized. The door-way in the house should exactly correspond with the door-way of the hive, which is put in at the back side.

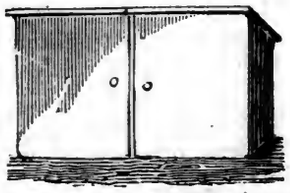


Fig. 3. The back view of the same house presents folding doors, which open for receiving and removing the hives. Trunk handles, on the ends, are very important in carrying the whole from place to place.

To Boil Vegetables.—Vegetables should be perfectly covered with water when boiling, and no time should be lost in draining them the moment they are cooked through.

Potatoes should remain in the hot vessel until the water retained in them has evaporated.

Green vegetables should never be put into the water until it boils. They ought to be boiled quick while uncovered, and removed from the water just as soon as they are cooked through. Onions will be very fine and free from that unpleasant strong taste, when cooked in the following manner: Boil them about one hour in clear water; then drain off the water, and while hot put them into another quantity of water with a little milk and a turnip. Boil them in this water until they become soft, and apply the usual dressing.

We believe this process of cooking onions is not generally known, and having obtained it from an experienced person, whose skill in the art of cookery is amply proved by her table, we recommend the mode to our female friends, as worthy their attention.

French and English Agriculture, compared.—The following comparative, showing the amount of animate and inanimate power applied to agriculture and commerce in France and Great Britain, is given by Mr. Charles Dupin. He takes the population of France at 31,800,000, and England and Scotland at 15,000,000.

Applied to Agriculture in France.

			Effective Laborers.
Human race,	21,056,667	equal to	8,406,038
Horses,	1,600,000	——	11,200,000
Oxen and cows,	6,973,000	——	17,432,000
Asses,	240,000	——	240,000
		Total,	37,278,000

Applied to Agriculture in England and Scotland.

			Effective Laborers.
Human race,	5,000,000	equal to	2,132,446
Horses,	2,250,000	——	8,750,000
Oxen, cows, &c.	5,500,000	——	13,750,000
			24,632,446
Approximating estimate for Ireland,			7,455,701
Total for the United Kingdon,			32,088,147

Applied to the Arts, Manufacture and Commerce.

	In France. Men power.	In Great Britain. Men power.
Animate force equal to	6,303,019	7,275,497
Mills and hydraulic engines	1,500,000	1,200,000
Windmills	253,333	240,000
Wind & steam navigation	3,000,000	12,000,000
Steam engines	480,000	6,400,000
Total force,	11,536,352	27,115,497
Approximating estimate for Ireland,		1,002,667
Total force for Great Britain,		28,118,164

By the above estimate it appears that France, with a population of 32,000,000, employs in agriculture, the arts, and commerce, a conjoined animate and inanimate power equal to 48,814,390 able men; and that Great Britain, with its population, (say 28,000,000,) employs a power equa to 60,206,311. That the inanimate power applied in England and Scotland to agriculture is equal to twelve times the human force, while in France it does not exceed five times; that the inanimate power applied to manufacture and commerce in Great Britain is four times greater than in France; and that the whole animate and inanimate power engaged in manufacture and commerce in Great Britain is nearly treble the amount of that so occupied in France.

Animal Power.—Dupin states, that in Great Britain the animal power is eleven times as the manual power, while in France it is only four times as great. Also, that Britain consumes three times as much meat, milk and cheese, as France. In Hanover there are 193 horses to every 1000 inhabitants, 145 in Sweden, 100 in Great Britain, 95 in Prussia, 79 in France.—[Bull. des Sc. Agri.]

On Setting Wheat.—This is a method which is reckoned one of the greatest improvements in husbandry that was made during the last century.

It seems to have been first suggested by planting grain in a garden for mere curiosity, by persons who had no opportunity of extending the cultivation for profit. This was first attempted at Norwich, and a few years after by one of the largest occupiers of land in Norfolk, who set fifty-seven acres in one year. His success from the visible superiority of his crop, both in quantity and quality, was so great, that in the following autumn he set 300 acres, and has continued the practice ever since. This noble experiment established the practice, and was the means of introducing it generally among the intelligent farmers in a very large district; there being few who now sow any wheat, if they can procure hands to set it. It has been generally observed that although the set crops appear very thin during the autumn and winter, the plants tiller and spread prodigiously during the spring. The ears are indisputably larger, without dwarfish or small corn; the grain is of a larger bulk, and specifically heavier per bushel than when sown. The lands on which this method is particularly prosperous, are either after a clover stubble, or on which trefoil and grass seed were sown the spring before the last. These grounds, after the usual manuring, are once turned over with the plough in extending flag or turf, at ten inches wide; along which a man, who is called a dibbler, with two setting irons somewhat bigger than ramrods, but considerably larger at the lower end, and pointed at the extremity, steps backwards along the turf, and makes the holes about four inches asunder every way, and one deep. Into these holes the droppers (women, boys, and girls,) drop two grains, which are quite sufficient. After this, a gate bushed with thorne is drawn by one horse over the land, and closes up the holes. By this mode three pecks of grain are sufficient for an acre; and being immediately buried, are equally removed from vermin or the power of frost. The regularity of its rising gives the best opportunity of keeping it clear from weeds, by weeding or hand hoeing. Setting of wheat is a method peculiarly beneficial when corn is dear; and if the season is favorable, may be practised with great benefit to the farmer. Sir Thomas Beevor, of Hethel Hall, in Norfolk, found the produce to be two bushels per acre more than from the sown wheat; but having much less smaller corn intermixed with it, the sample is better, and always fetches a higher price, to the amount generally of 2s. per quarter. This method, too, saves to the farmer and the public six pecks of seed wheat in every acre; which, if generally adopted, would of itself afford bread for more than half a million of people. Add to these considerations the great support given to the poor by this second harvest, as it may be called, which enables them to discharge their rents and maintain their families without having recourse to the parish. The expense of setting by hand is now reduced to about six shillings per acre; which, in good weather, may be done by one dibbler, attended by three droppers, in two days. This is five shillings per day; of which, if the dibbler gives to the children sixpence each, he will have himself 3*s.* 6*d.* for his day's work, which is more than he can earn by any other labor so easy to himself. But if he have a wife who dibbles with him, and two or three of his own children to drop to him, his gains will then be very important, and enough to insure a plenty of candidates for that work, even in the least populous parts of the country. But the profit of this method, in seasons when seed corn is very cheap, or the autumn particularly unfavorable to the practice, must certainly be lessened.

This, then, is one of the improved methods of farming which the Agricultural Employment Institution ought to adopt. Transplanting wheat is another source of employment for the redundant poor, the beneficial results of which may be seen at the Exhibition of Arts, Charing Cross, sent there by Mr. E. J. Lance, of Lewisham.—[British Farmer's Magazine.]

Madder.—This is an article of great importance to manufacturers, in procuring red coloring matter, and it is one which may be raised profitably by our farmers. Mr. Russel Browson, of Bridgewater, has published in the New-England Farmer, the method employed by him and his neighbors in cultivating it, and we submit the following abridgment to our readers, in hopes that it may lead some of them to consider whether it would be a profitable business or not.

The soil should be rich, deep and loamy; it should be ploughed very deep twice in the fall and left rough over winter, and rough again in April. The planting should be done in the latter part of April, in hills about six feet apart every way, with two slips in a hill a foot apart. The slips are taken from the old roots in the fall, and may be transported any where, and kept by being buried in a dry piece of ground covered with three or four inches of earth; when planted, and when three inches high, the plot should be weeded and a little earth thrown round the stems of the plants. When six or eight inches high, plough and hoe. The tops fall over on the ridges, and should be laid each way crosswise, and covered with earth, except the ends or buds; in a few weeks they may be spread parallel with the ridges, and should be wed and covered with more earth, the last earthing to be in September. The second season the culture is similar, except that the tops do not lop over till they are a foot high. The earthing should be done in the after part of a dry day. The third season pursue the same course, except no earthing need be done after the first of August, and as soon as the frost has killed the tops, the roots should be dug up, washed thoroughly, partially dried in the sun, and completely dried in a kiln, with a slow heat. The ridges of hills, if well attended to, will be three or four feet broad at the base, and a foot and a half or two feet high, and completely filled with roots, which, after washing and drying, should be ground in the grist mill, when the madder is ready for sale. The whole expense of raising, washing, and grinding, is estimated at 7 cents a pound. It sells at from 22 to 24 cents, leaving a net profit of 15 or 17 cents on a pound. An acre will yield 1500 pounds, or, converted into money, $255 clear profit. Divide this by three, the number of years requisite in bringing it to maturity, and it will yield a net annual profit on an acre of ground of $85. This is no dreamy speculation; it has been realized for some years by farmers in Bridgewater, and can be realized by others if they take up the business. Seed may be obtained of those farmers, at the rate of five dollars a bushel—about five bushels are required for an acre.—[Greenfield Gaz.]

Effect of Removing Fruit Trees.—The facts I shall adduce will be such, and such only, as are capable of being supported by the best testimony.

1st. I can show that a tree sprang up at a distance from a gentleman's house, and was found to produce fruit of a superior quality. The gentleman removed the tree near to his dwelling, and in doing it, entirely altered and spoiled the fruit.

2d. A gentleman was showing me his orchard of about one hundred trees, perhaps more. He told me that the seeds from which that orchard sprang were all taken from an excellent sweet apple; and that in his orchard he had sixteen trees precisely the same as the original apple. I asked him if he was careful to set the tree in the orchard as it stood in the nursery? He told me he did, as near as he could without a compass. Probably with the sixteen he hit the mark.

3d. I know a man who raised a nursery from the seeds of a black gilliflower. He transplanted the trees without any regard to the position of them in the nursery, and not one of them was like the parent. But one that was permitted to remain in the nursery, proved to be a perfect black gilliflower.

4th. I know three trees, now standing in a row, and all produce precisely the same fruit. No one at this day knows what was the quality of the fruit from which the seeds were taken.

5th. In orchards upon strong warm land, at the foot of the Green Mountain, you may find a good proportion of the fruit of a choice quality, while trees from the same nursery, transplanted to the top of the Green Mountain, uniformly produce the worst of fruit.

I have been acquainted with the fruit upon the Green Mountain, through the whole length of it, and have never found a pleasant natural fruit apple.

I would here observe, that a tree grafted or budded in the nursery, will not change the character of its fruit by transplanting.—[Utica Sentinel.]

NEW-YORK AMERICAN.

APRIL 20, 22, 23, 24, 25, 26—1833.

LITERARY NOTICES.

The National Calendar for 1834: Washington, Peter Force.—This annual publication, in maintaining its accuracy and usefulness, increases, we may hope, as it certainly should, in circulation. It is of general interest, and should, therefore, be generally patronized.

New Monthly Magazine, Blackwood's Magazine. } *Boston*, Allen & Tickenor: *New-York*, C. W. Francis.—These republications of noted London periodicals, are like those of the Foreign Quarterly and Westminster noticed last Saturday, cheaper than the originals in price, but less sightly, because of their smaller type and double columns. Nor, to say truth, do we much like them in other respects (we refer to the Magazines, not the Reviews,) for the substance of them in all that can materially and advantageously affect us, is transferred through many different channels into the mass of reading presented to Americans. Still, if there is a demand for the work, let it be met; and it is thus far well met by the publishers of these numbers for January and February.

The American Journal of Science and Arts; conducted by Benj. Silliman, M. D. &c. &c.: Vol. XXIV. No. 1; April 1833.—*New Haven*; Hez. Howe & Co.—The contents of this number are varied as usual. The first paper, on the Georgia gold mines, will attract attention, as speculation in such property is on the alert. The most striking article to us is the analysis of Babbage's book on "The Economy of Machinery and Manufactures." It furnishes an excellent view of that work.

The Colonizationist, and Journal of Freedom, No, 1; Boston: Geo. W. Light & Co.—The great, the difficult, but the inevitable topic with which this publication is connected—the abject state of the colored population of the United States, and the measures best adapted for bettering it—will, however reluctant men may be, force itself upon attention more and more daily. Great Britain and France are both engaged in projects for abolishing slavery in their colonies; and it is certain that slavery will be there abolished. This country—afflicted by the same blight and curse—cannot if she would look on with folded arms, while such things are passing at her threshold—and hence we see with pleasure this periodical, which promises to conduct its discussions with calmness and in a spirit of charity. Never were they more needed, or can they be more welcome, for fanaticism may here be of incalculable evil.

Cruden's Concordance to the New Testament; New York, D. Appleton.—This little pocket volume very neatly printed, is an abridgment for the New Testament alone of the large Concordance of Alex. Cruden, and will be found convenient in all families.

Boys' and Girls' Library of Useful Knowledge. No. VI.—New York: *J. & J Harper.*—Natural History forms the subject of this number; or rather that portion of Natural History embraced in the habits and formation of the smaller animals and insects.—

Instruction is agreeably imparted in a series of Conversations, and the striking objects,—such, for instance, as the air-exhausting apparatus of the fly's foot—are presented in wood cuts, magnified, as when seen through a microscope. This little volume cannot fail to interest and improve the young readers for whom it is designed.

A Treatise on Optics, by Sir David Brewster. First American Edition, with an Appendix containing an Elementary View of the Application of Analysis to Reflection and Refraction, by D. M. Bache, A. M. Professor of Natural Philosophy and Chemistry, in the University of Pennsylvania, &c. Philadelphia: *Carey, Lea, & Blanchard.*—This is the approved work of an approved Philosopher, with additions by a distinguished Professor of our own country, and as such will be welcomed by those whose scientific pursuits and attainments enable them to judge of its value.

The Cold Water Man, or Pocket Companion for the Temperate, is the title of a little volume, which examines the *pros* and *cons* of of the Temperance Cause, with a conclusion, of course, as its name denotes, against any use of ardent spirits.

It is an earnest and somewhat coarse appeal, against the evils of drunkenness; and is upon the whole less temperate in its honest and well-meant zeal, than a preacher of temperance of any sort should be. There are certain minds, however, to which such language is not repulsive—and with those it may do good. It is for sale at the office of the City Temperance Society, 129 Nassau street.

Memoir of the Loves of the Poets; by the Authoress of the Diary of an Ennuyée; 1st American, from the 2d London edition; 2 vols.: *New York*, J. & J. Harper.—Here we have again two charming volumes from the pen of Mrs. Jameson, whom we had so recent an opportunity of warmly praising for her "Characteristics of Women." It is in honor of her own sex, and to illustrate the influence women have exercised over, and the immortality they have received from, the greatest names in ancient and modern poetry, that this tasteful champion again takes the field. In the course of the biographical sketches which are here given, many charming literary anecdotes, beautiful poetical portraits, and amusing incidents connected with illustrious names, are brought together and worked with skill, and soothe to say, with some partiality, into one swelling tribute to the worth and just influence of women. As an instance of the skill referred to, we would point to the manner in which the story of *Leonora D'Este* is told, and the impression which it leaves upon the mind, that the woman loved with all the fervor of such a soul as Tasso's, was not insensible or indifferent to the inhuman outrage inflicted by her brother upon the poet lover, of confining him as a lunatic. We will let the author speak for herself on this point:

A cruel, and, as I think, a most unjust imputation, rests on the memory of the Princess Leonora. She is accused of cold-heartedness, in suffering Tasso to remain so long imprisoned, without interceding in his favor or even vouchsafing any reply to his affecting supplications for release, and for her mediation in his behalf. The excuse alleged by these who would fain excuse her,—"That she feared to compromise herself by any interference," is ten times worse than the accusation itself. But though there exists, I suppose, no *written* proof that Leonora pleaded the cause of Tasso, or sought to mitigate his sufferings; neither is there any proof of the contrary. We know little, or rather nothing of the private intrigues of Alphonso's palace: we have no "mémoires secrètes" of that day; no diaries kept by prying courtiers, to enlighten us on what passed in the recesses of the royal apartments: and upon mere negative presumption, shall we brand the character of a woman, who appears on every other occasion so blameless, so tender-hearted, and beneficent, with the imputation of such barbarous selfishness? for the honor of our sex, and human nature, I must believe it impossible.

In no other instance was the homage which Tasso loved to pay to high-born beauty repaid with ingratitude; all his life seems to have been an object of affectionate interest to women. They, in his misery, stood not aloof, but ministered to him the oil and balm, which soothed his vexed and distempered spirit. The Countess of Sala and Scandiano never forgot him. Lucretia Bendidio, who had married into the Machiavelli family, sent him in his captivity all the consolation she could bestow, or he receive. The Duchess of Urbino (Lucretia d'Este,) was munificently kind to him. The young Princess of Mantua, she for whom he wrote his "Torrismondo," loaded him with courtesy and proofs of her regard. He was ill at the Court of Mantua, after his release from Ferrara; and her exertions to procure him a copy of Euripides, which he wished to consult, (an anecdote cited somewhere, as a proof of the rarity of the book at that time,) is also a proof of the interest and attention with which she regarded him. It happened when he was at the Court of the Duke Urbino, that he had to undergo a surgical operation; and the sister of the Duke, the young and beautiful Lavinia di Rovera, prepared the bandages, and applied them with her own fair and princely hands;—a little instance of affectionate interest, which Tasso has himself commemorated. If then we do not find Leonora publicly appearing as the benefactress of Tasso, and using her influence over her brother in his behalf, is it not a presumption that she was implicated in his punishment? What comfort or kindness she could have granted, must, under such circumstances, have been bestowed with infinite precaution; and, from gratitude and discretion, as carefully concealed. We know, that after the first year of his confinement, Tasso was removed to a less gloomy prison; and we know that Leonora died a few weeks afterwards; but what share she might have had in procuring this mitigation of his suffering, we do not know; nor how far the fate of Tasso might have affected her so as to hasten her own death. If we are to argue upon probabilities, without any preponderating proof, in the name of womanhood and charity, let it be on the side of indulgence; let us not believe Leonora guilty, but upon such authority as never has been,—and I trust never can be produced.

The partiality we speak of, is most strongly shown in the manner in which Laura's conduct to Petrarch is justified—conduct, which must, we fear, man being the judge, be pronounced the result of cold, calculating, deliberate coquetry. In the second volume justice is done upon the odious treatment by Swift of his Stella and Vanessa; and none can gainsay the sentence passed by this female judge upon the conduct towards two of the loveliest and most devoted of her devoted sex, of one, whom, on this occasion, manhood too must scorn. But we must take leave of these volumes, which will have many readers.

Selections from the Writings of Mrs. Sarah Hall, Author of Conversations on the Bible.—1 vol. Philadelphia: *Harrison Hall.*—The previous publication of Mrs. Hall met with so much favor as as to go at once through several editions. This selection from her lighter papers is a posthumous tribute of affection and admiration, and will not detract from her reputation. Mrs. Hall was born and died in Philadelphia. She was the centre of the circle which *Denney*, and the writers for the Port Folio constituted. The whole tone of these lighter pieces is such as good taste and good morals will approve.

Pattie's Narrative is the title of a new work, edited by Mr. Flint, of Cincinnati, which we have received from Peter Hill, Broadway, and shall notice hereafter.

The Daily and Periodical Press of France.—We received by the last Havre packet from the "Newspaper Correspondence Office" of Messrs *I. Bresson & Bourgoin* at Paris, a large sheet, containing the names and places of publication of every newspaper and periodical publication in Paris and the departments—and our surprise at their number, closely as we thought we had watched the spread of these vehicles of intelligence in Frnnce, was truly great. There are published in the departments *two hundred and forty-three papers*—some daily, some tri-weekly, some semi-weekly, some weekly, and some monthly. *Bourdeaux* has *five* daily newspapers and one weekly. Contrast Liverpool in England with this, which has not a single daily paper. *Lyons* has *four* daily papers, *two* tri-weekly, and *one* weekly—*Rouen* has *four* daily papers, one semi-weekly and one monthly—*Havre* has *two* daily, one weekly, and one monthly.

In Paris, *thirty-one* daily papers are published—of which *two* are evening, *three* midday, and the remainder morning publications—leaving 186 periodicals more, recurring at less than two months interval and mostly weekly or monthly, to fill up the sum of 217.

According to a circular dated the 15th February from the Directors of the Office of Correspondence, whence we received the statement of the French press, "more than one hundred journals or periodicals have been established within the past year, chiefly in provincial towns." With such activity and impetus given to the public press in France, what hope can there be of maintaining any doctrines which imply right or superiority in any one portion of mankind—whether kings, priests or nobles—to rule the rest?

We cheerfully comply with the request of Messrs. Bresson and Bourgoin, to insert the following notice:

Messrs. Bresson and Bourgoin, Directors of "the Newspaper Correspondence Office," established in Paris three years ago, have just published a new statistical table presenting for the year 1833, the authentic list of all the papers and periodicals which are published in France. The utility of such a publication cannot be overrated.

SUMMARY.

[*From the Baltimore Patriot.*]

Cumberland, (Md.) April 15, 1833.

Fire at Cumberland.—Mr. Munroe: I hasten to inform you of the calamitous fire which occurred to our town yesterday. The fire broke out about 10 o'clock, P. M. and before many minutes, not less than 15 or 20 houses were in a blaze. It commenced in a cabinet maker's shop in the north part of the centre of the town, and the wind being high, it soon communicated to other buildings, and was not checked in its ravages until about 75 houses, *comprising the very heart of our town, were in ruins*, and more than that number of families are now without homes, most of them not even saving more than the clothing upon their backs. I have not time to give you a list of even the principal sufferers. Our loss is great. But one store remains in the town, (Bruce & Beall's) and their loss is considerable. The three principal Hotels are burnt, and both Printing-Offices. I have nothing saved but my books and accounts. Most of the houses burnt were brick and two story log buildings.

Yours, S. Charles, Editor 'Civilian.'

Fire in Cumberland.—An Extra from the office of the Hagarstown Torch Light, communicates some further particulars. A meeting of the inhabitants of Cumberland was held on the fifteenth instant, and a committee appointed to draft an address to the people of the United States, in behalf of the sufferers, who are as follows:—

George Hoblitzell, 3 or 4 houses: Joseph Everstine 3 do; George Wincow 1 do; Dr. Lawrence, 1 do; B S Pigman 2 do; Lownds 1 store; Geo Hobb 2 houses; John T Sigler 1 do; late John Scott 1 do; Dr L P Smith, and R Worthington, 3 do; Bank property, 3 or 4 do; Thomas Dowden, 2 do; Henry Wincow, 1 do, and $1,500 cash: Adam Fisher, 1 or 2 do; Martin Rizer, of M. 1 do; S Bowden, 1 do; J M Buchanan, 1 do; Mrs Frethy, 1 do; John G. Hoffman, 2 do; Shrive, do; Robert M'Cleery, 2 or 3 do; Mrs. Gephart, 1 do; Robert Swan, 2 do; Dr J M Smith 2 do; Mrs Taylor, 1 do; Samuel Hoblitzell, 1 do; besides others, mostly brick houses and 2 story log buildings.

7 Merchants, whose loss in real and personal property, and goods, is estimated at	94,000
3 Physicians	12,000
9 Hotels, including the loss of the owners,	30,000
30 Mechanics, (real and personal property, stock, &c.)	71,000
Citizens not included in the above description,	91,000
Citizens not residing in the town,	14,000
Total loss,	$262,000

The Erie and Champlain Canals were opened for navigation throughout the entire line on Monday.—About forty boats, says the Argus, obtained clearances, and departed for the west and north. There were of course no arrivals except from the immediate vicinity.

It will be perceived by the following article, from the Northern Pennsylvanian, that business has been resumed on the Railroad of the Delaware and Hudson Canal Company. The Canal, it is understood, will be opened for business on the 25th instant.

Business Resumed.—Operations on the Carbondale Railroad commenced on the 8th instant. We in common, we presume, with every one in Carbondale, and the adjacent country, contemplate with satisfaction and deep interest the prospective business of the year; for most heartily do we wish the company the success and prosperity which their enterprize and spirit deserve and must command. We consider its prosperity and that of the surrounding country one and the same. The report of the board of trade to the coal mining association of Schuylkill county, was published in the Miner's Journal some time since, in which the business of the Delaware and Hudson Canal Company for the present year was estimated at 95,000 tons. This error we now take occasion to correct; that quantity of coal passed over the Railroad last year, and we are assured on the best authority, that the quantity this year will not be less than 120,000 tons; and may be extended to 140,000, should the company deem it expedient. The road is fully equal to the delivery of that quantity, to say nothing of the coal now at Honesdale. The company is provided with boats, also, to that extent. The mining has been going on during the past winter, and there is now a large quantity of coal at the foot of the first plane, equal in quality, we will venture to say, to any that has been or will be mined this year in Pennsylvania.

We are requested to state that the Camden and Amboy Rail Road Company, will commence running on Thursday the 25th inst. three lines daily, for Philadelphia, leaving each city at 6 and 10 A. M. and 2. P. M.

Lake Erie Navigation.—The Buffalo Journal of the 17th inst. says—Steamboats are running between Dunkirk, forty-five miles up the Lake, and Detroit. The *Uncle Sam*, built at Detroit, is under way. and the papers of that place speak of her in the highest terms. The *George Washington*, another new steamboat, and the largest ever cast upon our waters, was launched at Huron, Ohio, on Tuesday, the 9th inst. She is of 600 tuns burthen, built by Mr. Pangburn and owned by the Huron Steamboat Company, and will be ready for the Lake by the 1st of July.

[*From the Cincinnati Gazette, 13th inst.*]

Canal Transportation.—We are indebted to Messrs. Mills and Townsend, agents for the New York and Ohio transportation lines, for the following communication received by them from Alfred Kelly, Esq., acting canal Commissioner of the Ohio Canal:

"Persons engaged in commercial pursuits, and particularly those who receive merchandize from the eastern cities, or send property of any kind to those cities, will be interested in learning that such important reductions have been made in the rates of toll, both on the Erie Canal of New York and on the Ohio Canal, as will materially reduce the cost of transportation between the western country and the seaboard, by way of the lake and the Canals.

On the Erie Canal of New York, the tolls on the staple articles of agricultural produce, such as flour, wheat, beef, pork, lard, whiskey, &c., have been reduced from 7 to 5 mills per 1000 lbs. per mile, and on merchandize coming from tide waters, from 14 to 12 mills per 1000 lbs. per mile.

On the Ohio Canal, the toll on the staple articles of agricultural produce, in all distances beyond 200 miles, have been reduced from 5 to 3 mills per 1000 lbs. per mile. The toll charged on the staple articles of agricultural produce from Portsmouth to Cleaveland is 15 cents, 8 mills per 1000. Sugar and molasses in hogsheads or barrels, cotton in bales, and manufactured tobacco, transported from the Ohio river to the Lake, throughout the whole length of the Ohio Canal, and charged with toll at the rate of five mills per 1000 lbs. per mile. Under the present rates of toll, flour may be transported from Cleaveland to New York for $1,00 per barrel, covering all expenses, and for about $1,62 from Portsmouth, and other staple articles at the same prices, according to weight. Merchandize may be delivered at Portsmouth from the city of New York for $2,25 per 1000 lbs., and at Cincinnati $2.37 1-2 to $2,40, covering all expenses at intermediate points.

On Lake Erie arrangements have been made to have two steam boats leave Buffalo every day for Cleaveland, and the other for Detroit by way of Cleaveland. One steamboat leaves Cleaveland for Buffalo, and one touches at Cleaveland on its way from Detroit for Buffalo each day. This arrangement will expedite the transmission of goods between New York and the western country, and together with the arrangements made for the tow boats on the Hudson river, will prevent those delays in the forwarding of merchandize which have heretofore been the subject of complaint. The average time required to transport goods from New York to Portsmouth on the Ohio will not exceed 17 to 20 days."

Rise of Real Estate.—The lot of ground at the corner of Wall and William sts. with an old brick building covering the premises and measuring 29 feet front, by 42 feet in depth, sold yesterday by auction, for forty thousand seven hundred and fifty dollars.—Mr. Rufus L. Nevins was the purchaser. Only nine years ago this same property was bought by the late Gen. Mapes, at the sale of Isaac Classon's Estate, for sixteen thousand five hundred dollars. The present sale is about thirty-four dollars a square foot.

Explosion.—We learn that the Bellona Powder Works, about 7 miles from Baltimore, were blown up on Sunday, at half past 2 o'clock. Although the works are nearly destroyed, we are gratified to hear no lives were lost.—[Merc. Adv.]

Another Steamboat Lost.—The Louisville Herald says, that the steamboat Trenton was snagged in the Missouri, on the 2d instant, about 18 miles above the mouth, and sunk in about 15 minutes. The passengers and crew were saved, together with a considerable portion of the freight.—[Merc. Adv.]

Tobias Watkins has at length been released from his long imprisonment for debt. Severe indeed has been the penalty of his transgression.

[*From the Cincinnati Herald, of 15th inst.*]

Another Destructive fire.—We learn from the Captain of the Steam Boat Juniata, which arrived at this port last evening, that Portsmoutb has suffered very much from a distructive conflagration. It is supposed to have occurred in a stable; whether designedly or otherwise, we have not heard. That valuable square immediately west of, and adjoining, the Court House, and which contained some of the most valuable buildings in the place, was almost, if not entirely, consumed.

Black Hawk, the celebrated Indian Chief, with his two sons, the Prophet, and one or two other Indians, passed through Cincinnati on the 12th instant, as hostages to the United States, on their way to Fortress Monroe.

Key West, April 8.—I write you amidst disease and desolation. The Cholera made its appearance here about a week since, and two days after, all the garrison except one officer and three men, left for the Main land. The inhabitants of the Island are leaving as fast as opportunities occur; and to add to our misfortunes, I fear our best physician will go too.—[Journal of Commerce.]

FOREIGN INTELLIGENCE.

Latest from France.—The Charles Carroll from Havre, brings us our Paris files to the evening of the 23d ult.

The rumor of the occupation of Smyrna by the troops of *Ibrahim Pacha*, is derived from a letter from Trieste, without date, published in the Messager des Chambres of 22d, as follows—"A vessel which arrived here yesterday from Smyrna, in 15 days passage, announces the occupation of that place since the 20th of February by Ibrahim Pacha, with 30,000 troops."

The negotiations at Constantinople between Adl. Roussin of the French navy and the Turkish government—of which the double object seems to be to exclude Russia from any control in the affairs of the Porte, and to induce *Mehemet Ali* to recall his victorious son—were brought to a point on the 27th Feb, in the form hereinafter expressed.

Constantinople, Feb. 27.—"The din of arms has subsided, but diplomatic negotiations have become more active. Admiral Roussin has daily conference with the Reis Effendi, and enjoys the utmost confidence of the Porte. M. de Botineff, the Russian Ambassador, is seen but seldom in the palace of the Porte. The French Ambassador has concluded a convention with the Divan, the substance of which is as follows:—1. Hostilities between the two contending parties are to cease by sea and land. 2. Ibraham Pacha, shall evacuate those parts of the Ottoman empire, which on the peace being signed, are to be restored to the Sultan, to be again under his immediate sovereighty as before the war. 3. The Russian fleet shall quit the Bosphorus. 4. Mehemet Ali shall be endowed by the Porte with the vassalage of the districts of St. Jean d'Acre, Jerusalem, and Tripoli. 5. Mehemed Pacha shall recognize the Sultan as his Lord paramount, and take the usual oath of allegiance. 6. The Port will facilitate by every means in its power, the return of the Egyptian army. 7. The French Government pledges itself to employ its utmost influence to bring about a convention on these basis between the Porte and Mehemed Ali. This is the purport of the convention which has been signed by the Reis Effendi and Admiral Roussin. The Turks are now in high spirits; the Capital appears to be safe, and hostilities are suspended. Every thing indicates that the French, are acting with the perfect concurrence of Mehemed Ali. The latter wished to have all Syria conferred upon him, but according to the preceding articles he must content himself with only a small portion of that Pachalik.—If no mutual understanding existed between Admiral Roussin and the Viceroy of Fgypt, the French Ambassador would run the risk of compromising himself at Cairo, and of seeing his stipulations rejected. Serious collisions might then arise between the Cabinet of Paris and Mehemed Ali, as Admiral Roussin has solemnly guarrantied to the Porte the acceptance of the stipulated points. The English Charge d'Affairs has sanctioned the proceeding of the French Ambassador, and used his influence with the Porte to induce it to accede to the above convention. The Austrian Internuncio, Baron l'Ottenfels, has acted in the same sense."

Paris, March 22.—The Tribune and the Echo Francais of yesterday were seized—the former for its leading article relative to the condemnation of the National and the Charivari, and the latter for having copied the same article.

According to the Messager des Chambres, orders have been given at St. Etienne and the other manufactories of arms in the kingdom, for the suspension of the fabrication of arms for the present.

All the movement journals announce that a committee, consisting of General Lafayette, MM. Dupont de l'Eure, Odilon Barrot, Marshal Clausel, MM. Mauguin, Berenger, and Chatelain, is to receive subcriptions to repurchase M. Lafitte's hotel, which they call "the bivouac of the revolution."

The Superb, ship of the line, sailed a few days ago from Toulon, to convey 500 men of troops to Bona. The Marengo is to take 500 or 600 men of the 66th, and transport them to Oran.

According to letters from Corfu, King Otho has already appointed six Greeks to be Generals.

Most of the chiefs in the kingdon of Greece had summoned their adherents to take the oath of allegiance to Otho, the new sovereign.

Prussia.—Berlin, March 10.—"For some days past reports have been current that the London Conference would be revived. Prussia feels the obstinacy of the King of Holland, and wishes to see an end put to it. The Budget of the War Department for the year 1831, amounted to 49,750,000 thalers, which is double that of ordinary times."

Several projects of law imposing taxes were passed by considerable majorities in the sitting of the Second Chamber of the State General on the 16th March, at the Hague.

Spain.—Bayonne, March 16.—A letter has arrived to-day from Irun, announcing a partial change in the Spanish Ministry. Gen. Morillo takes the place of Gen. Cruz; San Martin has the Department of the Interior; and the Duke de San Fernando succeeds M. Zea Bermudez as Minister of State. A Spanish courier has passed through this town this morning, and is said to be the bearer of despatches for the French Government.

Important.—This morning only we received the annexed letter from Havre, written at the moment of the departure of the Charles Carroll. It is important, as showing—if the intelligence by estafette from Paris be well founded—that the negotiation between the French Admiral, the Porte, and *Mehemet Ali*, for checking the march of *Ibrahim*, had been disregarded by the latter—that Sir S. Canning had

failed to induce Spain to interfere against Don Miguel —and that the Pedroites had made a hit at Oporto.

HAVRE, March 24.

The Charles Carroll is going out. The Estafette, from Paris, brings news of Gen. Solignac having taken 600 prisoners in a sortie from Oporto; and that the Egyptian army, by the latest accounts, was marching on Constantinople.

You will have heard Canning's negociation has failed. The Spanish government is not disposed to join England and France against Miguel. The eternal Dutch and Belgian question still unsettled.

Lafitte was on the point of selling all his property to pay his debts. The idea of a subscription was started by a friend; and his Hotel, worth, perhaps, more than 2½ millions, will be purchased and given to him. Many persons, who would have subscribed largely, will not contribute anything, because politics are mixed up with the affair.

MISCELLANY.

[*From the Foreign Quarterly Review.*]

THE YOUNG NAPOLEON.

1. Le Duc de Reichstadt. Par M. de Montbel, Ancien Ministre du Roi Charles X. Paris, 1832, 8 vo.
2. Lettre a M ****, sur le Duc de Reichstadt. Par un de ses Amis. Traduite de l'Allemand. Par Gerson Hesse. Paris, 1832, 8 vo.

By a strange fatality, one of the ministers of the dethroned Charles X. was driven to Vienna for shelter, where he arrived in good time to gather up the remains of the *ancien* Roi de Rome; one of the last ministers of the banished restoration occupies his exile with the latest souveniers of the abdicated empire. But a Frenchman is always a Frenchman, and no matter to what party he belongs or by what party he suffered—in foreign countries, *la partie* and *la gloire*, invariably attaching to it, are always ideas which with him sanctify every thing connected with them. Who could have expected to find an ultra royalist minister of the Restoration occupying his leisure—or rather his time, for it is all leisure with him—with the recollections of the last of the imperial dynasty? and yet so it is, that with pious hands and reverent feelings, M. de Montbel has taken upon himself the task of recording, for the benefit of the historical world, all that he could discover of the life and character of the son of the most illegitimate of rulers. Let his politics or policy be what they may, we owe his piety grateful thanks for having undertaken the duty, and are happy to say, that the manner in which it is executed is highly creditable both to his feelings as a man, and his abilities as an author. It redounds to the praise of M. de Montbel, that he has been so well able to divest himself of the narrow prejudices of party, and at once, as regards the interesting subject of his biography, place himself in a position of perfect impartiality, and in a most favorable point of view, for recording all that must necessarily interest the world and posterity in the history of this extraordinary graft on the ancient stock of Austrian legitimacy.

The Life, as given by M. de Montbel from the best sources, and frequently in the very words of the only persons qualified to speak, will long be a favorite text both for moralists and politicians. The influence of hereditary disposition, the effect of education generally, and the peculiar character of this youth's education, are fruitful sources of reflection and instruction; while his anomalous positions, the chances of his future life, and the probable effect it might have had on France and Europe at large, are not less likely to stimulate the disquisitive faculties of historical writers. M. de Montbel's book has also the recommendation of complete novelty. The life of the son of Napoleon, since he fell into Austrian hands when an infant, has been a perfect mystery: the people were scarcely kept in more complete ignorance of the daily life of the man with the Iron Mask: his death was almost the first certain news of his continued existence. Now that there is no motive for farther concealment, we are let into all the details of his short career, down even to the most trivial actions of hourly existence; not without some reservation certainly, produced by a perpetual consciousness of the position of the writer—a dependant of the Court of Vienna—but still with a sufficient abundance of particulars, flowing from the mouths of his friends, tutors and household, to satisfy us altogether as to the character and disposition of a remarkable and most interesting personage.

Many unworthy suspicions have been entertained of the Court of Austria, respecting the treatment of this young man; these suspicions will at once vanish before the perusal of this book, while the truth of the intentions of the Emperor, or at least of his minister, will appear with tolerable plainness. It was resolved, first, that the young King of Rome should be made a German Prince;—next, that as every man who has passions and talents must have a pursuit, it was deemed safest, and perhaps most beneficial, that he should be indulged in his enthusiasm for the military profession. The example of Prince Eugene was set before him, as the one they would most desire him to follow. Prince Eugene was neither imperial nor alien, and yet one of their most valuable Generals, and in no way a dangerous subject, while he gained glory enough to satisfy the most ambitious of men. These calculations would probably have answered, had not the natural been a more complex machine than the political, and as such even beyond the ingenious management of M. de Metternich.—The youth was in a moral prison, and his soul pined. It was deemed necessary that he should be cut off from all communication with the agitators and adventurers of France. To effect this object, he was kept in utter solitude; surrounded certainly by attendants and instructors, but still, in a social sense, buried in utter solitude. His orders were obeyed, his every wish anticipated; he had his books, his horses, and his equipages for promenade or the chase; but for all that the soul or the heart holds dear, he was, with slight exceptions, a solitary prisoner. This might be practicable to some extent with no Austrian Arch-Duke; but with a child in whose veins the quick blood of the Corsican Conqueror flowed, it was a species of lingering moral torture. To outward appearance, he was like Rasselas in the Happy Valley; but, like him, he was wearying for all that was beyond the range of the mountains that separated him from his fellow men; in the one case, these mountains were physical obstacles; in the other, moral ones. The spirit chafed against the prison bars; the victim, bruised and care-worn, refused food, lost its substance, grew emaciated, and died. The mind all the while was developed and grew apace, while the body became debilitated, nay, aged: the truth being, that intellectual food may always be found in prison, but moral and social insolation prey upon the physical state; the creature grows up a sapless weed, with the suspicions and distrust of long experience, and the reflection and calm profundity of thought peculiar to unclouded age. After his death, young Napoleon presented in his body the same anomaly he had done in his lifetime; his frame had all the slenderness and fragility of infancy stretched into unnatural length, while his vital organs bore the schirrous and flaccid appearance of extreme old age; there was no part healthy or natural but the brain, which was wonderfully fine, with the exception, that it was more compact, and of firmer substance than is usually found. So it was in life. This boy had all the enthusiasm and passion of youth in extreme force, alternating with a distrust, a caution, and a rapidity in fathoming the character and appreciating the talents of the persons with whom he was necessarily brought into contact, which are the usual qualities of age. His intellect chiefly exhibited itself in mastering the history of his father in all its voluminousness, in the soundness and acuteness of his criticism on the several authors he had read, and in the facility with which he acquired the theory of war, and all the studies which conduce to it. He seems to have known almost by instinct, that it was only through war that he could ever rise to more than a mere eunuch of the palace, and from the earliest age he took the deepest interest in every thing that partook of military movement. It was not, however, thought safe to intrust him abroad till he was nearly grown up; he felt that his entrance into a regiment was his first step to emancipation, as he called it, and he devoted himself to the practical duties of a soldier and a chief officer with an ardour which quickly devoured the pigmy body that had been frittered away and shaken by the silent struggles of solitude. The word pigmy must, however, be taken in the sense of feeble; in its sense of diminutive, it is wholly inapplicable; for the young Napoleon, in that respect taking rather after the Austrian than the Corsican race, had shot up in his sunless nursery, to the height of the tallest man. No story was ever replete with more painful interest than the account of the obstinate struggle which this unhappy youth kept up against physical decay; he never complained, never even would admit that he was ill; finding his voice fail him in manœuvring his corps, he would, after the exertion of a review, go and hide his weakness, fainting and sinking upon some secret sofa. He was terrified, poor fellow! lest he should be, on the very threshold of the world, driven back into his solitary splendor. At length, however, on the representation of a physician, whom he never would consult, he was sent to Schonbrun, where he died. He had however nearly rallied, and if the disease had not advanced to the extent of producing severe organic change, would perhaps have recovered by a proposed tour to Naples and other parts of Italy. The effect on the mind of the moral prisoner was electric, and to his dying hour, this journey was his chief hope and prospect in the world.

Before the little Napoleon came into Austrian hands, of course no regular attempt had been made to educate him; but it is not to be supposed that nearly five years of such a pregnant existence as his were left without numerous and deep impressions. His was far from a communicative disposition, and consequently he did not, like some children, talk himself out of his recollections. They sank in the mind of the forlorn boy, and if ever they were permitted to see the light, it was in some little moment of excitement. One day, when he was playing with the imperial family, one of the archdukes showed him a little medal of silver, of which numbers had been struck in honor of his birth, and were distributed to the people after the ceremony of his baptism: his bust was upon it

He was asked, do you know who this represents! "C'est moi," answered he, without hesitation, "quand j'etais Roi de Rome." Ideas of his own former consequence, and the greatness of his father, says his early tutor, M. Foresti, were constantly present to his mind. Other impressions were not less deep; he had a love of truth which made him utterly intolerant even of fable, and probably contributed to his subsequent distaste for poetry. The word *vrai* he used to pronounce, when a child, with a solemnity and a movement of the hand, which showed that it had to him all the sacred character of an asseveration. And yet, child as he was, he had that force of character, or rather that sensitiveness mixed with vigor, that, on being ridiculed unintentionally for its use, he never again repeated the word. On occasion of his mother's birth-day, some of the little court, soon after the dethronement, made these verses, in order to be repeated to Maria-Louisa by her child:

Autant que moi, personne, o ma cheer Maman,
Ne doit tenir ce jour prospere;
Vrai, ne lui dois-je pas le bonheur si touchant,
Et si doux a mon cœur de vous nommer ma mere?

He soon learned the stanza; and was afterwards told why the word *vrai* was introduced; he said nothing; when admitted to his mother, he showed a great deal of affection and amiability, but never pronounced the quatrain, and never more used the word.

The first instruction attempted to be communicated to him was a knowledge of the German language. To this he opposed a most determined resistance: not one word of German would he pronounce, and even resisted the endeavors to teach him as an insult and an injury; for his age he kept up this resolution a long time; when it was conquered by the mildness and persuasion of his teachers, he learned the language with a prodigious facility, and soon spoke it in the imperial family like one of themselves. Not only the rapidity with which he acquired this difficult tongue, but even his mistakes and misconceptions indicated a superior logical faculty, for they were generally founded on fancied analogies, and little etymological observations. M. Foresti, whose duty it was to teach him to read, found the difficulty insurmountable, until he introduced a rival and a fellow pupil. The son of one of the valets de chambre of the Empress was procured, and in company with him the young Napoleon quickly devoured his task. Such was the being destined to be brought up in nearly a perfect state of insolation.

"From the very first," says his tutor, M. Foresti, and he was with him full sixteen years, nearly the entire of the youth's Austrian life, "he exhibited the marked characteristics of his disposition. He was good-natured to his inferiors, friendly to his tutor, without any lively expressions of his feelings; he only obeyed on conviction, and always began with resistance. He loved to produce an effect, and generally it was evident that he thought a great deal more than he said: the difficulty then was to prevent this habit from growing into dissimulation."

Begging the excellent M. Foresti's pardon, such a character as he describes was by no means likely to be guilty of the mean vice of dissimulation, which is the result of a base fear, and is the last fault to taint the character of a child, the first movement of whose mind is to resist, and who only yields on good reason being shown. Other traits are equally inconsistent with this apprehension.

"He always received our reprimands with firmness, and however annoyed he might have been by them, he never retained any rancorous feeling; he ended always by allowing the justice of the representations that had been made to him. When any

mutual coldness had taken place in the course of the day, owing to some severe lecture, in the evening, on taking leave of us, he was always the first to hold out a friendly hand, at the same time requesting that we would pardon his faults, and overlook the wrongs he had done."

"He gave me," says M. Foresti, "many proofs of the command he had over himself. Amongst others, this:—up to the time of Maria Louisa's departure for her State of Parma, there was about him a person who had treated him with the greatest possible affection and attention. This was Mme. Marchand, the mother of the first valet de chambre of the Emperor; she remained with him all night, and every morning was the object of his warm infantile caresses. She was always present at his rising, and had the care of dressing him. On the departure of Maria Louisa, Mme. Marchand returned to France at the same time with M. de Bausset (author of *Memoires sur l'Interieur du Palais,*) who also had a great affection for the Prince. Henceforward I slept in his room at night. The first night I dreaded, lest in the morning he would give way to grief on finding that his affectionate nurse was no longer there. On waking, however, he spoke to me without hesitation, and with a calmness astonishing for his age, said, "M. Foresti, I wish to rise."

One of the youth's governors was a M. Collin, a poet and dramatist of Vienna of some celebrity. This gentleman could not help thinking that the young Napoleon's abhorrence of fiction was a sort of censure on his profession, and it was not to be wondered at that he endeavored to dress up fiction in the garb likely to be most agreeable to the taste of the imperial pupil. In resorting to Robinson Crusoe for aid, may be perceived a tacit compliment to the youth's acuteness, for, assuredly, no other fiction was ever more like truth. "The poetical genius of Collin," says M. Foresti, "appeared to triumph somewhat over this obstinate resolution to reject everything which did not appear to be true in all the exactitude of truth. On the heights which overlook Schonbrunn, on the right of the elegant arcades of La Glorietta, and at the bottom of a dark avenue of trees, may be found the spot, altogether shut out from a view of Vienna, by deep thickets, and an impervious mass of wood; a spot, from which nothing can be viewed save the cheerful but solitary aspect of mountain tops, smiling valleys, and rugged peaks, that go on ascending until they reach the lofty elevation of the summits of Schneeberg. Here there is a hut constructed after the fashion of Switzerland, or rather of the Tyrolese mountains, whence it is called the Tyrol's House. In this rustic abode and its neighborhood there is nothing to remind the spectator of the vicinity of the capital. To this wild and quiet spot Collin would often bring the young Duke. He there told him the story of Robinson Crusoe. The imagination of the child warmed to the tale. Solitude and silence completed the illusion; he fancied himself in a desert, and Collin suggested that he should set himself to fabricate the utensils that would be necessary to him, were he under the necessity of providing for his own subsistence in a similar spot. He acquitted himself of the task with much hardiness. A collection has been made of these things; they are placed in the pavilion, which still goes by the name of the House of the Duke of Reichstadt. The governor and his pupil, by uniting their efforts and their industry, succeeded in scooping out a cavern resembling that described as the abode of Crusoe on his desert island."

Such is the immortality of genius. The creation of Defoe, the persecuted and unhappy, imagined in some garret, whether in Bristol or Whitechapel, becomes the factitious stimulus of a Prince's education; and that Prince the son of a banished ruler of France, far greater than the Grand Monarque, who in Defoe's day, seemed to have reached the *ne plus ultra* of earthly grandeur.

During the first period of the young Napoleon's instruction at Schonbrunn, his tutors were sadly perplexed by his extreme curiosity respecting his father, as to what had become of him, the causes of his fall, &c.; evasive answers did not satisfy him.

"It was," says M. Foresti, "for us a species of torture. Happily the Emperor came at length; we hastened to inform him of the perpetual questions that were put to us, and to request his instructions on this point. The Emperor answered:—'Truth should be the basis of the education of the Prince; answer all his questions freely; it is the best, indeed the only mode of calming his imagination, and of inspiring him with confidence, which will be necessary for you, who have to guide him.'

"At first, he overwhelmed us with questions, and exhibited an affluence of ideas, perfectly surprizing. Finding that we were authorized, we answered him with perfect candor. That which the Emperor had foreseen came to pass. After a few days, he seemed satiated with this conversation, and thenceforward became more calm, more reserved on the subject. It may seem incredible, but it is nevertheless true, that at no time, under any circumstances, was he ever heard to utter one word of regret in connexion with it. Later in life we saw that he was fully aware of the faults his father had committed, but it was a subject to which he never on any occasion alluded.

"The news of his father's death was brought to Vienna by one of the couriers of MM. de Rothschild. At this moment the Compte de Dietrichstein (the superior governor) was absent from Vienna, and the Emperor charged me to communicate to the young Prince the melancholy intelligence. He was then just turned of ten years of age. It was the 22d July, at Schonbrunn, in the same place, on the same day, on which he himself, eleven years after, was doomed to die, that I announced to him the death of his father. He wept bitterly, and his sadness endured for several days. 'M. de Foresti,' said he to me, one day, 'my father little thought then when he died, you would be the person from whom I should receive such kindness and affection.'"

The youth alluded to an anecdote which the tutor had told him of his own career. M. Foresti had been taken prisoner by the French, and, on being sent to head quarters, treated with some harshness by the Emperor.

Every pains were taken with the Duke's education. The dead languages he was taught by M. Collin, and afterwards, when M. Collin died, by M. Obenaus, who had been classical preceptor to half the imperial family. To these instructions, however, he inclined but an indifferent ear, and of all his Latin books, took heartily only to Cæsar's Commentaries. His military studies took the alternate days with his classical ones, and to them he gave himself up with all possible ardor. By way of a check upon the apathy of private instructions, the Emperor directed that from time to time a commission should proceed to inquire into the Prince's progress. These investigations were seduously made, and greatly contributed to excite his ambition. Before these commissions the boy showed an extraordinary aptitude for learning, more particularly such learning as chiefly turned upon military pursuits.

"Being myself acquainted with geographical studies and the arts connected with design," says M. Foresti, "I was able to form an opinion of his performances. I consider them as lively proofs of the talents which have just been extinguished, so much so, indeed, that I have thought it my duty to recommend that they should be collected and placed in the imperial archives, as memorials of his remarkable genius."

Among the voluminous papers written in Italian by the Prince, M. Foresti showed M. de Montbel a sketch of the life of Prince Schwarzenberg, in which there were various passages respecting Napoleon; they were written in a calm and candid tone. From the time that he attained his fifteenth year he had access to every book, without exception, relative to the history of his father and the French Revolution. He read them with avidity, and is said to have been a more perfect master of every thing that has been written on these subjects than any person about him. His collections in French on history, chronology, and travels, are said to be immense. His military enthusiasm showed itself in the ardour with which he pursued every thing which had any connection with the accomplishments necessary to the soldier. "I wish him to have the education of a superior officer," said the emperor, but this was only seconding the taste he had demonstrated from his earliest years.—At the age of seven he was indulged with the uniform of a private; after a time, in reward for the exactness with which he performed his exercise, he received the marks of the grade of sergeant, and his delight knew no bounds. He afterwards went through every other rank, and learned the duties of each in its minutests details. In his rank of private soldier, he used to stand sentinel at the door of the apartments of the Emperor. Whenever a member of the court passed—if a man—he used to present arms with the utmost gravity, but never if a woman. Some one rallied him on the subject: his answer was much more French than German:—"I am ready," he answered, with much liveliness, "to present to the ladies—every thing but my arms." His respect for every thing military was remarkable. One day, when admitted to dine in company with the Emperor on a public day, he retreated from the place he usually occupied next to the arch-dukes, and attempted to sit at the lower end of the table: when asked the reason, "I see generals here," said he; "they ought to precede me." The Empress one day at a *fete* wished him to sit among the ladies. He declined, saying, with the utmost gravity, "my place is among men." It was remarked by the people about him that he never was a child: he had scarcely ever associated with children, and had adopted the reflective manners of those about him. Without being anything extraordinary as a child, his intelligence was from the first precocious? His answers were as quick as judicious, he expressed himself with precision and exactness, and with great elegance of phrase. He was a perfect master of the theory of the French and German languages and wrote them with remarkable purity.

Up to a certain age, the young Prince had been permitted to store his memory with facts, and to interpret them according to his own judgment. At length, however, it was deemed right that the Austrian version of the European story should be made known to the young Prince. No fitter person could be found for the due execution of this task than the Prince de Metternich, who, under the name of lectures on history, gave him at length, and in a series of interviews, the whole theory of imperial politics. The leading views are given by M. de Montbel: they are very ingenious. Under the pretence of a sketch of his father's history, he points out to the young man the danger of rising above the station in which he is placed, and proves, in fact, that the very qualities which enable an individual to rise are precisely those which must afterwards ensure his fall. These lectures are described as having had the happiest results. The young Napoleon, or Francis, as he had been re-christened, eagerly accepted Metternich's instructions, and, in cases of any difficulty or doubt, always resorted to him for their solution. Both the Emperor and his minister, in short, seem to have succeeded in thoroughly winning the entire confidence of the youth: the practical result of which was, that no communication was ever made to him that he did not feel it a point of duty instantly to communicate. This was very convenient; and, if any proof were wanting, would prove the skill and true jesuitical dexterity of the Austrian minister. The youth is reported to have said to the Emperor and Metternich:—"The essential object of my life ought to be to make myself not unworthy of the glory of my father. I shall hope to reach this point of my ambition, if I can appropriate to myself any of his high qualities, taking care to avoid the rocks on which he split. I should be lost to a proper sense of his memory, if I became the plaything of faction, and the instrument of intrigue. Never ought the son of Napoleon to play the miserable part of an adventurer." This was of course the point desired. It is said the young Prince was surrounded with intrigues, and the utmost vigilance, which he knew and approved of, was necessary to protect him from attempts to draw him into them.

One of the very few friends whom the Duke of Reichstadt made for himself (it was probably, however, arranged by the Metternich policy,) was a very deserving young officer, M. Prokesch, who had distinguished himself by his travels in the East, and several military publications. From him M. de Montbel gained much interesting information. The manner in which the acquaintance was formed is thus described by M. Prokesch

"After my long travels and my numerous missions I had gone to visit my family at Gratz. The Emperor, who at that time was traversing Styria, stopped at this town." Pleased with my conduct, and the documents I had been able to lay before him, his Majesty testified his satisfaction by inviting me to his table. I found myself placed next the Duke of Reichstadt, whom I had often regarded with the interest generally inspired by him; but up to that moment I had never spoken to him, nor heard him speak.

"'I have known you long,' said he to me; 'I have been taken up a great deal by you.'

"'How, Monseigneur, have I acquired this distinction?'

"'I have read, I studied your work on the Battle of Waterloo, and I have been so pleased with it, that I have translated it into both French and Italian.'"

This was the commencement of an intimacy which appears to have afforded the young prince a vast source of consolation in his peculiar circumstances. To have a friend, not of his suite, appeared as if he were putting one foot at least in the world. In the first interview the Prince seemed deeply interested about the East. He multiplied questions on the actual state of those countries, the character of the inhabitants, and particularly of the men who were likely to influence their future condition. This subject led to his father's campaigns: to the causes which stopped his progress before St. Jean d'Acre; he grew

warm and enthusiastic in speaking of the possibilities which would have followed the capture of that important place, and on the immense results which the large and active mind of his father would have drawn from it. He evidently took a grand and extensive view of the subject.

"While we were both animated with all the fire of this subject, M. de N * * * was announced; the visit greatly annoyed him—I got up to leave him. Stay, said he, the general will prove but a transient evil. In fact he very soon departed, and we recommenced our conversation with fresh vigor. The manner and voice of the Duke indicated the deep and lively interest he took in the subject; his tone was that of a lively attachment, a passionate admiration of the memory of his parent; he grew animated in talking of his achievements, which he knew in their minutest details, as well as in their general effect, and in thanking me for the justice I had done him in my work on Waterloo, he testified a strong desire to reread it with me, and enjoined me to visit him often during his sojourn at Gratz, where he had some days still to remain. I very gratefully accepted this favor, and took care not to break my promise. From that time I have taken a very exact note in my journal of all the circumstances that struck me during my habits of intimacy with this young prince."

The epoch of the revolution of July may be supposed to have produced a startling effect on the mind of a young prince, so deeply interested in the fortunes of his father, and so devoured himself with military ambition. All that we are told on this subject, and, perhaps all that he expressed, is of a description that comes upon us, at least, with some surprize. "I wish that the emperor would permit me to march with his troops to the succor of Charles X." Poor boy! he seems to have proved an apt pupil of the political pope—Metternich. Nevertheless, one who who knew him well, the author of the "Lettre sur le Duc de Reichstadt," (who is said to be M. Prokesch himself,) tells us that his hope and aim was the throne of France, on which he expected to be placed, not by a party in France, but by the general demand of the country, backed by the consent of the monarchs of Europe. To this secret idea, working in the recesses of his heart, must be attributed his restless labor, his continued studies, his fatiguing exercises, his rage for riding, and his passion for military information. He dreaded to be taken unprepared: he as it were slept in his arms. He read all the journals and the pamphlets attentively, watched the play of parties, and shrewdly predicted their duration. We are not told how much he was indebted to M. de Metternich for lights on these intricate subjects. It was about this time that he was agitated by an attempt on the part of the Countess Camerata, a daughter of Eliza Bacciocchi, and consequently his cousin, married to a wealthy Italian noble, to involve him in a correspondence. A letter of hers is given, written in a style of considerable exaltation, with the view of exciting his ambition, and probably urging him to some movement respecting France. The letter was laid on the table by some secret agency. One evening, in disguise, she laid wait for him on entering the Imperial Palace, seized his hand, and kissed it with an expression of the utmost tenderness. Obenaus, the Duke's tutor, who was alone with him, and had been struck with surprize as well as the Duke, stepped forward and asked her what she meant? "Who," cried she, in a tone of enthusiasm, will refuse me the boon of kissing the hand of the son of my sovereign?" At the time, the Duke was ignorant who it was that had tendered him this sort of equivocal homage, but her subsequent letters enlightened him on the subject. Napoleone Camerata is a lady whose personal and mental traits are said more nearly to resemble those of Napoleon than any other member of the family. She is remarkable for her resolution, her energy, and say the reports, the incredible activity of her imagination. Her tastes for horsemanship and the use of arms are points that might be more useful to her, had nature kindly bestowed on her the sex, as well as the character of her uncle.

The French revolution, and the prospect of war which it opened upon the different armies of Europe, added fresh excitement to the duke's military studies. He took M. Prokesch for his fellow student and friendly instructor. "We read, at this epoch, with much application, Vandoncourt, Segur, Norvins, the aphorisms of Montecuculli, the memoirs of Prince Eugene of Savoy, and the voluminous works of Jomini; all these works were in succession compared, discussed: they were covered with the prince's marks and marginal notes." About this time, also, he put into M. Prokesch's hands a manuscript of singular interest.

"It was a course of conduct traced by himself in which he laid down the line prescribed to him by his duty. In this composition, interspersed with shrewd general views, he considered his position in relation to France and Austria; he pointed out the rocks which surrounded him, the means of avoiding these dangers, the influences to which his mind was subject, and by which it could be regulated, how his defects might be supplied, his ambition moderated, its movements governed, and in what way useful results might be extracted from tendencies which, if left to themselves, might be mischevious—to, in short, prepare for an honorable life, such as accorded with the rank in which he had been placed by Providence. Particular circumstances, which gave to this memoir a remarkable character, induced the prince to destroy it a few days after; he had shown it to me. I now deeply regret it; it would have been a document of lasting interest. He had formed a judgment of extreme sagacity; it was a portrait of an exact moral likeness, in which he had forgot neither his faults nor his good qualities."—*Montbel, p.* 256.

This intense self-occupation is not healthy; it is, however, frequently the morbidness of genius. The young Napoleon was, however, in a false position: there was no natural vent by which such diseased action might be carried off. This was the moral poison which made his countenance

"——————— eclatant de paleur;
On dirait que la vie à la mort s'y melange."

The first appearance of the young man in society was on the 25th of January, 1831, at a grand party at the house of the British Ambassador, Lord Cowley. He was exceedingly struck with the strange mixture of remarkable persons, the representatives of the various changes that have lately taken place in Europe.

"How painful and wearisome," he said to a friend the next morning, "are parties of this sort to me.—What striking contrasts were assembled in the same apartment! I saw about me (himself by the way, a monument of political change) two princes of the House of Bourbon, Baron de Kentzinger, the representative of Charles X., Marechal Maison, the Ambassador of Louis Philip, the Prince Gustavus Vasa, the natural heir of the throne of Sweden, and Count Lowenheilm, minister of Charles John. For the first time, I spoke with Marechal Marmont: my father quoted him as a man of talent, and I found his conversation correspond with this character. I am to receive him to-day. I am glad to find myself in communication with Frenchmen. I do not wish to remain absolutely unknown in France, or that so many erroneous ideas respecting my situation should continue to be entertained there."

This interview with Marmont, the only survivor of his father's early aid-de-camps, had for some time been passionately desired by him. Metternich's permission was obtained: the marshal and his ancient master's son were mutually pleased. The young Napoleon had a thousand questions to ask, a thousand points to clear up. Marmont is a man of education, agreeable conversation, and quite capable of giving all the advantage of language and expression to his experience. It ended in Marmont being engaged to give the duke a whole course of military lectures; the text being Napoleon's campaigns. They were continued until the subject was exhausted, or until, as is not improbable, their frequency had begun to give umbrage. Marmont retired, promising, at least, to see his pupil every fortnight.

The 15th June, 1831, the prince was named lieutenant colonel, and took the command of a battalion of Hungarian infantry, then in garrison at Vienna.—His exertions in the discharge of his new duties, in addition to his previous occupations, appear to have made the progress of his malady, which had till now proceeded secretly, visible both in his appearance and in his inability to bear fatigue. His voice became hoarse, he was subject to coughs and attacks of fever; he had shot up to a prodigious height, and his appearance bore many marks of the germs of the terrible phthisis, now breaking out into activity.

"Frequenly," says his physician, Dr. Malfatti, "I have surprised him in the barracks in a state of dreadful lassitude. One day, amongst others, I found him stretched on a sofa, exhausted, powerless, and almost fainting. Not being able to conceal the wretched state in which I found him, he said, 'I abominate this wretched body that sinks under my will in this manner.' 'It is indeed provoking,' I answered, 'that your Highness connot change your person, as you do your horses when they are tired, but permit me Mon seigneur, I conjure you, to remember, that you have set a will of iron in a body of glass, and that the indulgence of your will cannot prove otherwise than fatal.'

His life was, in fact, at the time undergoing a process of combustion; he slept scarcely four hours, though, by nature, he required a great quantity of sleep: he scarcely ate at all. His soul was entirely concentrated in the routine of the manege and the different kinds of military exercises; he was, in fact, never at rest: he continued to increase in height, grew wretchedly thin, and his complexion gradually became thoroughly livid. To all my questions he answered, 'I am perfectly well.'"

Malfatti at length considered it necessary to present a representation to the Emperor on the state of the Duke's health. Both the patient and the physician were summoned to the imperial presence.—Malfatti repeated his statement. The Emperor then turned to the young prince, and said, "You have heard Dr. Malfatti; you will repair immediately to Schonbrunn." The Duke bowed respectfully, and as he was raising his head, he gave Malfatti a glance of excessive indignation. It is you then, that have put me under arrest," he said to him in an angry tone, and hurried away. He was placable, however, and soon forgave his amiable physician. The air and quiet of Schonbrunn were extremely beneficial; he began again to sleep and eat; the first return of vigor was the signal for exertion. He commenced hunting, as the next best thing to war, in all weathers, and with a recklessness that, joined to similar exposure in visiting neighboring military stations, soon re-established the malady. Phthisis assumed all its horrible power; he gradually sunk, and, after dreadful suffering, and all the rallying and resistance which a strong will can sometimes effect against disease, he fell a victim to it on the 22d July, 1832, at Schonbrunn, on the same bed, in the same apartment that his father had occupied as the conqueror of Vienna.

His mother was present during his latter days, and seems to have suffered all a mother's pains. The Emperor, whom all agree in describing as an excellent and amiable old man, was greatly affected; a very strong affection subsisted between them; and, on the part of the Duke, it was evident, that the honest, straightforward character of the Emperor, joined with his paternal kindness and evidently honest intentions, had made a profound impression on the mind and heart of his grandson. On opening of the body, the opinions of the Duke's physicians were fully confirmed; one lobe of the lungs was nearly gone; and, while the sternum was that of a mere child, the intestines presented all the appearance of decrepid age.

As he laid on his bier, his resemblance to his father, that resemblance so striking in the cradle, became once more remarkable. It might have been detected in life, but the flowing *blond* hair of his Austrian mother, and his tall form, would naturally mask the resemblance. His manner was graceful and elegant—the expression of his countenance somewhat sad: he was reserved till he fancied he had found a friend, when he became confidential, communicative, and even enthusiastic. He appears to have been universally beloved; no one can recollect an offence—much less an injury; he was full of kindness and consideration for every one about him. But one passion appears to have been developed—that of military ambition. The present with him was but a preparation; in fact, he lived in a future, which for him was never to arrive.

Look at the interests of Europe, it is impossible to regret his death; looking at himself, it is impossible not to feel a great interest in his life; had, in truth, his various qualities and dispositions been more generally known during his youth, it is very probable, that the popular feeling of France would have more deeply sympathised in his fate. He was never regarded otherwise than as *le fils de l'homme*, and as such let him rest—a last victim to the turbulent ambition of his own father.

POETRY.

[For the New-York American.]

I do not love thee—on my word I do not:
I do not love thee—for thy love I sue not;
And yet, I think, there's hardly one that shareth
Thy dangerous smiles who, like me, for thee careth.
What would I not to chase one moment's sadness—
What would I not to give thee one of gladness?
Who joys like me when in thy joy believing—
Who, like me, grieves when thou dost seem but grieving?

I do not love thee—on my word I do not:
I do not love thee—for thy love I sue not.
My doom it was to be on earth created
With soul that is not with another mated;
A vagrant spirit sent—why—no one whisteth,
Unless to follow free where e'er it listeth;
Without a bond or fetter to confine
A faithful minister waiting upon thine.

TRISTRAM FICKLE.

[*From the Georgian.*]

THE ORANGE FLOWER.

"*That most melancholy of all happy ceremonies.*"

All things have their season—and thine, sweet flower!
Comes with the guests at the Bridal hour—
'Tis thine to adorn the fair young Bride,
When she steps forth in her joy and pride—
Thy buds must mix with the snow-white pearls
She twines amid her clustering curls;
Thy perfum'd breath is borne on the air,
When she speaks the vow, and breathes the prayer;
The *vow* which binds, amid smiles and tears,
Her lot to *one* through all coming years,—.
In youth and in age, in good and in ill,—
While life shall endure—unchanging still—
The *prayer* that calls on Heaven to bless
The object of her heart's tenderness—
'Tis an hour of joy! yet gaze in her eyes!—
A mist of tears o'er their brightness lies;
And her voice is low, and her cheek is pale
As the light folds of her floating veil—
Does she weep because she must bid adieu
To the home where her happy childhood flew?
Does she mourn that her girlhood's glee is gone,
And that sterner tasks must now come on?
Does she send her spirit through coming years,
When the joy of this hour will be quench'd in tears?
Does her fancy paint that mournful day,
When one fond heart shall be torn away;
When bitter drops from eyes must flow,—
Or else be herself in the grave laid low?
Yes! such feelings will come, unbidden guests,—
When all seems gay to human breasts!
But thou, fair Flower! in thy beauty bright—
Bloom'st fairer still in Beauty's light:—
Thou basest in the sun's warm ray,
And smilest thy little life away,
Protected by *His* bounteous care,
Who made thee in thy beauty there.

MARRIAGES.

On Thursday last, by the *Rev'd Dr. Milnor*, Mr. WILLIAM HARRIS, to EMILY, daughter of Mr. William Davy, all of this city.

At Castleton, Staten Island, on Monday evening, 22d instant, by the Rev. John E Miller, Mr. DANIEL ROOSEVELT HITCHCOCK, of New York, to Miss MARY A. daughter of Major Geo. Howard, of the former place.

Last evening, by the Rev. Thomas Dewitt, ALLEN C. WARNER to PHEBE JONES, daughter of Mr. Abram Fardon.

Last evening, by the Rev. Mr Hunter, Mr. CHARLES S. OAKLEY, of the firm of Oakley & Roome, to Miss MARIA LOUISA, daughter of David Morris, Esq., all of this city.

Last evening, 17th instant, by the *Rev. Dr. Anthon*, JAMES LORIMER GRAHAM, to JULIA MATILDA, daughter of CHARLES GRAHAM, Esq., all of this city.

On Monday last, by Rev. Dr. Wainwright, Lieut. JOSEPH RITNER, of the U. S. A., to MARY, eldest daughter of Mr. Alexander Kyle, of West Point.

On Monday evening, by Rev. Thos. De Witt, RICHARD DE WITT, of Hopewell, Dutchess Co., to JANE, daughter of the late John Stoughtenburgh, of this city.

At Newburgh, on Wednesday, 17th instant, by the Rev. J. Brown, ROBERT D. HART, of this city, to CORNELIA A., daughter of David Sands, Esqr. of the former place.

DEATHS.

On Tuesday morning, between 3 and 4 o'clock, Mr. THOMAS C KIRK, aged 28 years.

On Thursday, 18th instant, GILBERT SMITH, infant son of Melancton S. Swartwout, aged 5 months.

On Friday afternoon, 19th inst, of consumption, Mr. JAMES GAFFNEY, in the 36th year of his age.

This morning, after a short and painful illness, AUGUSTA, wife of Charles Lambert, and daughter of the late John A. Snyder.

In Philadelphia, on Tuesday, RICHARD WILLING, Jr. Esq. in the 44th year of his age, son of the late Charles Willing, Esq.

In Philadelphia, on Friday morning, 19th inst. after a lingering illness, in her 40th year, Mrs. AMELIA GILFERT, relict of Charles Gilfert, late manager of the Bowery Theatre.

In Philadelphia, on the 19th inst. of consumption, Mrs. LOUISA V., wife of George W. Embree.

At Caraccas, S. America, on the 16th day of March last, JOHN M. BARRY, Esq. formerly of Teneriffe, and more recently of this city, in the 45th year of his age.

REPORT OF DEATHS—WEEK ENDING SATURDAY, APRIL 20.

Between the ages of

90 and 100— 0	50 and 60— 1	10 and 20— 4	
80 and 90— 4	40 and 50— 9	5 and 10— 3	
70 and 80— 2	30 and 40—14	2 and 5— 8	
60 and 70— 3	20 and 30— 6	1 and 2— 8	

Of and under one year, 29.

Total, 91—15 men, 25 women, 26 boys, 25 girls.

Diseases.

Asthma	1	Inflammation of brain	1
Burned or scalded	1	Inflammation of chest	2
Cancer	1	Inflammation of stomach	2
Colic	1	Intemperance	3
Consumption	22	Marasmus	1
Convulsions	7	Old age	2
Dropsy	3	Palsy	2
Dropsy in the chest	1	Peripneumony	7
Dropsy in the head	2	Pneumonia typhodes	1
Drowned	2	Schirrhus of the liver	1
Fever	1	Sore throat	1
Fever, remittent	1	Stillborn	4
Fever, scarlet	1	Suicide	1
Fever, typhus	2	Teething	1
Hives or croup	5	Unknown	3
Inflammation of bowels	5	Worms	1

ABM. D. STEPHENS, City Inspector.

TO ENGINEERS.

☞ ANY person who can recommend an Engineer of the best school, to survey, locate and construct a Railroad, will please address a line to the Editor of the Railroad Journal, 35 Wall street. A20 3t

MECHANICS' MAGAZINE,
AND
Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, $3 per annum, *in advance.*

D. K. MINOR, 35 Wall street, New-York.

WANTED,

☞ 200 MEN, and 100 HORSES and CARTS, to work on the Troy and Bennington M'Adam Turnpike. Apply to WALLACE & ANTHONY, 36 North a6 3t Second street, Troy.

☞ **GRACIE, PRIME & CO.,** offer for sale, at 22 Broad street—

4 cases Gum Arabic	
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2 do. do. do SFF	
20 do. Danish Smalts, EFFF	
10 do. Saxon do. do.	Reduced Duty
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203 do. Sicily Sumac	
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20 do. each 20¾ gross Velvet Bottle Corks	
6 boxes each 50 lbs. Tartaric Acid	
6 do. each 25 lbs. do. do.	
1 case 50 bottles Syrop de Vinaigre	
10 cases White Hermitage; 20 do. Cotie Rotie	
10 do. Dry St. Peray: 50 do. Bordeaux Grave	
20 do Chateau Grille; 31 packs each 100 Goat Skins	
4 packs do small do; 5 cases each 12 bottles Olives in Oil.	

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DRY GOODS—English, German, and Italian, for sale by the package:—

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Shirtings—1000 pieces 33 inch English brown do. do.
120 pieces 36 inch very fine English, for city trade
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2	do	do	do	do	do	superfine
2	do	do	do fig.	do	do	
3	do	do	do plain	Gold	do	
2	do	do	do plain	Silver	do	
2	do	do	do	Silver	do	with red figures
2	do	do	do	Gold	do	do
2	do	do	do	Red	do	Gold do
2	do	do	do	White	do	Silver do

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☞ **NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE.** *Whole number, Vol. 6. New Series, Vol. 1.* This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture, Horticulture*, &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to disseminate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

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D. K. MINOR, Proprietor,
35 Wall street, New-York.

PAPER.

☞ The Subscribers, Agents for the Saugertics Paper Manufacturing Company, have constantly on hand an extensive assortment of Royal, Medium, and Imperial Printing Paper, all made from first quality Leghorn and Trieste Rags. All contracts made after this date, will be furnished with 480 perfect sheets to the ream; and all sales amounting to over $100, of Medium, or Royal, out of that part of the stock which includes cassia quires, the purchasers will be allowed an extra quire of perfect paper to each double ream, with additional allowance to the publishers and the trade, who buy largely. The terms will be liberal. Apply to
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☞ **TOWNSEND & DURFEE,** of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May*, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.
Hudson, Columbia county, New-York, January 29, 1833. F31 if

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.
WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

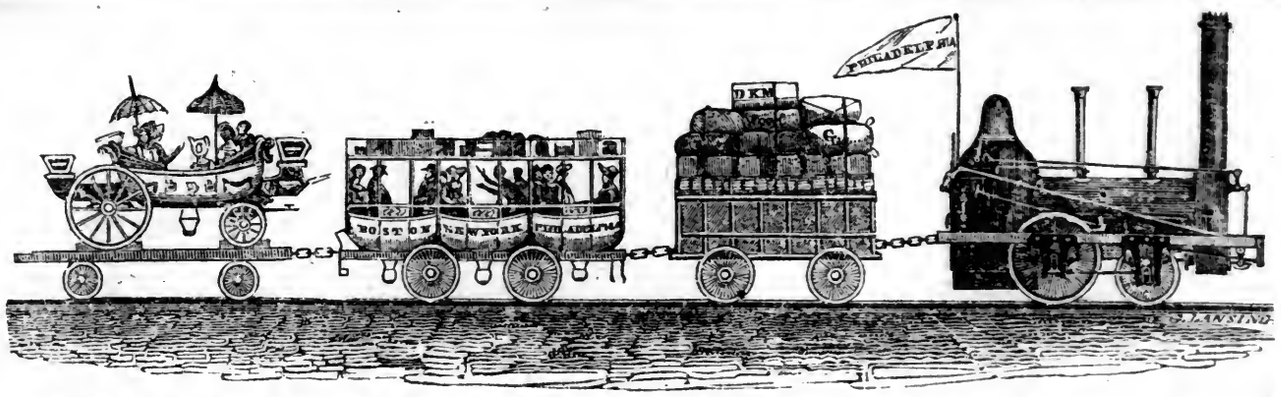
Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.
HENRY R. CAMPBELL, Eng. Philad.,
m1 1y Germant. and Norrist. Railroad



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MAY 4, 1833. [VOLUME II.—No. 18.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 4, 1833.

New-York Guard Rail.—A continuation of Mr. Bulkley's reply to Mr. Sullivan, upon the subject of this rail, will be found in this number of the Journal; also, a second communication from Mr. Sullivan. The subject being one of importance, we do not deem an apology necessary for devoting so much space to its discussion.

The editor of the National Gazette, after an absence of nine days from his editorial chair, gives the following description of his journey home, via railroad :

We have recently journeyed between Philadelphia and New-York by the railroad line. Yesterday we left New-York in the beautiful and spacious boat the New Philadelphia, at about a quarter past six o'clock, A. M., and arrived at Chesnut street wharf before three P. M. The New Philadelphia reached South Amboy in two hours and a quarter. The fine and commodious cars on the railroad were drawn to Bordentown eleven miles the hour, without undue fatigue of the horses, or any circumstance that could lessen the sense of security and comfort with which every passenger seems to set out.

This conveyance is truly admirable for the ease and order which attend it for all parties. Each car is divided into three compartments, and contains twenty-four persons. Two horare attached to it *tandem;* they pursue the track, under the guidance of skilful drivers, with the nicest exactness. We could not perceive, by the motion of the vehicle, the slightest deviation from the grooves; and the route is of more than 30 miles. One track is complete: great activity prevails in the work necessary for the accomplishment of the whole design. The average duration of the journey between the two great cities, by this railroad line, is now eight or eight and a half hours. It will be less, considerably, when a locomotive engine shall be employed. A new and spacious steamboat is also to be soon provided. We shall then see the consummation of all that can be deemed desirable, for we presume that such precautions can be taken as would exclude almost the possibility of serious accidents or delays.

At present breakfast may be taken at home, and an invitation to dinner at New-York or Philadelphia for 3 o'clock, accepted with the assurance of a timely arrival. Ere very long, we may presume, the journey between Baltimore and New-York will be performed in the summer in one day by the light of the sun; and this without weariness from motion. In the same way the Philadelphian may visit New-York and return by the family tea-hour. The facilities which this railroad provides for the transportation of merchandise, provisions, and so forth, form another signal advantage, upon which we might descant in greater detail; but they are readily to be conceived and appreciated. Experience will teach their value before the next autumn.

To the Editor of the American Railroad Journal :

Sir,—Your correspondent J. S. merits and receives my most hearty thanks, not only for the hints he has dropped, but for having dropped them through the columns of your useful paper, by which he served the double purpose of informing the public and me. I propose to treat of the laying out, the constructing, the use, and the repair of every kind of road except railroads, which I leave for abler hands. My range is wide enough without them, and so wide that in some cases I need others to guide my pen, who are of greater experience than myself. Although the hints and observations thus thrown out may not all be new to me, yet they may be beneficial by eliciting new ideas in others, and awakening those in my mind which otherwise might remain obsolete. I hope J. S. and S. D. may be induced to renew and continue their communications, and that others may join them. There are hundreds that might add to the common stock of knowledge in the country, which if collected would be respectable and useful. It will be a year, perhaps years, before a treatise will appear from my pen.

Although science is a necessary and convenient accompaniment of practice, and the base and beauty of it, yet the knowledge of men of observation generally is nearer on a level than might at first glance be supposed. Every day's experience confirms me in the "belief that no man of observation is so ignorant that he cannot teach, nor so wise that he may not learn." A teacher may learn more of the art of teaching from his pupils than from all the books he reads, and as Jno. London M'Adam has found, there are none so impregnable to instruction as the smatterer who reluctantly parts with "previously imbibed notions."

In respect to the concave road proposed by my friend J. S., I cannot speak from practice, but fear it will be subject to serious objections, among which might be the washing of collected currents on long slopes, the choking of "hollow drains," &c. At present I would propose a slightly convex cover, as recommended by Mr. McAdam, but as it is next to impossible to maintain such a curve so truly as sufficiently to free the course of water in most situations, the undulatory system recommended by J. S. is necessary in a convex road. The slopes forming these waves should in no case exceed one half of a degree, or one in 115. I once undertook to throw up a level into undulations of one degree, but found they would be unsightly in appearance, expensive in construction, and inconvenient in use. Yours respectfaliy,

Jno. S. Williams.

Cincinnati, Ohio, April 13, 1833.

Night and Day Telegraphs in France.—A project has been laid before the Government by a Company (Messrs. Ferrier and Co.,) for improving telegraphic communications to such an extent, that they will be able to transmit intelligence an immense distance at any moment of the night or day. This plan is especially calculated for the conveyance of commercial intelligence. A million of francs will be sufficient, according to the Company's calculation, to establish a full complement of telegraphs between Paris and the following places :—Havre, Calais, Lille, Maubeuge, Marseilles, Toulouse, Bordeaux, and Nantes. The yearly expense they calculate at 900,000 francs, but the produce per annum would be 2,803,203 francs.—[London Times.]

[*From the Albany Daily Advertiser.*]

Saratoga and Schenectady Railroad.—This road is constructed by a joint stock company, incorporated in 1831. The capital was originally $150,000, but the amount has been increased by an additional subcription of $100,000, made in 1832.

It was commenced in 1831, and was so far finished

as to be used for the transportation of passengers early in 1832. A number of beautiful cars was placed upon the road, and although the cholera prevented the usual travel to the Springs, the business actually done under all the disadvantages was much greater than could have been expected. The road was not finished through the village of Ballston, and post coaches were employed to take passengers going to Saratoga, over the valley of the Kayderosseras. A very admirable piece of masonry carries the road across the creek, and it is now entirely finished.

This road is another proof of the remarkable facilities existing in this country for the construction of works of internal improvement. It is nearly level, and admirably adapted for swift and safe traveling.

The general course of the road from Schenectady to Saratoga Springs is about north 30 deg. east.

For three-fifths of the distance it is straight, the residue consists of curves of various radii, which, with the exception of those at Saratoga and Ballston, do not exceed from 3,000 to 7,500 feet.

The graduation of the road is mostly level. The undulations are very gentle, and in no place exceed an ascent of 16 feet in a mile, or one in 330 feet.

The work is of a substantial and durable character, with the exception of a few bridges of timber, and for three miles of the road, the rails rest on stone foundations; the residue are laid upon wood. The rails are of yellow pine, and are covered with iron plates weighing 23 tons per mile.

The length of the road from the bridge over the Mohawk at Schenectady to its termination at Saratoga, is 21.40 miles. The total cost of its construction, including carriage houses, stables, and two dwellings, is $217,201 22, or $10,149 per mile.

A locomotive engine has been ordered and is expected to be on the road by June or July next.

A more beautiful route, and a cheaper and better road, cannot be found in the United States. The effect is already to be seen in the villages of Ballston and Saratoga, where real estate is coming into demand.

It is calculated that there will be 35,000 persons passing over the road from the 1st of May to the 1st September, judging from the summer business heretofore done. Merchandize in considerable quantities has been transported to the north by this route since the opening of the navigation, and some canal freight it is said has been taken in advance of the opening of the northern canal. On the whole, we consider this road the most successful experiment yet made, so far as regards the cheapness of of construction and the great profit to be derived from the investment.

[From the Rochester Republican.]

ROCHESTER RAILROAD.

To the Stockholders of the
Rochester Canal and Railroad Company:

The object proposed to be attained by the incorporation of the Rochester Canal and Railroad Company was the increased facility of transportation between the Erie Canal and Lake Ontario. You are aware, that at Rochester the Erie Canal is distant about three miles from the head of ship navigation, and that all vessels which can enter the harbor at the mouth of Genesee river can come up to within this distance of the canal, and of the business centre of Rochester. It was deemed important to the interests of the company, and the public benefits proposed to be derived from the work, to intersect the canal in the business part of the town, near the principal mills, ware-houses, and other business establishments, and also that the route of the road should be such as to grant every possible facility to the profitable employment of the mills and extensive water-power near and adjoining the present location of the road. The northern termination of the road on the Genesee river being within the limits of the proposed city incorporation, and uniting the harbor of the Genesee river with the business centre of the town by so cheap and expeditious a mode of conveyance, cannot fail to aid greatly the commercial enterprise of our citizens, and to add greatly to the profitable trade heretofore carried on with various ports and places on Lake Ontario and the St. Lawrence river.

The elevation of the canal above the Genesee river, to the highest point where it is navigable for vessels of the description employed in the lake navigation, is 254 76-100ths feet, and being there, and for most of the distance between that place and where it unites with Lake Ontario, enclosed between high, precipitous, and rocky banks, presented almost insuperable obstacles to the importation of heavy articles from the lake, such as salt, pig iron, wheat, timber, lumber, &c. unless by a land carriage of seven miles, being the distance from the lake to Rochester. The expense of this seven miles of transportation by land has hitherto confined the transportation mainly to descending freight, which could be transported three or four miles by land, and thence from the warehouses down inclined planes, by temporary machinery, at an angle of 45°, 160 feet, to the river, where vessels could receive it. The object attained by our railroad is the connection of the town by a cheap and expeditious mode of conveyance, with the harbor of the Genesee river, and at the same time providing for ascending freight.

The location of the line, and forming the grade so as to equalize as far as practicable the descent, and passing through a dense population, as well as descending from the canal, required more cutting and embanking, and expensive items of masonry, than was expected at the commencement of the organization of this company. The directors have availed themselves in the absence of any local experience in the construction of railroads, of the advice of John B. Jarvis, Esq. who viewed the premises and has advised in its location, and assisted in obtaining and constructing the most approved cars. David Bates has been employed to give the levels and curves, under the advice and assistance, (when sick,) of David S. Bates, Esq. The cars have been principally constructed by J. H. Whitbeck, at the shop of Whitbeck & Hanford. The superintendant, as far as practicable, has economised in every part of this work, it being a road which was to test the experiment in this section of the state; obtaining at the same time the best materials, and built in an improved form. However, in consequence of the inexperience of all the artisans, not having the opportunity of obtaining materials advantageously, the unfavorable weather in the spring, the sickness of the season, and the short time taken to execute the work, the work has cost more than if built under other circumstances. In locating the main stem of road track, 75 chains is in curves of different radii, and 165 chains in straight lines, divided into sections as follows:

1st Section, 63 chains from aqueduct descending, (except crossing Main st.) feet	5,33
2d Section, 127 ch. descent 408-1000 pr. chain of 66 feet.	51,90
3d Section, 27 ch. 50 l. to warehouse on high bank, descent 1 473-1000 pr. chain,	41,05
4th Section, 600 feet, descent 1 foot in 6 feet, to Fall brook,	100,00
5th Section, 339 feet, descent 1 foot in 6 feet, to steamboat wharf,	56,50
feet	254,78

The principal inclined plane, 4th and 5th sections, is graded in steep, precipitous rock banks, requiring an average cutting of 30 feet on the upper side of the road, and the filling of a ravine at Fall brook, 50 feet in depth, principally of stone. At this point is an angle in the plane, and the artificial table receives Fall brook, after nearly a perpendicular fall of 100 feet, which water is designed to be used as stationary power. These sections are nearly completed, and are intended to be in operation on the opening of the navigation. The other parts of the track, with eight branches and turn outs, with circular platforms, being three miles and five chains of single track, has been in use for a part of the fall business. The organization of the company and the filling up of the stock was not completed until April, at which time the work was efficiently commenced.

The company's expenses under the following general heads are as follows:

Land purchased that is available, other than the line of road,		$3,593,80
44,802 yards of excavating and embankment, at $10,93 per yard,	$4,899,41	
2,286 perches of masonry, at $69,37,	1,585,82	
2,023 yards gravel, for horse paths, at 28 cents,	506,25	
		7,051,48
Lumber and timber account,		3,623,52
Iron rails, spikes, 8 sets turn out irons, &c.		4,467,64
Pleasure and freight cars, horses, harness, &c.		3,397,62
Expenses of 4th and 5th sections, inclined plane,		3,737,46
Engineering, superintendance, and contingent expenses,		1,521,01
		29,992,48

Or thus:

Property on hand, other than line of road, being land cars, &c. and materials not used,	$8,742,67
221,74 chains, single track of wood, 478 feet crossings, turn outs, circular platforms, wood work to one viaduct and 22,75 chains of track on stone blocks,	8,939,86
Grading, masonry, and horse paths,	7,051,48
4th and 5th sections, inclined plane to wharf,	3,737,46
Engineering, superintendance, and contingencies, (estimated,)	1,521,01
	29,992,48

RESULTS.

Expenses of road, yellow pine rail, on sleepers and sills, finished complete per mile,	$2,727,20
Expense of road, yellow pine rail, stone blocks, 8 cubic feet to each block, per mile,	4,098,40
Grading, per mile, single track, masonry, including grade of branch not used, 2d track,	2,076,80

Receipts to 1st January, 1833.

From pleasure cars,	$1,004,97	
From freight cars,	397,00	
	1,383,97	
Deduct expenses connected with receipts,	357,21	
		1,026,76
Interest of money on instalments since called in, to 1st Jan. 1833,		810,52
Amount of capital $30,000—92 per cent. called in,		27,600,00
Add balance of receipts,		1,026,76
		28,626,76
Expended,	$29,992,48	
Deduct paid,	28,626,76	
Owing by the company		$1,365,72

To pay this amount and divide the above receipts will use the capital of the company. By retaining the receipts and a call for the balance of the stock, and the use of some part of the available means, will complete all the objects contemplated in the original design of the company, without interfering with the dividends or receipts of the coming year. The pleasure cars of the company will accommodate 500 passengers per day, and the freight cars on hand will conveniently transport 800 brls. per day. The directors are satisfied, that the objects contemplated by the company will be advantageous to the public, as well as profitable to the stockholders. They further feel assured, that a single track wood road could be continued up the Valley of the Genesee river, it being a favorable route for grading, for a sum not exceeding $5,000 per mile, including all expenses of construction.

ELISHA JOHNSON, President,
and Superintendant for Construction.

Rochester, 1st January, 1833.

IMPROVEMENTS IN PENNSYLVANIA.—Internal improvements in this state are progressing with extraordinary rapidity. It appears from the report of the Canal Commissioners, read in Senate Dec. 6, 1832, that, of the works constructed by the State, there are completed in canals now navigable, *miles* 479½
In hand and likely to be completed during the present year, - - 103½
Independently of these, there are others constructed at the expense of corporations, and now in actual use, - 280¾

Thus on the 1st January, 1834, the total of navigable canals will be - 863¾

In the construction and completion of railroads, great progress is making also. We learn that there are 415½ miles either completed, or progressing so fast that nearly all will be completed during the present year. Independent of this, other companies are forming.

In the 14th number of the 2d volume of this Journal, for March 5th, will be found an interesting letter from Mr. Edmund S. Coxe, of Philadelphia, giving a description of some of the improvements going on, but as we conceive a more detailed list would not be uninteresting to our readers, we shall lay before them a complete list of railroads and canals, finished and unfinished, the greater part of which we copy from the Philadelphia Commercial Herald.

CANALS CONSTRUCTED BY THE STATE.

1. Canal from Columbia, on the Susquehannah, to the mouth of the Juniata, and up the Juniata to Hollidaysburg at the eastern base of the Alleghany mountain—distance 171 miles 246 purches.

2. Canal from Johnstown on the Conemaugh, at the western base of the Alleghany, down the Conemaugh, Kiskeminetas and Alleghany, to Pittsburg—distance 105 miles. [The above lines, connected by the "Portage Railroad," over the mountain, form the great east and west communication. It has a double connection with Philadelphia, one from Columbia, by way of the Pennsylvania Railroad, and the other from Middletown, nine miles below Harrisburgh, and eighteen miles above Columbia, by the Union Canal.]

3. Canal from the mouth of the Juniata up the Susquehannah to the forks at Northumberland, then up the north branch to a point 2 miles below Wilkesbarre. Distance 96 miles 295 perches. [It is contemplated to extend this at some future day to the north line of the state, when a communication by canal and railroad will take place with the Erie Canal.]

4. Canal from Northumberland at the forks of the Susquehannah, up the west branch to the Muncy dam—distance 26 miles 160 perches. [For extension see below.]

5. The French creek feeder, intended to supply with water the future communication between the Ohio and Lake Erie—length 19 miles.

6. A canal from Bristol to Easton on the Delaware—length 59 miles 240 perches. [This is the channel by which the coal trade of the Lehigh reaches Philadelphia.]

CANALS CONSTRUCTED AT THE EXPENSE OF CORPORATIONS, AND NOW IN ACTUAL USE.

7. The Union Canal from the Schuylkill opposite Reading, to the Susquehannah at Middletown—length 82 miles 88 perches. Branch Canal and feeder, belonging to the Union Canal Company, 22 miles in length, with a railroad of four miles to the Pine Grove coal mines.

8. The Schuylkill Navigation from Port Carbon on the Schuylkill to Philadelphia—length 108 miles.

9. The Lehigh Canal, from Easton on the Delaware up the Lehigh to Mauch Chunk—distance 46 miles.

10. A part of the Hudson and Delaware Canal, from Honesdale on the Lackawaxen to the mouth of that stream—supposed 20 miles.

11. Conestoga Navigation, an improvement of Conestoga creek by locks and dams from its mouth up to the city of Lancaster—distance about 14 miles.

12. The Codorus navigation, an improvement of Codorus creek from its mouth up to the borough of York—length about 10 miles.

Total of canal navigation now in use, 759¾ miles.

The canals authorized and now in progress at the expense of the State, and likely to be navigable by the end of this year, are

From Muncy dam on the West Branch up that river to the mouth of Bald Eagle creek. Distance 40 miles and 18 perches. [This is an extension of No. 4, and will complete the improvement contemplated in that quarter.]

From two miles below Wilkesbarre up the north branch of the Susquehannah to the mouth of the Lackawanna—distance 12 miles 316 perches. [This is an extension of No. 3, and will leave about 90 miles towards the north line of the State untouched.]

From the confluence of the Beaver with the Ohio, (20 miles below Pittsburg,) up the former river to Newcastle—distance 24 miles 240 perches. [This is the commencement of a communication between the Ohio and Lake Erie, which will pursue a northerly direction up the valley of the Shenango to the summit at Conneaut lake, thence to Lake Erie, at the town of Erie. At the Conneaut summit it will be supplied with water from French creek, by a feeder described above as No. 5. From Newcastle to Erie, by the route selected, will be about 78 miles.]

A canal and slackwater along French creek, from the commencement of the feeder to the junction of that creek with the Alleghany—distance 25 miles 224 perches. [This work does not form a part of any great communication.]

By this statement it appears that after the present year only 90 miles on the north branch of the Susquehannah river, and 78 miles between the Ohio and Lake Erie, will remain to complete the whole system of improvement adopted by the State of Pennsylvania, and upon which operations commenced in the summer of 1826, less than seven years ago. That system will embrace when completed:

1. A great line of communication from Philadelphia, passing by Lancaster, Columbia, Middletown, Harrisburgh, Lewistown, Huntingdon, Hollidaysburg, Johnstown, Blairsville, Pittsburg, Beaver, Newcastle, and Meadville, to the Borough of Erie, on Lake Erie. The whole distance 481 miles, of which 118 miles is by railroad, 20 miles by the Ohio river, and 343 miles by canal. Distance from Philadelphia to Pittsburgh 358 miles. [This passes through the great iron region of the Juniata, the salt and bituminous coal of the Conemaugh, Kiskeminetas, and Alleghany, and a country abounding in agricultural product.]

2. A great line from Philadelphia to the junction of the Tioga with the North Branch of Susquehannah, on the boundary of New-York, where a communication is now forming with the Erie Canal, by way of Chenango Point. This line diverges from the former at the mouth of the Juniata, and passes Liverpool, Selin's Grove, Northumberland, Danville, Berwick, Wilkesbarre, Pittston, Towanda, and Athens. It passes through the Wyoming coal region, and opens a rich agricultural country to market. Whole distance 324 miles, of which 81 miles are by railroad, and 234 by canal—common to the great western route 81 miles of railroad and 43 of canal.

3. The West Branch Canal from the mouth of Bald Eagle to the Forks at Northumberland, where it unites with the line last mentioned. It opens the richest land in the State, the valuable iron of Bald Eagle valley, and the inexhaustible beds of bituminous coal on the West Branch and its tributaries. These articles will have their choice of markets between Philadelphia and the interior of New-York, where both are needed.

4. The Improvement of French creek and the Delaware Canal, which at present are rather detached works than parts of any great system of communication.

This brief summary, including all the works undertaken or contemplated by the State is sufficient to show that the Pennsylvanian system of improvement is simple in itself, and that almost every part is necessary to the perfection of the whole. By an examination of the map it will appear that every important section of the State, which it was practicable to reach, has been brought into communication with the city of Philadelphia. The counties on the southern border, whose waters run into the Potomac and Monongahela, are alone excluded—and that by the operation of paramount natural causes.

RAILROADS.

1. Pennsylvania Railroad, constructed at the expense of the State, from Broad street, Philadelphia, to the Susquehannah at Columbia, and there joining the Southeast termination of the State Canal,—distance 81½ miles—30 miles being in actual use, and the whole in a fair way to be finished this year.

2. Portage Rail Road—constructed by the State—across the main Alleghany mountain by a series of inclined planes, connecting the Juniata at Hollidaysburg with the Conemaugh, at Johnstown—distance 36 69-100 miles, including a tunnel of 900 feet long, four large viaducts, and other works of great magnitude. This unites the Eastern Canal with the Western, and will complete the line of communication between Philadelphia and Pittsburg. A great part of this work is now completed, and will be in use next year.

3. The West Chester Railroad* is a branch from the Philadelphia Railroad to flourishing village of West Chester. It unites with the Pennsylvania Railroad on the South Valley Hill, two miles west of Paoli. It is the property of a Company composed of enterprizing citizens of Philadelphia and West Chester. Length nine miles—cost about $100,000. Completed, and now in use.

* See Railroad Journal, No. 5. Vol. 2.

4. The Philadelphia, Germantown, and Norristown Railroad. The line begins at the intersection of Spring Garden and Ninth streets, and terminates at Norristown. Six miles of this distance are completed, and now in use. Preparations are making to finish the remainder. Made at the expense of a company.

5. Little Schuylkill Railroad. From Port Clinton, at the mouth of Little Schuylkill to the village of Tamaqua, on that stream —distance 21½ miles, with several branches to coal mines. This is the work of a company, and is designed, principally, to transport coal to the Schuylkill navigation. Finished, and in use. [*To be continued.*]

To the Editor of the American Railroad Journal.

SIR,—In submitting a few remarks on Mr. Bulkley's cast and wrought iron Rail, I felt aware of the natural sensitiveness of inventors to any objection to their improvements, often the favorite child of much mental labor, and touched on its vulnerable points with tenderness. But all such things being comparative, and their value depending on some calculable principle, that can be understood without *seeing* the metal, as well as if one had, opportunity is given, *if it will bear the test*, of proving by experiment the difference between a cast rail with a *lengthwise opening* through it, and the same with a rod inserted and rivetted.

It is true that he insists that this rivetting is equivalent to the abutments of an arch; and that the labor of doing this may even be dispensed with by the contraction of the cast metal, around the wrought bar. But *nobody* will believe this without experiment, because it is contrary to experience in other cases. Let him place the bar in the *centre* of the mass, and it will contract to it; but if placed towards the lower side, it seems to me it cannot.

He gives no dimensions by which computation may be made, except that each foot suitable to props 8 feet apart, weighs 20 lbs., of course 1 inch weighs one and two-thirds of a pound, and contains 7½ cubic inches, and may therefore be 2½ inches broad and three inches deep, and will therefore support a weight, if the props are 8 feet apart, of 1 ton and 150 pounds—but he says will bear 10 tons. If so, the effect must be very much to lessen the quantity of iron, in rails.

I however beg leave to reserve my belief in it until this is experimentally shown. The assurance of it will not at present excuse any engineer, who may be directed to calculate on this kind of rail, to order them of *less size* or dimensions than the strength of the cast iron *alone* will prescribe, because no work for use can be permitted to be more experimental than is indispensable. In this case, if there be any who think a cast iron surface preferable, the proof of strength is easily made.

And if it bears *the test*, the objections producing it may prove to have been of much use to the inventor and the public.

It seems to me there is a better way of advancing confidence in any real *improvement*, than in asserting comparative excellence, that it will not pass with those whose business it is to know the facts resulting from practice. I take the case to be that wrought iron rails are durable, and do not exfoliate; but if the *combination* will so *increase strength* as to lessen *quantity and cost*, then the rail, *combined* of cast and wrought, may be in some places preferable.

So also I think there are in our country extensive routes on which it is necessary, for the economy of capital, to use wood, but unless *precautions for its durability* be taken, it will prove in the end dearer than iron.

J. L. SULLIVAN.

April 27, 1833.

[*For the American Railroad Journal.*]

MR. EDITOR,—I propose for insertion in your Journal, some *additional* remarks relative to the "GUARD RAIL," as also *extracts* from celebrated publications adverting to Metalic Rails: which remarks and extracts are occasioned by an article written by Mr. Sullivan, and published in your Journal of April 20th, in which he *misrepresented* the *principle* on which the Guard Rail depends, as also the theory and the practical results of uniting wrought and cast iron as practiced in the manufacture of "Guard Rails," thus causing a controversy publicly on points, the which a few minutes' trouble in *examining* the rails in my possession would have *satisfied him of his error:* his remarks, therefore, proceeding from a *mistaken view* of the true nature of the case in question, seem the more remarkable when they were in direct *opposition* to statements of eminent engineers who *had examined it;* and I may say, in opposition to *every individual* who has *examined* it, for, when understood in principle, I have not known an instance of its being disapproved of.

A highly respectable engineer in this city, who has *become eminent* for skill, sound judgment, general knowledge in his profession, and lastly, not the least, his *remarkable caution* in deciding on the merits of new projects, examined the *description* and *specification* of the "Guard Rail," and *models*, minutely; and remarked that his impressions were in favor of it, and added that, before he could make up his mind *fully*, he must see a rail with all its appendages in full size for use: consequently a full sized rail, pedestals, keys, and fastenings, the rail containing a *wrought iron* rod through its lower edge, from end to end, which, of itself, would sustain a distending force of more than forty tons, was made, and when this rail was examined by him, it was not only approved of, but recommended favorably to proper sources for immediate adoption.

It is not at all remarkable, that if a *new* project be announced, wearing the semblance of supercedure or competition with old or other projects, it should excite feeling; indeed, it would be remarkable if it were not so; it, however, is so, and is equally so in Europe as in this country. Every specific project has its *interested advocates*, and any appearance of innovation is met with a *jealous eye*; and when at a loss for *reasonable* objections, feigned ones become substituted. But it is always *easy to distinguish* by the import of *publications* on such subjects, whether they were penned with feelings of *personal interest*, with a view to the *public good*; and *judicious* conductors of at least so important concerns as the *establishment of railroads*, will search out and decide on *merits*.

I remarked that Mr. S. had misrepresented the principle on which the "Guard Rail" depends, as also the theory and the practical results of uniting wrought and cast iron, as *practised* in the manufacture of "Guard Rails." He stated that, "when melted iron is poured around a cold bar of wrought iron, the latter expands, and on cooling *contracts*, and the cast iron in cooling *shrinks*, leaving it *loose* in the *bore*, towards the centre of the mass. All (he adds) depends, then, on this subsequent operation, and the quantity of *heading* produced by percussion."

In *practice* the result is as follows: A *wrought iron rod* of the required strength being first properly placed and secured within the mould, cast metal in a fluid state is poured into the mould, which, when coming in contact with the *rod*, causes the rod to expand; and when surrounded by the fluid metal, and while the cast metal in the centre of the mass is yet in its *fluid state*, the rod by *contact* is brought to a red heat, and both by contact become of equal temperature; and as the *contraction* of wrought and cast iron, under equal temperatures, is the same, or so nearly alike that castings made on this principle appear as perfect as castings without rods, and when cold the rod is firmly held in contact within the cast metal—*not loose*, as remarked by Mr. S.; and such also, we should presume to be the effect in theory. Mr. S. states, as above, "cast iron in cooling *shrinks*, leaving it *loose* in the *bore*." Its quantum of shrinkage is one eighth of an inch to the foot, and I presume any iron founder would inform him that the very *fact* of its *shrinking* is a cause of an orifice in cast metal being *smaller* when cooled than when in its fluid state.

In furtherance of Mr. S.'s objections, he stated as follows: "Besides, the claim of this improvement is founded in the assertion that there is a necessity for it, assumed contrary to experience;" and adds, "it is denied by some of the most distinguished of the English engineers, that wrought iron exfoliates under the wheel," and further adds, from Wood's Treatise on Railroads, several extracts, all of which are on *one side of the question:* one, and the most remarkable of which, is the statement purporting to be made by Mr. G. Stephenson, of Newcastle, who stated "It has been *said by some engineers* that the wrought iron exfoliates, or separates in their laminæ, on that part which is *exposed to* the pressure of the wheels," and adds, "this, he says, I pointedly deny, as I have closely examined rails which have been in use for many years." This denial of Mr. Stevenson, to say the *least* of it, was a poor compliment to those engineers whose experience probably warranted their making those statements: in *another light*, it is of the description sometimes termed "knock-down argument," generally proceeding from sources where *basis is wanting* for sound argument. But, as I before remarked, feeling on subjects of this nature runs high in England, as well as in this country; every specific *object* has its *interested advocates*, who will use every means in their power for its attainment. And such judicious directors and engineers, who view statements in their proper light, will examine, and decide for themselves.

I will add one more of Mr. S.'s quotations, as follows: "Mr. R. Stephenson, of Edinburgh, bears testimony to the preference of wrought iron, of which he says half the weight of cast iron will suffice." This I admit, but it should be borne in mind that Mr. Stevenson alluded to cast iron rails as *then* used, which were liable to cause accidents by sudden fracture; consequently they required to be made of say *double* the *weight* of wrought iron: this, therefore, is not a point in competition with the "Guard Rail," which was not known at the time that statement was made. The true *contrast*, in comparison with the "Guard Rail," would be as follows: The *wrought iron* edge rail in common use weighs say 12 to 15 lbs. per foot, for say *foundations three feet apart:* the "Guard Rail" of dimensions as now made, say 20 lbs. to the foot, with foundations NINE FEET APART. Its *usefulness* in this, the primary object of it, is even admitted by Mr. S., as appears by his remarks, which he stated as follows: "In cities, where the object is to have *few supporters*, and *guard* against *shocks*, it is highly probable it would be comparatively useful." So far as relates to the *saving of capital*, added to the consequent dispatch in *completing* roads, it is as *important* to *dispense* with *two-thirds* of the usual number of foundations in the *country* as in *cities*, besides the *important advantage* of the lesser number of foundations to be kept in order; and it is *equally as important* to guard against "shocks" in the country as in cities. Mr. S. further quotes from Wood's Treatise: "Page 71, mention is made of a Mr. Hawkes, who attempted an improved rail of this kind, cast over wrought

iron, but without success, from the occurrence of partial difficulties, which, perhaps, Mr. Bulkley's method may have overcome." It may here be well to mention what those partial difficulties were, in order to show that it was a different description of rail. It was deemed a desideratum in the construction of "Rails," to *retain the benefit* of a hard *cast iron* upper surface for the wheels to run upon. Mr. Hawkes' improvement for attaining that point was as follows: He first constructed a *rail* of *wrought metal*, upon the upper edge of which were dovetails, or notches, and over these notches cast iron was applied, so that the *upper edge* of the rail for about *three quarters of an inch down* was cast iron, and the *lower part* of the rail was *wrought iron*, so that the *wrought iron* part was not only *exposed* near the surface to *corrode*, but a trifling deflexion produced by weight passing over them, caused the thin *cast iron plate* to crack, and work loose upon the notches: whereas the "Guard Rail" not only possesses the advantage of a hard cast iron *upper* surface, but its *lower* surface is also of *cast iron*, the *wrought iron* part is *incased* and *protected* from *corrosion*, and the rod passing through the lower edge of the rail from *end to end* as before described, secures the rail on the principle of the "arch."

Although it is considered by judges who have examined the "Guard Rail," that it combines qualities rendering it independent of the good or bad qualities of every other description of rails, yet, inasmuch as partiality has been shown in quoting extracts from publications relative to the subject in question, I propose to add a few, and but a few, extracts in this communication, as I find it to be already too long.

Tredgold, in his Treatise on Railroads, page 128, stated as follows: "Malleable iron rails have been applied only as edge rails, and we have already noticed the advantage they possess in giving connection to the parts and strength to the rails themselves. *But it has been observed*, that the *great weight* on the wheels, rolling on those rails, *extends the laminæ composing their upper surfaces*, and at *length* causes these surfaces to break up in scales. This defect is a very serious one. It has," he adds, "been found that an overstrain does not break them, but only gives them a set curvature in proportion to the weakness, and hence the upper fibres become crippled and upset, to use a technical phrase, very expressive of the fact."

It should be remarked that Tredgold alludes to this effect being produced by *great weight*. Probably rails used only for *light loads* would not be thus affected. Again in Tredgold, page 130: "*Wrought iron* rails have yet had but an imperfect trial; we expect they will be found of *short duration*; and in consequence of knowing that *wrought iron* exposed in a similar manner to the action of moisture *does decay very rapidly*. We have inquired respecting the fact of the *probable duration of wrought iron rails*, and have had many *opinions*, but not a *fact* worth transcribing. The process of decomposition," he adds, "is, undoubtedly, slow, but constant; and before putting down 40 or 50 miles of road with *this material*, there should be clear evidence of the time it is likely to last." It is assumed by the advocates of wrought iron, that, while in *use*, the process of decomposition is checked: of this there can be no doubt, at least so far as relates to the upper surface; but whether checked in *those parts* which are placed in pedestals, is doubtful. Wood, in his Treatise, when on this part of the subject, remarks on the *difference* between the tendency to rust, between a bar at rest, and a bar laid as a rail subject to "continual" motion, and states that a "railway bar of *wrought iron*, laid carelessly upon the ground alongside of one in the railway in *use*, shows the effect of rusting in a very different manner. The former will be *continually* throwing off *scales* of *oxydated iron*, while the latter is scarcely affected. This *prop of dependance*, to advocates of wrought iron, will be subject of deep reflection among men of understanding, it being well known that *wrought iron rails*, in capacity, are *small*, and will not suffer *much diminution* by *corrosion*, before they would become *dangerous* for use, with heavy loads; and when laying *long roads*, a proportion of the rails must necessarily *remain at rest a long time*, subject, of course, to corrosion, before they can be subjected to that "continual" motion alluded to by Mr. Wood. And further, in the establishment of *long roads*, much of it must necessarily be on unsettled earth, where *foundations* are liable to yield, and require to be broken up for arighting; and if those foundations be so numerous as only "three feet apart," the rails might remain for long periods in an *unused state*; they might also remain *long unused* in consequence of the falling away of embankments, or other damages occasioned by storms or otherwise, delays in winter, &c. &c. I have in my possession wrought iron which has been in close *contact with earth* only about *four months*, and is now incrusted and deeply indented with corrosion; and there are in the city bars of "*cast iron*," the lower surface of which is imbedded in stone, the *upper* surface exposed, which were placed in the situation they now are before the revolution in this country; were probably so placed about *sixty years* since, and are now, apparently, as *free from corrosion* as if they had not been exposed three months; even the *corners* remain *perfectly square*, and is a circumstance which goes far in justifying my assertion, that there were no good reasons for supposing but that the "Guard Rail" would last fifty, or even a hundred years.

In order further to establish the superiority of *cast iron* over *wrought iron*, I will quote a paragraph from the first American, from the second English, edition of "Wood's Treatise on Railroads," page 147, as follows: "Since *cast iron* superceded the use of wooden rails, it has been most extensively used in the construction of railroads; as usual in like cases, at its *first introduction* considerable opposition was made to its use; its brittleness and liability to break; its cutting the wheels when in the form of edge rails, and several other objections were *urged* against it; *time* and *experience* have, however, *confirmed* its *utility* and *extirpated* those *prejudices*, though its *nature* renders it *liable to break* when subjected to *sudden blows*."

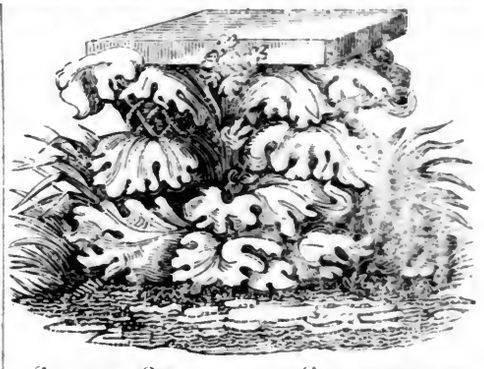
The "Guard Rail," as now manufactured, not only remedies that evil, of liability to break, but, as any person of discernment will discover on examination, the "Guard Rail" would even be *sustained* by its guard fit for use, if from any cause the *cast iron* were, or could, in use, be cracked crosswise in many places.

At the same page Mr. Wood adds, "It is considered of paramount importance in the construction of a railroad, to form it of such materials as *combine strength* and *duration* with economy. *Cast iron*, while it presents a surface that opposes little obstruction to the wheels of the carriage, forms a *substance* which is also *very durable, and resists the action of the wheels with great effect*."

I have written much more than I intended when I commenced; the subject, however, when well understood, must be very interesting to capitalists who contribute in the establishment of railroads. When considering, that in this state alone, capital to the amount of full, or perhaps over, $30,000,000 is incorporated, and proposed to be placed at the disposal of Directors for that object, and in some other states, perhaps, in an equal ratio, a *correct* understanding, therefore, not only by Directors, but by Engineers, on whom reliance for reasonable conclusions is placed, is very important.

And, if not deemed as intruding too largely on the columns of your Journal, I propose, in the next number, (other pursuits permitting,) to offer a few remarks in reply to the *communication* which appeared in the last number, on this subject, signed "U. A. B."

I am respectfully yours, R. Bulkley.



Supposed Origin of the Corinthian order of Architecture.—The above wood cut represents the leaves of a plant called the Herb Bear's Breech, the leaves of which it will be observed are large and shaggy, and the artist has given it all that beauty of form which it is said, from the accidental circumstance of the pressure on the top, to have originated in the mind of Callimachus the idea of the Corinthian order of architecture.

"It was at first used by the ancients as an ornament to friezes and cornices, and at length to the other members of architecture, but is principally employed as the grand ornament of the *Corinthian and Composite capitals*. The Greeks used for this purpose the leaves of the cultivated acanthus (*acanthus mollis*), commonly called brank ursine, or bear's breech, from its shagginess, which grew spontaneously both in Greece and Italy. The Gothic architects and sculptors, on the contrary, have used the wild and prickly acanthus (*acanthus spinosa*), being smaller in its parts and more suited to the littleness of their styles of art. Although architecture has made the greatest use of the acanthus, yet the other arts have also adopted it as a chaste and splendid decoration. We find among the ancients, as well as among the moderns, various instruments, household furniture, and utensils, ornamented with leaves of the acanthus. These artists, in preserving the general form and character of the plant, have made their sinuosities and curves more or less prominent, to suit their purposes, and have thus given them a more sculpturesque effect. In the Corinthian capital they are executed with more fidelity and elegance: the whole plant surrounds with its aspiring leaves the vase or bell of the capital, as if attempting to lift up the abacus that covers the whole, they then turn down and form themselves into graceful volutes."—[Partington.]

Stocking Knitter.—The Lancaster, Pa. Miscellany notices the invention of Mr. McMullen, of Huntingdon county, in that state, of a machine of the above name. It is described as being turned by a crank, and requiring about as much power as a small hand organ. It is capable of performing the work of six expert knitters, and adapted to the knitting of wool, cotton or silk.

Novel Mode of preserving Human Remains.—M. Barruel, an eminent French chymist, boasts of being able to extract iron enough from the blood of a deceased person to strike a medal the size of a 40 franc piece. "He that hath the ashes of his friend," says Sir Thomas Brown, "hath an everlasting treasure." What would the learned author of the *Hydriotaphia* have said had he known the possibility of possessing iron relics?—[Medical Gazette.]

Ballingall's Improvements in Ship-Building.
[From the London Mechanics' Magazine.]

It is now upwards of twenty years since Sir Robert Seppings introduced into the Royal Navy various improvements in ship-building, which are universally allowed to have imparted great additional strength, safety, and durability, to our ships of war: yet, to use the words of Mr. Knowles, (*Inquiry into the Means which have been taken to preserve the British Navy,*) such is "the jealousy incident to human nature, in properly appreciating and applying the inventions of others, or the indolence of the mind in not bringing itself to examine new methods or combinations—these improvements, while they have been eagerly grasped by foreign nations, are but slowly introduced in the ships of our merchants, and, with an apathy hardly to be credited, are totally neglected by the first trading company in Europe (the East India Company)." The advantages of the improved system, however, are so manifest and indisputable, that all that was wanting to bring it into general use, in the mercantile navy, was, that some influential individual connected with shipping should take it up—should make it his business to promote its adoption, not only by his own example, but by pressing it in every possible way on the public attention—should do, in short, for the merchants' yards, what Sir Robert Seppings has done for the King's. We are happy to say that such an individual has at length been found in Mr. Ballingall, the author of a very clever and intelligent work, which we have now before us, entitled "The Mercantile Navy Improved."* Mr. Ballingall has brought to the task he has undertaken, not only all the weight of an official situation of considerable prominence, but great practical experience, combined with what seldom accompanies it in men of his class, a very earnest and clear-sighted desire of improvement. He candidly acknowledges that "the greater part" of the alterations in construction which he proposes to have adopted in merchant ships, are already "in practice in the Royal Navy;" but he has at the same time enhanced the utility of these alterations by so many new suggestions, and added so many valuable contrivances, entirely his own, that he has a fair claim to be considered as himself an improver of the first order.

We cannot undertake to give within the limits to which we must needs confine ourselves, the whole details of Mr. Ballingall's system; but we shall endeavor to place in a distinct point of view before our readers, two or three of its more important features.

1. *The filling in of the timbers*—that is, bringing the ribs or frames into one compact body up to the gunwale—claims, on account of the immense consequences dependent upon it, the first place in our consideration. A ship is but an arch of peculiar adaptation, and the strength of every arch is in proportion to the mutual dependance of the parts on each other; but, according to the ordinary mode of building merchant ships, not more than one-half the timbers have such a mutual dependance. Every alternate couple of ribs only is connected together, and the intermediate timbers (absurdly enough termed *fillings*) are entirely unconnected with each other, resting only on the outer planking, without contributing, in the smallest degree, towards the support of the general structure. This loose and dangerous mode of construction has, at the instance of Sir Robert Seppings, been altogether abandoned in the construction of our ships of war. Every couple of ribs, without exception, is closely connected, and all the smaller interstices, as high as the floor heads, are filled in and caulked; in short, the bottom is converted into one compact solid mass, and that wholly exclusive of the outer planking. It must be evident that a ship thus constructed may sustain very considerable damage in her outer planking—lose actually a plank or two, or even her keel—and yet reach the place of her destination; while the loss of even a portion of a single plank or of the keel would be the destruction of a vessel built on the present mode. When water gets once past the outside planking of any ordinary vessel, nothing but the pumps can save it; and should these get choked, or the crew become exhausted in working them, (both very common cases,) down she must go. From numerous illustrative instances adduced by Mr. Ballingall, of the advantage which ships of war possess over merchant vessels in this respect, we quote the following:

"On or about the same ledge of rocks on which the Wolf, sloop of war, struck, and lay fast for two nights and a day, in March, 1830, at the back of the Isle of Wight, the vessel at the time she struck going at a considerable rate through the water, at the very top of high water of a high spring tide, and with a considerable swell on, and which vessel was got off again and is now in the East Indies, having been dragged over the rocks for half a mile by assistance from Spithead, the vessel beating very hard upon the rocks with the lift of the sea all the time, the Carn Brea Castle, free trader to India, was lost only a few months before, having got ashore under more favorable circumstances for getting off again. What could this be owing to? The ships were nearly, I believe, of similar tonnage. The answer is plain and obvious. The Wolf had a solid bottom of 15 inches thick at the keel, being 12 inches of timbers, and three inches of outside plank, without allowing her to have had any ceiling. The Carn Brea Castle would only have an outside bottom plank to protect her, of, I presume, 3 inches thick. Yet this vessel would have timbers of 12 inches thick, if no more, and a ceiling plank of, I also presume, 3 inches thick, making 3 inches more than the sloop of war, but neither of which were of the least use to her in keeping out the water. Had her timbers been close and her ceiling been caulked, she would have had one more protection than the sloop of war, viz. the ceiling plank, without taking any thing from her stowage, and the fair inference is that she would have been got off and preserved."—P. 97–99.

Mr. Knowles, in a letter to Mr. Ballingall, dated "Navy-Office, October 24, 1831," states that "the whole navy proves that the ships with solid bottoms have been more durable than they used to be when openings were left;" and he particularly specifies the case of the Success, which went ashore in Cockburn Sound, when "the whole keel was carried away, also the lower piece of stern, five feet four inches of the stern-post, four pieces of the dead wood, nine strakes of the bottom, amidships, and many strakes in the bows, and yet this ship was floated off."

Sir Robert Seppings has justly the credit of introducing this practice into general use in the Royal Dock Yards; but when in office, he had himself the liberality to point out to Mr. Ballingall, in the model-room at the Navy-Office, the model of a brig called The Lady Nelson, which was built about 1790, under the directions of Admiral Schanks, on the principle of a perfect union of the timbers, and is now, after a lapse of thirty-two years, still running, and "tight as a bottle."

Mr. Ballingall thinks that "nearly all the vessels which have been lost by foundering and collision might have been saved, if the vessels had had solid bottoms;" and there can be no question that the loss of life and property from the neglect of this mode of construction is annually immense.

2. *Caulking the whole of the ceiling or inner planking of the vessel*, and thus making it water-tight. This is contrary to the practice pursued in the Royal Navy, and, we are induced to think, somewhat superfluous, but is strongly recommended by Mr. Ballingall, on the ground of its affording a double security against a leak. If this, however, be done, it will be naturally asked how any water, which may have got into the vessel from inboard, is to get to the pumps to be pumped out? The answer to this question brings us to Mr. B.'s third important improvement, which consists in

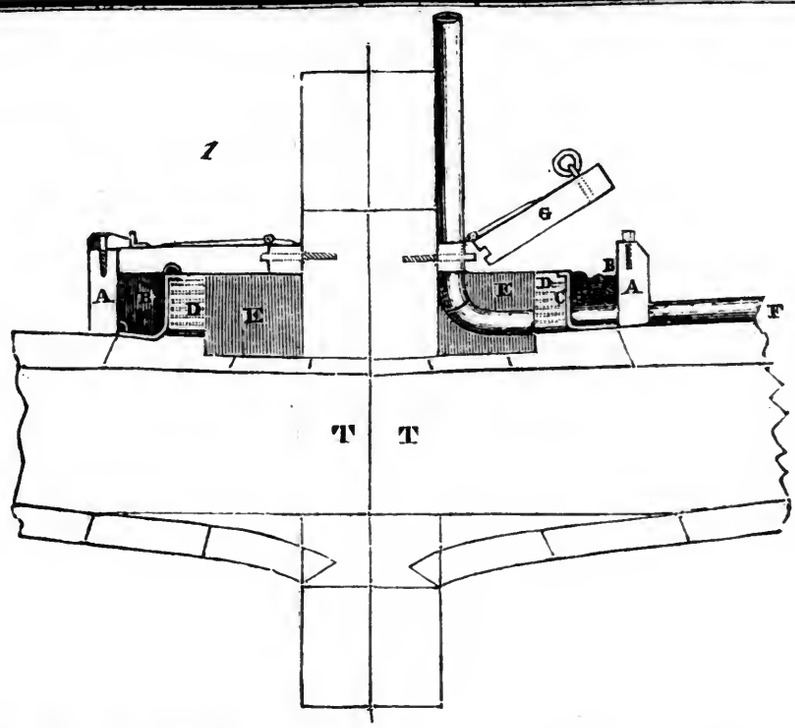
3. An improvement in the water-course, by means of what are called percolators:

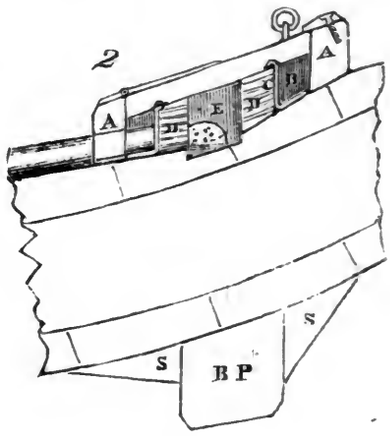
"I would propose a water-course to be led alongside the kelson on each side, as far forward and aft as may be required from the spring of the vessel raised above the level of the adjoining ceiling, by what I would call percolators, and the bottom of said water-course sunk at least an inch and a half or more below the level of the adjoining ceiling, to allow any water which might get into the vessel to drain off the ceiling into this water-course. There should be a gradual acclivity forward and aft, to cause the water to flow readily along the water-courses to the bottom of the pumps. This would be greatly assisted by the spring of the vessel. In men of war, East and West India ships, and, in general, in all vessels which either carry no cargoes, or their cargoes in packages, these percolators may be readily made of strong and thick oak battens, fastened to the ceiling close to the water-courses, and raised, say from 6 or 8 inches high, above the ceiling, with notches cut in the under edges or sides of them, similar to, I believe, the practice in the navy. These water-courses to be covered with limber boards, as at present, and the boards would not be required to be tight on the top; the boards to be sloped up to the kelson."—P. 20.

Mr. Ballingall does not propose these percolators simply because they obviate the objection before stated to the caulking of the ceiling, but for this further reason, that, whether the ceiling is caulked or not, they furnish a better means of conveying the water to the pumps, and keeping the pumps clear than any now in use, while at the same time they contribute considerable additional stability to the vessel. The explanations on this head are too long for quotation, but are to our minds entirely satisfactory.

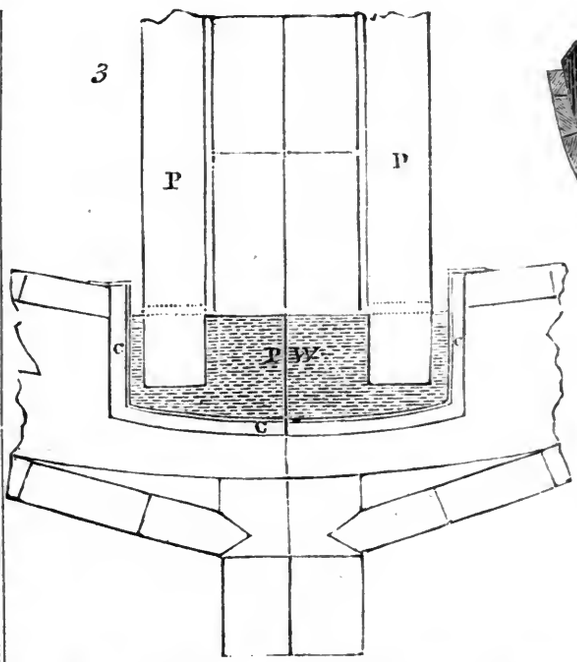
The better to elucidate these different im-

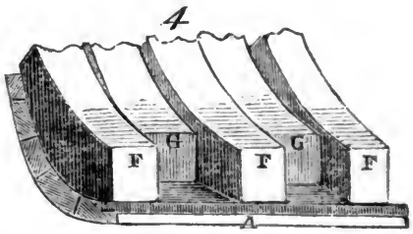
* The Mercantile Navy Improved; or a Plan for the Greater Safety of Lives and Property in Steam Vessels, Packets, Smacks, and Yachts, with Explanatory Drawings. By James Ballingall, Manager of the Kirkaldy and London Shipping Company, and Surveyor of Shipping for the Port of Kirkaldy, 1832. Morrison, London.

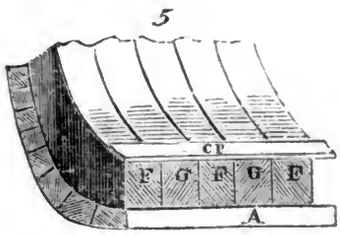




provements, we copy from Mr. Ballingall's book the accompanying illustrative sketches. Fig. 1 is part of a transverse section of a ship built on Mr. Ballingall's plan, and fig. 2 a continuation of that section (part broken off.) TT is the compact floor, with its bottom and ceiling planking. AA are guards fitted to protect the percolators from damage by shovels, &c. in taking out ballast or unloading a cargo. BB spaces filled with tanner's bark, charcoal, &c. or such substances as will allow the water to flow freely through them, and keep back sand, and so prevent the copper strainers, on the outer edge of the percolators, from being choked. CC the copper strainers (shown by double lines) on the outer edge of the percolators. DD the percolators, the lid or covering being open on the starboard side in midships, and shut on the larboard side and at the bilge receiver. EE limbers or receivers for water. FF the pipe which leads from the water-course down into the well prepared for it at the bilge. G shows the top of one of the main percolators opened; that on the other side is represented as shut. BP is the bilge piece. SS the water-courses, serving as supporters to the bilge piece. Fig. 3 is another transverse section, showing the alterations necessary to be made in the positions of the pump (P), pump-well (PW), and cistern (CC), in order to suit the new system. Fig. 4 is part of a longitudinal section of a merchant vessel, cut off at a line perpendicular to the outside of the keel. F is the floor, G the futtocks. It will be seen from this, that the outside planking is reduced at the garboard strake, A, to one-half the general thickness, by the rebate for the water-course; so that, supposing the general thickness to be, as usual, 3 inches, only one inch and a half is left between the inside of the ship and the element on which she floats. Fig. 5 exhibits, in section, the same part of a vessel, as constructed on Mr. Ballingall's plan. Here the floors, futtocks, or cross pieces (G,) planks of the bottom (A), and ceiling plank (CP), form one complete mass, and present a substance of 18½ inches, (instead of 1½!) to withstand all accidents.







Among the subordinate advantages attending this improved system of ship-building, there are two which are particularly deserving of notice: one is the greater security from fire which it affords, in consequence of all the vacancies, which at present act as so many funnels to the flames, being filled up; and the other, the protection obtained from vermin, in consequence of there being no harbor left for them between the timbers and the inside and outside planks.

Various objections to the system will naturally suggest themselves to the minds of practical men; it is certain, also, that the improvements which it embraces are not equally applicable to all merchant ships: but before any ship-builder or ship-owner rejects it on either account, we would earnestly advise him to send for Mr. Ballingall's book, where he will find nearly every possible objection very frankly discussed, and every modification, which particular circumstances may call for, provided for with great intelligence and ability.

We perceive, from a letter which Mr. B. has published, from Messrs. Ogilvie & Crichton, of Leith, the builders of the Royal Adelaide, steam ship, (one of those which ply between London and Edinburgh,) that she has been built, "in most respects, on the plan now recommended," and that it is the intention of the company to which it belongs to adhere to that plan "in any vessels which they may hereafter build." We trust that so judicious and spirited an example will not be long without numerous imitators.

Mr. B.'s book contains, also, instructions for rend ing vessels, already built on the present plan, more secure at a cheap rate. He particularly recommends a revival of the plan of placing a doubling on ships, as was proposed as far back as 1792, by Mr. Snodgrass, surveyor of shipping to the East India Company. Mr. S.'s plan was, "that no ship should have a thorough repair; but instead of this, that its bottoms and upper works should be doubled with three-inch oak plank, from keel to gunwale, and strengthened with knees, standards, and even iron

riders, if necessary—all which might be done at a small expense." Mr. S. thought that ships so repaired would "be stronger and safer, and be able to keep the seas longer in the worst weather, than new ships," (that is, new ships on the old construction;) and in this opinion Mr. Ballingall perfectly concurs. The company of which Mr. B. is manager have had two of their smacks, the Enterprise and the Fifeshire, thus doubled; and it appears from the following paragraph, which we extract from the *Scotsman* of the 28th November last, that the result has been most satisfactory:

"We understand that since the Kirkaldy and London Shipping Company's smacks, Enterprise and Fifeshire, have been fitted with double bottoms, they have frequently been deeply laden—have encountered very stormy and tempestuous weather—and were both at sea during the late very severe storm on the 10th curt., when so many vessels were wrecked, and have not admitted a drop of water through their bottoms or sides."

AGRICULTURE, &c.

[*From the New-York Farmer.*]

THE SEASON.—In this vicinity, and, as far as we have been able to learn, in other sections of the country, the season is from ten to fifteen days earlier than the last. The weather has not been only mild, but is now become dry. Farmers and gardeners have had a fine season to get their work advanced.

It is, we believe, a general remark, that a forward April is not followed with a fruitful season.

The following article contains so much practical information, and so methodically presented, that we can not delay in giving it to our readers. It forms a part of the proceedings of the New-York State Agricultural Society.—[ED.]

Letter from Dr. Wm. Darlington, of Pennsylvania, on the Use of Lime in Agriculture.

WESTCHESTER, (Penn.) December 17, 1832.

Dear Sir,—Your letter, containing a number of queries relative to the operation and utility of *Lime*, in the processes of agriculture, was received in the early part of June last: but as I have been much engaged during the past summer, with duties which required all my attention, and as your letter intimated that answers furnished "any time during the present year" would be in season for your purposes, I have taken the liberty to postpone my reply until now.

I proceed, then, with great pleasure, to furnish you with such facts and remarks as my opportunities for observation have enabled me to offer. With a view to render the answers more explicit and satisfactory, I will annex them, *seriatim*, to your several inquiries.

Query I.—"Upon what lands does lime operate most beneficially:

1. In regard to geological formation,—as primitive, transitory, secondary, and alluvial?

2. In reference to the soil,—as sand, clay, lime, and vegetable matter?

3. As indicated by natural growth of timber and plants?"

Answer.—My residence has always been in a *primitive* region, and my observations very much limited to agricultural processes in soils upon that formation. The prevailing rock here is gneiss,—with occasional beds, or veins, of hornblende, green stone and sceinite.—About five miles to the north of us is the great valley of transition limestone, stretching from northeast to southwest; and immediately on the southern side of this valley, running parallel with it, is a broken ridge of hills, formed of mica slate, with beds of serpentine rock and hornblende on the side next to the gneiss rock, on the southeast. Over the gneiss rock, and among the hornblende, the soil is generally a stiff loam; and there, I think, the best effects are perceptible from a given quantity of lime. On the soil overlaying the schistose rocks, the good effects of lime are sufficiently obvious, under the management of skilful farmers; but the benefits seem to be less permanent. On the serpentine rock the soil is extremely sterile, and neither lime nor barn-yard manure can be used with much advantage. In the limestone soil of the great valley, where one would suppose it was already redundant, lime is used with advantage; and much heavier dressings are put on, than in the adjacent districts. I cannot furnish the *rationale* of this practice; but I believe the fact is established, that more lime is required to produce the same beneficial effect upon soils resting on limestone rock, than upon those overlaying gneiss, and perhaps some other primitive rocks.

I have had no opportunity to witness the effect of lime upon *secondary* and strictly *alluvial* formations; but the above circumstance has led me to suspect, that the *same quantity* of lime would not be so signally beneficial in secondary, as it is in certain primitive formations.

Lime, undoubtedly, has a good effect in soils which are *sandy*, even where sand predominates; but I believe its meliorating properties are most conspicuous in a *clay* soil, or rather in a *stiff loam*. A good proportion of decomposed vegetable matter adds greatly to the beneficial effects of lime; and hence our farmers are desirous to mingle as much barn-yard manure as possible with their lime dressings, and to get their fields into what is called a good sod, or turf, full of grass roots. *Then* a dressing of lime has an admirable effect.* The soils indicated by a natural growth of black oak, (*quercus tinctoria*,) walnut (*juglans nigra*,) and poplar (*liriodendron*), and those in which such grasses as the *poas* and *festucas* best flourish, are generally most signally benefitted by the use of lime. In short, I may observe, that lime has been found more or less beneficial in any description of soil, in this district. It is most so on hilly or rolling lands, where clay predominates,—less permanently so among the mica slate,—and least of all, on the magnesian rocks. The soil on these last is rarely worth cultivating.

Query II.—"What quantity of lime is applied to the acre, upon different soils, at a single dressing, and during a period of years?"

Answer.—The quantity of lime per acre, which can be used advantageously, varies with the condition and original character of the soil. Highly improved land will bear a heavier dressing than poor land. On a soil of medium condition, the usual dressing is 40 to 50 bushels per acre. A deep rich soil, or limestone land in the great valley, will receive 70 to 80 (and I am told even a hundred) bushels to the acre with advantage. On very poor land, twenty to thirty bushels per acre is deemed most advantageous to commence with. It is usually repeated every five or six years—i. e. every time the field comes in turn to be broken up with the plough; and as the land improves, the quantity of lime is increased. The prevailing practice here is to plough down the sod, or *lay*, in the fall, or early in the spring,—harrow it once, and then spread the lime (previously slacked to a powder) preparatory to planting the field with Indian corn. Every field, in rotation, receives this kind of dressing; and as our farms are mostly divided into about half a dozen fields, the dressing of course comes once in six years, more or less according to the number of the fields. Some enterprising farmers, however, give their fields an *intermediate* dressing, *on the sod*, after they come into grass; which I consider an excellent practice, tending rapidly to improve the condition of the land.

Query III.—"Is it applied in a caustic or an effete state?"

Answer.—It is usually obtained in a caustic state from the kiln,—deposited in heaps in the field where it is to be spread, and water sufficient to slack it to a powder is then thrown upon it. As soon as slacked it is loaded into carts, and men with shovels distribute it as equally as possible over the ground. It is generally considered best to put it on the ground whilst it is fresh, or *warm*, as the phrase is; and it is certainly easier to spread it equally while in a light pulverised state, than after it gets much wet with rains. I am inclined to think, too, it is better for the land, when applied fresh from the kiln.

Query IV.—"To what crops is it most advantageously applied, and at what season?"

Answer.—It is usually applied, as already intimated, to the crop of Indian corn, in the spring of the year—say the month of April. Occasionally it is applied, preparatory to sowing wheat in autumn. When used as a *top dressing*, on the sod, it is generally applied in the fall—say November. The prevailing impression is that it is most advantageously applied to the Indian corn crop; and hence the general practice. But the truth is, it is highly advantageous at any and at all seasons; and our shrewd old farmers have a saying,—"*Get your lime on for your corn, if you can,—but be sure you get it on the land some time in the year.*"

Query V.—"How is it incorporated with the soil—by the plough or the harrow? and is it applied in any case as a top dressing to grass and to grains, and with what effect?"

Answer.—As already stated, after the sod is ploughed down for Indian corn, it is usually harrowed once to render the surface more uniform. The lime is spread as equally as possible over the field, and then the ground is well harrowed in different directions, in order to incorporate the lime with the soil. Soon afterwards, the field is marked out and planted with corn. The plough is rarely, if ever used, for the purpose alluded to. I have mentioned above, that lime is occasionally used as a top dressing for grass. It appears to be particularly beneficial to that crop; and answers extremely well when applied in that manner. The practice of applying it to Indian corn, as

* The yard manure is not usually mingled with the lime when the latter is first applied. The practice is, to lime the *Indian corn* ground, prior to planting that grain, on the inverted sod,—and, the ensuing spring, to manure the same field for a *barley* crop; or, to reserve the manure until the succeeding autumn, and apply it to the *wheat* crop. It is not well settled which of these is the better practice. Each has its advocates; but it is most usual to reserve the manure for the wheat.

above related, is, however, chiefly followed: and the application of a dressing to each field in rotation, causes as much labor and expense every year as our farmers generally are willing to incur. Lime has rarely been used as a top dressing to grain crops, within my knowledge.

Query VI.—"What is the ordinary cost per acre of liming, and the relative profits, in increased products, of a period of years?"

Answer.—Quick lime, at the kilns, usually costs twelve and a half cents per bushel. The farmers generally haul it with their own teams; and the additional expense depends, of course, materially upon the *distance*. It is frequently hauled by them a distance of 8, 10, and even 12 miles. The average, perhaps, is about 5 or 6 miles. It is delivered to me by the lime burners, (a distance of nearly six miles,) at 18 cents per bushel. At the rate of 40 bushels to the acre, the cost at 18 cents, would be $7.20 per acre. It is difficult to estimate with precision the relative profits, in increased products: but I can safely say, from my own experience, on a small farm of middling quality, that two dressings of lime at the above rate, in the course of 8 or 9 years, have more than trebled the products of the land to which it was applied, both in grain and grass. It is to be understood, however, that the system of *ploughing only so much ground as could be well manured* was adopted at the same time. I may also observe generally, that the farmers of this district, (who are shrewd economists,) are so well convinced of the beneficial effects of liming, that, costly as its application seems to be, they are unanimous in sparing no effort to procure it. Lime has been found to be peculiarly favorable to the growth of pasture, when the farm is otherwise well managed; and as our farmers are mostly in the practice of feeding cattle, they resort to liming as an indispensable auxiliary to successful grazing.

Query VII.—"Is lime applied with yard manures, or earthy composts, and with what results?"

Answer.—I have already intimated that vegetable matters, and especially yard manures, are highly important in conjunction with lime. Both are valuable, even when used separately; but when *combined*, the effect is most complete. If to this be added that great secret of good farming, *viz.* to plough only so much ground as can be well manured, —the state of agriculture may be considered nearly perfect.

Lime is, in some instances, added to earthy composts, preparatory to distribution on the field; but it is doubtful whether the extra labor of this method is compensated by any peculiar advantages. It is not generally practised.

Query VIII.—"Is powdered limestone (carbonate of lime) applied to soils; and if so, does it induce fertility otherwise than by mechanically ameliorating their texture?"

Answer.—No instance of powdered limestone being applied to soils has come under my notice. I can, therefore, form but a very imperfect opinion of its utility. If it were even as beneficial as quick lime, (which I doubt,) I apprehend it could not be procured and applied with less cost and labor.

Query IX.—"On what soils, if any, in your neighborhood, is lime found to be inoperative, as a fertilizing application; and the cause of its failure?"

Answer.—There is no soil in this district, deemed worthy of cultivation, on which lime is *wholly* inoperative as a fertilizer. On some sterile slaty ridges, and on magnesian rocks, it has indeed but a slight effect; and even the benefits of barnyard manure are very transient. In low swampy grounds, also, unless they are previously well drained, the labor of applying lime is pretty much thrown away. There seems to be something in the constitution of magnesian rocks peculiarly unfriendly to the growth of the more valuable plants. Indeed, there are patches of the soil perfectly destitute of all vegetation. Repeated attempts have been made to cultivate the bases of our serpentine banks; but neither lime, nor manure, will enable the farmer to obtain more than a light crop of small grain. Neither clover, nor the valuable grasses, can be induced to take root and flourish in the ungenial soil. It is, therefore, almost universally neglected.

I have thus endeavored, (in rather a desultory manner, I confess,) to answer your queries according to my best judgment. If what I have furnished shall in any degree tend to make the subject better understood, I shall be amply gratified. With great respect, I have the honor to be, your obedient servant,

WM. DARLINGTON.

JESSE BUEL, Esq. Cor. Sec. &c.

Raising Horses, Cattle, and other Live Stock.

By SUFFOLK COUNTY. To the Editor of the New-York Farmer.

SIR,—As the season is approaching when we expect to increase and multiply our live stock, permit me to present to your readers some of the directions that are appropriate to the subject.

The eminent surgeon, Henry Cline, Esq. of London, has given the world his views, from which I glean the following summary of doctrine. The external form is considered an indication of the internal structure. On the size and soundness of the lungs the health and strength of the animal principally depend. The size of the lungs is indicated by the form and size of the chest, particularly its breadth. The head should be small, to facilitate the birth. According to the size of the animal should be the length of the neck, that it may collect its food. For strength and travelling, the muscles and tendons should be large. Mr. Cline supposes bones disproportionably large to indicate an imperfection in the organs of nutrition, and by no means to imply great strength.

Those breeds of stock are to be preferred that have a regular and pretty rapid growth. To be stationary or slow in growth, implies disease or disordered functions, and is seldom attended with beauty and compactness of form. Those breeds that have the property of growing are generally straight in their back and belly. Although we do not want much belly, yet gauntness or paucity of intestines bespeak a material defect. Hardy, healthy constitutions, arriving soon at perfection, not only in size but in fatness, prolificness, quality of flesh, lightness of offal, gentleness, as well as other properties, are to be brought into view.

Yours, &c. SUFFOLK COUNTY.

April, 1833.

Suggestions relative to Florists' Work for May.

By the EDITOR.

> If in the field I meet a smiling flower,
> Methinks it whispers, "God created me,
> And I to him devote my little hour,
> In lonely sweetness and humility."

This is considered the loveliest month in the year. Unanimated nature is not only clothed, but is in her gayest attire; every color and form are displayed with the utmost taste to please and delight the eye. Animated nature is not only cheered but vocal with song. Who can refuse to join in the universal chorus? Whose mind is so constituted that it cannot be enlivened when the eye, the ear, and the smell are so richly regaled? Deep must be the trouble and corroding the cares of him whose vibratory chords are not struck into tune.

HOT-HOUSE.

AIR.—Plants in the hot-house require to be accustomed to air by leaving the sashes down in the day time, and sufficiently so in the mild nights, to prevent the air from becoming close and heated. They require to be well watered every day, and syringed as often as every other day.

RE-POTTING.—Messrs. Hibbert and Buist consider the present and the succeeding month, in preference to August, to be the most suitable time to re-pot hot-house plants. They give the following reasons. Fresh soil in August stimulates to a renewed action that the warmth of the weather will not sustain, and consequently assumes a yellow cast. Whereas, re-potted in the spring the increased vigor is sustained, and the wood is properly ripened.

GREEN-HOUSE.

OPEN EXPOSURE.—About the first of the month the more hardy plants should be taken out of the green-house. These plants, geraniums for instance, that are inclined to grow spindling, should be so placed that they may have as much light as possible. The plants generally should not be exposed to the sun all day, particularly if the pots are so situated as to become heated. Great care is requisite in watering, some requiring much more than others. Knowing their native country and their habitat is a great guide. Succulent plants require much sun, while others generally require but a little.

FLOWER GARDEN.

SOWING SEEDS.—Hardy annuals and biennials should be sown early in the month. Those exotics of warmer climates require to be sown about the middle of the month. Various kinds of perennial seeds should be put in the ground.

SHADE.—Tulips, hyacinths, anemones, and ranunculæ, require to be lightly shaded while in flower.

DAHLIAS, Tuberoses, and Amaryllis, should be planted early in the month, and carefully labelled.

DOUBLE WALL FLOWERS.—Being partially biennials they are seldom propagated by seeds, but by shoots, which should be about three inches long, and put in a shady situation.

ROOMS.

EXPOSURE.—Plants that have been in open airy rooms can with safety be turned out into the open air the first week in May. The more delicate ones, however, should be retained a week or two longer, according to the state of the weather. Judgment should be consulted, so that the air, the wind, and sun, should not greatly vary, at first, from what they were accustomed to in the rooms.

BULBS.—Those that have done flowering should have the pots laid on their sides to ripen the bulbs. In a week or two the bulbs ought to be taken out, dried, put in papers, and carefully marked.

GENERAL REMARKS.—Much attention should be given to saving seeds of flowers when ripe. A few of the best from the most healthy and vigorous plants are more valuable than many promiscuously gathered. Every florist, and every lady who cultivates, should keep a diary of her floral operations,—the time of flowering under ordinary or peculiar treatment, when turned out into the open air, the effects of the

air of the room, mode of propagating, and various other particulars. Such a diary would serve as a directory for future years, and would not fail of increasing the knowledge of plants.

NEW-YORK AMERICAN.

APRIL 27, 29, 30, MAY 1, 2, 3—1833.

LITERARY NOTICES.

MEMOIRS OF GEN. LAFAYETTE AND OF THE REVOLUTION OF 1830, by B. SARRANS, *Secretary to Gen. Lafayette* : New York ; J. & J. HARPER : 2 vols.—The memoirs, of which we here have a translation, produced, as they are well fitted to do, a great sensation on their first appearance in Paris. The revolution of three days, to which Gen. Lafayette imposed a term, and hoped to consummate its aim and hopes by presenting *Louis Phillippe* to the nation as the representative on the throne of republican principles, had already begun to retrograde when these volumes appeared. The Bourbon rather than the republican, the descendant of the legitimate race rather than the man of and from the people of the barricades, swayed the destinies of France; and already Lafitte, who was, after Lafayette, the great founder of Louis Phillippe's throne, and Lafayette himself, were disregarded personages in the new system of politics. In this state of things, a volume purporting to recall the attention of the nation to the actual occurrences just preceding and succeeding the three days, and justifying its statements by reference to official documents, and to private and confidential interviews and discussions, could not fail to command general attention. Efforts have been made to discredit the authority of these memoirs, and the London Quarterly Review has recently affirmed that they were disavowed by *Lafayette* himself. So far as such disavowal, if made, may be construed as extending to the authenticity and accuracy of the documents and letters published in the work, we take leave to question that such was the purpose of *Lafayette*. He meant, we do not doubt, to exonerate himself from any imputation of having suggested or perhaps even wished the publication of these memoirs—for they tend to exalt his character and influence so much, that it would have savored of egotism that he should be privy to their appearance. But we have full confidence in the statements here made, and in the faithfulness with which events and important conversations are related. In this view, and because of the honor it does to Lafayette, this book will be popular with Americans.

BOYS AND GIRLS' LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE, Vol. VI and VII. New-York, J. & J. Harper.—These two little volumes, prepared by Mr. *Thatcher*, whose Lives of the Indians, in a recent number of Harpers' Family Library, was so well received, furnish from the same pen the leading traits of Indian character, and notices of the habits and pursuits of the Indians, in a style adapted to instruct while it interests the youthful reader. There are several engravings in each volume, which add to their value and ornament.

THE AMERICAN ORNITHOLOGY, by ALEX. WILSON; *with seventy-six colored Engravings. Philad.*, H. HALL—*N. Y.* COLLINS & Co.—This recent edition of Wilson's beautiful work, has the convenience of presenting all the plates in a single volume of large quarto size, while the admirable biographies of the birds, with one of the author himself, by Mr. Ord, are given in three volumes, royal octavo. This was the pioneer work of American Ornithology ; and the price at which it is afforded, fifty dollars, places it more within common reach, than the larger, more expensive, and more magnificent work of Audubon.

THE WORKS OF THE REV. ROBERT HALL, A. M. —vol. III.—*N. Y.* J. & J. HARPER.—This volume completes the publication of the works of this eminent Divine—and in a style that does credit to the press whence it issues. In addition to Sermons and Letters of Mr. Hall's, we have here a Memoir by Dr. Gregory, of the life and career of his great friend. This tribute was to have been paid by *Sir James Mackintosh*, but death took him from the scene ere he had accomplished the undertaking, which friendship and admiration of kindred genius had led him to assume. A higher tribute can scarcely be paid by one man to another than *Mackintosh*, paid to Hall. In a letter published in the memoir, referring to a sketch which he, Mr. Mackintosh, had prepared of his own life, he says to Mr. Hall—"On the most impartial survey of my early life, I could see nothing which tended so much to invigorate and excite my understanding, and to direct it towards high though, perhaps, scarcely accessible objects, than my intimacy with you." Such praise, from such a quarter, is precious indeed.

Dr. Gregory's Memoir follows Mr. Hall, step by step in his career, from his being set apart for the ministry, his residence at Cambridge, at Leicester, at Bristol, to the closing scene in February, 1831. It speaks of him with affectionate admiration; but, withal, with discriminating praise; and seeks not to make him, what it is not given to man to be, faultless. The consciousness of great abilities often led Mr. H., as a disputant, into an impetuous and presumptuous course of argument, where victory, rather than truth, seemed to be the aim; and his great delight seemed to be to confound his adversaries This habit, however, his biographer says, "never tempted him to trifle with the sanctities of religion." It is not only as a learned and eloquent clergyman that *Robt. Hall* is known. He was a friend to man's best interests as connected with political systems; and regarded those European governments, which trampled upon the rights of man, as "operating most fatally to the extinction of light and virtue." It was a permanent conviction, as forcibly expressed in his own words, "that he who is instrumental in perpetuating a corrupt and wicked government, is also instrumental in unfitting his fellow men for the felicity of the celestial mansions." Among, and indeed the very first of, his political publications, was an eloquent "apology for the Freedom of the Press," a pamphlet widely circulated in this country at the close of the last century. The soundness of his judgment, however, and the earnestness of purpose with which he had devoted himself to preaching the gospel, taught him the inconveniences to a clergyman of political celebrity; and he therefore soon receded, not from his principles, as the memoir justly distinguishes, or from the avowal of them in private, but from the further advocacy of them in public, and came to the conclusion, which we think so true and wise, 'that the Christian ministry is in danger of losing something of its energy and sanctity by embarking in the stormy elements of political debate.' His subsequent life was governed by that conviction; and of that life and its valuable fruits, these volumes furnish an enduring and faithful record.

THE NEW YORK SPORTING MAGAZINE, No. II. New York: *C. R. Colden.*—We are glad to find this second number so spirited in its execution. There are two good colored engravings of celebrated horses —one of *Birmingham*, winner of the Doncaster St. Leger stake in 1830, the other of *Priam*—with memoirs of both these horses. There is also an amusing and spirited sketch of fleshing a young bull-pup in Staffordshire. The papers too are varied, and all either useful, or amusing, or both.

ELEMENTS OF DESCRIPTIVE GEOMETRY, by *Prof. Davies of Westpoint*, of which we announced the publication by the Messrs. Harper last year, have been just issued in a second edition from the same press; and we need say no more to show the demand for this excellent text book.

THE PERSONAL NARRATIVE OF JAS. O. PATTIE; edited by T. Flint: Cincinnati, E. H. Flint; N. York, Peter Hill.—To those who delight in tales full of incident,—of perils among savage hordes, and encounters with ferocious beasts,—of wanderings in interminable forests, and exposure upon arid sands; or to those who, looking deeper than the mere interest in the scene of the moment, take pleasure in studying its effect upon the characters brought beneath their observation,—this remarkable narrative will prove highly interesting. The author—whose veracity is endorsed by Mr. Flint, to whom, we have Mr. F's express word for stating, that he is indebted only for a few verbal alterations and topographical illustrations—is a thorough backwoodsman,—"a plain, blunt man," who delivers his round unvarnished tale with an appearance of truth and simplicity that must at once obtain him credit, even while it makes his readers smile.

His father, who it appears distinguished himself as a subaltern in the last war, was induced by a reverse of fortune and domestic calamity, to leave St. Louis early in 1824 upon one of those hunting and trading expeditions which are occasionally starting from that place to Mexico. Young Pattie, then about twenty, made one of the party, which, from consisting of but a few in the first instance, gradually increased in number, until it amounted to one hundred and sixteen well armed and well mounted adventurers, skilled in the use of weapons and familiar with the dangers and resources of frontier life. It may give some idea of the sufferings, hardships and dangers which this party encountered, to mention, that what with exposure and accident, famine, fever, and deadly conflict with the Indians, there were but sixteen of its number surviving at the end of five years; and the majority of these either captives in New Mexico, or wandering, stripped of every possession, even to their arms, over a country where the face of every man was turned away from them as "infidel dogs," who had been justly punished for trying to spy out the nakedness of the land. For the general course of the narrative, we refer those desirous of becoming acquainted with the most striking peculiarities of life in the wild regions traversed by the Messrs. Patties, to the book itself; but we have marked a number of passages, which, for the bold situations they exhibit, and the thrilling interest they excite, are hardly excelled even in the most highly wrought works of fiction.

What, for instance, can be more animated than the following account of a midnight attack from a bear, with the melancholy consequences of his ferocity :

We came to water, and encamped early. I was one of the guard for the night, which was rather cloudy. About the middle of my guard, our horses became uneasy, and in a few moments more, a bear had gotten in among them, and sprung upon one of them. The others were so much alarmed, that they burst their fastenings, and darted off at full speed.—Our camp was soon aroused, and in arms for defence, although much confused, from not knowing what the enemy was, nor from what direction to expect the attack. I still stood at my post, in no little alarm, as I did not know with the rest, if the Indians were around us or not. All around was again stillness, the noise of those in pursuit of the horses being lost in the distance. Suddenly my attention was arrested, as I gazed in the direction from which the alarm came, by a noise like that of a struggle at no great distance from me. I espied a hulk, at which I immediately fired. It was the bear devouring a horse, still alive. My shot wounded him. The report of my gun, together with the noise made by the enraged bear, brought our men from the camp, where they awaited a second attack from the unknown enemy in perfect stillness. Determined to avenge themselves, they now sallied forth, although it was so dark, that an object ten steps in advance could not be seen. The growls of the bear, as he tore up the ground around him with his claws, attracted all in his direction. Some of the men came so near, that the animal saw them, and made towards them.—

They all fired at him, but did not touch him. All now fled from the furious animal, as he seemed intent on destroying them. In this general flight one of the men was caught. As he screamed out in his agony, I, happening to have reloaded my gun, ran up to relieve him. Reaching the spot in an instant, I placed the muzzle of my gun against the bear, and discharging it, killed him. Our companion was literally torn in pieces. The flesh on his hip was torn off, leaving the sinews bare, by the teeth of the bear. His side was so wounded in three places, that his breath came through the openings; his head was dreadfully bruised, and his jaw broken. His breath came out from both sides of his windpipe, the animal in his fury having placed his teeth and claws in every part of his body. No one could have supposed that there was the slightest possibility of his recovery, through any human means. We remained in our encampment three days, attending upon him, without seeing any change for the worse or better in his situation. He had desired us from the first to leave him, as he considered his case as hopeless as ourselves did. We then concluded to move from our encampment, leaving two men with him, to each of whom we gave one dollar a day, for remaining to take care of him, until he should die, and to bury him decently.

The feelings of his companions recur so strongly to the deserted sufferer, that they return to him; and after carrying him a day's journey further upon a litter, the painful ceremony of leave-taking again ensues, and he is left to perish in this unfriended region.

A cavalry charge of Indians, like the one here described, must be 'a goodly sight' to look upon:

I do not think an eye was closed in our camp that night; but the morning found us unmolested; nor did we see any Indians before the sun was at the point spoken of. When it had reached it, an army of between six and eight hundred mounted Indians, with their faces painted as black as though they had come from the infernal regions, armed with fuzees and spears and shields, appeared before us. Every thing had been done by the Indians to render this show as intimidating as possible. We discharged a couple of guns at them to show that we were not afraid, and were ready to receive them. A part advanced towards us; but one alone, approaching at full speed, threw down his bow and arrows, and sprang in among us, saying in broken English 'Commanches no good, me Iotan, good man.' He gave us to understand, that the Iotan nation was close at hand, and would not let the Commanches hurt us, and then started back. The Commanches fired some shots at us, but from such a distance that we did not return them — In less than half an hour we heard a noise like distant thunder. It became more and more distinct, until a band of armed Indians, whom we conjectured to be Iotans, became visible in the distance. When they had drawn near, they reined up their horses for a moment, and then rushed in between us and the Commanches, who charged upon the Iotans. The latter sustained the charge with firmness. The discharge of their fire arms and the clashing of their different weapons, together with their war-yell, and the shrieks of the wounded and dying were fit accompaniments to the savage actors and scene. I do not pretend to describe this deadly combat between two Indian nations; but, as far as I could judge, the contest lasted fifteen minutes. I was too deeply interested in watching the event, to note it particularly. We wished to assist the Iotans, but could not distinguish them from the mass, so closely were the parties engaged. We withheld our fire through fear of injuring the Iotans, whom we considered our friends. It was not long before we saw, to our great satisfaction, the Commanches dismounted, which was the signal of their entire defeat.

Among other descriptions of animals, we find one of a singular breed of sheep:

Upon these we saw multitudes of mountain sheep. These animals are not found on level ground, being there slow of foot, but on these cliffs and rocks they are so nimble and expert in jumping from point to point, that no dog or wolf can overtake them. One of them that we killed had the largest horns that I ever saw on animals of any description. One of them would hold a gallon of water. Their meat tastes like our mutton. Their hair is short like a deer's, though fine. The French call them the *gros cornes*, from the size of their horns which curl around their ears, like our domestic sheep. These animals are about the size of a large deer.

And another, of a race of hogs, equally remarkable:

In these bottoms are great numbers of wild hogs, of a species entirely different from our domestic swine. They are fox-colored, with their navel on their back, towards the back part of their bodies. The hoof of their hind feet has but one dew-claw, and they yield an odor not less offensive than our polecat. Their figure and head are not unlike our swine, except that their tail resembles that of a bear. We measured one of their tusks, of a size so enormous, that I am afraid to commit my credibility, by giving the dimensions. They remain undisturbed by man and other animals, whether through fear or, on account of their offensive odor, I am unable to say. That they have no fear of man, and that they are exceedingly ferocious, I can bear testimony myself. I have many times been obliged to climb trees to escape their tusks. We killed a great many, but could never bring ourselves to eat them.

An Indian's idea of baptism:

Mocho asked us, how we baptised our people? I answered that we had two ways of performing it; but that one way was, to plunge the baptised person under water. He replied promptly, 'now there is some sense in that;' adding that when a great quantity of rain fell from the clouds, it made the grass grow; but that it seemed to him that sprinkling a few drops of water amounted to nothing.

A good shot:

We had scarcely made our arrangements for the night, when 100 of these Indians followed us. The chief was a dark and sulky looking savage, and he made signs that he wanted us to give him a horse. We made as prompt signs of refusal. He replied to this, by pointing first to the river, and then at the furs we had taken, intimating, that the river, with all it contained, belonged to him; and that we ought to pay him for what we had taken, by giving him a horse. When he was again refused, he raised himself erect, with a stern and fierce air, and discharged his arrow into the tree, at the same time raising his hand to his mouth, and making their peculiar yell. Our Captain made no other reply, than by raising his gun and shooting the arrow, as it still stuck in the tree, in two. The chief seemed bewildered with this mark of close marksmanship, and started off with his men. We had no small apprehensions of a night attack from these Indians.

These bows and arrows, however, though no match for the western rifle, are not to be despised as efficient weapons; and any one who is skilled enough in the noble sport of archery to drive the head of an arrow through an inch board at a reasonable distance, can readily believe, that what is stated below can be accomplished by more practised hands with the same weapon:

We had the merriest sport imaginable, in chasing the buffaloes over these perfectly level plains, and shooting them with the arrows we had taken from the Indians we had killed. I have killed myself, and seen others kill a buffaloe, with a single shot of an arrow. The bows are made with ribs of buffaloes, and drive the arrows with prodigious force.

Here, in five lines, is a complete picture of a whole race of Indians:

Here we met a band of the Grasshopper Indians, who derive their name from gathering grasshoppers, drying them, and pulverizing them, with the meal of which they make mush and bread; and this is their chief article of food. They are so little improved, as not even to have furnished themselves with the means of killing buffaloes. At sight of us, these poor two-legged animals, dodged into the high grass like so many partridges.

We have still many entertaining passages marked for extract, which are not here quoted, having already given more than our usual room to this single volume. The most amusing of these, perhaps, is one in which the band of hunters first come to tide-water, at which they were almost as much astonished as the followers of Alexander. They encamp upon the sand-bar of a Mexican river, and being flooded by the tide coming in from the sea in the night, which they mistake for a freshet, paddle their canoes to the shore, where, upon composing themselves to sleep, they are equally surprised to find themselves left high and dry by the retreating waters in the morning. We take leave of this volume with the persuasion, that Mr. Flint has done a service to the reading public in preparing it for the press. We could wish, however, that it had not been so wretchedly printed, and so full of typographical errors, not to mention verbal ones, such, for instance, as the repeated use of "learned" for "taught." The author, who is said to be in need, would, in the existing rage for accounts of savage life, which Mr. Cooper's descriptions of it have perhaps created, be more likely to command a ready sale for his work abroad than at home; but we trust, that before a copy of the work is sent to England for republication, Mr. Flint will, for his own credit, revise the errors.

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A Course of Lectures on Dramatic Art and Literature, by Augustus William Schlegel; translated from the original German by John Black; Philadelphia, Hogan & Thompson.—The history of the drama, were it not that some of the most cultivated nations of antiquity were unacquainted with theatric representation, would seem also to embrace the history of literature and civilization. But, while Herodotus, in treating of the customs of the ancient Egyptians, makes no mention of a theatre, and while the Persians and Arabians, among whom letters were so ardently cherished when Europe was wrapped in Gothic ignorance, possessed no national drama—it is evident that neither a flourishing state of the arts as among the first, nor a general taste for poetry as among the last, are essentially connected with theatrical production: especially as while those ingenious and remarkable peoples were altogether ignorant of the drama, a rude species of it has been found to prevail among the naked savages of the islands of the Pacific.

The modern drama, which only dates from the fifteenth century, (for Boccacio in delineating the manners of his time, makes no mention of stage exhibition) may be considered rather as an entirely new creation than a revival of the ancient theatre; altho' the race of critics that have sprung up with it would subject the theatrical productions of later ages to the same rules which they insist regulated those of antiquity. But while the miracles of saints, and the sufferings of martyrs, exhibited at first in travelling wagons, and afterward in barns and hovels, betray a similar origin of what Schlegel terms "the romantic drama," to that of the classic, which had its birth in rude representations of the more elegant and poetical mythology of the ancients exhibited likewise upon cars that were transported from place to place—we see no reason why an entertainment that in both instances sprung from distinct though similar sources among separate peoples, and was modified among both by their peculiar conditions of society and different advances in civilization, should be subjected to rules of composition imposed by either. Schlegel himself makes light of the pedantic laws of the French critics upon the much contested point of the unities, and yields an animated preference to those writers who, like Shakspeare and Calderon, in defiance of the precepts usually attributed to Aristotle, (but which he denies to have been delivered by that philosopher,) follow the impulse of native genius. Of Shakspeare, indeed, he is the warmest encomiast, and although bringing every weapon in the armory of criticism to bear upon his plays, he is still keenly alive to that union of wonderful and varied powers which distinguishes the grand master of his line. He dwells with warmth upon the noble and tender impressions to be gathered from his plays—he delights with the enthusiasm of a kindred spirit in the blending of gigantic strength and insinuating loveliness in Shakspeare's poetry, and he shows his thorough qualifications for the task he has undertaken of criticising every master in the whole range of the drama, by his enlightened and heartfelt appreciation of one who unites the powers of all in himself. But the necessity of bringing this notice unexpectedly to a conclusion, prevents us from doing justice at presen to a work of such rare value, and we must defer our comments to another opportunity.

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SUMMARY.

The Legislature of New York, having been in session 120 days, and enacted 323 laws, terminated its labors at three o'clock Tuesday. Several of the most important bills, says the Albany Evening Journal, not having been finally acted upon, will become subjects for future legislation. Among these, is the bill relating to the non imprisonment law and the bill reducing the legal rate of interest to six per cent., which passed the House, but were not taken up by Senate.

AUDUBON'S BIRDS OF AMERICA.—It is with real satisfaction we state, that on motion of Mr. Speaker Livingston, in the assembly of this State, provision has been made in the supply bill for the purchase of a copy of Audubon's magnificent work on the Birds of America. to be deposited in the State Library. By the same bill, the trustees of the Library were also authorized [illegible] pair of Globes, of superior workmanship, [illegible] in the library, the ingenious manufacturer, the late Mr. John Wilson, of Albany.

DINNER TO CAPT. BACK.—The Montreal Gazette, in an animated account of the festivities of St. George's day in that city, at which Capt. Back and Dr. King were special guests, has the following:

The President now claimed a bumper to the health of the head of a government and country which was now in perfect union and friendship with our own. He had already alluded that evening to the people of the United States in language of praise, but the people of Canada never could forget the liberal, generous and humane conduct of that people last year towards the numerous British emigrants, who knew not where to put their heads, and must ever recur to it with unmingled satisfaction. They had been long in friendship with them, long may it remain so. "The President of the United States."—Three times three—Hail Columbia, and the Chorus in Euryanthe by the Bavarian brothers.

Meredith Ogden, Esq., rose, and said that being an American by birth, though he had resided in this city from manhood, he felt an honest pride in the institutions and prosperity of his native land. There never was a period at which the amity between the United States and England was stronger or more likely to last than at the present moment, and he felt happy at the reception which their distinguished guests had received from his countrymen in New York: he knew well they fully entered into the humane intentions of the expedition, and he felt convinced that there was no place where the enterprize was more laudably encouraged and the success of it more desired than in the city of New York.

MUNIFICENT CHARITY.—Col. THOMAS H. PERKINS, of Boston, has presented the following donation to the New England Asylum for the Blind. Truly the spirit and liberality of such conduct is above praise.

I give the House in which I reside, as a permanent Asylum for the Blind, upon the conditions expressed below. As the house is fifty feet square, and the adjoining land contains nearly eleven thousand feet, it will furnish accommodation for all the persons who may be thrown upon our community at one time; and as the stables are of brick, and substantially built, they may, if required, be converted nto dormitories. The conditions I annex to the gift are as follows, viz:—The house and land shall always be occupied as an Asylum for the Blind; and in case the present mansion should be destroyed by fire, it shall be rebuilt for the same purpose; or in case it is not rebuilt, within three years after being destroyed, the land shall revert to my heirs at law.

I value the Estate at $30,000; but as a house, whatever be its value, is but of comparatively little use without the means of supporting those who are to inhabit it, my second condition is, that $50,000 shall be raised to form a fund for the support of the establishment; hoping that it may be increased by donation hereafter, by those who are at present unable to afford their aid. Another condition I shall exact by the terms of the deed, which I shall give, is, that in case the corporation for the blind should cease, the estate shall revert to my heirs at law;—hereby making it obligatory upon posterity to keep up the establishment, to avail itself of my donation.

The munificence of Bostonians towards their public institutions, whether for education or for charitable uses, is proverbial; but, so far as this city is concerned, not at all—we grieve to say it—contagious. We remarked on Saturday, the noble donation by *Col. Perkins* to the Asylum for the blind. We now find by the Boston Daily Advertiser of Saturday, that "the HON. JONATHAN PHILLIPS, son of the late Lt. Gov. Phillips, has authorized the subscription of $5.000, towards meeting the Fund proposed to be raised as the condition of Col Perkins's donation to the Institution for the Blind."

WESTPOINT.—The following list comprises the names of all the Visiters appointed to attend the annual examination in June next. We have heard, however, with regret, that Mr. Washington Irving, and Gen. Lewis, of this State, have both declined the appointment.

MASSACHUSETTS....	Rev. Mr. Leland,
	James Russell, Esq.
RHODE ISLAND.....	Gov. Fenner.
NEW YORK.....	Washington Irving, Esq.
	Gen. Morgan Lewis,
	Gen. E. Root,
	Gen. Van Rensselaer,
	Gov. Yates,
	Perley Keyes, Esq.
NEW JERSEY.....	Hon. M. Dickerson.
PENNSYLVANIA.....	Col. C. Banks,
	Hon. I. R. Burden,
	Hon. T. H. Crawford.
DELAWARE.....	James Rogers, Esq.
MARYLAND.....	Wm. S. Heath, Esq.
VIRGINIA.....	Hon. Mark Alexander.
KENTUCKY.....	W. Pope, Esq.
	J. Haskin, Esq.
GEORGIA.....	Hon. J. Forsyth.
TENNESSEE.....	Rev. C Coffin.
OHIO.....	Hon. Thos. R. Ross.
MICHIGAN.....	John Norvell, Esq.
U. S. ARMY.....	Gen. Fenwick,
	Col. Bankhead.

THE FRENCH TREATY.—*Draft of the United States Protested.*—A draft drawn by the United States Government on the Government of France, for the first instalment of the indemnity, agreed by treaty to be paid by the latter, for spoliations committed on our Commerce, *has been protested.* The amount is about Nine Hundred Thousand Dollars. The draft was at sight and negociated here to the Bank of the United States. Protested in Paris, the agents of the Bank there, Messrs. Hottinguer & Co. interfered for the honor of the Bank and paid the amount.—[Courier & Enquirer.]

Commodore Porter.—This gentleman has been dangerously ill. He writes to a friend in this city—"I have been exceedingly sick for some time past. I have just crept from the edge of the grave." It seems that the place of his abode is very unhealthy. He mentions in his letter, that, from his window, he sees a succession of corses, borne to the grave, and at the moment of writing, forty or fifty unburied bodies were lying in his view at the place of interment.—[Washington Globe.]

Institution.—On the second Sunday after Easter, the 21st instant, the Rev. Benjamin C. Cutler was instituted Rector of St. Ann's Church, Brooklyn, L. I.

Indians again.—The Illinois and Missouri papers, of the first week in April, contain rumors of warlike movements of the Indians. In estimating these, due allowance must be made for the love of the marvellous, for easily excited apprehension, and in addition, for the convenience of another summer expenditure of a million of dollars. All rational conclusions are against the probability of Indian hostility, unless provoked and brought on by the whites.—[Cincinnati Gazette.]

[*From the Courier and Enquirer.*]

DESTRUCTIVE FIRE.—A fire broke out about four o'clock on Saturday afternoon, in the second story of the building No. 18 Gold street, which, from the combustible nature of the materials on which it had to feed, soon threatened an extensive conflagration. The upper part of the building which was occupied by Mr. Paulding as a carpenter-shop, was soon completely enveloped in flames, and extended in a short time to the lower story occupied by Mr. Foster as a packingbox making establishment, which with the upper part was soon consumed. It then attacked the adjoining building, No. 20, occupied by Mr. Bloomer as a carpenter-shop, which soon shared the same fate. From the narrowness of the street, and the difficulty of speedily bringing a supply of water to play upon the different buildings which caught fire, it communicated to both sides of the street, and extended its destructive ravages until about 6 o'clock P. M, when its progress was successfully arrested.

Two or three buildings in the interior of the block were consumed, one of which was an extensive smithery.

The extent of the loss is not as yet possible to ascertain, nor the amount of insurance. The place where these houses stood is now a pile of smouldering ruins, in which latent fires still continue to burn; and the street is completely blocked up with the fallen fragments. Many families have lost their homes and their all.

DESTRUCTIVE FIRE.—*Four blocks of Buildings destroyed—Forty Horses burnt to death.*—We have the painful duty to record one of the most desolating conflagrations, with which our city has ever been afflicted. The fire commenced about 11 o'clock, last night, in the extensive stables of Messrs. Kipp and Brown, at the corner of Hudson and Bank streets, and before assistance could be rendered, upwards of forty horses perished in the flames. The block bounded by Hudson, Bank, Greenwich and Hammond streets, was burnt to the ground in twenty minutes from its breaking out; it speedily communicated to the adjoining block, taking a westerly direction, which very soon after shared the same fate. About this time the wind, which had been high during the day, now freshened into a gale—the flames soon crossed to the westerly side of Hammond street, and shortly after the entire row fronting on Perry street and extending all the way to Washington street, comprising altogether four squares was in a blaze.

Language can scarcely describe the scene of confusion and consternation at this moment—hundreds of families who had removed their furniture to places supposed by them to be secure, were now seen flying in every direction before the fury of the all-absorbing element: in many instances furniture, after being removed, was destroyed by the fire.

Through the dense cloud of smoke and burning cinders, children, half naked were to be seen running to and fro, crying for their parents, and parents in despair shrieking the names of their children!

The destruction of property during this appalling scene, must have been immense, and the extent of suffering and distress in consequence, incalculable. The fire had not been arrested at the time our informant left; but, from the abatement of the wind, together with a full supply of water in constant play, at the corner of Perry and Washington streets, it was supposed its progress would be effectually stopped at that point.—[Daily Advertiser.]

Thus far the Daily Advertiser of this morning. We now add all the authentic information we could gather on the spot.

The fire is supposed and asserted by many to have been the work of incendiaries—it can indeed, it is said, be proved to be so. In the upper part of the stables, six or seven men were sleeping, who all with great difficulty saved their lives—some by jumping from the window about 17 feet high, but no material damage was done: one colored man got his face dreadfully cut in descending. We understand Kipp & Brown are not insured at all—their loss is very great: 8 carriages were burnt, which cost them $800 each, and 35 horses, worth upon an average from $80 to $100 each. Out of the 41 horses, only 5 were taken out alive, 2 of which are since dead.

The conflagration spread very rapidly. At the back of Kipp and Brown's stables was a warehouse, occupied as a store room for articles of a combustible nature, by Mr. John C. Morrison, chemist, which it is supposed contributed materially to spreading the fire. Nearly all the buildings in the rear were wooden, and in another building, immediately at the back, owned by Kipp & Brown, were 700 or 800 bundles of straw.

The conflagration extended thro' Bank, Hammond and Perry streets, and it is calculated that all the houses that stood on eight acres of ground are destroyed. There are various reports as to the number of these buildings, but we suppose from 130 to 150 at least. Among the chief sufferers is Mr. Moses Spiers, who owned a weaving establishment of some import. It is believed no human beings perished the distress however of those who are burnt out will be great.

A BANK FAILURE.—Letters from Augusta, Geo. announce the failure of the Planters' and Merchants' Bank of that place. The nominal capital of this bank was $350,000; of which, we understand, only a small portion had been paid in. The amount of its bills in circulation is said to be $300,000.

[*From the Baltimore American.*]

LATEST FROM RIO DE JANEIRO.—The brig Sultana, Willis, arrived at this port yesterday in fifty-five days from Rio de Janeiro, which place she left on the 24th of February. Captain Willis informs us that prior to his sailing, two English ships had arrived at Rio de Janeiro, having on board about *seventy* persons whom they had picked up at sea. From their statement, it appeared that the British ship Britannia, bound from England to Van Dieman's Land, with upwards of two hundred convicts on board, accidentally took fire at sea, while the mate was drawing liquor from a cask in the run, and burned to the water's edge. More than a hundred persons, men and women, perished in the flames. After the vessel took fire. the crew and some of the passengers constructed rafts, on which about seventy embarked, and were fortunately saved from a watery grave by the timely approach of the two vessels above alluded to. On their arrival at Rio de Janeiro, a subscription was opened for the relief of the sufferers, and about $4000 had been raised when the Sultana sailed.

It will be recollected that the wreck of a burned vessel was fallen in with some time since, by the ship Martha at New York, with a number of dead bodies floating near it. Among the surmises then made as to the identity of the ship, was one, that the wreck was that of a convict ship from England. It is probable that this is the same vessel.

[*From the Newport Mercury of April* 29.]

LATE FROM MATANZAS.—The ship Boy, Capt. Pitman, arrived here yesterday, in 13 days from Matanzas. Capt. P. informs that the Cholera was raging there to a frightful extent; the deaths were said to be upwards of 100 daily, but such was the state of alarm, that no accurate information could be obtained. All business was suspended, and the communication with the country was entirely cut off.

MATANZAS, April 12.—"The Cholera is raging here with much fury: it is impossible to form any correct opinion of its ravages, although I have endeavored to do so—I even question whether the Government itself has returns of the number of interments; of the number of cases I know it has not, for I heard one of the most eminent physicians say to day, he had not had time to report for a week past. Business is almost paralized, and all who could leave the city have done so; there are some cases in the country, some plantations have suffered severely.

"Two cargoes of slaves, (over 1000) arrived a few days since; one of them landed her cargo South of this, (Matanzas) on the other side, all of whom died, although landed in perfect health; and the other a few leagues to leeward of this, the most of whom are dead, and the residue dying.

"I received a letter to-day from Havana, dated the 10th inst. which states that the number of deaths by Cholera the day before, was only 10—but adds, that it had broken out on the estates to the southward, and unless soon checked, must ruin the planters.

MOBILE POINT, APRIL 10.—Arrived, U. S. transport schooner Motto, from Key West, with the detachment of the 4th Regt. U. S. Infantry, under the command of Major Glassell. I understand Major G. left Key West on account of the cholera having made its appearance at that place, the day before his departure on the 5th instant. Only a few cases, however, had occurred—and those not among the troops. Not finding quarters for the troops at Mobile Point, Major G., it is understood, will proceed for Pensacola the first favorable wind.

The U. S. sloop of war, FAIRFIELD, Capt. *M'Cawley*, arrived on Saturday afternoon from Norfolk, bound to the Pacific. She dropped down to the navy yard and saluted the flag of Com. Chauncey with the usual number of guns, which were immediately answered by the Franklin.

The following is a list of her officers:

Charles J. M'Cawley, Esq, Commander; James P. Wilson, 1st Lieutenant; John A. Cann, 2d Lieutenant; William L. Patten, Surgeon; John A. Bates, Purser; Frederick Peter Cheetard, acting Sailing Master; Edward Lloyd Hanely, passed Midshipman; William C. Chaplen, do; Alexander R. Reve, Midshipman; John P. B. Adams, Vincent L. Williamson, Washington Gwathney, William P. Gamble, Midshipmen; S. W. Beale, captain's clerk; Lewis Parker, Gunner; William Hatch, Carpenter; John Bardine, Sail Maker.

Melancholy Death.—Died on Friday, the 5th inst. near Carrollton (Ill.) James Turney Esq. late Attorney General of the State of Illinois. Mr. Turney had recently become impressed with the solmn truths of Christianity; with glowing fervor, he had in a measure abandoned his profession to preach Christ crucified and him only. While recently engaged in the performance of the act of baptising a brother who had a wooden leg, that had at its end a sharpened steel point, the latter unfortunately set the point of the leg with all its attendant weight on the foot of the deceased, which wounded it severely, and the wound ultimately mortified which produced his death.—[St. Louis paper.]

Disasters.—The schr. Metamora was stranded on the shore 25 miles from Apalachicola on the 25th ult. Part of the cargo found. The Captain and crew arrived at A. on the 10th inst.

The schr. Wakcamaw, Bourne, of Falmouth, (Mass.) from New Orleans to Baltimore, was ran down below Smith's island on the 24th inst. and sunk in 5 minutes. The Captain and crew were saved by the M. with nothing but what they stood in, and were put on board a pilot boat, and landed at Old Point, whence they arrived at Norfolk, in the steamboat Hampton.—[Gazette.]

[*From the National Gazette.*]

Britain Cooper, Esq. the Treasurer of the Girard Trust, in a letter addressed on Thursday evening to the City Councils, acknowledges the receipt of *two millions of dollars* from the Trustees of the Girard Bank, to be appropriated to the erection of the new Girard College.

Office of the Colonization Society,
NEW YORK, APRIL 30, 1833.

☞ FOR LIBERIA.—The fine brig American will leave Philadelphia for Liberia on Wednesday, the 8th May. The New York City Colonization Society have determined to avail themselves of this favorable opportunity to send those who have applied and been received as fit persons for emigrants.

It is not the intention of the Society to send their emigrants away *empty*, but to provide them bountifully with clothes, provisions for their support, after their arrival in the Colony, implements of husbandry, and mechanic tools for such as have trades.

Donations for any of the above specified objects may be left at the office of the Colonization Society, in the rear Chapel of the Brick Church, or with Thos. Bell, Esq., 221 Front street. It is with pleasure that I acknowledge the receipt through L. H. Clark, Esq. of four large packages of *Temperance Documents*, from Mr. Delavan, of Albany. Also, a package of books, through the Rev. Dr. Milnor, from some unknown friend. Also, a package for John B. Russworm, editor of the Liberia Herald, from some unknown person. Also, from Charleston, S. C. a letter for "Abraham Rogers, Monrovia, Liberia." Also, through R. Yates, Esq. Treasurer of the New York State Colonization Society, some valuable jewelry, denominated by the donor "A Willing Gift," from an unknown lady of the Union.

ROBERT S. FINLEY,
Agent New York Col. Soc.

A great Fire.—MIRAMICHI is mentioned as connected with one of those tremendous fires which sometimes arise in the American forests, and spread havoc by circles of longitude and latitude. In the autumn of 1825, such a calamity occurred on the river Miramichi, which extended 140 miles in length, and in some places 70 in breadth. It is of little consequence that no wind should be stirring at the time; for, as Mr. M'Gregor observes, the mere rarification of the air creates a wind, "which increases till it blows a hurricane." In the present case, the woods had been on fire for some days without creating any great alarm. But "on the 7th of October, it came on to blow furiously from the westward; and the inhabitants along the banks of the river were suddenly surprised by an extraordinary roaring in the woods, resembling the crashing and detonation of loud and incessant thunder, while at the same instant the atmosphere became thickly darkened with smoke.—They had scarcely time to ascertain the cause of this awful phenomenon, before all the surrounding woods appeared in one vast blaze, the flames ascending from *one or two hundred feet above the top of the loftiest trees:* and the fire, rolling forward with inconceivable celerity, presented the terribly sublime appearance of an impetuous flaming ocean. Two towns, those of Douglas and Newcastle, were in a blaze within the hour; and many of the inhabitants were unable to escape. Multitudes of men on lumbering parties perished in the forest; cattle was destroyed by wholesale; even birds, unless those of very strong wing, seldom escaped, so rapid was the progress of the flames. Nay, the very rivers were so much affected by the burning masses projected into their waters, that in many cases large quantities of salmon and other fish were scattered upon their shores. Perhaps the plague of fire has never been exhibited, or will be, till the final destruction of this planet, on so magnificent a scale. Such disasters, however, are repaired in a wonderfully short space of time; wooden cities being easily rebuilt in a country where timber is a weed. Weed, however, as it is, in a domestic sense, by means of exportation to English markets, timber has turned out a more valuable possession to New Brunswick than diamond mines could possibly have been to a country in her situation. Mr. M'Gregor gives us a very impressive picture of the mode in which timber is cut, hauled to the banks of rivers, and finally floated in the shape of rafts to Miramichi or other parts. The class of people engaged in these labors are called *lumberers;* they live like Indians in the woods; and a life of greater hardship than theirs, or labors carried on under circumstances of more romantic peril or difficulty, we do not suppose to exist any where on this planet.

[*From the Montreal Gazette, of April 25th.*]

DESTRUCTIVE CONFLAGRATION.—At a quarter before eight last evening, when the company were assembled for the Soirée Musical of the Messrs. Hermann, at the *British American Hotel*, the alarm of fire in that noble edifice roused the numerous inmates from their respective occupations, and before almost the alarm had reached the street, this splendid Hotel exhibited one mass of fire, extending its sway from one floor to another, presenting a scene of awful grandeur and desolation, scarcely paralleled in the history of Montreal. About thirty ladies and gentlemen had assembled in the large ball room to attend the Concert—the boarders and other inmates were engaged at tea, when the blaze of a lamp, suspended on the branch of one of the evergreens which formed the decoration of the passage at the Bachelors' Ball, and which have remained undisturbed since that period, communicated with the whole range of trees, and produced one instantaneous conflagration, which soon raged with the most destructive and irresistible fury through the entire building, leaving the inmates to secure their flight by ladders and through windows, possessed only of the clothes they wore, without even a moment's opportunity to secure any of their baggage or property. With difficulty the concert room was cleared, by taking the company down by ladders placed to the front windows, the flames rushing into the room from the burning evergreens in the passage, and prohibiting all egress by that channel. The scene of confusion that ensued, baffles all human description, and all attempts to secure property proved hopeless. Some articles of furniture were removed at the only favorable moment, but we regret to say, that many of the boarders lost all they possessed.

Fortunately for the cause of science and philanthropy, Capt. Back secured his baggage and scientific instruments, which had been so arranged as to be ready for his movement to Lachine this evening. The Messrs. Hermann & Co. who were about commencing the concert, lost every article of property and instruments they possessed, ... of a long and honorable professional career, including among the latter a violincello of peculiar power, and which cost nearly £200. Mr. Lidel Hermann, in making a desperate rush to secure his trunk, got himself dreadfully burned in the head and face, and is otherwise much injured, but was at last dragged away, and saved by the active interference of Mr. Kerrison of the John Bull Inn. A piano, loaned by Mr. Duff for that evening's entertainment, valued at £120, was also consumed. The houses of Messrs. Walker, Pothier, and Mondelet were occasionally on fire, but through the activity of the various engines, were speedily saved. All attempts to extinguish the fire in the British American Hotel having proved unsuccessful, the whole building became in forty minutes a heap of ruins.

The entire furniture of St. Paul's and the Grand Lodge of the District, including all the original records, &c. were totally consumed, as well as their charter, which was the oldest in the country.

The amount of insurance on the building, and the furniture in the house, belonging to Mr. Molson, was £8800, equally divided between the Phenix and Atlantic offices. Mr. Rasco's furniture was insured at the Alliance for £2000, and the furniture of the Grand Lodge at £200. The estimated loss is much above £9000. The Theatre Royal was insured at the Quebec and Phenix offices, but no damage has been done. The house of the Hon. Mr. Pothier was insured at the Phenix office, and those of Messrs. Walker and Mondelet were insured at the Alliance. Small amounts may be claimed for slight damages to those properties.

[*From the Daily Advertiser of Saturday.*]

The reservoir at 13th street when full, contains 20 feet depth of water. At the largest fires which have recently occured, before that at the City Hotel on Thursday, the water has been reduced about 5 feet—at ordinary fires, about two feet. At the fire at

the City Hotel, it was reduced 10 feet. On Friday morning, it had been so far supplied anew as to be raised to 16 feet, and the remaining 4 feet could be furnished in a very short time. The importance of this work, which was for a considerable time not only strongly opposed, but pointedly ridiculed, is now ascertained, and established.

MISCELLANY.

[*From the Rochester Daily Advertiser.*]

Relics of a Mammoth.—We were yesterday shown two animal teeth, of extraordinary size, which must have belonged to an animal whose species has for ages past become extinct. They were found in the town of Perinton, near Fullam's Basin, a few days ago, by Mr. Wm. Mann, who was engaged in digging up a stump. They were deposited about four feet below the surface of the earth. These teeth were in a tolerable good state of preservation; the roots begin to crumble a little, but the enamel of the teeth is in almost a perfect state. The teeth were the grinders, and from their appearance, were located in the back part of the upper jaw. The largest one, weighs three pounds and ten ounces, measuring six inches lengthwise of the jaw, and three inches across the top: the root is about six inches long with several prongs. The other tooth is smaller. If we were to suppose this animal to have the same number of teeth that other animals commonly have and that the rest of the teeth were of the same proportions, as to size, the circle of the jaw from one end to the other, must have been six feet. Again, if we were to estimate the comparative size of this tooth with that of a large ox, and from thence infer the size of the animal to which this tooth belonged, we should probably find that its size was forty times larger than our largest oxen.

A forest of trees would soon be nibbled to their roots by a herd of such animals as these; and the western continent would prove a small enough pasture for a moderate number of them.

[*From the Crawford (Pa.) Messenger.*]

In the early part of last month a flock of Swans, 20 or 21 in number, were noticed floating about in the atmosphere, in Cassewago township, in this county, for several days in succession; the weather during all this time, was very thick and heavy. Like the bewildered mariner in a dense fog, they appeared utterly at a loss how to direct their course. Apparently overcome and exhausted by fatigue from the length of time they had been on the wing, they descended to the earth, in the open fields, &c. and many of them were easily captured by the citizens of the neighborhood, being unable to rise again. One or two were shot and found remarkably fat—each yielding feathers equal in quantity, and of very superior quality, to what is usually taken from 4 or 5 domestic geese. They are already, we are assured, quite docile, freely associating and feeding with the ordinary geese.

Roasting by Gas: Baking Bread for Spirits.—We have, already, says the London Literary Gazette, in several Nos. referred to and described these most ingenious inventions of Mr. Hicks, and have satisfied ourselves, by actual inspection, of their extraordinary applicability to the useful arts and domestic concerns of life. On Wednesday we lunched off pigeon and duck roasted by the apparatus delineated in our last: both were excellently cooked, the system uniting cheapness in fuel, conveniency, the saving of time, and no mistakes. The bread we ate was from the manufactory at Pimlico, sweet and wholesome at the end of a week's keeping. We never saw any thing superior to the arrangements in this vast bakehouse. They have not yet begun to collect the steam and convert it into spirits: when they do, we shall farther notice these remarkable improvements.

M. Lamartine, the French poet and traveller, arrived at Beyruth, in Syria, on the 12th of December; having traversed the country during forty days on horseback, and received every hospitable attention from Ibrahim Pacha and the natives.

Mr. Wolf seems to have suffered much hardship; he was taken prisoner, and stripped of every thing, by robbers, who, however, abstained from personal injury. He mentions, in a letter to Abbas Mirza, Prince Regent of Persia, that on his return to Meshid, "I shall be accompanied by fifty Turcomans and Temoore, whom I have convinced that slave-making is sin; and they will come with me, and take service in the army of your royal highness."—[Morning Watch.]

A short time ago, two men turning up the ground of Vaux la Petite, in the Meuse, near the old Roman road leading from Treves to Langres, by Nasium, discovered several stone coffins, containing, besides some bones, remnants of armour, and lacrymatory vases. In an earthen vessel placed near the coffin, there were found 23 medals of silver, or mixed metal, and 70 of bronze. The silver medals bear the effigies of Augustus, Titus, Domitian, Adrian, Trajan, Antoninus Pius, Marcus Aurelius, Faustinus, Commodus, Severus, Julia Pia, Geta and Caracalla. The medals in bronze are of the Colony of Nismes, of Augustus, Nero, Domitian, Adrian, Trajan, Antoninus Pius, Marcus Aurelius, the Faustinæ, mother and daughter, Commodus, Crispinus, Septimus Severus, Julia Pia, and others. Some of the reverses are remarkable, such as *Victoria Germanica* of Marcus Aurelius, *Feconditas Augustæ* of Faustina Mater. One in bronze is very rare—it is of Plautilla, the wife of Caracalla, with the reverse, *Venus Victrix*.

A professor of English has lately been added to the Academical corps of the University of Paris, and it has been directed that the English language shall hereafter form a branch of the regular course of education in the colleges and public schools in France. The French language is spoken by nine and twenty millions of natives; but split into upwards of seventy different dialects. Of the remainder of the French popolation, 1,140,000 speak German, 1,050,000 Celtic, 188,000 the Basque tongue, about the same number Italian, and 177,000 Flemish.

The African Expedition.—The John Dougan, White, is arrived from Africa, and brought letters from Mr. Richard Lander, who reached Cape Coast Castle on the 7th of October, in 72 days from Milford. The vessels had touched at the Isle de Los, Sierra Leone, and other places, for the purpose of procuring supplies of fuel for the 2 steamers. Several cases of fever, had occurred, but no deaths in consequence had taken place. At Cape Coast every attention had been shown by Gov. Maclean, and the several officers there. Mr. Lander has been so fortunate as to procure Pascoe and the other natives who had accompanied him in his perilous undertaking to trace the mysterious Niger to its termination, and these persons are to proceed with him. He has been able to engage two individuals from the Eboe country, one of whom is the son of a King in that district, and both of them not only speak but read English, and must, therefore, be of great utility. The iron steamboat Alburka is a most useful vessel, remarkably cool and dry, and sails exceedingly well. The expedition had experienced bad weather, having been six weeks in the rainy season, with severe lightning, which run down the sides of Alburka in to the water, the iron acting as a conductor thereto. The ships were to sail from Cape Coast about the middle of October, and would not stop at any place; but proceed direct up the Rio Nunez into the Niger. Mr. Lander was in excellent, health, and sanguine of ultimate success.—[English paper.]

According to the United Service Journal, the total number of troops in the citadel of Antwerp during the late siege, was 4937, and of these 561 were killed or wounded; an extraordinary proportion! The besieging army amounted to 65,450 men, and lost in killed and wounded, 803. men

A splendid statue, supposed to be of Theseus, has been recently discovered in one of the sewers of ancient Athens. It is about the size of Apollo Belvidere, and of the finest marble and best style of sculpture.

Roman and British Antiquities, &c.—Among the curious remains of antiquity found in making the foundations for the New London Bridge, and the excavations in Crooked Lane, and sold this week among the effects of the late Mr. Knight, the engineer, were a penny of Wulfred, Archbishop of Canterbury; two of Ethelred II., and five of Cnut; and also the lower jaw, and three other bones, of Peter of Cole Church, the original architect of London Bridge, found on removing the foundation of the ancient chapel.—[English paper.]

Ingenious Mechanism.—The Exeter Gazette mentions that Mr. Bradford, a country watchmaker, residing at Newton Abbott, (England), has produced several pieces of very curious mechanism. First, a machine representing a lamp, suspended by a small brass rod, hung to the ceiling, which constantly turns round, carrying a quantity of watches and two lights, and is made to work in different parts. The second is a brass ball, which runs a distance of 28 feet, 64 times in an hour—being upwards of 21,000 feet in 12 hours—without any individual knowing the cause of its going, except the mechanist and his family.—The last is a timepiece, going without weights or springs, shewing the hours, minutes, days of the week, and days of the month.

Exhumation of Gustavus Adolphus.—A general public festival was held in Sweden, on the 6th day of November, 1832, to the memory of Gustavus Adolphus. That being the 200th anniversary of his death, great preparations were made throughout the country for its due celebration. As that renowned prince fell in defending the Protestant cause, the festival partook of a religious character, mixed, however, with circumstances designed to give it a military aspect. At Upsal, a granite obelisk was erected, and at Stockholm the remains of Gustavus were deposited in a splendid marble sarcophagus, in the presence of the King, Queen, and Crown Princes, who also attended Divine service on the occasion. The lead coffin, containing the mouldering dust of him who was once a king, was removed from the mausoleum of Charles XII. where it had lain from the period of his death, and examined, externally and internally, in the presence of a few select Ministers of State. The following is an account of its condition:—

On the top are several inscriptions in Latin, cut in the lead, the most prominent of which contains these words,—"I have fought a good fight; I have finished my course; I have kept the faith; henceforth there is laid up for me a crown of righteousness, which the Lord, the righteous Judge, shall give me at that day." On opening the coffin, a shell of oak, without a cover, was discovered, in which the ashes of Gustavus appeared. The head had fallen from its place, and was destitute of flesh; but a part of the hair on the skull, and the mustachios, remained. The hands appeared to have been clasped over the breast; but none of the fingers remained entire. The whole body was reduced to a skeleton, and the bones dry, and much reduced in size. Tradition has said that a gold casket would be found, containing the heart of the warrior; as his surviving Queen had it during her life-time, suspended from the roof at the foot of her bed: no gold casket, however, appeared; but in its place, a velvet bag, lined with satin, containing a small quantity of mouldering dust, supposed to be the remains of that heart which feared not the dangers of the bloody field. A robe of elegant gold brocade, in which the body had been enveloped, was found in excellent preservation, as also the satin breeches of the Order of the Seraphim, which had been placed on the body. The soles of the shoes were perfect; but the rest of the shoes, supposed to have been of silk, could not be found. After a minute detail of the state of the body had been taken, the coffin was again closed, never to be re-opened till the trumpet shall sound and the dead hear the cry, "Awake, and come to judgment!"

The service of the day commenced by singing the psalm said to have been composed by Gustavus on the night before the battle of Lutzen, and sung by the army on the morning of that (to him) fatal day. It expresses the confidence of the Christian warrior in the power of the God of Armies; and the assurances of success, though they were but a handful in comparison with the multitude of the enemy. When the Bishop had concluded a funeral oration from the altar, eight Generals and eight Admirals conveyed the coffin up a flight of stairs to the Mausoleum, where the Sarcophagus had been placed, lowering it into this receptacle amidst the firing of musketry and cannon shots from all the neighboring forts.—[Commercial.]

Mr. Aicken, the able editor of the early parts of *Constable's Miscellany*, and a literary man of great assiduity and intelligence, sunk under the toil of precarious and life-consuming authorship at Edinburgh, on the 30th January. He was young; and, when we saw him last year in London, seemed to have many years of useful exertion before him.

Within twelve months of the appearance of the first symptoms of the unfortunate malady of the late Earl Dudley, it is said he invested more than £100,000 in American Bank Stock and Canal Shares, and the purchase of a tract of land in Upper Canada.

A gold coin, in good preservation, of the Emperor Valens, and a Roman sword, have been discovered in the newly excavated ground, about half a mile from Taunton, (Eng.) belonging to J. J. Champante, Esq.

A Happy Retort.—The obscurity of Lord Tenterden's birth is well known; but he had too much good sense to feel any false shame on that account. We have heard it related of him, that when, in an early period of his professional career, a brother barrister, with whom he happened to have a quarrel, had the bad taste to twit him on his origin, his manly and severe answer was, "Yes, Sir, I am the son of a barber; if you had been the son of a barber, you would have been a barber yourself."—[Lit. Gaz.]

The British External Empire.—East Indies.—The countries subject to the dominion of the East India Company extend over upwards of 1,000,000 of square miles, and contain about 124,000,000 of inhabitants. With the exception of Nepaul, Lahûe, the territories of Aimers and Scindia, and the Cabul sovereignty east of the Indus, the whole of India within the Ganges, containing about 123,000,000 of souls, is under their sway. In the Peninsula beyond the Ganges, they have several provinces south of Rangoon; viz. half the provinces of Martaban, the provinces of Tavoy, Ye, Zenasserim, and the Mergui Isles; also the province of Arracan, Assam, and a few petty adjacent states. The population of these last countries is about 300,000. Pulo Penang, or Prince of Wales Island, and Sincapore, at the southern extremity of Malacca, are the Company's most flourishing settlements in that quarter. Penang was once a free port; Sincapore still is so; and the rapidity of its progress, the promiscuous character of its inhabitants, and the great commercial activity which pervades it, are an emphatic reply to the allegation, that the inhabitants of the East require the compelling power of an overgrown monopoly to induce them to trade! In the five years previous to 1828, its population increased forty per cent. and amounted in that year to 14,885; only a very inconsiderable number being Europeans, the rest Chinese, Malays, and other natives of Indian coasts and surrounding islands. The jurisdiction of the Company also includes St. Helena, in the Atlantic, where a fortress and garrison are retained; and in the South of China, at Canton, is the Factory which conducts the Tea trade.

We can spare only a short space for observations on points of most pressing interest connected with the management of this mighty empire; but a very few remarks may give our readers an idea of them. It is plain, in the first place, that the part of the East India Company's charter which refers to trade must be thoroughly re-modelled The notion of a monopoly trade, such as that with China still is, cannot, in these days, meet with many defenders. The monopolist is never an economical trader. He is lazy, difficult to be moved; and when he does move, it is very cumbrously. The large ships of the merchant-kings are no more to be compared with a clean and smart Liverpool trader, than the lumbering fabric of Leadenhall-street, with the well arranged, economical counting-house of the enterprizing capitalist. A good free trader is navigated at nearly half their charge; and upon a single voyage to Calcutta, gains about 70 days. Add to all this the expenses of a Canton Factory, together with the needlessly extravagant salaries paid by the Company to its servants, and we shall have no difficulty in accounting for the high price of tea in Great Britain, compared with any other part in the known world. This single article of consumpt has been said to cost upwards of £2,000,000 annually, over and above its retail price, in consequence of the trade being so conducted, or rather bungled; and we are certainly filched at least £1,500,000. But we suffer far more than this actual deficit. Had our prices not been so extravagant, we might have conducted the tea trade of the whole western world; and assuredly, our ship-owners would find it better to assist us in an endeavor to destroy this monopoly, than to clamor in support of a pitiful timber trade with Canada! Reform is deeply necessary in the trade with Hindostan. Although nominally free, it is not so; nor will it ever be so, whilst the Company is allowed to trade.—What we mean by free trade is this: it is a trade whose conditions are regulated by free competition amongst capitalists acting upon the common principles of profit and loss; and it is clear that no such trade can exist, when the market is ever likely to be pounced upon by one large capitalist who cares neither for profit nor loss; who often purchases for no other object than to make a remittance of surplus revenue; and whose acting servants are paid, not by a per centage on their profits, but in proportion to their purchases. We hold that the constant interference of these monopolists with the Indian markets is almost the sole reason of the continued inadequacy of the commercial intercourse of Britain with Hindostan; for inadequate, and miserably so, it still is, great though its progress under the free trader, since the last renewal of the charter, has unquestionably been,—and it is the surest proof of the accuracy of what we assert, that up to this hour, the company cannot show that it has been a gainer, in circumstances where private capitalists would have realized uncommon fortunes!—But we have yet another matter to settle with these sovereigns of India; one of higher importance than even the foregoing; a matter still more interesting to the human race—the question as to the nature of their government. The fact is not to be disguised,—India groans under a military despotism. Our hold over the natives appears to be, that their fierce masters were harder than we, and oppressed them still more relentlessly,—a strange security for civilized and Christian Britain to adopt as the sheet anchor of her Indian dominions! No check against bad government; no power to obtain justice upon the provincial oppression; no opportunity of advancement, either commercially or morally, have we yet granted to the prostrate Hindoos. The Moslems, indeed, planted a conqueror's foot upon their necks; but, like the Romans of old, and the Russians in modern times, they dispersed themselves amongst the conquered, took part in their concerns, and communicated their own superior civilization. Our merchant-kings tremble at the bare name of civilization. Their wise men have talked even of a prohibition of Christianity.—They only vouchsafe to India collectors of a worse than tithe tax, and quarter upon her "spots of greenry" hordes of avaricious adventurers, actuated but by two moving principles—the determination to extract money, and the desire to return home.—The time for correction is at hand; and shall the destinies of South Eastern Asia tremble in the balance? shall we weigh ignoble fears, and corrupt desires, against the fates of those countless millions? Shall we refuse to India a population of industrious colonists, who would accept her as their home, and under whom liberty and civilization would assuredly grow? By such men would the Hindoo be taken up on the one hand, and accustomed to the securities of Europe; and on the other, an effective responsibility of some sort would be infallibly attached to every official within the broad Peninsula. The seeds of freedom would thus be sown, and the tree of goodly shadow would, in due course, arise. In that land, we can never look for a New England; its character and the proportions of its population forbid; but it may be a new country of peace, a new refuge for humanity, a new field for the unfettered exercise of human ingenuity, the spread of human happiness, and the exercise of the mind's best powers. —[Tait's Edinburgh Magazine.]

A Method of preserving Iron work from Rust, communicated by M. Payen to the French Institute, consists in plunging the pieces to be preserved in a mixture of one part concentrated solution of impure soda (soda of commerce,) and three parts water. Pieces of Iron left for three months in this liquid had lost neither weight nor polish; whilst similar pieces immersed for five days in the simple water were covered with rust.—[Recueil Industriel.]

National Customs.—At the death of the late Queen of Nipal, the whole population went into mourning by shaving their heads and cutting off their mustaches, and wearing neither shoes nor turban.

POETRY.

To the Editor of the American.

I do not remember any thing which has produced so pleasing an impression on my mind as the little story which is said to have been told by the late Dr. Godman to his friends, of the boy who was about to fall from rigging, and was saved only by the mate's impressive exclamation: "Look aloft, you lubber." The story and the application were somewhat in the style of Dr Franklin, and would not have been unworthy of his fame The following verses cannot claim the merit of the slightest originality, but their insertion will amply reward the author, if they recall the anecdote which prompted them, or enforce its beautiful morality.

LOOK ALOFT.

By the late Jonathan Lawrence, Junior.

In the tempest of life, when the wave and the gale
Are around and above, if thy footing should fail—
If thine eye should grow dim and thy caution depart—
"Look aloft" and be firm, and be fearless of heart.

If the friend, who embraced in prosperity's glow
With a smile for each joy and a tear for each woe,
Should betray thee when sorrow like clouds are arrayed,
"Look aloft" to the friendship which never shall fade.

Should the visions which hope spreads in light to thine eye,
Like the tints of the rain-bow, but brighten to fly,
Then turn, and thro' tears of repentant regret
"Look aloft" to the sun that is never to set.

Should they who are dearest, the son of thy heart—
The wife of thy bosom—in sorrow depart,
"Look aloft," from the darkness and dust of the tomb.
To that soil where "affection is ever in bloom."

And oh! when death comes, in terrors to cast
His fears on the future, his pall on the past,
In that moment of darkness, with hope in thy heart,
And a smile in thine eye, "look aloft" and depart!

The sentiments breathed in the above beautiful verses, which have been copied far and wide in the newspapers since they appeared originally in the American two years ago, make them not an unfit accompaniment here to the professional tribute to the worth of the writer, which is published below. But there is a fresh buoyancy of thought, a wild luxuriance of poetic feeli in those that follow from the same hand, which go at once toth heart, and call up a thrill of admiration and regret for the aspiring young spirit that has so soon mounted above the sphere of its earthly ambition.

THOUGHTS OF A STUDENT.

Many a sad, sweet thought have I,
Many a passing, sunny gleam,
Many a bright tear in mine eye,
Many a wild and wandering dream,
Stolen from hours I should have tied
To musty volumes by my side,
Given to hours that sweetly wooed
My heart from its study's solitude.

Oft when the south wind's dancing free
Over the earth and in the sky,
And the flowers peep softly out to see
The frolic Spring as she wantons by,
When the breeze and beam like thieves comein,
To steal me away, I deem it sin
To slight their voice, and away I'm straying
Over the hills and vales a Maying.

Then can I hear the earth rejoice,
Happier than man may ever be,
Every fountain hath then a voice
That tells of its glad festivity,
For it hath burst the chains that bound
Its currents dead in the frozen ground,
And flashing away in the sun has gone,
Singing, and singing, and singing on.

Autumn hath serious hours, and then,
Many a musing mood I cherish,
Many a hue of fancy, when
The hues of earth are about to perish;
Clouds are there, and brighter, I ween,
Hath real sunset never seen,
Sad as the faces of friends that die,
And beautiful as their memory.

Love hath its thoughts we cannot keep,
Visions the mind may not control,
Waking as fancy does in sleep
The secret transports of the soul,
Faces and forms are strangely mingled,
Till one by one they're slowly singled,
To the voice and lip and eye of her
I worship like an idolater.

Many a big proud tear have I,
When from my sweet and wavering track,
From the green earth and misty sky
And spring and love I hurry back;
Then what a dismal dreary gloom
Settles upon my loathed room,
Darker to every thought and sense
Than if they had never travelled thence.

Yet, I have other thoughts that cheer
The toilsome day and lonely night,
And many a scene and hope appear,
And almost make me gay and bright,
Honor and fame that I would win,
Though every toil that yet hath been,
Were doubly borne, and not an hour
Were brightly hued by fancy's power.

And though I may sometimes sigh to think
Of earth and heaven and wind and sea,
And know that the cup which others drink
Shall never be brimmed by me;
That many a joy must be untasted,
And many a glorious breeze be wasted,
Yet would not if I dared repine,
That toil and study and care are mine.

These lines were written at the early age of *sixteen*; when Mr. Lawrence having terminated his collegiate studies two years previously, was ardently engaged in that of the law: and strangely enough to say, in spite of the joyous and confident spirit they breathe, they were composed under alarming ill health and depression of spirits brought on by a too zealous devotion to the profession of which he promised to become so bright an ornament.

[For the American.]

SONG—ROSALIE CLARE.

Who owns not she's peerless—who calls her not fair—
Who questions the beauty of Rosalie Clare?
Let him saddle his charger and wend to the field,
And though coated in proof, he must perish or yield;
For no falchion can parry, no corselet can bear
The lance that is couched for young Rosalie Clare.

When goblets are flowing, and wit at the board
Sparkles high, while the blood of the red grape is poured,
And fond wishes for fair ones around offered up
From each lip that is wet with the dew of the cup,—
What name on the brimmer floats oftener there,
Or is whispered more warmly than Rosalie Clare?

They may talk of the land of the olive and vine—
Of the maids of the Ebro, the Arno or Rhine;—
Of Houris that gladden the East with their smiles,
Where the sea's studded over with green summer isles;—
But what flower of far away clime can compare
With the blossom of ours—bright Rosalie Clare?

Who owns not she's peerless—who calls her not fair?
Let him meet but the glances of Rosalie Clare!
Let him list to her voice—let him gaze on her form—
And if, hearing and seeing, his soul do not warm,
Let him go breathe it out in some less happy air
Than that which is bless'd by sweet Rosalie Clare. H.

CHARADE

Dear is my first when shadowy night is near,
But 'tis my second makes my first so dear;
My whole my first in decency preserves,
And thus to be my second well deserves.

The following neat reply to the above enigma, which appeared the other day among our miscellanies, is from a distant correspondent:

My *house* is dear as shadowy night comes on,
But by its hearth there sits a much loved one,
A *wife*, whose tenderness, whose low, sweet tone,
Makes dearer life and every thing I own:—
It is to her each joy of home I owe,
She makes my house a peaceful lot to know;
Her, for her worth, most truly I may call
My first, my last, my *second* and my *all*.

METEOROLOGICAL RECORD FOR THE WEEK ENDING MONDAY, APRIL 29, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, Ap. 23	6 a. m.	52	29.87	E	moderate	SW / E	cloudy—rainy—at 8 a. m. barometer 29.90
	10	54	.82	SE—S	..	SW	cloudy—fair
	2 p. m.	64	.70	SW—ENE	..	sw and wsw	fair—cloudy
	6	62	.60	ENE	..	WSW	cloudy
	10	57	.73	..	..—gale	..	cloud'd horizon-gale in night
Wednesday, 24	6 a. m.	43	.95	NE	fresh	NE—(scuds)	cloudy and rainy
	10	44	30.07	N by E	..	..	..
	2 p. m.	44	.10	..	moderate	WSW / NE	..
	6	45	.14	..	..	.. / — / ..	fair—upper haze from WSW
	10	44	.17	..	..	..	..
Thursday, 25	6 a. m.	43	.20	WSW	..	W by S	..
	10	48	.24	WSW—SW	light	W by S / SSW	.. — light *cirrus* clouds from WSW
	2 p. m.	58	.20	S	moderate	W by S—WSW	.. —cloudy
	6	52	.19	S—SW	..	WSW to NW	cloudy—fair
	10	48	.19	SW	..	WNW	fair
Friday, 26	6 a. m.	45	.18	WSW—NNE	light		clear
	10	52	.23	N	moderate		..
	2 p. m.	58	.23	..	..		..
	6	58	.23	N by E	light		fair—at 7 low bank of clouds
	10	50	.27				.. [at w
Saturday, 27	6 a. m.	43	.37	ENE	..	N by E	..
	10	50	.40	SSW	..—moderate	N by E / SSW	..
	2 p. m.	58	.37	S	moderate	NNW	.. —light haze from NNW
	6	53	.33	..	..	..	.. — ..
	10	48	.35	..	..	..	.. — ..
Sunday, 28	6 a. m.	48	.31	SW	..	..	.. — ..
	10	47	.30	..	..	..	.. — ..
	2 p. m.	68	.21	SW by W	..	..	.. — ..
	6	64	.18	..	..	..	.. — ..
	10	60	.18	..	light	..	..
Monday, 29	6 a. m.	56	.11	..	moderate		clear—light smoke
	10	65	.13		..		.. — ..
	2 p. m.	77	.07		..		.. — ..
	6	73	.01	..	..		..
	10	69	.04	..	..		..

Average temperature of the week, 54.

MARRIAGES.

On Thursday evening last, at St. Clement's Church, by the Rev. Mr. Bayard, FRANCIS WILBY, Esqr. to Miss ELIZABETH TRIBON.

By the Rev. Dr. Macauly, on the 30th April, JAMES MCNAGHTON, M. D., of Albany, to CAROLINA, daughter of Arch'd McIntyre, Esq. of this city.

Last evening, by the Rev. Dr. Matthews, HENRY S. WYCKOFF, to ELIZABETH B., daughter of Henry Suydam, Esqr. all of this city.

On Thursday, 25th instant, by the Rev. Francis M. Kip, EDWARD P. TORREY, to LOUISA MATILDA, daughter of the late ISAAC B. STRONG, all of this city.

Wednesday evening, by the Rev. Mr. Remington, Mr. SAMUEL U. SERRIAN, of Rye, to Miss ELIZA ANNA PARSONS, of this city

On Monday morning, at Newark, N. J. by the Rev. William T. Hamilton, WM. C. WALLACE, of Chatham, to HENRIETTA, daughter of the late Caleb S. Riggs, Esq. of the former place.

At Rome, Oneida County, on Wednesday, the 17th instant, by the Rev. Mr. Gillet, CHARLES C. YOUNG, of this city, to CHARLOTTE, daughter of George Huntington, Esq. of the former place.

DEATHS.

On Friday evening, after a short and painful illness, JONATHAN LAWRENCE, Jun.

Young, ardent, and aspiring, with a mind richly endowed by nature and improved by the most assiduous cultivation—of high promise in his profession, and endeared to a large circle of friends by a disposition the most cordial and companionable, Death could hardly have singled out a victim from among those of his age, whose fate would awaken a more general sympathy or whose loss inspire a deeper feeling of bereavement.

Although but recently called to the bar, Mr. Lawrence had already given evidence that his talents for public life were of no common order, while his strict attention to his professional duties and his general exemplary character inspired a confidence in those connected with him by the relations of business rarely accorded to one so young. Indeed, we are confident of being sustained by those fully capable of judging of his professional abilities, when we assert, that the New York bar has lost in him one of the most promising of its junior members. But it is only they who were familiar with his stores of general reading and rich resources of original observation, with his exquisite sensibility to the beauties of poetry, his playful humor, and chastened imagination, that can unite in the full feeling of regret that one whose literary talents must at some day have entitled him to be "remembered in the line of his land's language," should be for ever withdrawn from the field of his hopes, and his promise, and bear with him to the grave the proud expectation that waited upon his young career.

And yet, had he lived, the seal that sets its loftiest yet most touching association to his character, had been wanting. The ennobling incidents of his death-bed-scene—his calm endurance of pain when it was so rapidly expelling life from his system—his Christian resignation to the fate that had so suddenly overtaken him—and, above all, his feeling but manly farewell to each of the young friends that crowded his dying chamber—would never have been impressed upon the hearts of others to hallow his name in their remembrance, and kindle the wish that has been so beautifully embodied by his own fervid pen—to

Like him, "when Death comes in terrors, to cast
His fears on the future—his pall on the past—
In that moment of darkness, with hope in the heart,
And a smile in the eye, LOOK ALOFT and depart." H.

On Saturday last, in the 46th year of her age, ELIZA, wife of Professor MCVICKAR, and daughter of the late Dr. BARD.

On Tuesday afternoon, HENRY ASTOR, in the 80th year of his age.

On Tuesday morning, EDWARD SWORDS, youngest son of John Evers, aged 11 months and 9 days.

On Tuesday, April 30, RACHEL, wife of Samuel Jones, aged 27 years.

This morning, April 30, in the 61st year of his age, THOMAS C. MORTON.

On Saturday, after a long and painful illness, in the 41st year of his age, JOHN MCCHESNEY.

At Portsmouth, N H. MARY, widow of Jacob Sheafe, Esq. aged 82.

On Friday afternoon, GEORGE STRENGER, in the 24th year of his age.

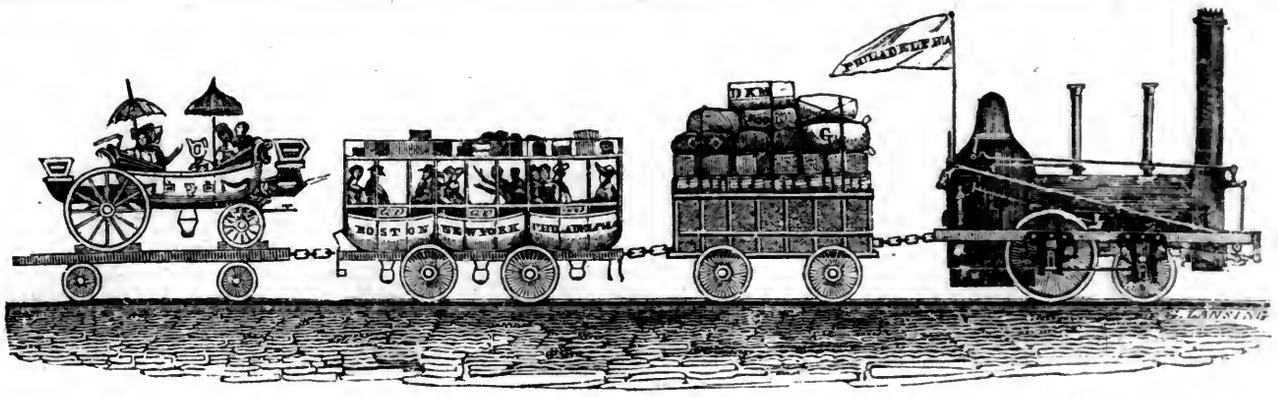
On Friday evening, the 26th inst WILLIAM, son of William and Jane Ann Seymour, in the 13th year of his age.

This morning, of a lingering illness, Mr. OLIVER ELLSWORTH COBB, in the 32d year of his age.

This morning, April 30, at Perth Amboy, N J. WILLIAM B PATERSON, son of the late Judge PATERSON, aged 49.

At Demerara, of a lingering illness, JAMES H. BIBBY, Counsellor at Law, in the 44th year of his age, son of the late Captain Thomas Bibby, of this city.

Another Worthy of the Revolution gone.—On the 4th of April, at his residence, in Cayuga County, Major BENJAMIN HICKS, aged 85 years. He was a man of excellent abilities and firm integrity, and served his country in arms during the whole war of the Revolution.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, MAY 11, 1833.** [VOLUME II.—No. 19.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 11, 1833.

To Correspondents.—The communication of C. O. is received. Mr. Bulkley's reply to U. A. B. upon the "Guard Rail," and Mr. Sullivan upon the same subject, are also at hand, but unavoidably deferred until next week, that other articles which have been some time in type may be disposed of. They will all appear in our next.

New-Jersey Railroad.—The following paragraph from the Newark Daily Advertiser refers to a work of which we have before been able to learn very little—yet, to this city and the section of New-Jersey through which it passes, a work of great importance. From the extracts given in this number of the Journal, it will be perceived that the charter gives the company the privilege of constructing branches, and of levying rates of toll, which will, beyond all doubt, render an investment in its stock highly profitable. The charter requires that the work shall be commenced both at Jersey City and New-Brunswick, within two, and the entire line completed within five years.

"Our readers will find in our columns a brief abstract of the charter of the New-Jersey Railroad, and a reference to the law which requires the Camden and Amboy Railroad to construct a branch from New-Brunswick to their road, thus furnishing a continued communication by Railroad through the heart of the state, so loudly called for and ardently desired by the people of New-Jersey. We have thought that a publication of the principal provisions of the Railroad charter, at this time, would be acceptable to our patrons, because this grand and important enterprize of internal improvement is rapidly advancing in favor with capitalists and the public generally. The merits of the contemplated work need only be known, to ensure for it the most favorable regard of the community, it being abundantly manifest that the road will be highly advantageous to the section of country through which it passes, and productive of a rich revenue to the stockholders."

Madison, Madison co. N. Y. May 1, 1833.

To D. K. Minor, Esq.:

Dear Sir,—It is with pleasure I embrace a few moments of leisure from my duties, in preparing for the location of the Chenango Canal, to comply with my promise of sending you some of the leading facts, in relation to the Saratoga and Schenectady Railroad.

This Railroad was commenced about the first of September, 1831, and opened for travelling the 12th of July, 1832, through the whole route, except a heavy section at the village of Ballston, which was also opened for travelling about the 15th ultimo, making the communication complete from the Mohawk and Hudson Railroad at Schenectady to Saratoga Springs.

The general direction of the road from Schenectady to Saratoga Springs is about north 30° east. Its total length from the Mohawk bridge at Schenectady to its termination at Saratoga Springs, is 21 $\frac{4}{10}$ miles. The total cost of construction, including buildings for carriage houses, stables, and two dwellings, was $217,201 $\frac{23}{100}$ or equal to $10,149 per mile. This is exclusive of the cost of lands, and the compensation of such general agencies as are not embraced in the engineer department.

About three miles of the road is put down on stone foundation. The plan pursued for this kind of road was to excavate a trench under each rail 2$\frac{1}{2}$ feet, and 2$\frac{1}{2}$ feet in width, and fill the same with broken stone. These stones were rammed down in courses of four inches; on this bed of broken stone a block containing two cubic feet of stone was laid down and finally bedded at every three feet distance from centre to centre. On these stone blocks cast iron chairs were firmly fastened to receive the rail timber, which was secured by wedges. On this timber a flanged plate of iron was laid, to form the track. At every eighteen feet a cross tie of timber secured the rails from spreading. This plan of construction requires the road to be well drained; and when put down thoroughly makes a substantial, and, except the timber in the rail and cross ties, a permanent structure.

The remainder of the road is put down on a timber foundation in the following manner. A timber is laid nearly under the rail, called a longitudinal sill; on this timber the cross sleepers are laid at three feet from centre to centre; the cross sills have a notch (or gain) cut to receive the longitudinal sill, and also to receive the rail timber, which is secured to it by wedges. The rail timber is capped with the iron plate, same as on stone foundation. This mode of construction is not generally quite half as expensive as that before described. There was some apprehension it would suffer much from frost; the experience of the past winter, however, has not confirmed the fears that were entertained. If the road is well and uniformly drained, the front affects it but little, and that so uniformly, as not to produce an irregularity that materially injures its use; and when the ground is settled in the spring, this kind of road is very readily adjusted. It is more favorable for the carriages than the stone foundation, but, for the same reason, the traction is not as easy.

The road has a single track, and with some exceptions is graded on a substantial and permanent plan. The grade of the road is in part level; the remainder is undulating at various angles of inclination, in no place exceeding 16 feet in a mile, or at the rate of 1 foot in 330.

In December last I prepared a plan for a locomotive engine, which was submitted to the Directors of the Company, who have subsequently ordered an engine to be constructed by G. Stevenson, & Co. (England) agreeably to the same, and which it is expected will be on the road in June next. It will be mounted on six wheels. As soon as we have a fair trial (which I have no doubt will be successful) I shall give you an account of her performance.

In haste: very respectfully, your obedient servant, John B. Jervis, Civil Eng'r.

Canal Tolls.—The returns received at the Comptroller's office show that the amount of tolls collected on all the canals of the state, from the 22d to the 30th of April, was ninety-three thousand and sixteen dollars: averaging $11,626 for each day. The receipts, notwithstanding the diminished rates of toll, have surpassed those for the same number of days after the opening of the canals, in any former year. —[Argus.]

IMPROVEMENTS IN PENNSYLVANIA.

[Continued from page 276.]

6. Mine Hill and Schuylkill Haven, at the mouth of the West Branch of Schuylkill, up that stream 10¼ miles to Mine Hill Gap. Finished and in use. Trade, coal. Belongs to a company.

7. Mount Carbon Railroad. From Mount Carbon, one mile below Pottsville, up the valley of the Norwegian creek—main line and branches about seven miles. Finished and in use. Trade, coal. Belongs to a company.

8. Danville and Pottsville Railroad. From Pottsville to Sunbury, opposite the forks of the Susquehannah. Length 45 miles—eight miles nearly completed. It is designed to accommodate the great coal region on the Shamokin, Mahoney, &c. and to connect the Susquehannah with the Schuylkill canal. Belongs to a company.

9. Schuylkill Valley Railroad. From Port Carbon at the head of the Schuylkill navigation, up that river to the town of Tuscarora—distance 10 miles. Trade, coal. Belongs to a company. Finished and in use.

10. The Mauch Chunk Railroad. The first of any magnitude completed in the United States. From the head of the Lehigh Canal at Mauch Chunk, to the coal mine on the summit of Mauch Chunk mountain. Aggregate of main line and branches, 12¾ miles. Belongs to the Lehigh Coal and Navigation Company.

11. The Roan Run Railroad. From Mauch Chunk, up the Lehigh to a Coal Mine—length 5½ miles. Finished and in use. Belongs to the above company.

12. Lyken's Valley Railroad. From Millersburgh to the Susquehannah, up Laken's Valley, to a Coal Basin in the Brody Mountain. Distance sixteen and a half miles. Begun, and will be completed this year.

13. Carbondale Railroad. Belongs to the Hudson and Delaware Canal Company, and connects that work with the Coal Mines in the valley of the Lackawana. Length of road 16½ miles. Finished and in use.

14. The Philadelphia and Trenton Railroad. From Philadelphia to the Delaware Bridge near Trenton. Distance 27½ miles. The line is located, and contracts made for grading and bridges. To be finished this year. The rails will be laid next year. Belongs to a company, and is designed to accommodate transportation between Philadelphia and New-York.

The above list is believed to comprise all the important Railroads in Pennsylvania, actually finished, or upon which arrangements have been made for their early completion. Some smaller or branch lines have been probably overlooked. There are also several very important works which have been authorized by law, and which there is reason to hope will be soon commenced. Of this class are the Williamsport, and Elmira, and Phillipsburg, and Juniata Railroads. We have not named the York and Baltimore Railroad, as we believe that portion of it which lies in Pennsylvania has not been commenced.

Among other documents connected with these interesting subjects, we have been favored with a report of a survey made by Mr. R. Taylor, * Engineer, with a view of forming a railroad from the coal and iron mines near Blossburg, to the state line at Lawrenceville, a distance of twenty-six miles. Mr. T.'s report is rendered exceedingly interesting by the numerous tables and descriptions it contains, of the various mineral sections of the mining districts surrounding Blossburg. Speaking of the mineral resources of the Tioga Valley, after giving a detailed account of those sections, showing the position and thickness, of the respective beds of coal, iron, fine clay, sand stone, slate, shell, and other strata, he thus proceeds:

"In taking a general view of this district it will be seen that the valley of Blossburg forms a kind of central point or area, from whence diverge, irregularly, a number of smaller valleys or deep ravines. All these valleys, to the number of twelve, rise with a rapid inclination above the level of this area, until they intersect the mineral strata of the surrounding mountains, at elevations, between the lowest and the highest, of from 200 to more than 380 feet, the prevailing elevation of the summits or table lands being 500 or 600 feet above Blossburg bridge. Coal and iron ore of different qualities prevail extensively, and when thus intersected by deep ravines, occur under the most favorable known circumstances for mining, and for transmission upon railroads."

"Almost every valley is capable of maintaining its separate branch railroad, and of conveying its contribution of these important products to the principal line.

"The series of mineral strata are estimated to be crossed by the Tioga river at from 5 to 8 miles east from Blossburg. The examination has been thus far pursued, and traces of minerals are discernible throughout that distance; but as the river passes through gravelly alluvial bottoms, where the banks are not washed or exposed, their examination was left in an incomplete state. The whole inclination is perfectly practical for railroad purposes, whenever it should be thought necessary to locate one down the valley.

"At the forks near Fishing Camp, about five miles up the Tioga, this river is joined by Fellow's creek, which traverses another section of this district from the northeast. The upper part of this ravine is crossed by three falls, in succession, descending about one hundred feet. Below them are numerous indications of the proximity of coal and iron, but the banks are too much obscured by alluvial deposites to exhibit the precise sites of the mineral beds on a single examination. Several small ravines descending into this branch, and into Morriss's Run, contain traces of coal.

On the east side of the Tioga, nearer Blossburg, are the four principal ravines of East Creek, Bear Creek, Coal Run, and Morriss's Run. There are two or three other ravines in the same direction where the coal beds are approachable. On the west are the two ravines of Boon's Creek and Johnson's Creek.

"Three miles below Blossburg there is a regular dip, at the rate of 260 feet to the mile southward, which increases until at 17 miles it is about 500 feet in a mile, and then decreases to 200 feet per mile, at the State line, or 26 miles.

"If we pursue this examination for the sake of a more extended geological result, our position will be yet further strengthened.

"At 33 miles below Blossburg, the southern dip is 168 feet in each mile; and at 38 miles, near the Painted Post, was found to be 130 feet. At 42 miles, at the Chimney Narrows, in the same parallel, near the entrance of the Chemung feeder, this dip is about 100 feet, making the aggregate southern depression of the strata about 1050 feet more to this point, to be added to 70 feet, the descent of the land from the state line. Uniting, therefore, these sums with those before observed in the Pennsylvania division, the altitude of any land or mountains near the Chimney Narrows, capable of containing the veins of the Tioga coal field, must be more than 6000 feet, whereas they do not commonly exceed 600 feet; or by reversing the position, the stratum of rock on a level with the river of Chimney Narrows would be about 6275 feet below the summit of East Hill, if prolonged so far to the south. I may add that I have had an opportunity of extending the examination 60 miles further, or more than 100 miles from the coal beds, to the north and north-east; and a general observation may be made, that wherever a horizontal position [which often prevails] is not maintained throughout this parallel, there exists a depression pointing towards the Tioga coal district, or, generally, south. Consequently there is no probability that any portion of these mineral beds are prolonged in that direction, and, as has been before suggested, we must continue to regard the district which is the more immediate subject of our investigation, and from which I have somewhat wandered, as the real termination of the great Alleghany coal field."

Mr. Taylor's report is drawn up with great ability, and is of itself evidence of great industry and perseverance on his part. We sincerely hope that this most important plan will very soon be added to the list of works in active operation, feeling confident that it will materially benefit the commercial interest of Pennsylvania.

Improved Rotary Engine. By G. N. To the Editor of the Mechanics' Magazine.

Sir,—In your last number I noticed a description of Ericsson's Rotary Engine, extracted from the London Mechanics' Magazine, the chief recommendation of which is its extreme compactness combined with its power. Hitherto Rotary Engines have met with poor success, and this has in a great measure been owing to the great friction which is necessary for preserving the piston tight, or, a want of surface for the steam to act upon. In a reciprocating engine, the constant distribution of power for moving the valves, and geering, necessary to communicate a reciprocating to a rotary motion, must amount to considerable. Now in Rotany Engines all this is avoided, and motion may be communicated to machinery without the slightest difficulty. Judging from the description, Ericsson's Engine has, however, one disadvantage, and that is the difficulty of construction.

Nothing is more requisite for the good performance of any machinery than simplicity and harmony in all its parts, and, the more simple the machine, the better is it made, and consequently the more successful. I give below a description of an Engine invented, I believe, by a Mr. Mollery, of Os-

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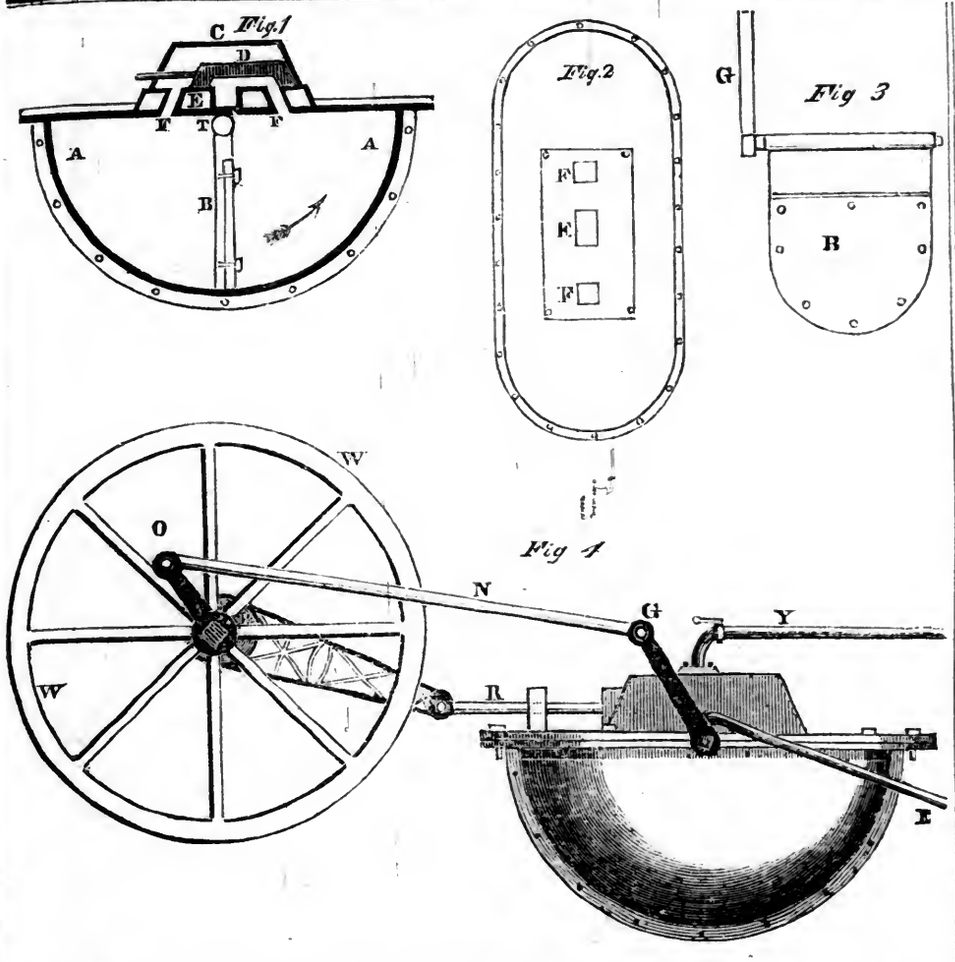
* Report on the Surveys undertaken with a view to the establishment of a Railroad from the coal and iron mines near Blossburg, or Peters's Camp, to the State line at Lawrenceville, in the county of Tioga, and the state of Pennsylvania, and Mineralogical Report on the coal region in the environs of Blossburg. By Richard C. Taylor, Engineer. Philadelphia, Mifflin and Parry. 1833.



wego, which is even more compact than Ericsson's, and much more simple and easy to construct. The only one which I have ever seen was used for propelling a small boat called the "Water Witch," about the size of a common canal boat. She had two engines, one to each wheel, and these were of such dimensions that a man might easily carry one in each hand. And yet it worked rapidly and easy, moving the boat with considerable velocity—say, 10 miles an hour. The whole machinery occupied about a third of the boat.

EXPLANATION.

Fig. 1 represents a longitudinal section through the middle of the chamber A A. B is a piston or vane, moving on the axis T, packed in the usual manner. D, a slide moving in the steam box C. F F are pipes or holes for throwing the steam on the piston. E, the aperture for the exhaust.

Fig. 2 is a top view of the cap to the chamber, having the steam box taken off. F F, holes communicating with the interior of the chamber. E, exhaust hole.

Fig. 3 is a detached view of the piston; G is a bar for giving motion to the crank.

Fig. 4 is a side view of the engine, with all its parts. G is the bar meeting the rod N, which joins the crank at O. P is an eccentric for moving the slide. R, rod for the slide. E, exhaust pipe. Y, pipe for conveying steam from the boiler. W, balance wheel for equalizing the motion. The chamber being in two parts, is screwed together by nuts as shown in Fig. 4. It remains then only to show the manner of setting it to work. This is effected in the following manner—steam being admitted to the steam box by means of the pipe Y, enters the open pipe F, (Fig. 1,) moving the vane to a horizontal position, in a direction with the arrow. The slide D is then moved by the eccentric, and the steam is thrown on the other side of the piston, moving it in a contrary direction to a horizontal position. In this manner a regular reciprocating motion is preserved, from which a rotary one is easily taken by means of a connecting rod and crank, as in Fig. 4. Yours, &c. G. N.

Geneva, April 3d, 1833.

THE FIRST STEAMBOAT VOYAGE.—We feel gratified at being enabled to lay before our readers a letter from ROBERT FULTON, giving an account of his first trip by steam up the Hudson river. It is an extract from a Philadelphia paper of 1807, and can hardly fail of being read with interest. "When Fulton started upon this first voyage, he stood almost alone in his expectations of success. He, however, was sanguine; and could he now revisit the numerous rivers and bays of our country, he would find his expectations more than realized."

NEW-YORK, August 22, 1807.

To Joel Barlow, Esq. of Philadelphia:

My Dear Friend,—My steamboat voyage to Albany and back has turned out rather more favorable than I had calculated. The distance from New-York to Albany is 150 miles; I ran it up in 32 hours, and down in 30 hours. The latter is just five miles an hour. I had a light breeze against me the whole way going and coming, so that no use was made of my sails; and the voyage has been performed wholly by the power of the steam engine. I overtook many sloops and schooners beating to windward, and passed them as if they had been at anchor.

The power of propelling boats by steam is now fully proved. The morning I left New-York, there was not, perhaps, thirty persons in the city who believed that the boat would ever move one mile an hour, or be of the least utility. And while we were putting off from the wharf, which was crowded with spectators, I heard a number of sarcastic remarks: this is the way, you know, in which ignorant men compliment what they call philosophers and projectors.

Having employed much time and money and zeal in accomplishing this work, it gives me, as it will you, great pleasure to see it so fully answer my expectations. It will give a quick and cheap conveyance to merchandise on the Mississippi, Missouri, and other great rivers, which are now laying open their treasures to the enterprize of our countrymen. And although the prospect of personal emolument has been some inducement to me, yet I feel infinitely more pleasure in reflecting with you on the immense advantage that my country will derive from the invention.

However useful this may be, it is not half so important as the torpedo system of defence and attack; for out of this will grow the liberty of the seas; an object of infinite importance to the welfare of America, and every civilized country. But thousands of witnesses have now seen the steamboat in rapid movement, and they believe; they have not seen a ship of war destroyed by a torpedo, and they do not believe. We cannot expect people in general will have a knowledge of physics, or power of mind sufficient to combine ideas, and reason from causes to effects. But in case we have war, and the enemy's ships come into our waters, if the government will give me reasonable means of action, I will soon convince the world that we have surer and cheaper modes of defence than they are aware of.

Yours, &c.

ROBERT FULTON.

List of English Patents granted between the 20th of January and the 21st of February, 1833.

John M'Curdy, of Southampton-row, for certain improvements in machinery for acquiring power in rivers and currents. Partly communicated by a foreigner. To enrol within six months from 22d of January.

Luke Hebert, of Paternoster-row, civil engineer, for certain improvements in machines or apparatus for, and in the process of, manufacturing bread from grain, and the application of other products for another product thereof to certain useful purposes. January 24; six months.

Robert Stephenson, of Newcastle-upon-Tyne, engineer, for certain improvements in the locomotive steam-engines now in use for the quick conveyance of passengers and goods upon edge-railways. Jan. 26; six months.

Edwin Appleby, of Doncaster, iron-founder, for certain improvements in steam-engines. Jan. 29; six months.

Josiah John Guest, of Dowlais Iron Works, Merthyr Tidvil, Esq., for an improvement in the process used for reducing iron ore, and other materials containing iron, to what is called in the iron trade finers. Jan. 31; four months.

Luke Hebert, of Hampstead-road, civil engineer, and James Don, of No. 9 Lower James-street, Golden-square, for certain improvements in engines, and other machinery employed in the construction of steam-ves-

sels and steam-carriages, a portion of which improvements is applicable to other purposes. Part of which improvement was communicated by a foreigner. Feb. 21; six months.

Alexander Gordon, of the Strand, engineer, for certain improvements in the boilers or generators of steam or vapor, and in condensing such steam or vapor, and in engines to be worked by steam or vapor for propelling or actuating machinery and carriages on land, and boats or vessels or other floating bodies on water. Being a communication made to him by a certain foreigner. Feb. 21; six months.

Robert Hicks, of Wimpole-street, Middlesex, Esq., for an improved method of, and apparatus for, baking bread. Feb. 21; six months.

Mr. Jno. S. Williams, Engineer and Superintendant of the Cincinnati, Columbus, and Wooster Turnpike Company, some time since undertook (gratuitously) to survey the route from Goshen to Columbus, with a view as of certaining the best means of constructing a turnpike road thereon. A report has been made by him, and published by the board of directors, from which we learn that the estimated amount of forming a M'Adamized road the distance of 81 miles, would be an expense which Mr. W. doubts the propriety of incurring. Mr. W. enters into a detailed statement to show that wood can be substituted for stone in the improvement of roads, and gives instances, gathered from answers to interrogatories put to several engineers, of the durability of causeways so constructed, from which it appears that good timber laid in clay, and partly covered, will last from 20 to 30 years. From the estimates made by Mr. W. it appears that to cover a road with timber hewn a foot square and covered with earth, of 20 feet wide only, the expense would be $257,419 80. This plan also is considered too expensive, and Mr. W. inserts a proposition for a track road, constructed of timber (see plate), the advantages of which he thus describes:

"It becomes necessary to inquire in what way timber, which is so plenty, and appears to last well, can be disposed of to our advantage. My reflections upon this subject have brought me to believe that timber hewn flat and laid in ways or tracks lengthwise of the road, to bear the pressure of wheels, would insure the end desired. The method that I believe to be the best is to hew and lay four ways or tracks, two quite flat, say one foot on the face, and two furrowed or guttered so as to receive the near wheels of all waggons and carriages.

"These tracks ought to be laid about five feet apart from centre to centre. The gutter or furrow made to receive the near wheels of carriages should be about 3 inches deep, and say 4 inches flat in the bottom, the tops being 6 or 7 inches open. This would receive the wheels of all or most waggons. The centre of this track, laid say 5 feet from the centre of its fellow track, which is a foot on the face, would give such a diversity of width, that while the near wheel is kept in the furrow the off wheel would be on the other track, notwithstanding a small diversity in the width which exists between the wheels of different waggons.

"The face of the outer or off track should be laid on a level with the bottom of the furrow in

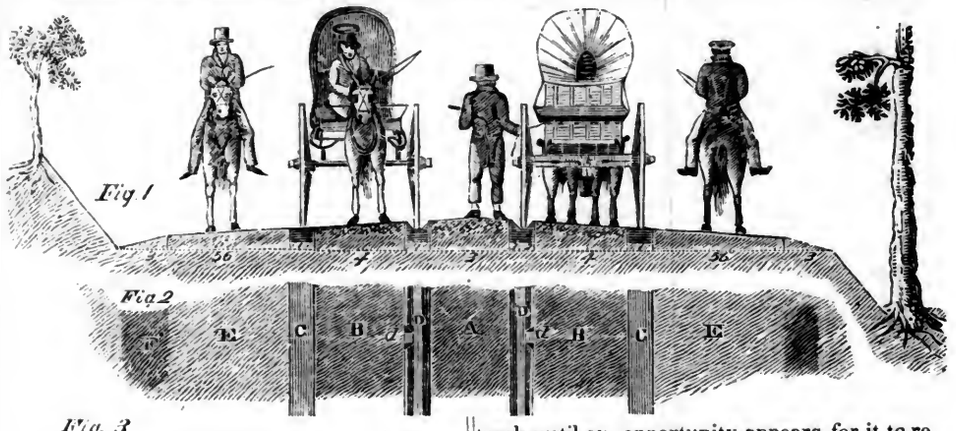


Fig. 3

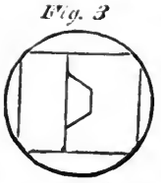
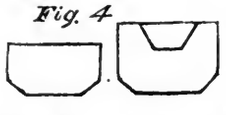


Fig. 4



the near or inner tracks, and the horse path should be gravelled or M'Adamized on a level with the face of the outer track, and rise gently across the horse path towards the near track for the purpose of draining, the depth of the furrow admitting of this circumstance.

"The two near tracks ought to be laid about four feet apart, from centre to centre, and gravelled or M'Adamized between them, for what I shall call the driver's path. This path would accommodate footmen, horsemen, and teamsters, or, if thought best, a horseman's path may be constructed on each side of the outer or off tracks. Four feet for the driver's path, and five feet each for the horse paths, together with six inches on each side for the surplus width of the outer tracks, make a total width of fifteen feet from out to out of the two carriage ways; eight and a half feet on each side would be the width of summer road and ditch in a 33 feet graduation.

"For the purpose of draining, these tracks should be inclined not less than half a degree. In fact, no part of any M'Adamized road ought to be less. The near or guttered tracks might be changed for a few inches at the foot of the slopes from the guttered to the flat form without any inconvenience to the travel: this would form a side drain across the horse-paths. The outer tracks being flat would present no obstacle to draining.

"By carriages keeping always to the right, the power of this kind of road I conceive would be much greater than that of common roads, for more carriages could operate upon them without obstruction or danger, than if allowed to run promiscuously.

"As respects the ease of travelling, a road thus constructed being perfectly smooth and sidewise level, I conceive it would be superlative. It is observable, in the travelling of M'Adamized or other roads, that a great difficulty exists in keeping the wheels of waggons out of the ruts or furrows that wear, or accident has made in the road. There seems to be a propensity or habit in horses to follow each other, and consequently to run in the same track. In this order they are the most easily driven. This very propensity or habit of horses is a drawback of twenty per cent. upon the permanence of M'Adamized covers. It is our privilege, if not our duty, to turn if possible this propensity to our advantage: thus, in such a road as the one under consideration, little or no trouble would be necessary to keep the wheels steadily and regularly in the tracks. When snow would cover the road and thereby render the tracks obscure, the chances would be in favor of the road being frozen so as to bear in any part, and render the keeping of the tracks unnecessary.

"In case a carriage of speed should overtake one of burthen, it will be easy for it to mount over the driver's path and run in the left hand track until an opportunity appears for it to resume its proper one: the driver's path being raised but three inches.

"As to the lastingness of timber thus situated, I am of opinion it would be good. The earth or clay would completely envelope every stick its whole length, except the upper surface, by which its native juices would be completely extracted, particularly if the timber be large enough to cut through the heart. As to the capability of wood to sustain the travel for a great length of time, my experience in this particular is too limited to assert positively, but from what observations I have been able to make, I am of opinion that it would compare better with broken stone than might at first be imagined. The sides of the furrows in the near tracks would suffer abuse; but when we consider that they would be three inches thick at the top, and four at the bottom, and that as they would wear they would give more room, and thereby be less likely to wear, it is not unreasonable to conclude that good timber well laid, under an ordinary travel, would last on an average of fifteen years. The near tracks might not last more than ten, while the outer or off tracks would last twenty. There being little or no jolting, or even jarring, the great source of wear in common roads, the track-road would out-last all others, respect being had to the materials of construction.

"In regard to the cost of constructing, and the perpetuity of such a road, it may be well to observe that at present, on a great portion of the line, timber sufficient for the tracks abounds within 30 to 50 feet of the centre; a great portion of which must be removed before the line can be improved in any manner. On no part will timber have to be moved far from its native to its destined locality, and as regards perpetuity, the prospect is more favorable than that of M'Adamized roads in a country where lime-stone, the material of construction and repair, is barely sufficient for other branches of improvement, during this and coming ages. Good oak and other timber can at all times and forever be cultivated upon the sides of the road, rendering it at once beautiful, pleasantly shady, and perpetual: advantages by no means attending M'Adamized roads, which will forever continue to exhaust the present existing material without there being a possibility of a renewal. This would in future prove to be a serious disadvantage in districts of country but scantily supplied at present.

"The horse paths, the driver's path, and the summer roads, might be improved by laying upon them a coat of gravelly earth, which abounds in many parts of the country destitute of stone, and can be procured and laid at a very small cost.

"Gravelly earth will present an even and pleasant road to travel, if the weight of loaded wheels can be kept from it, as is witnessed on the tow-paths of our canals, where constructed of that material. But I would suggest that the horse and driver's paths be M'Adamized to the depth of six inches, which would be amply sufficient for any purposes for which it is intended: under this might be laid, say, six inches of gravelly earth, whenever it shall be found convenient. It might also be proper to gravel, say,

five feet of each summer road, or at least construct the upper surface of them of the most solid earth in the neighborhood. The tracks may be laid of timber, round except the upper surface. It would, however, be better to form them of large, well grown timber, split or cut through the heart: the sides squared, so as to take off the bark and white-wood. These tracks may be of pieces any convenient length, with the ends brought to a determinate thickness, and laid upon a block placed to receive them. The under side of the tracks ought to be straightened or partly flattened, in order to secure a more steady position of them. The earth ought to be closely applied to the bottom and sides, not only to effect this object, but to secure a more speedy extraction of the acid from the wood. The limey quality transferred from M'Adamized horse and driver's paths to the wooden tracks, would be likely to prevent both wear and decay. Where the road is necessarily much curved, it ought to be M'Adamized, and the tracks dispensed with, particularly if good material is convenient, which is almost invariably the case, where your line is crooked. The line from Goshen to Columbus, as will be seen by the map, is laid almost entirely of long straight lines, not more than one mile and eighty-two poles requiring to be M'Adamized, and that where the stone is most plenty. Eighty miles of the line, therefore, is suitable for tracks, which ought first to be laid of squared timber, after which the two inner ones might be guttered or furrowed by machinery propelled by steam or animal power, and moved along the tracks simultaneously as the operation proceeds.

"The proposed method of improvement, if found to answer the purposes of traffic and travel, whether it shall last equal to the expectation of its inventor or not, will be found to be one of immense utility, by reason of the cheapness of its first construction, which brings the first cost of improvements to a level with the scanty means of a country newly settled, and as it were yet in the wilderness."

Mr. Williams advocates, with much earnestness, internal improvements of every description; the report is well drawn up, and is of itself evidence that it has been done by a hand well acquainted with the subject upon which it treats. We think, however, that in speaking of the probable advantages to be derived from systems that he recommends, he is rather too sanguine of the result. We cannot do better than let Mr. W. speak for himself:

"Any state or nation that would adopt a general system of internal improvement by roads and canals would do away sectional jealousy. The interests of the different parts would become one by the common course of intercommunication. Inter-marriages would take place, and a general diffusion of acquaintanceship, and a union of interest would be the result. At the same time that wealth, the source of power, would be thus increased, power itself would follow its consequence of the system. The means of intercourse would give a facility to the transportation of men to defend the country, and stores to render those men comfortable; munitions of war, too, would reach every point to render formidable those forces, which with the greatest facility could be conveyed so as to render the effective force double to what the same means would be without it. This system would at once unite the citizens as if they inhabited but a small island, while at the same time they would be as strong as if they filled a vast territory."

Such a state of things is very desirable, and perhaps may occur, but we think it not likely in our time. Mr. W. concludes the report thus:

"The hand which guides this pen was among the first to fell the trees of the interminable territorial forest, to let the sun see the soil that now in the state of Ohio presents so many pleasing subjects for contemplation and reflection."

Affording another instance that, in a free country like this, industry and talent will always be duly appreciated, and in most cases amply rewarded.

[Since the above was in type we have received a communication from Mr. Williams, by which we learn that the Company have determined to construct eight miles of road on this plan.—Ed. Mec. Mag.]

Abstract of the Charter of the New-Jersey Railroad and Transportation Company.—Sections 1st, 2d, 3d, 4th, and 5th, simply give the name of the Company; the amount of capital, which is $750,000, with liberty to double it, and the shares to be $50 each; the names of the commissioners and the place of receiving subscriptions; the number of directors and the manner of electing them; and the power to call in instalments of $5 each, and of appointing a president, engineers, treasurer, &c.

Sec. 6, Authorizes the directors to survey, lay out, construct and repair, a railroad not more than 66 feet wide, with as many sets of tracks as they think proper, from such point in the city of New-Brunswick as shall be agreed on by them and the corporation of that city, "through or near the village of Rahway and Woodbridge, within half a mile of the market-house in Elizabethtown, and through Newark, by the most practicable route, and thence contiguous to or south of the bridges crossing the Hackensack and Passaic rivers, crossing Bergen Ridge south of the Turnpike road, to some convenient point, not less than 50 feet from high water mark on the Hudson river, opposite to the city of New-York." It further authorizes the Company to make a branch road to any ferry on the Hudson opposite to New-York, which branch shall join the main road within 100 yards of the Hackensack river, if the main road cross the river within 100 yards of the present bridge, but if it crosses it more than 100 yards from the bridge, then the branch shall join it at such point west of the river as shall be best calculated to give to the ferries equal facilities of communication with Newark, and if the Company do not construct such branch as soon as the main road from Newark to the Hudson is made, then the owner of the ferry is authorized so to do, with the same power and under the same liabilities with the Company. The Company are also authorized to enter upon and take possession of any lands necessary for the cite of the road, and if the owner of such land and the Company do not agree on the price, either of them may (at the cost of the Company) apply to a judge of the Supreme Court, and have three commissioners appointed from the county in which the land lies, to estimate the damage arising to the owner from the occupancy of the land, and also from removing, making and maintaining fences: and if the owner is dissatisfied with the appraisement, he may appeal to the Common Pleas and have his damages estimated by a jury, but will recover no costs unless he recovers more than the appraisement.

Sec. 7, Empowers the Company to build bridges, fix scales and weights, raise embankments, &c. and to take materials therefor, subject to compensation, to be ascertained as in the case of lands.

Sec. 8, Authorizes the Company to regulate the time and manner of transporting goods and passengers, the description and formation of carriages, and the rates and modes of collecting tolls, which are not to exceed the following rates, viz.: for empty carriages weighing less than a ton, 2 cents a mile; more than one and less than two tons, four cents; above three tons, eight cents, and in addition thereto six cents a ton for goods and 3 cents for each passenger per mile; Provided, that no farmer of this State shall pay toll for carrying the produce of his farm in his own waggon not weighing more than a ton, when such produce does not weigh more than 1,000 lbs., but shall pay only for carriages as if empty. It also authorizes the Company to construct branches to any landing on or near the Passaic, not north of Belleville, and to any place in the township of Newark.

Sec. 9, Requires the Company to commence the road at Jersey City and New-Brunswick, within two years, and to complete the whole route in five years, under penalty of forfeiting their charter.

Sec. 10, Authorizes the company to purchase any turnpike road and bridges on the route, and reserves to the State and individual stockholders of the Newark Turnpike Company the right at any time within two years, from the opening of the books, either to take an amount of the stock of the company equal to the fair market value, at the time of passing the act of their stock, or to sell out the same to the company, at that value, which is to be estimated by the Chancellor, in case of disagreement; but the Newark turnpike, and the bridges over the Raritan, Passaic, and Hackensack, are to be kept as public roads, without obstruction.

Sec. 11, Empowers the company to cut sluices and make embankments, to prevent the railroad from being overflowed by the tide.

Sec. 12, Makes it lawful for the company to carry the railroad across roads and streams, not impairing their usefulness, and if they cross any navigable river, they may build a bridge, with a draw not less than thirty feet wide, and are bound to keep a light during the night, and open the draw when necessary, under penalty of ten dollars for every neglect.

Sec. 13, Authorizes the company to build or purchase carriages for the transportation of persons or property; but they are not allowed to charge more than six cents a mile for transporting passengers and each ton of goods, nor more than $1,25 for carrying passengers from New-York to New-Brunswick.

Sec. 14, Empowers the company to hold real estate at the commencement and termination of their roads, not exceeding 3 acres at each place, and build thereon ware-houses, stables, machine shops, &c. and to build on the Hackensack and Passaic rivers such bridges, piers, wharves, &c. as they shall think necessary for the full enjoyment of all the benefits conferred by the act.

Sec. 15, Imposes upon any person who shall wilfully injure the road, or any of the buildings or works of the company, a penalty of three times the amount of the damages done.

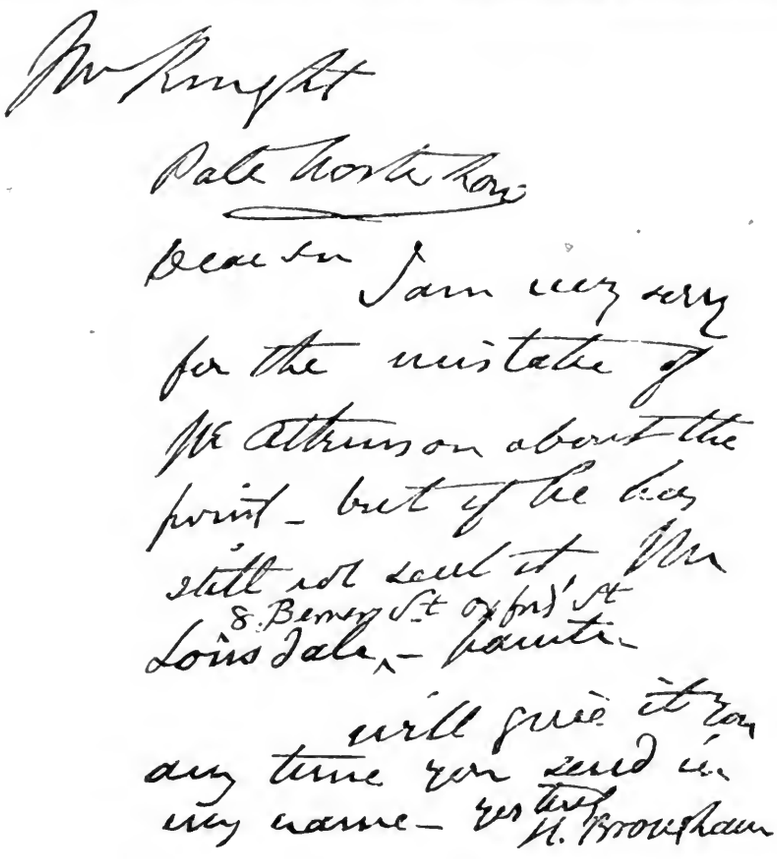
Sec. 16 and 17, Gives the State the right of purchasing the road, at a price to be ascertained in the mode marked out by said sections, after the expiration of the charter.

Sec. 18, Imposes an annual tax of 1-4 per cent on the capital paid in, and exempts the road from all other taxes; and if the railroad should be continued across the State, a transit duty of 8 cents for each passenger, and 12 cents for every ton of goods, transported over the whole road, is to be paid to the State.

Sec. 19, Empowers the directors to call special meetings of the stockholders, for any purpose they may see fit; and Sec. 20 requires of the company to make and repair bridges or passages, wherever the railroad crosses any highway, or intersects a farm.

Sec. 21, Reserves to the State the right of taking ¼th of the Stock. Sec. 22 declares it to be a public act, and Sec. 23 restricts the use of the funds of the company to the purposes of the act.

It is required by the supplement to the act relative to the Delaware and Raritan Canal, and Camden and Amboy Railroad, "that it shall be the duty of the said companies to construct a lateral railroad from a suitable point on said road, at or west of the village of Spotswood, to a suitable point or points in the city of New-Brunswick, which said lateral road shall be completed as soon as any railroad shall be made from the said city of New-Brunswick to the Hudson river"; consequently this branch road is required to be made as soon as the New-Jersey Railroad is completed to New-Brunswick, and by this means whenever the New-Jersey Railroad is finished, there must be a complete thoroughfare by railroad through the centre of the State from New-York to Philadelphia.



From the New-York Mechanics' Magazine.

[We make no apology for introducing to the notice of our readers a fac simile of the writing of HENRY BROUGHAM, satisfied that it will gratify many who admire the character and talents of that distinguished individual. We shall occasionally insert engravings of the autographs of men distinguished for their literary and scientific attainments, accompanied (if possible) by a short sketch of their public character.]

SKETCH OF HENRY BROUGHAM.
[Compiled from authentic sources.]

We have not forgotten that this most distinguished individual has been raised to the Peerage, and has received the highest honors in his profession that his sovereign can bestow upon him, but we prefer to speak of him in the simple name, which, like those of GEORGE WASHINGTON, JAMES WATT, ROBERT FULTON, and many others, can never receive additional lustre by any title. He was born in Westmoreland, where his mother still resides, and at an early age was called to the bar in Scotland, where he practised as a barrister for several years, devoting a considerable portion of his time to literary pursuits. It is only with his public character, whether as a statesman, an author, a barrister, or a judge, that we have to do, and in each of these has he shone with a splendor that will long cause the name of Henry Brougham to be revered and respected.

As a *barrister*, Mr. Brougham enjoyed an extensive practice for a series of years, particularly on the Northern circuit, being generally retained by the defendant, and had, in most cases, to cope with the legal knowledge and talent of Sir James Scarlett, who, for a long time, was Attorney General for the County Palatine of Lancaster. In defending particular actions for libel, and in vindicating the general liberty of the press, Mr. Brougham has perhaps appeared to the greatest advantage. In all cases where the liberty of the subject was infringed, his appeals to the jury were exceedingly animated—he seemed, in fact, to enter personally into the feelings of his client. One of his most splendid efforts was at the bar of the House of Lords, where he appeared as Attorney General for the late Queen. The powerful arguments in support of her remonstrance against the introduction of the *Bill of Pains and Penalties* into that house, can never be duly appreciated, even by those who have read them: those only who had the great privilege of being present can form any conception of the energy displayed, and the powers of mind he evinced, on that occasion. The profound attention it commanded from the members is, of itself, alone a sufficient guarantee of its brilliancy.

We can bear testimony to the correctness of the following vivid description, written by a gentleman after hearing him for the first time plead at York Assizes:

"He rose with an expression of staid gravity and collected power. His exordium was deliberate and impressive, and I was particularly struck with the fixedness of his gaze. He seemed not so much to look *at* the jury as to look *through* them, and to fix his eye upon them, less for the purpose of seeing how they felt, than to rivet their attention, and as it were to grasp their minds by the compass of his own. The small gray eye, which in his quiescent state reveals to you nothing, now became keen and strong as the eagle's. The steadfastness of his look, together with the calm and masterly manner in which he disposed of the preliminary considerations, reminded me of an experienced general quietly arranging his forces, and preparing to bear down in overwhelming strength upon a single point. His voice became loud and commanding, his action animated, and his eloquence was poured forth like a torrent, strong, copious, and impetuous. He first took extensive views, and laid down general principles applicable to the case: then he applied these to the particular facts, examining the testimony of each witness, and showing its weakness, the suspicion attaching to it, and its inconsistency, either with itself or with the other parts of the evidence. He displayed as much skill in exposing and concentrating the weakness of the opposite side, as in exhibiting his own strength. He lashed some of the witnesses without mercy, and covered them with his sarcasm. His sneer was terrible. He then unfolded his own case with great clearness, and made it appear that he had evidence which would quite overthrow that of the other side, and leave not the shadow of a doubt on the minds of the jury. The case being one which required both physical and metaphysical observations, from involving a question of bodily and mental derangement, Mr. Brougham's universal knowledge enabled him to treat it in a very luminous manner: he seemed to combine the professional skill of the physician with the just and profound views of the philosopher. He gave a most striking picture of the diseased and doating testator, coloring it with almost poetical brilliancy, and bringing out the features with a breadth and force peculiarly his own. He gathered his illustrations from nature and from art, and levied contributions on science and literature. Every thing in the manner and matter of the orator bespoke *power*—the strength of his voice, the sweep of his arm, the piercing glance of his eye, his bitter scorn, his blazing indignation, the force of his arguments, the inevitable thrust of his retort, and the nervous vigor of his style. He despises the graces of elocution, but seems to have unlimited confidence in the strength and resources of his intellect. In short, this was the highest oratorical achievement it has fallen to my lot to hear, and it was of course successful, though it was not one of his greatest efforts."

As a *statesman*, Mr. Brougham has always appeared uniform and consistent, never swerving from his avowed principles when he entered public life. His earliest efforts as a British senator were distinguished by the same regard to the rights of individuals, and the liberties of the country, which he has uniformly manifested to the present time. Nor was he then less firm in opposition to what he deemed the encroachments of the crown, and the extravagances and abuses of the government, than he has proved since. His bold denial of the sovereign's right to the droits of the Admiralty, in 1812, will not soon be forgotten; and, though he failed in his motion on that point, few can help wishing that he had been able, during a season of enormous expenditure, to bring that prolific fund in aid of the exchequer.—We cannot deny ourselves the gratification of extracting from a speech of Mr. Brougham in 1816, on the treaty of the Holy Alliance. After wondering at the sudden resolution of three great continental powers to defend Christianity when it was not attacked, and suspecting some secret political objects in this new crusade, he said—"I always think there is something suspicious in what a French writer calls '*les abouchemens des rois.*' When crowned heads meet, the result of their united councils is not always favorable to the interests of humanity. It is not the first time that Austria, Russia, and Prussia, have laid their heads together. On a former occasion,

after professing a vast regard for truth, religion, and justice, they adopted a course which brought much misery on their own subjects as well as those of a neighboring state—they made war against that unoffending country, which found little reason to felicitate itself on its conquerors being distinguished by Christian feelings. The war against Poland, and the subsequent partition of that devoted country, were prefaced by language very similar to that which this treaty contains, and the proclamation of the empress Catharine, which wound up that fatal tragedy, had almost the very same words."

Among the most prominent of his later efforts in the House of Commons, may be mentioned his lucid speech on his introduction into that house of a "Bill to amend the State of the Laws;" it occupied nearly eight hours in delivery, and so arrested the attention of a full house, that the newspapers of that time remarked that they never remembered the house so orderly. Until the year 1828 Mr. Brougham was returned to Parliament for one of those decayed boroughs which were under the immediate influence of some of the Whig peers. In that year a vacancy occurred in the representation of Yorkshire, (the largest county in England,) and he was, without solicitation on his part, triumphantly returned to fill that vacancy, although he had no connection whatever with his new constituents. He had scarcely taken his seat when he announced that it was his intention to bring forward a bill for Parliamentary Reform. A day or two previous to the one that was arranged for the introduction of that bill, the Duke of Wellington's Tory administration was dissolved, and his Majesty called EARL GREY to his Councils. The immediate consequence of that step was the elevation of Mr. Brougham to the Peerage, under the title of Baron Brougham and Vaux,* and his appointment to fill the joint offices of *Lord High Chancellor of England*, and *Speaker of the House of Lords*. The influence and power that was thus placed under his control he has used in a manner that does honor to his heart, and is quite consistent with the principles he had always advocated, in Parliament and out of it, during a series of years. Among his earliest efforts, after his installation into office, may be mentioned *his own* motion for reducing very considerably the emoluments attached to the offices he held—his sweeping reformation of the abuses of the Bankruptcy Laws—his unceasing efforts to purge the vices of the court over which he was placed to preside—his strenuous exertions in the holy cause of Parliamentary Reform, the triumph of which is mainly attributable to his and Earl Grey's inflexible and unbending political honesty—his never-tiring advocacy of the abolition of the Slave Trade—and his arguments, whenever opportunity presented itself, (and they continually occurred in Parliament,) in favor of any and all measures that had a tendency to promote the amelioration or removal of civil and religious disabilities. When it is known that during the whole period these measures were progressing, he had almost daily to attend Cabinet Councils, of frequently three or four hours' duration, yet he did more in one short session to bring up arrears of business in the Chancery Court, than had ever previously been done, having left but one cause undecided—his predecessors frequently leaving two or three hundred,—our readers cannot but wonder at the vast power of mind and versatility of talent displayed in one individual. Nor is this all; for while thus engaged in Politics, Legal Reform, Parliamentary Reform, the duties of his office in Parliament, and the due performance of his judicial functions, it is really almost incredible that he could find time to attend to literary pursuits: yet it was so. He acted as Chairman for the *Society for Diffusing Useful Knowledge*, and very frequently attended to the duties imposed upon him by that committee; and by virtue of his office, was at the head of the *London University*, and of the *King's College* also. We now turn with peculiar gratification to notice some of the gigantic efforts he has made in the cause of universal education. His resolute efforts to throw open the corrupt arcana of the most ancient and extensive of the benevolent institutions in his own country, are well known and appreciated by a discerning and grateful public. Nor have they been without success: a commission of inquiry continues to proceed in its necessary work: several great charities have already completely changed their character, and others in fear are beginning to reform themselves.

Who can but witness with pleasure the rapid progress education is and has been making for some years past? Elementary instruction is now so quickly imparting to the great mass of the people, by the most simple and economical means, that whereas in the last generation it was difficult to find a peasant who could read, in the next it must be much more difficult to find one who cannot. This is undoubtedly one of the best signs of the present times. By this the rising age of the lower and lowest ranks are receiving a moral elevation, of which no time, or change, or accident, can deprive them. This must insure the duration of wisdom, the enlargement of liberty, and the propagation of religion, by whatever political changes the frame of society may be shaken.

To HENRY BROUGHAM we are indebted for much of this: amidst his various occupations, wherever popular education was advocated, whether at the Royal Society or at the Mechanics' Institution, he was always foremost in the van.* The great interest he took in founding the London University is fresh in our memory. He was one of the prime movers in getting into successful arrangement the operation now continued with so much success in that establishment. Nor must we omit to notice the great benefits he has rendered to universal education, by planning and forming the *Society for the Diffusing of Useful Knowledge;* among the committee of which will be found men of all political parties, of influence and wealth, and great talent, combining their efforts to spread knowledge throughout the world.

As an *author*, HENRY BROUGHAM has long been familiar with the reading public. At a very early age he communicated some scientific articles for *Dr. Brewster's Edinburgh Cyclopedia*, and ever since the establishment of the Edinburgh Review he has been a zealous supporter of that work, and some of the most profound and ingenious articles that have appeared in that work were from his pen. Nor has he confined his contributions to the *Edinburgh Review*. He is known to be the author of several papers in *Nicholson's Journal*, and in the *Philosophical Transactions*—papers which discover the varied nature of his studies, and how well he has furnished his mind with the diversities of natural and artificial, as well as legal and political science. The chief entire work which bears his name is entitled 'An Inquiry into the Colonial Policy of the European Powers.' In addition to these, a masterly pamphlet on the state of the nation, and several speeches on special occasions, which have appeared in print, deserve to be mentioned among the samples of his literary pre-eminence. In these and other productions of his pen, he shows a capacity of mind which takes in any subject, however large its dimensions or minute its details. In all his works, he is evidently much more intent upon matter than manner; yet few men are gifted with clearer perceptions, or capable of more rich and appropriate illustrations, especially from the first rate classics, with whose best passages he seems perfectly familiar.

His last avowed production is the admirable treatise on the Objects, Advantages, and Pleasures of Science, a part of which we have already transferred into our columns.

We shall conclude this imperfect sketch by a short extract from a lecture delivered at the Jefferson Medical College, by Professor Paterson, of Philadelphia, in the sentiments of which we fully concur. He says, after alluding to distinguished men in Europe, "it has been my good fortune to have associated with many other characters, who, with justice, are admitted to be the most illustrious of her sons. Before I knew them, I confess the vastness of their intellects *loomed* on my imagination. They appeared, at a distance, more than MORTALS; but, when known and examined in person, I found them merely MEN, differing in no very remarkable features of intellect or character, from the distinguished individuals with whom I have been associated, in my native city. There is only one man I have ever known, who, from the towering height of his mind, and from the rich and exhaustless stores of his information, has realized all my imaginings of a great man—a man differing from, and far exalted, by capacity and acquirements, above all others. This MAN is HENRY BROUGHAM, the present Lord Chancellor of England. He, indeed, seems to be almost more than *mortal*."—[ED. MEC. MAG.]

CLAY FOR SCULPTORS.—Sculptors, who prepare their models in clay, have frequently occasion to leave their work for a long time unfinished, and in such cases often experience much difficulty from the drying and shrinking of the material. It is well to know that by the addition of ten to fifteen per cent. of muriate of lime, well worked or kneaded into the clay, it will be preserved for almost any length of time in a moist state, and fit for a renewal of the work without any preparation.—[Jour. des Connais. Nov. 1832.]

* When it was made public that Mr. Brougham was to be made a member of the upper house, solicitations were made from many with whom he had been connected in promoting various laudable objects, that he would still retain the name of Brougham, as the association of it with institutions having for their aim the welfare of mankind seemed so natural, that it would be to them a matter of great regret to be deprived of it.

* Henry Brougham and his friend, Dr. Birkbeck, were among the first who responded to the call when a proposition was made to establish the *London Mechanics' Institution;* their exertions and their example did much to promote its success. They contributed liberally to its funds, and, indeed, unless such men had taken the matter in hand, we have reason to believe the attempt to found such a society, at that time, would have been worse than fruitless.

Attraction.—By *attraction* we mean the tendency that bodies have to approach each other. And first, in elucidation of this subject, if you throw a stone, or shoot an arrow into the air, instead of proceeding according to the direction in which you send it, you see its course is quickly spent, and it returns to the earth with a velocity or swiftness proportioned to its bulk or weight. Now, it is easy to conceive that the resistance of the air may stop it in its progress: but why should it return? Why should not the resistance of the air stop or impede it in its return?

The answer you will think very plain—it is its *weight* that brings it back to the earth, you will say, and it falls because it is a heavy body. But what is weight—or why is it heavy? It is, in truth, the earth that draws or *attracts* the stone or the arrow towards it; this overcomes the force with which you sent it from you at first, and the resistance which the air would otherwise make to its falling.

To make this plainer, if you drop a little water, or any other liquid, on a table, and place upon the liquid a piece of loaf sugar, you will see the water or fluid ascend, or in vulgar language, be sucked up into the pores of the sugar: that is, the one attracted by the other. Again, if you take two leaden bullets, and pare a piece off the side of each, and make the surface, where you have taken off the piece, exceedingly smooth, and then press the two balls together, you will find them adhere strongly together, that is, they are mutually attracted by each other.

If you take a piece of sealing wax, or amber, with a smooth surface, and rub it pretty quickly upon your woollen stocking till it gets warm, you will find that if straws, feathers, hairs, or any very light bodies, are brought within the distance of from an inch to half an inch of it, these light bodies will be drawn to the sealing-wax or amber, and will adhere to it. Thus, in philosophical language, they are attracted by it.

This last effect is very similar to what may be observed of the magnet or loadstone, or what is often performed by the little artificial magnets, which are commonly sold, and which afford a very rational and pretty amusement to young persons.

But what is a still more surprising effect of attraction, if we take two phial bottles, which we number 1 and 2, and fill each of them with a fluid perfectly colorless, we see they appear like clear water: on mixing them together, we will observe the mixture becomes perfectly black. We take another phial, No. 3, which contains also a colorless fluid, and we pour it into this black liquor, which again becomes, we see, perfectly clear, except a little sediment which remains at bottom. Lastly, we take the phial, No. 4, containing also a liquid clear like water, and by adding a little of it, the black color we see is restored.

All this appears like magic, but it is nothing more than the effect of attraction. Philosophy keeps no secrets, and we will explain it. The colorless liquor in the phial No. 1 is water, in which bruised galls have been steeped or infused; that in No. 2 is a *solution of copperas* (called by chemists *sal martis*, salt of steel,) in plain terms, it is water in which common copperas, or green vitriol, is dissolved. The iron which this salt (green vitriol) contains has a strong attraction for the gall water, and when they are mixed together they unite, and the mixture becomes black; in fact, is made into ink. But when the phial No. 3, which contains aqua fortis, (or the nitrous acid, as it is called by the chemists,) is poured in, the iron, which has a stronger attraction for it than for the galls, unites with it, and having left the galls, the liquid is again clear.

Again, the phial No. 4 contains salt of wormwood, in a fluid state, which the chemists call an *alkali*. The aqua fortis is nitrous acid, therefore, has a stronger attraction for this alkaline matter than it has for the iron; it therefore drops the iron, which again unites with the matter of the galls, and you see the fluid resume its black complexion. These several kinds of attractions, which we have now mentioned, philosophers have arranged under five distinct heads. The *first*, that we mean of the stone or the arrow falling to the ground, they have called the attraction of *gravity*, or gravitation.

The second, that of the two leaden balls adhering together, and of the water ascending into the pores of the sugar, they call the attraction of *cohesion*, and also capillary attraction. The third is *electrical* attraction, because the sealing wax, when chafed or warmed by rubbing against your stocking, is in an electrified or excited state, like the glass cylinder of an electrical machine when rubbed against the cushion, and therefore attracts the hair, feathers, &c. The fourth is the *magnetic* attraction; and the fifth is called *chemical* attraction, or the attraction of combination, because upon it many of the processes and experiments in chemistry depend; and because by this means most of the combinations which we observe in salts, the ores of metals, and other mineral bodies, are effected.

On the two first of these species of attraction only we shall at present enlarge, because it will be necessary to treat of the others when we come to investigate those branches of science to which they properly belong.

First, therefore, of gravitation. It requires no experiment to show the attraction of gravity; for since the earth is in the form of a globe, it is manifest that it must be endued with a power of attraction to keep upon its surface the various bodies which exist there, without their being hurled away into the immensity of space in the course of its rotary diurnal (or daily) motion. The earth has, therefore, been compared to a large magnet, which attracts all smaller bodies towards its centre. This is the true cause of *weight* or *gravity* (which mean the same thing.) All bodies are drawn towards the earth by the force of its attraction, and this attraction is exerted in proportion to the quantity of solid matter which any body contains. Thus, when two bodies are placed in opposite scales, and we see one preponderate, we say it is heavier than the other; in fact, that it contains a greater quantity of solid matter: for as every particle of matter is attracted by the earth, the greater number of such particles any body contains, the more forcibly it will be attracted. We know, by experience, that the *weight* or *gravity* of a body or thing is not in proportion to its bulk. A bullet of lead, of the same size as one of wood, or of cork, will weigh infinitely heavier, and one of gold would be heavier still. It is reasonable, therefore, to suppose that the ball of gold, or of lead, contains a greater number of solid particles, which are united or pressed closer together than those of the wood or cork, which is more porous, and its particles lie less closely compressed or compacted together. This, then, is what is meant by *specific gravity*, that one body contains more solid particles within a certain compass, size, bulk, or space, than another.

It is one of the laws of nature, discovered by Newton, and now received by all philosophers, that every particle of matter gravitates towards every other particle: which law is the main principle in the Newtonian philosophy. The planets and comets all gravitate towards the sun, and towards each other, as well as the sun towards them, and that in proportion to the quantity of matter in each.

All terrestrial bodies tend towards a point, which is either accurately, or very nearly, the centre of the earth; consequently, bodies fall every where perpendicular to its surface, and therefore on opposite sides in opposite directions. As it acts upon all bodies in proportion to their quantities of matter, it is this attractive force that constitutes the weight of bodies.

The cause of gravity is totally unknown. Many theories have been invented to account for it, but they have been all mere hypothesis or conjecture, without any solid foundation.

II. The *attraction of cohesion* is observable in almost every natural object, since in reality it is that which holds their parts together. It has been already demonstrated, in the experiment of the two leaden balls, and the same effect will be proved by pressing together the smooth surfaces of two pieces of looking-glass, particularly if a little moisture is dropped between them to exclude the air more perfectly. The adhesion or tenacity of all bodies is supposed to depend on the degree of this attraction which exists between their particles; and the cohesive power of several solid substances has been ascertained by a course of experiments, in which it was to put to the test what weight a piece of each body of one tenth of an inch diameter would sustain, and the weights were found to be as follows:

Raw flax, .	37 lbs.	Ash, . .	50 lbs.
Horse hair,	45	Zinc, . .	18
Raw hemp,	46	Lead, . .	29¼
Raw silk, .	53½	Tin, . . .	40½
Fir wood, .	23	Copper, .	299
Elm, . .	35	Brass, . .	360
Alder, . .	40	Silver, . .	370
Oak, . .	48	Iron, . .	450
Beech, . .	50	Gold, . .	500

This cohesion is also visible even in fluid substances, the particles of which adhere together, though with a less degree of tenacity than solid bodies. "The pearly dew" is a well known phrase in poetical language, and the drops of rain, or of dew, upon the leaves of plants, assume this round or pearly appearance by the attraction which the particles have for one another. In the same manner quicksilver, if divided into the smallest grains, will appear round, like small shot, because the particles attract each other equally in every direction, and thus each particle draws others to it on every side, as far as its power extends. For the same reason, two small drops of quicksilver, when

* It should be remarked, however, that this can succeed only whilst the introsusception is recent. After a time inflammation occurs, and adhesions form between the introsuscepted portion and the portion of bowel in which it is received.

brought near to each other, will seem to run together and unite.

Some bodies, however, in certain circumstances, appear to possess a power the reverse of attraction; and this is called in philosophical language, *repulsion*.

On the Stomach Pump—Method of dislodging Poison from the Stomach without it, &c.

By Dr. Arnott.

A small pump, called the *stomach pump*, has lately been used in medical practice, for removing poisons from the stomach in cases where the action of vomiting could not be excited. It has already saved many lives. It resembles the common small syringe, except that there are two apertures near the end, instead of one, which, owing to valves in them, opening different ways, become what are called a *sucking* and a *forcing* passage. When the object is to extract from the stomach, the pump is worked while its sucking orifice is in connection with an elastic tube passed into the stomach, and the discharged matter escapes by the *forcing* orifice. When it is desired, on the contrary, to throw cleansing water, or other liquid, into the stomach, the connection of the apertures and the tubes is reserved.

As a pump may not be always procurable when the occasion for it arises, the profession should be aware that in many cases a simple tube will answer the purpose as well, if not better. Such a tube being introduced, and the body of the patient being so placed that the tube forms a downward channel from the stomach, all fluid matter will escape from the stomach by the tube, as water escapes from a funnel by its pipe; and if the outer end of the tube be kept immersed in liquid, there will be during the discharge a syphon action of considerable force. On then changing the posture of the body, water may be poured in through the tube to wash the stomach, and may by the same channel be again discharged. Such a tube, made long enough, might, if desired, be rendered a complete bent syphon, the necessary preliminary suction being produced by a syringe, or by the mouth of an assistant, acting through an intervening vessel.

But there is a still easier mode than either of these now described, of dislodging poison from a torpid stomach, *viz.* merely to place the patient so that the mouth shall be considerably lower than the stomach,—as when the body lies across a chair or on a sofa, with the face near the floor,—and then, if necessary, to press on the stomach with the hand. The cardiac orifice opens readily in such a case, and the stomach is inverted like any other inverted vessel.

Useful as the pump may prove upon occasions, in evacuating the stomach, its more ancient office of injecting the enema is still the more important, and recent experience seems to show that such injection may become a remedy of more extensive utility than had yet been suspected. From an erroneous opinion, that what had been called the *valve of the cæcum* acts as a perfect valve, allowing passage downwards only, few practitioners have ventured to order much liquid to be injected, for fear of overstretching the lower part of the intestine; and the possibility of thus relieving, by injection, disease situated above the supposed valve, has scarcely been contemplated. It is now ascertained, however, that fluid may be safely thrown in, even until it reach the stomach. Perhaps few, if any, cases of obstruction of bowels could resist the gentle force of penetrating water, so that a mechanical remedy of certain effect may, in many cases, be substituted for the drastic purgatives and pernicious bleedings now used, and often used in vain. From what has been said above of the abdomen and the intestinal canal, it appears that an injection tends to spread itself with singular uniformity over the whole. This tendency may be rendered obvious to sight, by throwing a sheep's intestine, recently extracted, into a bucket of water, and then pumping water in at one end: a stream will issue strongly at the other end, although several feet distant, almost immediately, and without any intermediate part having become very sensibly tense. Of course, in the living body, in cases of spasm or obstruction, the liquid must be thrown in against resistance very gradually.

That case is called *introsusception* of the bowel, in which an upper portion falls, or is received into a portion below,—as one part of the finger of a glove may be received into another part,—and the receiving portion of the bowel, mistaking the received for descending food, holds it fast. This occurrence forms a complete obstruction, and generally proves fatal. Many infants, with irritable bowels, die of it. Now, a copious enema, such as we have described above, is almost a certain cure. The liquid advances until it reaches the part where the portion of gut has been swallowed by gut below; and as it cannot pass without pushing the introsuscepted portion back to liberty, it effects the cure.*

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Week ending Monday, May 6, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hour.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, April 30	6 a. m.	62	30·03	sw by w	light		cloudy—smoky
	10	81	30·08	..	..	NW / WSW	fair — ..
	2 p. m.	83	30·07	..	..	NW	.. — ..
	6	76	30·05	NE	fresh	..	.. — ..
	10	61	30·15	..	strong	..	cloudy— ..
Wednesday, May 1	6 a. m.	56	30·21	NNE	moderate		foggy & cloudy—smoky
	10	60	30·25	NE	..	NW	fair —smoky
	2 p. m.	65	30·21	ENE	..	..	.. — ..
	6	57	30·20	SSE	..	..	.. — ..
	10	53	30·20	SE	..		cloudy— ..
Thursday, " 2	6 a. m.	52	30·10	SSW	..		.. — ..
	10	65	30·05	..	..		fair — ..
	2 p. m.	74	30·00	..	..	SW	.. — ..
	6	69	30·05	SW	..	NW	.. — ..
	10	63	30·12	..	..	..	..
Friday, " 3	6 a. m.	48	30·25	N	..		clear
	10	54	30·26	NNE—ENE	light		..
	2 p. m.	60	30·28	S	..	SW	fair
	6	56	30·21	..	..	..	.. —smoky
	10	53	30·26				.. — ..
Saturday, " 4	6 a. m.	48	30·28	SW—S	faint	WSW	.. — ..
	10	57	30·32	SSE	moderate	..	.. — ..
	2 p. m.	53	30·29	..	..	..	cloudy—rainy—smoky
	6	51	30·26	..	..	..	rainy
	10	48	30·22	..	..		cloudy
Sunday, " 5	6 a. m.	54	30·17	N	faint	NNW	..
	10	55	30·19	NNW	light	..	..
	2 p. m.	57	30·18	N by w	..	..	..
	6	59	30·19	..	..	..	..
	10	54	30·21				fair
Monday, " 6	6 a. m	49	30·22	NE	faint	SW	.. —cloudy—smoky
	10	52	30·25	SSW	moderate	..	cloudy—fair— ..
	2 p. m.	63	30·20	S	..	..	fair —smoky
	6	57	30·15	SSE	..	..	.. — ..
	10	56	30·14				.. — ..

Average temperature of the week, 58·88.

Maximum height of the barometer in April, 30·40—Minimum, 29·42—Range, 0·98.

The observations of winds at the surface, for the month of April, show the following results: From NE. including N. 22—from SE. including E. 26¼—from SW. including S. 63¼—and from NW. including W. 23.

The observations of clouds or higher currents, for the same month, are as follow: From the North-Eastern quarter, 4—from the South-Eastern, 3—from the South-Western, 65¼—and from the North-Western, 28¼.

Valuable Material for Walks and Alleys.—A soap-maker not knowing what to do with the black sulphurous residuum of his ley tubs, spread it in a wet state along the alleys of his garden. It soon became stiff and almost impervious to rain; the alleys were always dry; no grass or weeds appeared on it, but the plants within a few inches of it all died. He was delighted with this discovery of the means of enjoying clean and dry walks without any trouble, having only to put a covering of clean sand over the refuse. Having occasion some time after to repave his yard, he used the soft refuse instead of mortar. It soon hardened and cemented the stones so well, that the heaviest carriages occasioned no disadjustment.—[Jour. des Connais. Usuelles.]

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Agricultural Fair in New-York.—By the following resolution of the New-York State Agricultural Society, it will be perceived that a Fair is to be holden in October next. Farmers, and those in any way interested in promoting agricultural improvements, are requested to use their influence to carry the objects into effect.

Resolved, That a fair for the sale of live stock, seeds, and other products of husbandry and of household labor, be held in the city of Albany, on the second Thursday of October next, and one in the city of New-York, on the fourth Thursday of the same month; and that the civil authorities and agricultural societies of those places be requested to make preparations for the holding of those fairs.

Stirring the Soil in a Drought.—It is an established opinion, that the more the soil is hoed harrowed, and ploughed, in dry weather, the better are plants enabled to withstand the want of rain. The recorded effects of frequently stirring the soil are surprising. Excellent crops have thus been obtained, when prospects were most forbidding. It is asserted that when dry weather occurs in the spring, before the roots have extended far, there is still a greater necessity of more frequent hoeing and ploughing. The reasons assigned are, that more of the moisture in the atmosphere is condensed particularly in the night, and that more air, which is a poor conductor of heat, becomes imprisoned in the soil, and thus prevents the heat from penetrating.

Suggestions relative to Farmers' Work for May. By the EDITOR.

SOILING.—It is stated on good authority, that a grass meadow in good heart, mown and eaten green, will, at a rough estimate, produce treble the quantity of milk it would have if pastured, and four times as much as it would have done in the form of dry hay.

SALT.—At this season of the year, when live stock are changed from dry hay to green pasturage, the effect on them is very considerable. Their offal, from being comparatively dry and hard, immediately becomes of a liquid consistency. To prevent this sudden weakening effect, give a little salt dissolved in a little bran or meal and water, which will greatly increase the thriving of the cattle. In Germany portable sheds are put up in the fields for shelter, with salt constantly kept in a suitable vessel. A few quarts of bran wet and salted, and given to cows two or three times a week when they are turned to grass, will yield a great per centage of gain in milk.

IRRIGATION.—Every farmer should have in his yard a cistern, or some similar receptacle for his liquid manure. In our often dry and burning climate, watering grass and other crops would be the means not only of keeping the crops in a growing state until they are supplied with rain, but greatly enrich the land.

KINDS OF CROP.—Farmers should not be guided much in the choice of crops for culture, from the high prices they now bear in market. They may, very probably, by the time they are able to get the crops in market, become reversed in prices. Potatoes, for instance, command a poor price; and for this reason a farmer who has to buy his seed, should plant more potatoes than if they were dear.

WEEDS.—Every farmer should make it a principle of duty to eradicate every useless weed, not only from the injury he may sustain, but from regard to his neighbor and the public. A few seeds from his field may be carried by the wind into those of his careless neighbor, and thus eventually a whole neighborhood become invested.

FRUIT TREES.—Grafted trees should be examined, and the clay or composition fallen off supplied. Useless suckers and side shoots ought to be removed. In some instances, when the suckers have roots, they should be set out for stocks. Young fruit trees, sprouting up about the fields should be taken up and put in the nursery or portion of garden allotted for that purpose.

To have your orchard trees to continue thrifty, particularly young ones, it is advisable to have the ground for one or two feet around the body kept free from grass, every spring manured, and stirred several times in the course of the summer.

ROOT CULTURE.—There are many advantages arising from the cultivation of roots. From not ripening their seeds they are considered not to exhaust the soil as much as those that do ripen them. The soil becomes stirred and comminuted, and thus is fully exposed to the air. Weeds and poor grasses are more effectually destroyed. These crops are very productive. Potatoes averaging from 3 to 4 hundred bushels per acre, and turnips, ruta baga, mangel wurtzel, carrots, &c. from 6 to 8 or 9 hundred. They serve to alternate, and give variety to food for cattle in winter. Turnips are considered the best. The seeds cost but little, are sown with trifling trouble, require but little culture, remain on the ground but a short time, are eaten by man and beast, and easily preserved over the winter. The seed of the mangel wurtzel is sown early in May, and costs from 75 cents to $1.25 per pound. Four or five pounds are required to the acre. These raised for seed would, we should suppose, make good returns.

SQUASHES AND PUMPKINS.—No farmer should neglect to have a liberal supply of these. They are of much service in various preparations on the table, as well as feed to hogs and cattle. Raised in hills, on ridges of manure covered lightly with soil, they succeed well, although they generally make good returns on almost any soils. Sometimes a portion of the cow-yard, or where there has been a dunghill, may be profitably occupied, by mixing heaps of sand or soil with the scrapings.

FOREST TREES FROM SEEDS.—Farmers should remember that there are many forest trees raised from seed that will sell well, and that are valuable for timber or fruit. Among these are the juglans squamosa, or shagbark hickory, and the j. regia, or Madeira nut. These trees, when two or three years old, will, in almost any neighborhood, sell for remunerating prices. Early in May is not too late to sow forest seeds.

PREVENTIVES OF INJURY FROM INSECTS.—Many farmers lose many of their crops by grubs and other insects. Cucumber, squash, melon, and pumpkin vines, as well as turnips, are often destroyed by insects. To guard against them, the farmer should be provided with coarse tobacco leaves, soot, dry ashes, and the like.

IMPROVEMENTS.—Every farmer should study out a plan of improving the value of his farm, and should persevere and follow it out, but be careful to avoid undertaking them any faster than he has means and time. If possible, always make the profits of the farm pay for the improvements.

MANURE.—Much has been said about long and short manure. When put on in spring, it is reasonable to suppose that it ought to be in a state of insipient fermentation at least. If not, the plant acquires more or less of its growth before it is sufficiently fermented and dissolved to be of service; and when it is in a state fit to nourish the plant, it produces an unnatural stimulus, at an improper time, causing the plant to run into leaf, straw or wood, when it should form or ripen fruit.

EXPENSIVE LABOR.—Many, after toiling for many years, find their hired help has consumed all their profits. Farmers thus situated should endeavor to alter or vary their plans of management, that they may introduce a system of culture that will be equally productive with less labor. By duly consid ring all the circumstances in which they are peaced, nine times in ten they will be able to make the desired change, without risk.

AGRICULTURAL WORKS.—However well farmers may think they understand their business, yet they would derive benefit from having a work on agriculture, to which they could refer in reference to every operation on the farm. They would always find some hint or suggestion that would be more or less important. The physician, lawyer, and clergyman, think, and justly too, that they can not fill their stations without a library of books for reference. Is farming a calling so much lower that not a single volume is necessary?

Suggestions relative to Gardeners' Work for May. By the EDITOR.

Not a moment is to be lost this month. No one who is desirous of having his garden well stocked with the best of vegetables, and all in good order, will hesitate to devote the extra time which is requisite to have all his plans and operations carried into full effect.

Beans.—The Dwarf Kidney varieties may be planted throughout this month, and until August, for succession crops. Pole beans may also be put in the ground until June. The Carolina and Lima beans are not, except in very favorable locations, planted until the middle of May. Beans do well on a light soil, except the Lima, which require one considerably enriched.

Beets.—Should the first sowing fail, the seeds may be again put in the ground the first of June.

Borecole and Brussels Sprouts are sown middle of May, and transplanted in July into good ground, in a warm situation.

Brocoli.—The seeds of the purple brocoli may be sown about the middle of May; when of proper size, transplanted into rich ground.

Cauliflower.—The seeds may be sown early in May, and the young plants set out in the latter part of June in very good soil.

Cabbages.—The seeds of Savoy, late kinds, and red, are sown early this month.

Cucumbers.—The varieties to be planted this month are Early Frame, Green Cluster, and Long Prickley.

Corn.—Indian corn, the early varieties, should be planted to be eaten green.

Herbs.—The various kinds of medicinal, pot, and aromatic herbs may be sown. Many of these are not only very useful but saleable.

Melons.—The delicious nutmeg, musk, and water melons are to have a place this month. Sometimes it is necessary to thin the vines, and to pinch off their ends to increase their fruitfulness.

Okra.—Sow in drills near two inches deep and four feet apart.

Peppers.—The different kinds of pepper are sown in a good soil this month.

Peas.—For succession crops, sow this month. To have them come up soon, soak them six to twelve hours. A little milk put in the water is said to cause the bugs to come out of them. Peas are said not to succeed as well with fresh unrotted manure.

Pumpkins.—This valuable vegetable is a profitable crop on almost any soil, particularly on one light and moderately enriched.

Sorrel.—The broad and the round leaved sorrel may be sown this month, in beds or along borders, and when of some height, thinned out to the distance of nine inches.

New-Zealand Spinage.—Plant two seeds in a hill. It is of a luxuriant growth, and stands the heat of summer, at which season it is fit for use.

Squashes.—The early bush squashes are considered the best for gardens. The Vegetable Marrow, and the Cocoa nut Squash, are among the desirable varieties. Five or six seeds in a hill, and the vines reduced to three.

Strawberries.—Most writers recommend a few of the male or barren plants to be set out with the bearing ones. Mr. Floy, of New-York, advises the rejection of all those that are unproductive. By pinching off the runners their bearing is increased.

Taste and Order.—The vegetable garden admits of some display of taste as well as of neatness and cleanliness. The substitution of circles and other figures for squares or oblong beds, and the training on neat trellis work, is sometimes admirable. Letting peas and beans run up on wires or twine, is much neater than bushes or poles. For peas, drive in a neatly painted stake or stick at each end of the rows, and as

many intermediate ones as are necessary; extend the twine along these at different heights for the vines.

English Gooseberries—Ripening Grapes. By M. Saul. To the Editor of the New-York Farmer and American Gardener's Magazine.

Sir,—I have sent you the price list of the gooseberry trees, and I have marked the weights with the pen, (that is, dwts. and grs.) I took the weights from the gooseberry record of 1832, so that your readers may have the names, prices, and weights, of each sort. The following are the heaviest in each class:

Red Young Wonderful, 27 dwts. 13 grs.; Green Bumper, 30 dwts. 18 grs., this is a seedling, first year of fruiting; White Ostrich, 24 dwts. 20 grs.

There are 22 new seedlings this year, 1832: 6 Red ones, 4 Yellow, 8 White, 4 Green.

The monstrous Pear, called the Green Mountain, has weighed this year, 1832, 20½ oz. I sent a tree of this valuable pear to Mr. Prince, of the Linnæan Botanic Garden, near New-York, about 3 years ago. This pear was raised a few years ago in this neighborhood, and is therefore little known, being raised by a cottage gardener, in a village 6 miles from Lancaster.

A singular Twin Cucumber was produced this season; it was perfectly double, being nearly joined together from end to end by the rind; it measured 13 inches long, 6¼ inches broad, 17¼ inches in circumference, and weighed 5¾ lbs.

With respect to Harrison's mode of Glazing, noticed in the London Horticultural Register on this subject, I refer you to No. 4 of the Horticultural Register, pages 147 and '8; you will there find my opinion on Mr. Harrison's plan of glazing.

The following is Mr. Money's plan of constructing Hot-Houses: A lofty house shows grapes the best, say 7 feet high in front and 14 feet high at back; but a high house is hardest to keep warm. If I intend for grapes, and a sloping bank, a good foundation is a great desideratum, and when practicable I raise the ground in front of the house 4 or 5 feet in a sloping direction for about 30 or 35 feet. I would have loam from a pasture ground, a fourth part of rotten horse dung, and a fourth part of sharp sand from a river or brook. This well incorporated will do. Plant the vines on the outside, but do not suffer their stems to appear, or frost will injure them.

When grapes are wanting to be kept late, a dry house is best. I leave the latest sorts until February, and the cutting until April, when black grapes and brown leaves have a singular appearance; but the grapes are as good as they are in October, through keeping them dry. The glazing should be done with putty that will not crack. The outside putty should have 1 lb. of white lead to 10 lbs. of putty previous to using, and that will prevent it from cracking. The putty for the laps should be made with sweet or train oil, for linseed dries and shrinks, and soon slips the laps are better puttied, as it strengthens the glass and causes it to repel a hailstorm.

The flues should be 12 inches deep, 7 inches wide inside, and set clear of the ground by two bricks, flat, to receive the joints of the flags or tiles of the bottom of the flues; the bricks are laid flat, not edge-ways, for such a thickness of the flue retains the heat much longer; and I would here remark that my plan of the hot water system, placed also on the flue, is a great advantage, for at some seasons the flue will not draw so well; but by the tubes being in the fire, the heat is sure to be got up by hot water, and when the flues are in a great drawing way, there is a saving in the fire, as one half is only required. This plan I published in No. 458 of the Mechanics' Magazine, which I sent you.

By this plan a great advantage is obtained by being sure of keeping the house dry in the autumn, or the grapes will mould and drop off; and never suppose that grapes are forwarded by keeping a close house; but it is the means of spoiling them, for the damp will seize the foot stalk of the berry, and they will shrivel or turn red and be sour. Plenty of free air is highly necessary, to carry off the damp. The slides should be in the roof, every two or three feet from each other, to give fresh air.

By having a proper selection and different houses, growers may have grapes for 9 or 10 months in succession, commencing forcing about the 20th of January.

The following sorts are well deserving of cultivation, namely, the Muscat Escholate, a new variety, raised from seed by Mr. Money, of the Haverstock Nursery, London; the Muscat Tottenham Park, White Frontignac, West St. Peter, Black Hambro, the White Hambro, this is about a month later than the Black Prince, New Dutch Sweet Water, very fine White Muscadine.

For late forcing the Black Escholate, a new seedling, raised by Mr. Money; the Poonah, the Oldakers, St. Peters. To commence forcing about the middle of April, so that the fruit begins to change color in August, and becomes black in the middle or in the end of November, and may be kept till April. For winter forcing, see Loudon's Gardeners' Magazine, vol. 1, p. 36.

I remain, yours, M. Saul.

MISCELLANY.

[*From Count Pecchio's England.*]

THE BETROTHED.

Miss K——— was a young lady of nineteen, tall, handsome, good mannered, lively, without being too gay or impertinent, of a fair complexion, with a soft and subdued but not a languishing look, and large ringlets of fine dark brown hair; such a one, in short, as would be highly admired by the double file of young men between which the fair Italians have to pass when they go to the theatre of La Scala at Milan. On a visit she was paying to a family of her acquaintance, at a good hundred miles distance from the city she resided in, she captivated a young man of the family. He asked her in marriage, and obtained the consent of the young lady and her relations; but as the gentleman was not well advanced in his profession, that of a barrister, it was agreed to defer the ceremony for two years. In the mean time, the betrothed husband came every now and then to visit his affianced wife, was welcomed by all the family with a more than friendly warmth, and looked upon and treated by her friends as the future husband of the young lady. Thus the two betrothed, instead of going to the altar blindfold, had an opportunity (and an enviable patience) to study each other's character, to accustom themselves to mutual respect in the presence of others, and to correct whatever blemish they might find they had. To draw still closer the bonds of acquaintance and friendship between the two families, a sister of the husband staid for several months at the house of his intended wife, rather as a relation than a friend; thus, instead of having one day a censorious sister-in-law, the bride was acquiring for herself a friend in her new family, a bridemaid for her nuptials, and, from the gratitude that a friendly hospitality produces, a supporter and defender on every occasion.

This young lady, who was known to me before the contract of marriage, did not alter in the least her manner of behaviour towards me. She was often beforehand in inviting me to take a walk with her as a guest, and I had sometimes the honor of giving her my arm. Our walk was always a *Petrarchesque* one, on solitary banks,—amid deserted fields, as the English taste will have it. Two or three times she came to pay me a visit at my own home, accompanied, however, by a dear lively little sister of hers. She entered gaily, chatted good humoredly, and soon unfolded the object of her visit,—generally a polite invitation to dinner or tea: such visits are in this country neither an irregularity nor a phenomenon. Only be a bachelor, and young (but not licentious, at least openly),—and if you fall ill, you will have the visits of all the married and marriageable ladies of your acquaintance.

More than all this,—she knew that my linen was neglected—being that of an orphan, destitute of country, and wandering over the face of the earth,—and she offered and with gentle violence took upon herself to set every thing at rights; then, with the same care and attention which a tender wife or lovesick damsel would show in latitude 44, she mended up my handkerchiefs and shirts. If, in latitude 44, a young woman had only knitted a purse for me, my blind vanity would have made me believe that purse contained her heart. But the heart of Miss K——— was given to another, and she would have died a thousand deaths rather than be guilty of an indiscretion of that sort. The sacred promise she had given, did not, however forbid her from being, according to the laudable custom of the nation, kind and courteous to me and others. She had a way of always making appropriate and tasteful presents.—When I set out for Greece, she presented me with a handsome edition of Lord Byron's "Child Harold," and when I returned, it having transpired that in my new lodging, I had neither paper nor an inkstand, she stole upon my study when I was from home, with a cousin, who was her accomplice in the magic freak and set upon my table an elegant portfolio, an inkstand, and some very fine writing paper: afterwards to conceal her generous gift, she pretended that it must have have been conferred upon me by two of those fairies who for many ages had lived in England, and danced in the woods and on the green sward. I, (and any body born under a burning sun,) I, who in Italy or in France, should have conceived the hope of a culpable love from any single kind glance that a girl might let fall upon me,—have never had the slightest unbecoming thought of that young lady, on the word of a man of honor. No! far different is the effect of the confidence placed in the man, and of the consciousness of virtue in the lady. Promises of marriage long before their celebration are here of frequent occurrence in the middle classes: if ever the young man breaks his word, the relations of the young woman bring him before the tribunals, and unless he can justify his change of mind, he is condemned to pay a fine proportioned to his circumstances: some of them as high as five and even ten thousand pounds sterling. It is true that this system may favor the perfidious snares of a Lovelace; but how few Lovelaces are to be feared, when the satisfaction of a caprice must cost so much time, so many plots, so many falsehoods and dangers! I believe most men would rather make the tour of the world on foot, than go through all the trouble of Richardson's libertine here to obtain a Clarissa by treachery. Besides, he who betrays a young female in England is visited with the public abhorrence to such a degree, that Mr. Wakefield, who endeavored to deceive Miss Turner, was more detested on all hands than if he had assassinated George the Fourth.

Sculpture and Painting.—"A statue may be compared to a star, and a painting to a flower. The one is apart, unchanging, independent, and sublime—it is full of a light that burns only for itself; it derives no apparent nourishment from any outward source; and it lifts our thoughts to hold communion with higher races than man. The other, belonging to our earth, and the child of it, is a portion of that nature to which we ourselves belong, is fed by the atmosphere we breathe, and clad in colours which attract us the more because we irresistibly connect with them the notion of decay. The statue might be fancied the marble crystals of a spirit that will soon take wing to its planet. The painting is the exquisite and blooming bud, that grows from the native soil of man."—[Arthur Cuningsby.]

Travellers in the East.—The latest accounts from Lieutenant Barnes and Dr. Gerard, state, that after leaving Cabul they had arrived at Khulim, where they were detained by a native Chief, Moer Murad Beg of Kemday, for the purpose of extorting a ransum from them. The Khan of Cabul, however interfered and procured the release.

Jewish Tradition.—"When Moses was still a child, Pharaoh played with him. Moses took hold of Pharaoh's beard, and drew out the jewels with which it was covered. Pharaoh said to Jethro, Balaam, and Job, who were viziers at the time, 'I am afraid that that Jew boy will one day overturn my empire. What is to be done with him? Balaam advised Pharaoh to kill Moses. Jethro said, 'No, but try whether he has understanding, by putting before him gold and fire: if he take hold of the gold, then kill him; but if he touch the fire, then it is a proof that he will not be clever.' Job was silent, but Jethro's advice was followed. Moses wanted to take hold of the gold, but the angel of the Lord turned his hand towards the fire, which he put to his tongue; on which account Moses had difficulty of speech. I am slow of speech, and slow of tongue.' Job, on account of having followed the system of expediency, was punished as described in the book of Job. Balaam was killed.—This story is current among the Jews of Meshid."—[Morning Watch.]

SUMMARY.

The American Lyceum—of which one object is the improvement of general education by simplifying its processes, and recommending and preparing good elementary works—is now holding its annual meeting in this city—*President Duer*, of Columbia College, occupying the chair. Among the proceedings on Monday morning was a resolution requesting President Duer to draw up the outlines of the constitutional jurisprudence of the United States, and to publish the same in such form as may be best adapted for a text book, for lectures, and a class book, for the use of Academies and Common Schools. We are glad to see this, both because of the importance of the subject and the fitness of the gentleman chosen to illustrate it.

President Duer is now in the regular discharge of his duty—delivering Lectures on the Constitutional Jurisprudence of the United States, to the Senior Class in Columbia College, where such instruction is a part—and very useful part—of the under graduate course. Mr. Duer's law education—his practice and experience as one of the Circuit Judges of this State—and his present avocations as President of the College—combine to render the designation of him by the Lyceum, for the preparation of the work in question, very fortunate.

"The Cholera," says the Nashville Banner of the 20th ult, "is, we learn, prevailing in the lower country, and the steamboat Tobacco Plant, which arrived here last night, reports eight deaths on board from that disease, while on the Mississippi.

A Ladies Fair has been got up in Boston and was to open yesterday at the Fanuel Hall, to aid the funds of the Institution for the education of the Blind, in a style of splendor exceeding any thing of the kind heretofore attempted in this country; the Boston Editors state that it is confidently believed that from 10,000 to $12,000 will be raised by this Fair.

Mr. Audubon, as we learn from the Gazette, "accompanied by his second son, Mr. John Audubon, took his departure from our city yesterday afternoon in the steamboat Benjamin Franklin, on his long contemplated excursion to the Coast of Labrador. His object is to study the habits of the numerous water birds which visit us *en passant* to and from those almost uninhabitable regions, where they retire during the breeding season. This is a field which naturalists have but partially explored, and none have contributed so largely as Mr. A. to this interesting subject, as will be proved when his charming biography of birds shall be completed."

It may be of service to Mr. *Audubon*, and acceptable to any person desiring to subscribe (in his absence) to his great work to say, that letters addressed to Mr. *Audubon*, to the care of Mr. *N. Berthoud* of this city, will be duly attended to.

Capt. Back and his party, augmented by four soldiers of the Royal Artillery, who asked and obtained permission to accompany the expedition, left Montreal on Thursday of last week, for La Chine, where they embarked to the number of thirty, in two canoes.

[*From the Alexandria Phenix.*]

An incident of a most painful nature occurred on board the steamboat Cygnet, as she stopped here on her way down, yesterday. An assault was made upon the President of the United States by Mr. Randolph, late of the Navy. At the first blow, we understand, almost a hundred arms fell upon the assailant, and he was with difficulty rescued and carried on shore. We have never known more excitement nor more feeling to be manifested by all our citizens.—We are induced to mention this matter, which ought indeed never to be published, only because we know that reports of it will be circulated throughout the country and printed elsewhere. It was an affair of a moment; but it is said, that, from the feeling produced, it is wonderful that the assailant escaped with his life.

So great was the public indignation at this outrage, that we believe almost any measure would have been adopted to express it. The President was naturally highly excited and exasperated. He departed amidst the cheers and good wishes of the great crowd which had assembled.

In the confusion of the moment, no attempt was made to arrest Mr. Randolph on the instant, but the Court being in session, he was immediately presented by the Grand Jury, and a bench warrant forthwith issued for his apprehension.

"It is understood as certain," says the National Gazette of yesterday, "that William J. Duane, Esq., of this city, has been appointed Secretary of the Treasury of the United States, to succeed Mr. McLane, who will go into the Department of State."

[*From the National Gazette.*]

Messrs. Carey, Lea and Blanchard have put to press a volume enlitled—Memoranda of a Residence at the Court of London, by Richard Rush, Envoy Extraordinary and Minister Plenipotentiary of the United States of America, from 1817 to 1825. We have seen, in the hands of the publishers, the table of contents; and judging by that, and the very favorable opportunities and abundant qualifications of Mr. Rush, we expect much instruction and gratification in the perusal of his work. It is likely to appear about a month hence.

Appointments by the President.

Maximo de Aguirre, of Bilboa, to be Consul of the United States at Bilboa, in the place of Francis Xavier de Ealo, resigned.

Joshua Dodge, of Massachusetts, to be Consul of the United States at Bremen.

Head Quarters of the Army,
Adj. Gen. Office, Washington, April 18.

The Secretary of War has given the following names to the forts to be constructed and situated on the points and places here below mentioned:

To the work on Grand Terre, Louisiana—Fort Livingston.

To the work on Mobile Point, Alabama—Fort Morgan.

To the work on St. Rosa Island, Florida—Fort Pickens.

To the work on Cockspur Island, Florida—Fort Pulaski.

To the new work now constructing in the harbor of Charleston, S. C.—Fort Sumter.

To the work on Oak Island, North Carolina—Fort Caswell.

To the work on the Pea Patch, Delaware River—Fort Delaware.

To the work on Throg's Neck, New York—Fort Schuyler.

To the work on St. George's Island, Boston Harbor—Fort Warren.

By order of Major General Macomb,
R. Jones, *Adj. Gen.*

The Sea Serpent.—Capt. Joshua Knight, of the brig Speed, who reciently arrived at this Port from Matanzas, informs us that when off Cape Cod, about twenty-five miles distant, he fell in with his snakish majesty, and had a fair view of him for above half an hour. He was about six hundred feet distance; the weather was calm, and he lay sluggish upon the water, as much at his ease as a lazy gormandizer after dinner. Sometimes he appeared entirely motionless, lying like a log a hundred feet in length upon the water. Occasionally he would raise his head, about as large as a barrel, four or five feet above the water, take a calm look abroad and then lay down again as though he were napping. Just back of his head there appeared to be a bunch more than twice as large as his head, and near his tail another bunch somewhat smaller. Capt. Knight is confident he saw a hundred feet in length of the animal out of water at once. He viewed him with a spy glass, and was so near that he could see his eyes distinctly—[Portland Courrier.]

It is certain, says the National Gazette, that Mr. Stevenson, of Virginia, has been nominated Minister at the Court of London.

We learn from Washington that President Jackson will leave that city on the 1st of June, on his tour to the East, and will proceed as far as Portland. He intends to be in Washington again previous to the 4th of July, not wishing to mingle in the bustle and parade which his presence would occasion on that day in one of our large cities.—[Jour. Com.]

Cincinnati, April 30.—*Another Steamboat Lost.*—The steamboat Guyandotte, while ascending the Ohio last evening, struck a snag, a few miles above this city, and sunk almost immediately. No lives lost. She was the U. S. mail packet from this place to Guyandotte. We have heard no further particulars.

Another splendid packet ship, of 650 tons, intended for the old line of Liverpool packets, was launched yesterday morning from the yard of Messrs. Brown and Bell. She is called the "Europe," and is to take the place of the Canada. The latter ship is to be sold this day.—[Jour. Com.]

[*From the Raleigh Constitutionalist.*]

"A Vindication of North Carolina from the aspersions of Mr. Jefferson, as contained in the fourth volume of his works, with other matters connected with the history of North Carolina, from 1771 to 1776," is the title of a work proposed to be issued from the Boston Press in October next, by Joseph Seawell Jones, of North Carolina. We wish this work much encouragement for more reasons than one. Apart from the mere fact, that we desire the success of any literary man from our adopted State, we think this portion of her history is little known. Few, very few, know that North Carolina was the first to give motion to the ball of the revolution, and still fewer are disposed to admit the fact when established by historical evidence. We hope the work about to be issued will contain a full and complete "vindication." This State has too long permitted herself to be deprived of the honor which is justly her due. By men who are acquainted with the matter, it is believed that when Mr. Jefferson penned the declaration of independence of '76, he had that of North Carolina, of 75, on his table. If we are not much mistaken, the journals of Congress announcing the arrival of the North Carolina declaration have been found, and we have little doubt, that the colonial office of Great Britain contains documents which will will place the question beyond the reach of controversy.

The National Intelligencer, of yesterday observes, "It is not true that Commodore Rodgers has been arraigned before a Court, or had any charge preferred against him whatever. There is no foundation for the story."

Ingenuity of the Blind.—Wishing to keep his communications from absent friends without the interposition of a secretary, Huber had a sort of printing-press made for his use. In a series of boxes, successively numbered, were placed small types, and these he arranged in his hand. When the lines were composed, a sheet, blackened with a peculiar ink, was laid upon them, and on that sheet again another of white paper. With a press, which he controlled with his feet, he was able to take an impression on a piece of letter paper, which he then sealed and despatched. Such are the contrivances to which the instinctive love of independence will give rise. In taking exercise, Huber was accustomed to take hold of threads, which were strewn through all the walks about his residence. In following them by his hand, he knew his way, and small knots sometimes met his grasp, which, from some known peculiarity, in their form or substance, afforded him some well-understood information as to the direction he was taking.

United States Senate.—The following is the Senate board for the twenty-third Congress. The figures opposite the names mark the periods when the respective terms of the members will expire.—[U. S. Telegraph.]

MAINE	Peleg Sprague,	1835
	Ether Shepley.†	1839
NEW HAMPSHIRE	Samuel Bell,	1835
	Isaac Hill.	1837
MASSACHUSETTS	Nathaniel Silsbee,	1835
	Daniel Webster,*	1839
RHODE ISLAND	Nehemiah Knight,	1835
	Asher Robbins,*	1839
CONNECTICUT	G. Tomlinson,	1837
	N. Smith,*	1839
VERMONT	Samuel Prentiss,	1837
	Z. Swift,†	1839
NEW YORK	S. Wright,† (*a*)	1837
	N. P. Talmadge,†	1839
NEW JERSEY	T. Frelinghuysen,	1835
	S. L. Southard,†	1839
PENNSYLVANIA	William Wilkins,	1837
	One vacancy.	——
DELAWARE	John M. Clayton,	1837
	Arnold Naudain,*	1839
MARYLAND	Ezekiel F. Chambers,	1837
	J. Kent,†	1839
VIRGINIA	William C. Rives,† (*b*)	1835
	John Tyler,*	1839
NORTH-CAROLINA	Bedford Brown,	1835
	Wiley D. Mangum,	1837
SOUTH CAROLINA	John C. Calhoun,† (*c*)	1835
	Stephen D. Miller,	1837
GEORGIA	George M. Troop,	1835
	John Forsyth,	1837
KENTUCKY	George M. Bibb,	1835
	Henry Clay,	1837
TENNESSEE	Hugh L. White,	1837
	One vacancy.	——
OHIO	Thomas Ewing,	1837
	T. Morris,	1839
LOUISIANA	G. A. Waggaman,	1837
	J. S. Johnson,	1835
INDIANA	W. Hendricks,	1837
	J. Tipton,*	1839
MISSISSIPPI	G. Poindexter,	1835
	J. Black,†	1839
ILLINOIS	J. M. Robinson,	1837
	E. K. Kane,	1835
ALABAMA	W. R. King,	1835
	G. Moore,	1837
MISSOURI	A. Buckner,	1837
	T. H. Benton,*	1839

There will be a decided majority of anti-Jackson members, including the nullifiers.

* Re-elected. † New members.
(*a*) In place of Mr. Marcy, resigned. (*b*) In place of Mr. Tazewell, resigned. (*c*) In place of Gen. Hayne, resigned.

NAVY REGISTER.—*Some of the most important changes in the Navy Register, as ascertained at the Department during the month of April*, 1833.

VESSELS BELONGING TO EACH FOREIGN STATION.

Mediterranean.—Frigates—United States, Brandywine, and Constellation.

Sloop—John Adams.

West Indies.—Sloops—Vandalia, and St. Louis.

Schooners—Grampus, Shark, and Porpoise.

Coast of Brazil.—Sloops—Warren, Lexington, and Peacock.

Schooners—Enterprize and Boxer.

Pacific.—Frigate Potomac, Sloop Falmouth, and Schooner Dolphin.

Notices.—Frigate United States, Captain Nicolson, arrived at Mahon the 27th Dec. 1832, from Tripoli and Tunis—having visited, since leaving Naples on the 17th October, Messina, Syracuse, and Malta, besides the two places above named. Still at Mahon the 18th February.

Frigate Brandywine, Capt. Renshaw, arrived at Mahon the 26th Dec. from Tripoli and Malta—arrived at Gibraltar 7th March—12 days from Mahon—left there the 21st for Tangiers, Lisbon and Madeira, and thence to proceed to the United States.

Frigate Conatellation, Capt. Read, was at Mahon all Dec.—still there the 18th February.

Sloop John Adams, Capt. Voorhees, arrived at Mahon the 26th December, from Tripoli and Tunis—arrived at Marseilles about the 1st, and there the 10th March from Mahon.

Sloop Vandalia, Capt. Budd, arrived at Pensacola, the 13th March—there the 19th of April.

Sloop St. Louis, Capt. Newton, sailed from Gonaives the 6th, and arrived at Port-au-Prince the 9th March—sailed thence the 13th and reached St. Jago he 20th—left there the 23d and arrived at Pensacola the 2d April—all well—there the 19th.

Schr. Porpoise, Lt. Comd'g McIntosh, arrived at Pensacola the 13th March—still there the 19th of April.

Schr. Shark, Lieut. Comd'g. Boerum, from St. Thomas, was at St. Croix 3d March—arrived at St. Pierre's, (Mart.) the 26th and sailed for Margaretta. A vessel appeared in the offing of Pensacola the 19th April, supposed to be the Shark.

Schr. Grampus, Lieut. Commanding Smoot, was spoken 24th March, in lat. 34 deg. long. 77. Arrived at Charleston, S. C. the 29th and sailed thence for the West Indies the 6th of April.

Sloop Warren, Capt. Cooper, at Rio the 21st Feb.—all well—still there the 6th March.

Sloop Lexington, Capt. McKeever, at Buenos Ayres 1st February—for Montevideo next day—at the latter place the 14th and arrived at Rio the 27th—still there the 6th March, bearing the broad pendant of Com. Woolsey.

Schr. Enterprize, Lt. Commanding Downing, arrived at Rio the 27th Feb. from the River Plate—there the 6th March.

Sloop Peacock, Captain Geisinger, was at Lintin (China) from the 1st to the 26th December last—to sail next day for Turon Bay, (Cochin China), and thence to proceed to Siam.

Schr. Boxer, Lieut. Commanding Shields, bound to the East Indies, was spoken 5th Dec., 1832, by a whale ship, lat. 37 deg. 54 sec. south, long. 2 deg. 25 sec. east—all well—expected to arrive at Bencoolen (West Coast of Sumatra) in about 60 days.

Frigate Potomac, Commodore Downes, arrived at Callao 15th December, 1832—13 days from Valparaiso—still there the 6th January.

Sloop Falmouth, Captain Gregory, arrived at Callao the 1st December, 1832—there 22d—and at Puna, (Guayaquil) the 16th January, to sail immediately for Valparaiso.

Schr. Dolphin, Lt. Comd'g Long, was still at Callao the 22d Dec. 1832—at Guyaquil 10th Jan. and at Panama 5th Feb.—sailed thence the 16th for Lima and Valparaiso.

Sloop Natchez, Captain Zantzinger, sailed from Charleston, S. C., the 29th March, and arrived at Norfolk the 5th of April. Now on the eve of sailing for her destination on the Coast of Brazil.

Sloop Fairfield, Capt. McCauley, left Norfolk, via New York for her destination in the Pacific, on the 21st of April and reached New York the 27th.

Schooner Experiment, Lt. Commanding Mervine, sailed from Charleston, S. C., the 18th, and arrived at Norfolk the 24th of April—still at Norfolk.

The Mails can be sent to the different squadrons by the following store ships, viz.:

Pantheon, from Alexandria, D. C., to sail probably by the 15th instant for Mahon.

Serene from Baltimore, for Rio and Valparaiso, expected to sail from the 15th to the 25th instant.

Navy Department, May 4, 1833.

[*From the Washington Globe.*]

The act of the 13th of July, 1832, having made it the duty of the Secretary of the Treasury to cause the several instalments, with the interest thereon, payable to the United States in virtue of the Convention with France, to be received from the French Government and transferred to the United States in such manner as he may deem best, and the nett proceeds thereof paid into the Treasury, it was determined, after having obtained all the information necessary to a decision, to accomplish these objects by drawing on the French Government, and disposing of the bill on the best terms that could be obtained for cash. This course was deemed most advantageous to the interests of the claimants, as it would save the expense of commission which would otherwise have to be paid out of the fund, and as it would be free from all the risks of intermediate agencies. For this purpose offers were invited and many made. The highest price for the bill however was offered by the Bank of the United States, being $1 for 5f. 37 1-2 centimes. A bill was accordingly drawn by the Secretary of the Treasury upon the French Minister of Finance in favour of the Bank of the U. States, and the proceeds, being $903,565 89, were at the same time placed to the credit of the Treasurer on the books of the Bank. By the Convention, the amount of the instalment was payable at Paris on the 2d of February last; and as the bill was not drawn until the 7th of February, after the instalment was due, it was made payable at sight.

It is understood, however, that when the bill was received at Paris, no appropriation had been made by the Chambers for the payment of the instalment, and it is believed to be owing altogether to that circumstance that the bill was not paid on presentation. The French Government, it is not doubted, will promptly admit the right of the United States to be indemnified for any loss sustained by the non-payment.

Though notice has been given to the Treasury by the Bank that the bill has been protested for non-payment, it is not understood that it has yet been returned to the United States.

MECHANICAL INGENUITY is certainly an attribute of the American man. We have just seen a beautiful exemplification of it in a pin-making machine, invented by Dr. *John I. Howe*, of this city, who sails with it in a day or two for England, there to procure a patent for it.

The model machine is small, beautifully made, and worked by hand. We saw it in operation, and from two sorts of wire with which it was fed—one stout for the pin, the other fine, which is twisted into the head—we saw pins complete poured forth at the rate of 40, and with a capability of producing 60, in a minute. The pins are perfect in everything but the coloring, which, as in all cases of pin-making, is imparted by a chemical wash afterwards.

The machines now used for pin-making, only make the pin, the head being afterwards put on by hand, to each separately. Here the head is more firmly, uniformly, and smoothly, made and fastened on by mechanism. We cannot doubt that this all but *reasoning* machine will well reward its ingenious inventor.

The ship Canada, jnst taken out of the old line of Liverpool Packets, and whose place is supplied by the new ship Europe, sold at auction yesterday for $20,000. We understand she was bought by Fish, Grinnell & Co. for the London Line.

[*From the Ebensburgh (Pa.) Spy.*]

FIRE IN THE WOODS.—On Tuesday last the fire broke out in many places in this county, and spread through the woods with great violence and rapidity. The leaves and brush being very dry, and the wind blowing a strong gale, every attempt to stop the progress of the flames was ineffectual. The farmers have suffered much in the destruction of their fences and the consequent exposure of their crops.

The Bridge on the turnpike, over the first branch of the Canemaugh west of Munster, has been totally destroyed.

We have heard of the loss of but one other building, the barn of Ezekiel Davis, a few miles north of this place; but many houses and barns were much exposed, and only perserved by the great exertions of the owners and neighbors. We saw several buildings on fire, and have heard of many more, but the flames were promptly extinguished.

We, together with most of the citizens of this place, were on active duty the greater part of Tuesday, in assisting the neighboring farmers in the preservation of their property. This will account for the late appearance of our paper.

Died, on the 19th inst., at Palatine in the county of Montgomery, Major John Frey, in the 93d year of his age.

Major Frey was one of the few surviving patriots to whom we are indebted for our national independence From the commencement to the close of our revolutionary struggle, he was an active and intrepid supporter of the American cause. As a member of the committee of correspondence for Tryon county, and as a soldier in the field, he rendered essential services to his country. He was severely wounded at the battle of Oriskany, where he was taken a prisoner by the Indians, carried into Canada, and ultimately to Halifax. During the period of his imprisonment, he suffered intensely from want of proper attention to his wounds, until he was at length rescued from the jaws of death by the skill and humanity of an eminent British surgeon, into whose hands it was his good fortune at last to fall. Soon after the revolution, he was elected a member of the senate of this state. He was a benevolent, upright and honorable man, who injoyed the respect of all who knew him while living, and who will long be held in honored remembrance now that he is no more.—[Alb. Argus.]

Bank Robbery.—The Narraganset Bank, in Wickford, R. I. was entered on the night of the 27th or 28th ult, and robbed of $450 in specie, $352 in bills of other banks, principally of the North Kingston Bank, $3231 of the Narriganset Bank (new plate) $1638 of the old plate, and $8414 in bills unexecuted, new plate. A reward of $500 is offered for the recovery of the property, and detection of the thieves.

FOREIGN INTELLIGENCE.

FROM MEXICO.—We have received letters from Mexico, by the way of New Orleans, to the first day of April, with the address of President Pedraza to the Congress on resigning his office, made on the 29th of March.

The republic continued in a peaceful state; and we find confidence expressed by some of our correspondents in the prospects of the country. Governor Zavala, whose election as chief magistrate of the State of Mexico we have mentioned, has also received the unanimous votes of his native state, Yucatan, as representative in the general congress, and has been appointed by Mr. Pedraza, Minister to France. —[Daily Advertiser.]

[*From the Baltimore American.*]

LATEST FROM BUENOS AYRES.—The fast sailing brig Mentor, Paterson, arrived here yesterday from Buenos Ayres, whence she sailed on the 17th March. The editors of the American are indebted to the attention of Captain Peterson, for a file of the British Packet to the 16th March, inclusive. From it they learn that considerable excitement prevailed at Buenos Ayres un account of the incursions of the Indians of the South into the interior provinces, particularly San Louis and Cordova, where they had committed dreadful devastations. This circumstance had paralyzed the trade, and stopped the communication with the interior. Several of the provinces had united in an expedition against the invaders, and general Quiroga had accepted the command of it.

The packet of the 9th contains a paragraph stating that Captain Paddock, of the American whale ship Catherine, who had killed three persons and wounded several others at Valparaiso, was shot at that place on the 10th January last. On his way to the place of execution he exhibited unequivocal marks of insanity.

LATER FROM EUROPE.—The *South America* packet ship from Liverpool, brings us London papers to and of the 1st April and Liverpool of the 2d. The intelligence is eight or nine days later than before received.

The report via Havre, published in this paper on the 25th ult., of the continued advance of *Ibrahim Pacha* upon Constantinople is not confirmed, though that of the occupation of Smyrna on or about the 20th February by a detachment of his troops, seems to be considered as well founded.

The Dutch and Belgian question had made no apparent advance towards a solution; and owing to the mission of *M. Dedel*, the French and English governments were holding back from any coercive measure

In Spain, the ascendancy of the Queen's party, which, if not liberal, is less illiberal than the Apostо-

licals, had gained strength by the banishment of Don Carlos. He, together with the sister of Don Miguel, the Duchess of Beira, left Madrid for Lisbon on the 16th April. On the other hand, the sending Count *de Puon Rostro* to Pampeluna as Governor, is looked upon as a sort of honorable banishment for this prominent *Liberal*. The Queen and Zea Bermudez, are aiming at what in France is called the *Juste Milieu*.

In Portugal, the fraternal discord was still unsettled. The partial success of the Pedroites in repulsing an attack on their advanced works at Oporto, will be more than compensated, if, as he threatens, Admiral Sartorius should blockade Pedro in Oporto with his own fleet. The Admiral, it seems, does not understand fighting without pay, and for the mere honor of serving Donna Maria's Lieutenant.

From France, the latest accounts received in London anticipated a change in the ministry, and the formation of a new one under *M. Dupin*. The rumor of such a change had affected the French funds unfavorably.

In England, the House of Commons by a decisive majority had passed the Irish Enforcing bill, and were occupying themselves with questions of the greatest moment in their civil polity. A motion by Mr. Robinson to substitute a qualified property tax, for the various assessed taxes, which are most onerous, was debated with a manifest leaning to the adoption of some such sure and equalizing expedient; though, as it was opposed by ministers, it was lost—221 voting against, 155 in favor of it.

The East India monopoly is certainly to be cut up; though restrictions as to the residence in India will still be maintained. But our limits to-day forbid further extracts.

GREAT BRITAIN.

LONDON, MARCH 27.—The opinion of the proprietors of the East India Company, expressed in a manner least open to the suspicion of insincerity, (by an increased indisposition on their part to sell their stock which has been accompanied too, by an increased desire on the part of others to buy it), is conclusive, we presume, as to the success of the arrangement of the India question proposed by the Ministers. India stock rose yesterday from 208 to 222 or 223 per cent.

LONDON, MARCH 28—The following are the conditions on which the government has proposed to the Directors of the East India Company that the tea trade shall be thrown open: 1st, The trade in tea is not to be thrown open for the consumption of Great Britan until the year of 1836, because it is alleged that either in England, in China, or on the way home, there will be two years' stock of tea after April 1834, when the monopoly by the charter act expires: 2d. No port to be allowed to carry on the external tea trade that has not wet docks and government warehouses within its walls; 3d, A minimun of the tonnage of the ships carrying on the trade to be perscribed, in order to guard against smuggling. Deputations are understood to be on their way, from all the outports, to remonstrate against them.—[Times.]

East India Company—Opening of the China Trade.

A meeting of the East India Proprietors was held in London, on the 25th March, for the purpose of receiving from the Directors, communications relative to the correspondence and negociations which have taken place between the Government and the East India Company, on the subject of the renewal of their Charter. The attendance was very numerous, and some of the documents laid before them were of the very highest importance; involving, as they do, the commercial concerns of the British empire, and the interests of so many millions of her subjects. From these proceedings we now learn the nature of the terms which the Government has proposed for settling the great questions relative to the trade and political administration of India. After various interviews between Earl Grey and Mr. C. Grant, a plan has been agreed to, of which the following are stated to be the principal heads. At the same time it was stated to the Proprietors, that although the arrangements, on the whole, appeared to be eligible, the subject was left open to discussion, and Government would be ready to weigh the merits of any other scheme that might be suggested:—

1. The China monopoly to cease.

2. The East India Company to retain its political functions.

3. The Company's assets, commercial and territorial, to be assigned to the crown, on behalf of the territorial Government of India.

4. An Annuity of £630,000 to be granted to the Company, payable in England half-yearly, to be charged on the territorial revenue of England, not to be redeemable before the 25th of April——, and then to be redeemable at the option of Parliament on the payment of 100*l.* for every 5*l.*; 5s of annuity.

5. The revenue of India to be chargeable with all the expenses incurred on account of that country, either at home or abroad.

6. The new annuitants to retain their character of a Joint stock Company, the qualification and right of voting to remain as at present.

7. The number of the Court of Directors to be one fourth, going out in rotation every year.

8. The patronage, civil and military, to remain with the Directors as at present.

9. The civil servants of the Company to be educated at Haileybury. The number of students always to be greater than the probable number of vacancies. To remain in the College for——.

10. The Directors to fill up the vacancies each year. Each Director to appoint in his turn.

11. The 47th section of the 53d of Geo. III. to remain in force, but to be made applicable to removals as well as to appointments.

12. Every British subject to have the right of going to and settling at, either of the Presidencies without license; but the right of going into, trading, or settling in the interior, to be subject to such restraints and regulations as the local Government might require.

13. The Board of Control to have right of altering despatches: and, on the refusal of the Court of Directors to send them out, to have the power of sending out such despatches themselves.

14. The appointment of Governors to remain, as at present, with the King. The veto still to continue with the Court of Directors.

Before breaking up, the meeting agreed that the consideration of the question should be adjourned to the 14th of April.

HOLLAND AND BELGIUM.

Rumour speaks of the rejection by the British and French Plenipotentiaries of the first propositions of M. Dedel—viz., the formation of a provisional treaty, on the following grounds:—The removal of the embargo on Dutch ships, and the cessation of the blockade of the Dutch coast; the restoration of the Dutch prisoners now in France; the declaration that no evacuation of territory was to take place on either side, and that Belgium was to pay no portion of the debt until a final treaty be agreed upon; the Scheldt to be placed on the footing of 1830, and regarded as free as any portion of the sea; the navigation of the Meuse to be established provisionally by the basis of the tariff of Mentz; that the neutrality of Belgium was not to be acknowledged by Holland; and, finally, that an armistice was to be fixed to the 1st of August next.

TRIESTE, MARCH 18.—The last accounts from Corfu confirm the news that all parties in Greece have made their submission, and that universal tranquility prevails. Trade is resuming its activity. New ships are already constructing on the south side of the Morea, as well as in the dock yards of Galixidi, in the Bay of Cerinth.

LONDON, MARCH 25.—The following letter has been received at Lloyd,s this morning, dated 20th February—"On the evening of the 18th instant our town surrendered to Ibrahim Pacha, who merely sent an officer to ask our Governor to give up the town, which was immediately done. All the neighboring towns are under the government of Ibrahim Pacha. Sundry inland duties have been taken off, and the people appear to be in favor of the new Government. It is said that in a few days we shall have an army of 1000 men here. The town remains tranquil, and property perfectly safe. Not the least alarm exists; all payments due this post have been suspended by arrangement."

LONDON, APRIL 1.—(Express from Paris.) We have received the Paris papers of March 30th, and Messager des Chambers, Nouvelliste, and Gazette de France of yesterday. Their contents are interesting. No authentic accounts had been received in Paris from Constantinople of a later date than 25th February; a circumstance which is represented to have caused uneasiness even to the government—From Smyrna letters are said to have reached the French capital, stating the particulars of the occupation of that city by the troops of Ibrahim, amounting to about 9,000 men. On the other hand, we learn from Belgrade that the Sultan, distrusting alike the assurances of France and Ibrahim's asserted love of peace, had ordered the armament of the general levy of the subjects of the Porte. The non-arrival of despatches to the French Government from Admiral Roussin was deemed in Paris of serious import; for the impression was general that, had the Russian fleet actually left the Bosphorus, that important fact would have been announced to his Government by the French Ambassador, and by Government to the public.

NEW-YORK AMERICAN.

MAY 4, 6, 7, 8, 9, 10—1833.

LITERARY NOTICES.

WILLIAMS'S NEW-YORK ANNUAL REGISTER, FOR 1833. New-York, PETER HILL.—This is the fourth year of the existence of this certainly valuable and accurate statistical work. It is, too, from the language of the preliminary notice, the year that is to determine whether or not a publication so expensive and laborious shall be continued. Hitherto, the demand for the book has not compensated the cost of publication. Yet we are sure, that at the same price, $1.50, it would be difficult to compress within a smaller compass, or with more discriminating selection, so great a mass of valuable, and to most classes of persons, indispensable, information. An almanac, all that relates to the statistics of this State, its population, resources, institutions of education, of business, of charity, its public funds, its roads and canals, its schools and colleges, its judicial officers, its militia, clergy, and in short, all the topics usually comprised under the head of statistics; a national register, comprising information respecting Congress, the various Executive departments, foreign functionaries, the army and the navy, a correct and alphabetical tariff;—these are but a portion of the contents of this volume. We recommend it, therefore, cordially, to general patronage.

MECHANIC'S MAGAZINE, Nos. III. and IV.: New York, D. K. MINOR.—If this publication should fail of support, destined as it is to the amusement and instruction of so large and influential a class in all our American communities, as that of the mechanics—and edited with such intelligence and judgement, by one who was himself brought up a mechanic—it would argue unfavorably to the progress of sound and useful knowledge. From the spirit however with which the undertaking is continued, and from the greater efforts manifested in each successive number to render the work more diversified as well as more perfect, we infer that the patronage it meets with is encouraging. We find in No. IV. a sketch of Henry Brougham—to whom, more than any man living, the cause of popular education is indebted—with a fac simile of his hand writing. The engravings illustrating the papers are numerous and well executed. In No. IV. is commenced the republication of Babbage's admirable book on the economy of manufactures and on machinery, which it is proposed to republish entire in successive numbers, and with such an arrangement as to place and paging, that in binding up the magazine, this part may be detached and bound up as a separate volume.

When it is considered that each number of this Magazine is furnished separately for 37 1-2 cents, and that—cheaper still—$3 paid in advance, secures the twelve numbers for the year—the work cannot fail to strike every one as entitled not less by its cheapness than its usefulness, to liberal support.

BOTANY FOR BEGINNERS—an introduction to Mrs. Lincoln's lectures on Botany—by Mrs. A. H. L. PHELPS. *Hartford*, F. J. HUNTINGTON.—Under another name we have the clever author of the "familiar lectures on botany," now presenting for "the use of common schools, and the younger pupils of higher schools and academies," an elementary discourse, easily understood and therefore easily to

l e taught, of this attractive branch of natural science. It is abundantly illustrated with engravings, and appears to us to present its subjects with simplicity and distinctness.

LECTURES ON DRAMATIC ART AND LITERATURE—*Second Notice.*—This is no common work; and while we are much surprized that it has not before been republished in this country, we shall have no hesitation in recurring more than once to the edition before us. In the present instance, we would make a few observations in passing, upon one department of his labors, which Schlegel has managed with great comprehensiveness and ability. It is his view of the two great periods of the English Theatre, the Elizabethan, or Shakspearian age of the drama, and the Charles II. era, the time of the Witcherlys, Farquhars, and Congreves. The German critic dwells with enthusiasm upon the gigantic strides which were made during the first, in an art almost previously unknown; and he regards "these time-bettering days," as Shakspeare called those in which he lived, as one of those periods when the human mind makes a spring in its advancement, as if it had been for ages gathering strength for the effort. Still, we think, that with the exception of the master spirit of the age, of whom he is, if not the ablest, certainly the most eloquent and delightful commentator that ever wrote, Schlegel hardly does full justice to the admirable dramatic talent of that period. Beaumont and Fletcher, indeed, especially the last, are well treated at his hands; but Massinger, in spite of his eloquence and force, his natural delineation of character, and poetical diction, is dismissed in a brief paragraph; while the elegance and elevation of Ford, his easy versification and harmonious language, and his deep and natural pathos, have not even procured him the mention of his name. This omission is the more remarkable, as Decker, Marston, Webster, and others of similar note, are mentioned, though few of them in complimentary terms. The comic talent of Chapman, the translator of Homer, and the power of Heyward, the author of *Woman Killed with Kindness*, in domestic tragedy are both commended; but the other cotemporaries of Shakspeare, whose names wo have just mentioned together, are both summarily, and perhaps justly classed in a fraternity of imitators; while Lilly and Marlowe, his two most noted predecessors, are brought into most dangerous juxta position, for the reputation of the latter. The line is distinctly drawn, however, between the author of *Euphue*, (from which we presume Scott's Sir Piercie Shafton, like most of the courtiers of his time, borrowed the tone of his stilted phrases) and the pathetic writer of Edward II. Lilly is called by Schlegel "a learned witling, but in no respect a poet;" and, though he professes himself unable to conceive how Ben Jonson could have used the expression, "Marlowe's mighty line," yet the flowing verse, the artless manner, the truth and simplicity that probably awakened "Rare Ben's" admiration, are far from thrown away upon one whose sensibility to poetic beauty is so delicate as Schlegel's. As for Jonson himself, it can hardly be expected that so stout a stickler for the rights of Shakspeare as our commentator, will let one who tried by the most unworthy means to pluck the budding laurel from his brow, escape without undergoing the most rigid critical discipline. His success in that species of composition where the understanding comes in for the greatest share, and imagination and feeling are merely subordinate, is fully allowed; but his pieces are pronounced deficient in soul—in that nameless something, which always continues to attract and enchant us, for the very reason that it cannot be defined, but, like the irregular outline of a chain of mountains, or the undefined glades of a forest, leads away the eye with images, whose grace hardly disappears as they fade into indistinctness, or lures it into recesses where it delights to lose its power. Schlegel, like every one else, we presume, thinks far better of Jonson's comic than of his tragic powers. He observes that his characterization, however, is better suited to serious satire than playful ridicule; and he denies that he was at all gifted by nature with that light and easy raillery, which, playing harmlessly around everything, is so much the more pleasing, from seeming to be the mere effusion of gayety, and which Schlegel regards as so much the more philosophic, as it is not the vehicle of any definite doctrine, but merely contains a general irony.

Of Beaumont and Fletcher, our critic speaks in warmer terms of praise. Without attempting to distinguish the hand of either in the works they avowedly composed together, or adopting the opinion of their contemporaries, which attributes boldness of imagination to Fletcher, and maturity of judgment to his friend, making the former the inventive genius, and the latter the directing and moderating critic, he does justice to the distinguished talents that were united in both. He points out the want of a profound seriousness of mind in their writings as the chief defect; and he thinks that the presence of that sagacity in art which observes a due medium in every thing, and keeps constantly in view the *modus in rebus denique fines* of fancy and passion, (if the Latin term may be so applied) is all that, with their felicitous ease, and fecundity and flexibility of mind, is wanting, in a literary point of view, in their works. But the immodest conceptions, and licentious language of these brother poets, meets with no mercy at the hands of Schlegel; and those abominable plots which they contrived with so much ingenuity, as if the chief object of them were to outrage the commonest ideas of decency, meets with the justly indignant animadversion of the critic.

It is in treating of the second period of the English drama, however, that the manly mind of Schlegel gives fullest vent to the emotions excited by some of the most vaunted productions of the English theatre. He traces briefly but vividly the effect of a grossly immoral court upon the stage, when the theatres, after being closed for a period of thirteen years, were thrown open at the accession of the profligate Charles II. to the throne of his unhappy father. The influence of that worthless and contemptible Prince's habits upon a whole nation, can hardly, even at this distance of time, be contemplated with patience. The age of Louis the Fourteenth was no where imitated with greater depravity than at his abandoned court.—"The prevailing gallantry," says Schlegel, "at the court of France was not without reserve and without a tenderness of feeling; they sinned, if I may so speak, with some degree of dignity; and no man ventured to attack what was honorable, though his own actions might not exactly coincide with it. The English played a part which was altogether unnatural to them. They gave themselves heavily up to levity; they everywhere confounded the coarsest licentiousness with free mental vivacity, and did not perceive that the sort of grace which is still compatible with depravity disappears with the last veil which it throws off." The coloring of this picture, though it be strongly drawn, can hardly seem too heavily charged to any one familiar with the memoirs of that day, or who allows the comedies of the time to be a fair presentment of the then condition of society. A complete collection of these plays (Bell's British Theatre) is at this moment before us; and turning over the pages that have so entertainingly beguiled many an hour, and with all the fondness of early association for the celebrated names of Witcherly, Congreve, Farquhar, Vanbrugh, and their compeers, we cannot help uniting with the honest German in his astonishment that the audacious ribaldry, the moral scepticism, the most unblushing indecency of those writers could have been countenanced in any age or country pretending to a moderate degree of refinement. We cannot help uniting with Schlegel in the unmeasured contempt to be accorded to such a state of public taste, even while we know—what he seems not to be aware of—that some of these plays still keep possession of the theatre—though the last time one of the most characteristic of the class (for wit and indecency combined) was represented at the Park, it was only respect for those who played in the Inconstant that kept the audience from hissing it from the stage. It is a melancholy reflection that writings which contain so much witty observation and so many admirable touches of character, should have afforded the enemies of the drama the most powerful weapons with which to assail it; and yet, so long as they are allowed to be a part of the acting theatre, they almost justify the denunciations of those who condemn the stage as a school of depravity. They were composed in an age when the English people had retrograded centuries behind the age of Shakespeare in real refinement, while they arrogated to themselves claims to a much higher state of civilization than in the age of Elizabeth. They were composed in an age when that sex—whose present condition and acknowledged influence in society is next to Christianity itself in effect in rendering the state of mankind superior to what it was two thousand years ago—seemed rapidly sinking into the same estimate in which they were held, when in the vaunted days of Athenian civilization they were but the toy and pastime of those, whose labors have made the human race their debtors. They breathe an impure spirit; they give a nauseous coloring to the heart—such as even that bold interpreter of sensuality, Aristophanes, never approached in offensiveness.—Let them perish in their impurity—not only to prevent the gangrene of grossness from extending further, but that in consigning those to merited oblivion who prostituted their abilities in rearing these lamentable memorials of their age, men may learn, that however the power of wit may be temporarily increased by exercising it for the amusement, and adapting its sallies to the taste of a Sybaritic Prince and his lewd associates,—the soul whose influence is to survive the grave must never sparkle in the breast of a parasite, but shine out from the bosom of one who looks beyond the countenance of a King or the favor of a coterie. The most undoubted proof of genius—that of being in advance of the age in which it has its birth—is wanting in these writers. They were but portrait painters of pitiful originals; and though the fresh vigor of their pencil at one time, and its felicitous ease at another, may have imparted consequence and grace to features essentially vulgar and contemptible, their delineations of character, are now as offensive to the eye of taste as the hoops and towering head-dresses of the women of quality, and the huge perukes, wide sleeves, and ribbon-knots of the fine gentlemen whose mannere they depicted.

We have perhaps delayed somewhat too long upon these two periods of the British stage: but our observations are comprised within the least possible limits that a just attention to the text (which we have endeavored closely to follow,) would allow.

*

The Music sent to us during the week, from Hewitt & Co.'s warehouse, is—*The Merry Swiss Girl; The Minstrel's Tear; The Mistletoe Bough; Can I again that look recall;* all arranged for the guitar, by *Otto Torp; Cielo a miei lunghi spasimi*, an aria (it is nothing more nor less than the well-known air of "Home, sweet home,") from the opera of Anna Bolena, as sung by Madame Pasta; *La voix de ce qu'on aime*, a romance, of which the words and music are by *Amédeé de Beauplan; The Young Cavalier*, composed by C. E. Horn, and sung by Miss Hughes, and *Mine alone*, a tyrolian air, by *C. de Beriot.*

POETRY.

[For the American.]

"Glenara, Glenara, now read me my dream."—*Campbell.*

Have you seen Monsieur Sabert, Mr. Editor? I don't mean the Fire King, but the necromancer?—Do go—he is a love of a conjuror; and can change anything into anything else so quickly, that if they were beaux, one wouldn't have time to get tired of them. I do wish gentlemen would learn a little jugglery for variety's sake; it would make them *so enchanting*. Only think now of my sister Lessy having had a horrid dream, which none of the stupid men around us could interpret! and yet, so soon as we girls had put our heads together, and described it in rhyme to Mr. Sabert last night, the dear man at once gave the true moaning, as you may yourself see, good Mr. Editor, by reading our account of the vision with Mr. Sabert's interpretation below.

Your constant reader, FIORELLA.

DREAM.

Young Lesbia slept. Her glowing cheek
Was on her polished arm reposing,
And slumber closed those fatal eyes,
Which keep so many eyes from closing.

For even Cupid, when fatigued
Of playing with his bow and arrows,
Will harmless furl his weary wings,
And nestle with his mother's sparrows.

Young Lesbia slept—and visions gay
Before her dreaming soul were glancing,
Like sights that in the moon-beams show,
When fairies on the green are dancing.

And first, amid a joyous throng,
She seemed to move in festive measure,
With many a courtly worshipper,
That waited on her queenly pleasure.

And then—by one of those strange turns
That witch the mind so when we're dreaming—
She was a planet in the sky,
And they were stars around her beaming.

Yet hardly had that lovely light,
(To which one cannot here help kneeling,)
Its radiance in the vault above
Been for a few short hours revealing:

When, like a blossom from the bough
By some remorseless whirlwind riven,
Swiftly upon its lurid path,
'Twas back to earth like lightning driven.

Yet brightly still, though coldly, there
Those other stars were calmly shining,
As if they did not miss the rays
That were but now with their own twining.

And half with pique, and half with pain,
To be from that gay chorus parting,
Young Lesbia from her dream awoke,
With swelling heart and tear-drop st rting.

INTERPRETATION.

Had she but thought of those below,
Who thus were left with breasts benighted,
Till Heav'n dismissed that star to earth,
By which alone our hearts are lighted—

Or, had she recollected, when
Each virtue from the world departed,
How Hope, the dearest, came again,
And staid to cheer the lonely-hearted:

Sweet Lesbia could not thus have grieved,
From that co'd dazzling throng to sever,
And yield her warm young heart again,
To those that prize its worth forever.

MARRIAGES.

On Tuesday the 7th instanst, by the Rev. Joel T. Benedict, of Philadelphia, Erastus C. Benedict, Esq. to Miss Caroline M. Bloodgood, both of this city.

On the 30th of April, by the Rev. Dr. McAuley, James McNaughton, M. D., of Albany, to Caroline, daughter of Archibald McIntyre, Esq. of this city.

In Syracuse, on the 1st inst., Lt. R. B. Marcy, U. S. A., to Miss Mary Amelia Mann, daughter of the late *Saml. Mann*, of Syracuse.

At Cedar Point, the residence of Henry Sewall, Esq. St. Mary's County, Maryland, on the 25th ult. by the Rev. Mr. Carbery, Philip B. Key, Esq. of Prince George's County, Maryland, to Miss Maria L. Sewall, youngest daughter of the late Nicholas Sewall, Esq. of the former place.

At Washington City, on Thursday evening, 25th ult. Thomas Pennant Barton, Esq. of Philadelphia, to Cora, only daughter of Hon. Edward Livingston, Secretary of State.

DEATHS.

On Friday, 3d instant, after a short illness, Elizabeth, wife of Eleazer Lord, aged 39 years.

Monday morning, May 6, Francis M. McKinley, in the 28th year of his age.

This morning, after a short illness, aged 68 years, Mrs. Catherine, relict of the late Herman Hoffman. Her remains will be conveyed to Red Hook, Dutchess county, for interment.

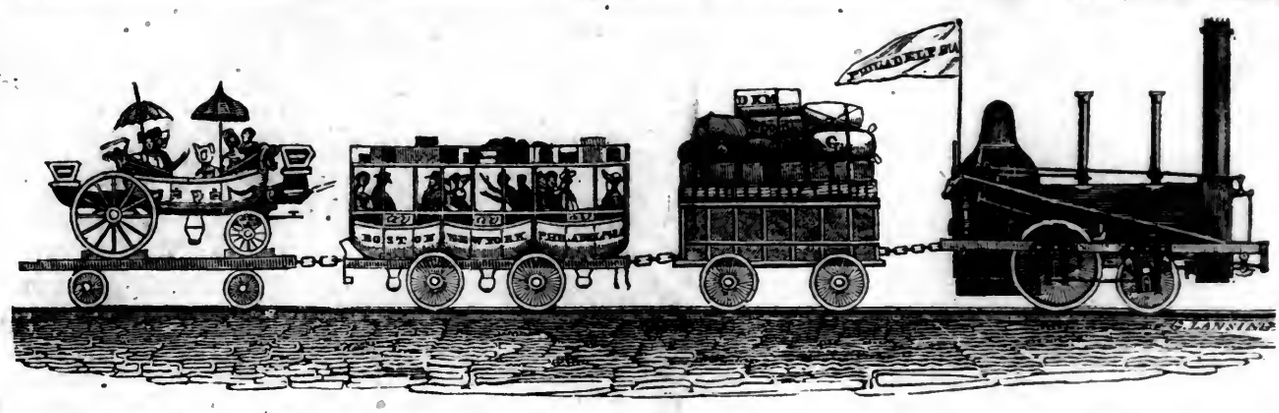
Last evening, Lewis Edward, son of James F. Pennilman, aged 4 years and 1 month.

At Walden, Orange county, N. Y. on the 29th April, at the house of his brother-in law, the Rev. W. H. Hart, Townsend Moore, Esq. in the 51st year of his age—late of this city.

At Dracut, Mrs Molly Varnum, relict of the late Hon Joseph B. Varnum, 82 years. Mrs. V. was one of the many female worthies of the revolution. She aided her husband in getting men for the army, by her kind and encouraging solicitations, and clothed them with the sheets and blankets from her beds.

Departed this life, at Circleville, Ohio, on Saturday, April 7, in her 33d year, after a painful illness of a fortnight, THEODORA P. HOPKINS, wife of Mr. R. H. Hopkins, Merchant. Mrs. H. had been a Member of the Protestant Episcopal Church from the age of 16; and, whilst known as the active, untiring supporter of her own peculiar communion, she was scarcely less so, in promoting the cause of Christ in general. With a mind of a superior order, greatly improved by cultivation; an activity of body, surprizing in one of her delicate frame, she added warmth of affection, and decision of character, which rendered her an ornament to her Christian profession, and a pattern to her sex, in the various relationships of wife, mother, sister, and friend. Though tried by her sufferings of years, her patience was unwearied; her childlike reliance on the love of her Heavenly Father, unshaken; and her prospect of eternally enjoying the blood-bought inheritance, unclouded. With a conviction of sin, the deepest; a reliance on the merits of her Saviour the most confiding, she breathed out her spirit into the hands of her faithful Creator.

Reader! what she was, she was by grace.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MAY 18, 1833. [VOLUME II.—No. 20.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 18, 1833.

Undulating Railways—It will be recollected by our readers that we some time since gave, from the London Athenæum, some account of a newly invented Railway. We are now enabled to give further particulars relative to it, from the April number of the Repertory of Arts and Inventions. Will some of our correspondents favor us with their opinion of the merits of the plan!

We commence in this number the publication of Mr. Babbage's work on the "Economy of Manufactures," which will be continued from time to time until the whole is transferred to our columns. It will be completed in the current volume of the Journal.

Norwich and Worcester Railroad.—We understand that the returns have just been received from the engineers who surveyed the route of this road during the last season, and that they concur with previous surveys in showing the route to be extremely eligible for the construction of a railroad. The country through which this road is designed to pass is said to be densely populated, and very fertile, as well as one of the most extensive manufacturing regions of New-England. The distance from Norwich to Worcester is sixty miles, and, added to the Boston and Worcester road, makes the distance from Norwich to Boston about 103 miles. Liberal charters are obtained from Massachusetts and Connecticut, and the Connecticut Legislature has granted a bank with its stock free from taxation, and with a capital of $500,000, to aid the railroad. The books of the railroad and the bank will be opened for subscription at Norwich, on the 29th inst.

Quinebaug Bank.—This bank was incorporated by the Connecticut Legislature in May, 1832, with a capital of $500,000, to be located at the city of Norwich, in that state. The bank is required to subscribe to a part of the stock of the railroad from Norwich to Worcester; and in consideration of that subscription, the stock of the bank is to be exempt from taxation until the united capital of the bank and railroad shall pay six per cent. The bank is said to be eligibly situated for the transaction of business, and the route of the railroad very favorable and promising to be profitable. The books of this bank are to be opened at Norwich, Connecticut, on the 29th inst.

South Carolina Railroad.—We understand (says the Charleston Mercury of May 7) that at an annual meeting, yesterday, of the stockholders of the South Carolina Canal and Railroad Company, the reports of the Direction and the Commissioner presented a most gratifying prospect of the speedy completion of this laudable enterprize, and afforded every reasonable encouragement to the stockholder of realizing a fair remuneration for their patriotic investments.

According to the deductions drawn from the data offered by the statements contained in these two valuable papers, our information has come to a conclusion which will be gratifying to the pride of every true lover of his native State, and enable the historian to give her a pre-eminence amongst the foremost and most active in the introduction of this novel and delightful mode of intercourse.

In South Carolina the Locomotive travels over a great extent of Line of Railroad daily in consecutive miles, than is or can now be done in any part of the world. South Carolina ran an engine successfully and profitably on the railroad 18 months previous to any other state in the Union. The U. S. Mail and stage passengers were transmitted on it 9 months before any other company transported it on a railroad; and it is questionable if any extended line of communication of an efficient and permanent character, whether railroad, turnpike, or canal, has been executed in so short a time, or at a cost approximating so nearly to the original estimate. We understand that these documents are ordered to be published, and we shall take the first opportunity of laying them before our readers with such remarks as the occasion may require. The cash receipts for April, freight and passage, upwards of $3600.

South Carolina Railroad.—We have been politely furnished with a copy of the Report made by the Directors to the Stockholders of the South Carolina Railroad, on the first Monday of the present month, from which we learn the present condition of that important work. It is our intention to give it entire in our next; but for the satisfaction of those who have felt a deep interest in its success, we give the following extract to show the regularity and certainty of the performance of the engines:

The performance of the West-Point during the 120 days has been as follows:

60 trips to Branchville, each 62 miles, is	3720
52 trips to Midway, each 72 miles, is	3744
Aggregate, - - - - -	7464

(The West-Point lost 8 days occupied in repairs.)

The performance of the Phœnix during the 120 days has been as follows:

60 trips to Branchville, each 62 miles, amounting in all to - - - - -	3720
58 trips to Midway, each 72 miles, 4176, and 2 double trips, each 144—288,	4446
	8184

(The Phœnix was employed every day during the 120.)

The total number of miles performed by the West-Point and Phœnix is 15,648, in 120 days.

The number of passengers that arrived and departed during the above period, (exclusive of attendants, officers of the company, clergy, contractor, and workmen, who had, during the progress of the work, passed free,) is 4109, or on an average 34 per diem. Cash receipts for freight and passage money, $11,526 78. By a reference to the detailed statement marked (B.) and hereunto annexed, it will be observed that there has been an uniform increase in the passage and freight money. On referring to previous cash receipts, I find the amount received the three first months of the present year to be greater than the amount received during the six last months of the past year. The operations were chiefly confined to the transmission of passengers, staple production of the country, light merchandize, and materials to advance the completion of the work. Horses, cattle, vehicles for travelling, staves, shingles, and other commodities of less profitable transportation, were necessarily declined.

This road, in connection with the line of steam packets from New-York to Charleston, will add greatly to the facilities for travelling, to those who, for business or amusement, wish to visit the Southern and South-western States.

To the Editor of the American Railroad Journal:

Sir,—Indulging the hope that you are willing to have the Railroad Journal a medium of instruction to common and unlearned men, as well as information to the scientific, I take the liberty to communicate, as well as I can, a few thoughts and inquiries which have frequently occupied my mind for three or four years past, on the subject of roads, carriages, and transportation, in the hope that some of the contributors to your valuable Journal, who are practical and scientific men, will do me the favor to notice them, and point out their errors. I live in the southern level region, where you know there are extensive districts of swamp, and where the getting of various descriptions of timber is the most considerable business. The men engaged in this business use, for the transportation of their timber out of the swamps to the places where they raft it, what they call "carry-logs," or very strong and heavy wheels six or seven feet high; and they tell me that without such large wheels they would scarcely be able to move their timber at all, through the mud and over the roots of the trees. Under these circumstances, then, I perceive that there is a very great saving or gain in the application of power by the use of wheels of large diameter; and a part of the reason is plain to the most common mind. I clearly see that the ease and the smoothness with which a wheel passes over any object, whether a root of a tree, as in this case, or over a pebble or a mud-hole, is in proportion to the size of the wheels, so that a wheel of 12 inches diameter would be entirely stopped by an obstacle 6 inches high, over which a wheel of 7 feet would pass with but a little addition of power, and one of 16 feet with a still smaller addition. I have also reflected on the effect of wheels of various descriptions in passing over sand, and conclude that the larger the wheel and the broader the tire, the less will its motion be interrupted by sinking into the sand; and I am also inclined to believe, that the depth to which a wheel will sink into the sand will be very much as the motion, being least where the motion is greatest: but of this I am not so confident.

I perceive another advantage which a large wheel has over a small one, in the friction at the axle. This friction is not affected either by the size or weight of the wheel. The size of the axle depends upon the load, and the friction at the axle depends entirely upon the load which the axle bears, and the number of revolutions made by the wheel in a given time. There is the same friction at the axle, (the load, the axle, and the time, being the same,) in one revolution of a wheel three feet as of one twenty feet in diameter, and the friction is also probably the same at the road or periphery of the wheel, but the progress of the large wheel would be as twenty to three of the small one; and here I beg leave to make an inquiry. After the large and the small wheel have received their motion or momentum, so that each revolves in the same time, and each has the same load, will the large wheel require more power (saving the resistance of the atmosphere) to keep up its revolution, and its forward motion, than the small one, although the forward progress of the large one be in proportion to its circumference?

I have also often reflected upon the face of the country in this region, and upon the present character of the roads. Occasionally roads pass over loose sand, but generally the foundation is such a mixture of clay and sand, as would, if properly treated, form the most perfectly smooth roads, and if not injured by the shoes of horses, and by the vehicles which they draw, would be as solid as any transportation would require. But you know how horses travel: they go the same track, and that is constantly loosened by their shoes; and the wheels also passing the same track, wherever a small indentation happens from any cause, it soon becomes a deep seam or mud-hole, and so remains until the next season of repairing highways. In connection with this subject I read with interest whatever I find in the papers concerning steam locomotives, and particularly carriages for common roads, and having, as you see, arrived at a full conviction that, if there is any suitable propelling power, a great advantage will be gained by adopting large wheels, I have been quite disappointed in seeing no account of any trial being made of them in steam carriages. I confess this circumstance has led me to suppose that there must be some fallacy in the view which I have taken of it; and to have this supposition made a reality will be a favor, by preventing my mind from indulging the idea any longer, for, I assure you, it has been led to some very high anticipations.

For steam carriages, large wheels, even to sixteen or twenty feet diameter, would have, as it appears to me, great advantages over small ones, almost sufficient indeed to make a good road of earth equal to a railroad; their motion in passing over the road would be much more smooth and even. Another advantage would be in the application and regulation of the power, for suppose the wheel to be twenty feet diameter, and the speed designed for the carriage to be thirty miles per hour, the revolutions of the wheel would be 2640 per hour, and 44 per minute; and if the piston moved at the rate of 2½ miles per hour, its motion or stroke would be 30 inches, without any gearing to increase the motion of the wheels. But on this subject I should be exceedingly modest indeed, for I know very little of steam machinery, not even enough, I fear, to make myself understood. I am sorry to learn by the papers that the prospect of steam carriages becoming profitable on common roads is at this time rather discouraging. It is certain, however, that they are used very efficiently, if not very profitably, on railroads, and particularly on such as are nearly straight and level.

There are few places, comparatively, requiring roads, where they can be made at the same time straight and level, and it appears difficult as yet to attain safely very great speed on a winding railroad.

In this point, and in the use of large wheels, and in the adhesion of the wheels, a road of earth has advantages over a railroad. At the same time it would cost much less, be vastly more durable, than a railroad supported by wood, and require, comparatively, no repairs. It is evident that such roads must be entirely distinct from other roads, for horses must not be allowed to travel on them at all. It need not be objected to such wheels, that the carriages would be too elevated, and liable to upset, for all heavy lading, the furnace water, &c. might be suspended under the axle, as near to the ground as would be safe, and over a smooth road this might be very near indeed.

Neither would the weight of the wheels be any objection, at least on a level road, because the dimensions of the axle, and the strength and weight of all the other parts of the carriage, would be required no greater than with small wheels, and would be governed entirely by the lading they would have to support. The friction at the axle would therefore be greatly reduced, as compared with the distance gone over. A wheel of 60 feet circumference and 9 inch tire would probably weigh a ton. Its adhesion would of course be greater, and its effect on the road would be to make it harder and smoother.

This communication is already longer than I wished, but I have still one project to submit, for which I take some credit, and one which is peculiarly adapted either to the kind of road and conveyance suggested above, or to a cheap railroad, as the whole distance may be made level. It is a road for steam carriages from Philadelphia, by the eastern shore of Maryland and Virginia, and passing Norfolk, Charleston, and Savannah, to some point on the west coast of the Capes of Florida nearest to Havana; and to be thence connected with that city by a line of steamboats. I need not dwell on the subject, its value and practicability are apparent. It would greatly increase the intercourse between New-York and Havana, and thus add to the value of all the road stock south of your city. If well laid out, it would never have an injurious rival, and would increase in value rapidly, constantly, and indefinitely, as long as science and society shall continue to advance. The time is not distant when it would become one of the greatest thoroughfares of its length on the globe.

C. O.

NEW-YORK GUARD RAIL.

New-York, May 7, 1833.

To the Editor of the American Railroad Journal:

Mr. Minor,—The inventor of the Guard Rail makes quite a spirited defence of its merits. It was not in my remarks intended to "misrepresent" his principle, in calling in question the propriety of his claim, that its strength was that of the arch, for an arc is a part of a circle: an arch is an arc sustained by abutments, in architecture, and is strong only to resist pressure, and *pressure* is not *tension*—a straight line is not a *curve*.

If that gentleman himself misrepresented the principle of his improvement by *calling* it, instead of *comparing* it with an arch, it was an error that does not affect the *experimental strength* of his method.

That it does not contain the arch is evident from the practicability of making a different combination that will. Hence, if I embed a curved bar completely in the casting, so that its *ends* rest on a solid mass of iron as abutments, and its crown rises towards the surface of the middle of the rail, it is then effectively an arch of wrought iron enclosed in the casting, and though not a "guard" rail, will be a *strong* one. For the lower edge of the rail cannot draw apart unless the arch flattens, and this cannot occur unless it draw apart, and both must occur together before it breaks. The degree of strength beyond what the cast iron alone gives may be ascertained by experiment. On this plan the lower edge may be thick, and the inner space of the curve thin.

So also the curved bar may be inverted, and some comparison be made between these combinations.

But I confess that unless there be found some effect of our climate not experienced in England, my expectation is that *rolled iron* will make the cheapest rails.

Wishing every improvement to have due recompense, and knowing that they do generally receive it, I could not see the good policy, propriety, or occasion, for *running down*, in order to enhance his, the art of railroad making as now in practice in England and in this country. It would be a painful discovery to many stockholders, were it matter of fact that timber railways will not last over "*five years.*"

When this was said on the authority of *one case*, in which the bad choice of timber may have been the cause, and the argument founded in an *effect, which I knew was easily guarded*

against, it became a duty to protest against this surprising and groundless denunciation of a material, which *must be* extensively used in our country for many years to come, unless railroads are relinquished.

The condition of our country is very different from that of England. *There* a dense population and very active trade demands permanency on their railways, and the revenue can afford the cost, but if we were to wait till we could afford an equally substantial work as the Liverpool road, not 30 but 300 miles, we shall have waited till Montreal, Baltimore, and Philadelphia, will have engrossed the western trade. We must adapt means to ends.

It seems to me that the ingenuity of American engineers should be directed to making capital produce the greatest useful effects for the next thirty years. Men of calculation will put money into works that will give interest and lay up one per cent. for a renovating fund, knowing that the growth of the country, the reaching and opening the objects of the work, will give value to the *privilege of the route*, and enable them at the end of thirty years to deem it worthy of the most substantial superstructure.

While, therefore, there can be no objection to improvements which relate to durability, to expect that we shall be able to make very *costly railroads on long routes* is unreasonable. Our best skill will be better employed in devising economy of mode and execution.

When we see inventors offering in support of their claims the anonymous testimony of engineers and professors, it prompts the wish that there was here, as in London, an *Institute of Civil Engineers*, who would investigate every new invention, and give them, when meritorious, an open support. J. L. Sullivan.

[*For the American Railroad Journal.*]

Mr. Editor,—In your Journal of the 27th of April a *communication* appeared, the author of which distinguished it by the letters U. A. B., containing strictures on the "Guard Rail," together with extracts from publications alluding to the distinctive qualities of *wrought iron rails*. In the course of my remarks I shall show, that U. A. B., if sincere in his statements, is not only actuated by erroneous impressions, but that his statements manifest a *want of consistency* in allusion to the subject, and a want of consistency compared with a previous statement on the same side of the subject, made by Mr. S., which was also published in this Journal. *Both* of those statements, however, were made, without either of the parties having examined a *specification* of the improvement, or without examining as to the *practical results* effected in the manufacture of the "Guard Rail." It is, therefore, not surprising, that men thus situated should advance wrong ideas, when some of the most eminent engineers in this country would not hazard an opinion of its merits, even after *minutely* examining the *specification and models*, but required to examine rails in *full size* for use; and after such *rails were made* and examined, the *castings* composing those rails were *not* of a doubtful nature, but were *perfect*, and were approved of to the extent of my wishes.

In the last number of this Journal I adverted to *interested advocates* of specific objects: among those *specific objects* are *wrought iron rails*, also *wooden rails*, and that *such* interest existed and does exist to as great or greater extent in Europe than in this country.

Both the communications to which I have alluded, that of Mr. S., as also that of U. A. B., are professedly both on the *same side of the question*, and the authors of them both engineers; therefore, in point of *consistency*, to which I alluded, we should at least presume they would agree, particularly on points of *theory*, on a subject which they assume to understand, if they did not in their thoughts on *practical* results.

If they will examine each other's statements below quoted, where each describes the effect *in his opinion* produced, each disagreeing with the other, they will discover that *both are wrong* in theory and in practical results.

I allude particularly to those sentences in their communications which described their views of the *effect* produced when pouring *melted* metal around a bar of wrought iron: where the one gives reasons why it will be "loose in the bore," and the other gives reasons why it will be so closely bound in the bore, or orifice, that it may tear the rod asunder by contraction, as follows: Mr. S. stated that "when melted iron is poured around a cold bar of wrought iron, the latter expands, and on cooling *contracts*, and the cast iron in cooling shrinks, leaving it *loose* in the bore towards the centre of the mass. All depends, then, (he adds,) on this subsequent operation and the quantity of *heading* produced by percussion."

On the same point in the statement by U. A. B., after premises relative to difference in contraction and expansion at different degrees of temperature, in allusion to melted metal flowing around a bar of wrought iron, the following appears: "The wrought iron bar (he states) will be strained longitudinally, and the cast iron which incloses it compressed longitudinally, when the rail is not subjected to any extraneous force; hence (he adds), the wrought iron bar may be nearly or quite torn asunder without any extraneous force being applied to the rail."

With a view to show the error of *both* of those statements, and in the *first place* so far as relates to the *theory* of the case, I will state the well known maxim, that *effect* cannot be produced without *cause*; and if we apply that maxim to *metals* affected by *heat*, and again, if we admit the stated-to-be *fact*, that *contraction* and *expansion* of *wrought* iron and of *cast* iron are equal at equal temperatures, then, if *heated* iron be placed in contact with cold iron, the one will, of course, *impart*, and the other *imbibe heat*, until the *temperature* of both become *equal*; thus, when equal in temperature, they will be equally *expanded*, and if equally cooled, *contraction* will be equal. Where, then, it may be asked, is that "*force*" alluded to by U. A. B., which, as he states, may tear a *wrought iron bar* nearly or quite asunder, and *that*, too, while in its *heated state*. Even if it were a fact, that contraction and expansion were *unequal* in reaching equal temperatures, he seems to have overlooked the fact that a *heated* wrought iron rod may not only be "strained longitudinally without nearly or quite tearing it asunder, but it may be *drawn to slender shreds* in the form of wire without "tearing it asunder." Hence, in *practice*, in the formation of "Guard Rails," whether the wrought iron be covered with a *casing* of cast iron, an eighth of an inch or an inch in thickness, I find the rail to be as perfect in its exterior appearance as if it were made entirely of cast iron.

U. A. B. in his communication also stated "that soon after malleable iron was first used for rails, they were formed by combining wrought and cast iron, and the invention patented. If he (Mr. Bulkley) had been aware of this, I (he adds) should have expected him to have shown in what way his rail differs from any which has been tried." In reply to this I will state that I was aware of that, and various other attempts at making rails, and have in proper place, in my *specification*, stated wherein it differs from *all* other rails. It differs in theory, in principle, in effect, and in practicability. The principal object of the invention to which he alludes was that of the formation of a *wrought iron rail* containing notches upon its *upper* surface, and over these notches a *plate* of *cast iron* about three-fourths of an inch downward on the *upper* surface was applied, with a view to attain a hard *cast iron surface* for the wheels to run upon; the cast iron plate, as might naturally have been expected, broke loose among those notches, and defeated the object: the main part of the rail, the two *sides* and *lower* surface, were of wrought iron *unprotected* from corrosion: whereas the "Guard Rail" presents a firm hard cast iron surface for the wheels to run upon. The *wrought iron* guard is *incased* within the cast iron, thereby protected from corrosion, it passes from *end* to *end* through the *lower* edge of the cast iron, secures the cast iron on the principle of the abutments to an arch, thereby tending to prevent a fissure from commencing in the cast iron.

U. A. B. in his communication alluding to *my having stated* that by the combination of metals in forming the "Guard Rail," perhaps four-fold of *that description* of strength necessary in the construction of *safe* and *permanent* rails could be attained than by either description of metal of equal weight used separately, he remarked that it seems to be impossible. I, however, do think it possible, keeping in view that the "Guard Rail" is to require *supporters* from six to nine or ten feet apart; and is to present a *cast iron* surface, which will probably last fifty or a hundred years or more; whereas Tredgold in his Treatise, when adverting to the distinctive qualities of *wrought iron*, mentions the disadvantage resulting from a renewal of wrought iron rails every fifteen or sixteen years. Another of its qualities is that by this combination no *fissure* can *commence* in the lower edge of a rail, without drawing the wrought rod endwise; and even if from any cause the cast iron part of a rail should become cracked, the strength of the wrought iron rod alone, in the lower edge of the rail, is sufficient to sustain the rail in place for use.

As to the comparative *compressing* force of cast and of wrought iron, to which he alludes, I deem it to be matter of no consequence: there will be no danger of the *upper edge* of a cast iron rail yielding to compression, whereas *wrought iron* rails, as appears by *publications in England*, do so far yield to compression as to take a *set curve* when overstrained, even when placed on foundations only *three* feet apart.

In allusion to the *destructive quality* of wrought iron rails, as stated by numerous authors and engineers, to be "*partly* in consequence of the *great weight* of the wheels, which, being rolled upon the rails, extends the laminæ composing their upper surfaces, and at length causes those upper surfaces to break up in scales," U. A. B. stated that *Mr. Wood*, in the second edition of his Treatise on Railroads, page 45, *speaks thus*, "It has been said by some engineers, that wrought iron rails exfoliate, or separate in their laminæ, in that part which is exposed to the pressure of the wheels. This I *pointedly deny*, as I have closely examined rails which have been in use many years, and on no part are such exfoliations to be seen." If U. A. B. will again refer to Wood's Treatise, he will find that *Mr. Wood* is not author of the above stated remarks: he will find that the remarks were made by Mr. G. Stevenson, of Newcastle. This abrupt *denial* of Mr. Stevenson, in the face of numerous, no doubt respectable, engineers and authors, who stated *their*

views from *observation*, goes not much to the credit of his statements. If Mr. Stevenson had have remarked that such was not the effect produced in the rails *he had examined*, a query might have been made as to the extent of weights rolled upon the rails he had examined; for on many roads in England rails are made for light loads, perhaps a ton or less—others for loads of ten tons or more. It would be folly indeed to presume a like effect to be produced on both descriptions of rails; those engineers who were so abrubtly opposed by Mr. Stevenson, confined their observations to rails upon which "*great weights*" were rolled, and their views, as stated, seem perfectly consistent with the nature of wrought iron.

As to that part of the communication of U. A. B. which alludes to the liability of wrought metal to *decay* or become *weakened* by *crusts* of *rust*, when laid near the surface in *damp situations*, I refer to the American Railroad Journal dated 4th of May, inst. where that part of the subject is stated at length, accompanied by extracts from publications, in a communication written on the subject of the "Guard Rail."

The most singular remark in the communication of U. A. B. is as follows, in which he states "Sufficient experiments and observations have not yet been made to determine, *exactly*, how much faster cast iron is worn away by the action of the wheels on the rails, than wrought iron; but it *seems* that *cast iron* wears off about *five times as fast* as *wrought iron*." A man who would pen a sentence of the above description, for public inspection, *might* excuse himself by saying he was unacquainted with the nature of metals. It is generally well known that *malleable* iron is comparatively so soft that a common file will reduce it to fragments; whereas cast iron, particularly if cast on a *chill*, is of consistency nearly, or quite equal in *hardness*, to steel, upon which a file seems to make no impression.

On this part of the subject, Wood, in his Treatise on Railroads, first American and second English edition, page 147, remarks, "It is considered of *paramount importance* in the construction of a railroad, to form it of such materials as *combine* strength and durability with economy; *cast iron*, while its hardness presents a surface that opposes little obstruction to the wheels of the carriages, forms a substance *which is also very durable, and resists the action of the wheels with great effect*: and adds, "its *brittleness* forms the *only* source of reasonable objection." This *brittleness*, the *only* objection, as he states, is *obviated* by the wrought iron rod, as applied in the "Guard Rail," obviated to the satisfaction of all who examine it. I could add many pages of quotations from publications by celebrated authors, establishing the same point, above alluded to by Mr. Wood, but the nature of the case is too palpable to be misunderstood by men of understanding.

In allusion to the description of the principle on which the "Guard Rail" is predicated; a description of it as now made in full size for use, experiments of applying *weights* on rails, with foundations *eight feet apart*, together with several *quotations from publications*, showing the comparatively destructive qualities of wooden rails, and of wrought iron, persons interested in the subject are referred to the "American Railroad Journal, and Advocate of Internal Improvements," New-York, Vol. 2, No. 11. Vol. 2, No. 18. and Vol. 2, No. 19.

It is matter worthy of inquiry as to how much this country might be benefitted by the manufacture of rails for its use, and perhaps eventually for exportation: *millions* are now sent to England for the purchase of an *inferior* metal in the form of rails; while at the same time in this country, even in the State of Pennsylvania alone, *permanent* rails might be manufactured to furnish a supply for all the numerous railroads in progress, and in contemplation. I am informed from two different sources, that in the interior of Pennsylvania, the actual *cost* of manufacturing pig iron, aside from profit, is in many instances as low as fifteen to seventeen dollars per ton; if, therefore, companies who have their millions to expend for rails, would take advantage of this, after becoming satisfied of the many superior qualities of the "Guard Rail," as admitted by good judges, they would be enabled to construct *permanent* railroads, with a saving of perhaps *one third of the capital* now required for constructing roads, with rails that will require renewing in a comparatively short time. A method has been devised for moulding "Guard Rails," by which a single man could probably set moulds for casting a hundred rails a day: the object being to manufacture rails at the blast furnaces, and to convert iron at the furnace into the form of *rails*, with but a trifling additional expense to that of converting it into masses denominated pig iron. To persons interested in the subject any reasonable inquiries will be answered with pleasure. I am, respectfully, yours, &c.

R. Bulkley.

Improved Carriage Wheel Guard. [Communicated by the Inventor for the Mechanics' Magazine.]

Middleburg, Md. May 10, 1833.

Sir,—Having been informed that your paper is exclusively devoted to the publication of all new and important information connected with discoveries in mechanics, I have taken the liberty of inclosing you a description of my "Carriage Wheel Guard," an apparatus for which I have received "Letters Patent" from the Government of the United States. With this apparatus attached to wheeled carriages of all kinds, there is perfect safety and security from the occurrence of accident in case any derangement should take place in the running part. The great advantages to be derived by the travelling portion of the community, from the general introduction of this "Carriage Wheel Guard," must be obvious to the most superficial observer. Respectfully yours,

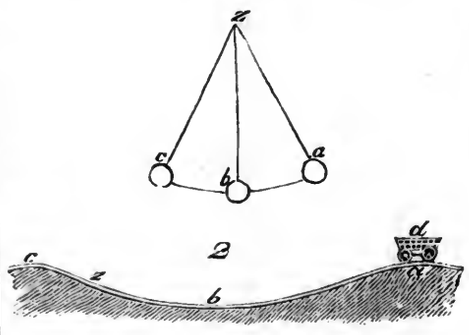
W. Zallickoffer, M. D.

Description.—This apparatus consists of a cylindrical flanged rim of iron, guards, a circular collar, and a semi-circular cap. The axle-tree and wheels are made in the usual manner. The cylindrical flanged rim of iron, is either cast whole with the hub, or in sections, and screwed to its periphery in a groove, having two flanges, one on each side, raised sufficiently high to form a groove to receive the collar. The guards are made of iron, nearly in the form of the letter Z, and secured to the axle-tree by a joint and screw bolt. To each axle-tree there are four guards, two on each side. The circular collar, made of iron, is secured to the ends of the guards, and is put around the cylindrical rim in the groove formed by the flanges. A semicircular cap, secured to the guards by hooks and staple, is put over the hub to prevent dirt falling in the groove around the rim. There are three other modes of applying the same principle described in the specification, which it is, perhaps, unnecessary here to notice, as they are not as likely to answer the purpose quite as well as the present described apparatus.

Operation.—The operation is thus:—When the axle-tree is whole, and the linch-pin, or nut, secure, then the wheel turns without touching any part of the guards or collar; but should the spindle of the axle-tree break, or the linch-pin or nut become disengaged, then the wheel would be prevented from falling by the cylindrical collar on the ends of the guards put around the hub, between the flanges of the rim, as before described, and the wheel would continue to revolve, without any impediment except that created by the friction of the collar and rim. Should the axle-tree break at the shoulder of the spindle, or in any other part, the wheel will still be preserved in its ordinary position, but will become partially locked from the friction of the collar.—For a further illustration of my invention, I refer to the model and drawings of the same, deposited in the Patent Office, and to those (if more convenient) in my possession also.

Specification of a Patent granted to Richard Badnall, Junr. of England, for inventing a Propelling Power to enable Engines to ascend Hills on Railroads. [From the Repertory of Inventions, &c.]

Fig. 1.



My improvement in the construction or formation of the trams or rails, or lines of rail or tram roads, will be best illustrated by reference to the oscillation of a pendulum.

If a plummet, suspended by a string, as fig. 1, from the point *z*, be drawn away from the perpendicular line to the point *a*, and there let go, it will fall by its gravity in the arc, *a b*, but in its falling it will have acquired so much momentum as will carry it forward up to a similar altitude at the point *c*.

Let it be supposed that a line of rails or tram-way for carriage be so constructed from the summit of two hills, as fig. 2, across a valley, that the descent from one hill, as *a*, to the valley *b*, shall subtend a similar angle up the other hill, from the horizontal line to the ascent up the hill, from *b* to *c*. Now, if a tram waggon, as *d*, be placed at the summit of the declivity *a*, it will, by its gravity alone, run down the descending line of rails to the lowest point *b*; but in so running, according to the principle of the oscillating pendulum, it shall have acquired a momentum that would carry it forward without any additional force, up the ascending line, to the summit of the hill, *c*, being at the same altitude as the hill, *a*. It is quite certain that this would really take place if the force acquired by the momentum was not impeded by the friction of the wheels of the carriage upon their axles, and upon the rails on which they run.

Hence subtracting the amount of friction as a retarding force from the momentum which the carriage has acquired in descending from *a* to *b*, it will be perceived that the force of momentum alone would only impel the carriage part of the way up the ascent *b c*, say as far as *z*. It must now be evident that the carriage *d* would not only pass down the descending line of road from *a* to *b* by its gravity, but the momentum acquired in the descent would also impel it up the second hill as far as *z*, unassisted by any locomotive

power. In order, the reforeto raise the carriage to the top of the second hill, I have only to employ such an impelling force as would be sufficient to draw it from *z* to *c*. If I employ a locomotive power to assist in impelling my carriage from *a* to *b*, I by that means obtain a greater momentum than would result from the descent of the carriage by gravity alone; and am enabled by that means to surmount the hill *c*, having travelled the whole distance from *a* to *c* on the undulating line of road, with the exertion of much less locomotive power than would have been requisite to have impelled the carriage the same distance upon a perfectly horizontal plane.

I claim as my invention the form of tram or rails, or lines of tram or rail road, in such undulating curve or curves as will enable me, in ascending hills, to combine and apply the advantages of momentum from gravity acquired in running down the descending curves of hills, with the propelling power of locomotive engines to be employed thereon, not confining myself to any particular extent of line or form of curve, but varying and adapting the curve or curves according to the surface of the country, or other local circumstances.

In witness, &c.

ARCHITECTURE.—Without entering deeply into the subject of Architecture, we propose to devote a portion of our succeeding pages to the explanation of the general and fundamental principles upon which this highly interesting and beautiful science depends.

The science of Architecture has at all times, and in all civilized countries, been considered not only a pleasing but a highly useful branch of knowledge.

The great utility of this science, and the elegant accomplishments connected with its study, have almost rendered a knowledge of its rules and principles necessary to complete a liberal education. But it is not our intention to bestow encomiums on the science, nor to give any thing like a detailed history of it, but to present our readers with a plain and condensed account of what may be termed its elementary principles.

Architecture is usually divided, with respect to its objects, into three branches, *civil*, military, and naval.

Civil Architecture, called also absolutely, and by way of eminence, *Architecture*, is the art of contriving and executing commodious buildings for the uses of civil life; as houses, temples, theatres, halls, bridges, colleges, porticoes, &c.

Architecture is scarcely inferior to any of the arts in point of antiquity. Nature and necessity taught the first inhabitants of the earth to build themselves huts, tents, and cottages; from which, in course of time, they gradually advanced to more regular and stately habitations, with variety of ornaments, proportions, &c. To what a pitch of magnificence the Tyrians and Egyptians carried *Architecture*, before it came to the Greeks, may be learned from Isaiah xxiii. 8. and from Vitruvius's account of the Egyptian Oeci; their pyramids, obelisks, &c.

Yet, in the common account, *Architecture* should be almost wholly Grecian original: three of the regular orders or manners of building are denominated from them, viz. *Corinthian*, *Ionic*, and *Doric*: and there is scarcely a single member, or moulding, but comes to us with a Greek name.

Be this as it may, it is certain the Romans, from whom we derive it, borrowed what they had entirely from the Greeks; nor do they seem, till then, to have had any other notion of the grandeur and beauty of buildings, beside what arises from their magnitude, strength, &c. Thus far they were unacquainted with any other beside the *Tuscan*.

Under Augustus, *Architecture* arrived at its glory: Tiberius neglected it, as well as the other polite arts. Nero, amongst a heap of horrible vices, still retained an uncommon passion for building; but luxury and dissoluteness had a greater share in it than true magnificence. Apollodorus excelled in *Architecture*, under the emperor Trajan, by which he merited the favor of that prince; and it was he who raised the famous Trajan column, existing to this day.

After this, Architecture began to dwindle again; and though the care and magnificence of Alexander Severus supported it for some time, yet it fell with the western empire, and sunk into a corruption, from whence it was not recovered for the space of twelve centuries.

The ravages of the Visigoths, in the fifth century, destroyed all the most beautiful monuments of antiquity; and *Architecture* thenceforward became so coarse and artless, that their professed architects understood nothing at all of just designing, wherein its whole beauty consists: and hence a new manner of building took its rise, which is called the *Gothic*.

Charlemagne did his utmost to restore *Architecture*; and the French applied themselves to it with success, under the encouragement of H. Capet: his son Robert succeeded him in this design, till by degrees the modern *Architecture* was run into as great an excess of delicacy, as the Gothic had before done into massiveness. To these may be added, the Arabesk and Morisk or Moorish *Architecture*, which were much of a piece with the Gothic, only brought in from the south by the Moors and Saracens, as the former was from the north by the Goths and Vandals.

The architects of the 13th, 14th, and 15th century, who had some knowledge of sculpture, seemed to make perfection consist altogether in the delicacy and multitude of ornaments, which they bestowed on their buildings with a world of care and solicitude, though frequently without judgment or taste.

In the two last centuries, the architects of Italy and France were wholly bent upon retrieving the primitive simplicity and beauty of ancient *Architecture*; in which they did not fail of success: insomuch, that our churches, palaces, &c. are now wholly built after the antique. *Civil Architecture* may be distinguished, with regard to the several periods or states of it, into the antique, ancient, gothic, modern, &c. Another division of *Civil Architecture* arises from the different proportions which the different kinds of buildings rendered necessary, that we might have some suitable for every purpose, according to the bulk, strength, delicacy, richness, or simplicity required.

Hence arose five orders, all invented by the ancients at different times, and on different occasions, viz. Tuscan, Doric, Ionic, Corinthian, and Composite. The Gothic Architecture may also be mentioned here, for it is perfectly distinct both from the Grecian and Roman style, although derived from the latter. [*To be continued.*]

* Barton's Medical Botany, vol. 2, p. 14.

CLOTHING, NATURAL AND ARTIFICIAL.—The covering of wool and feathers, which nature has provided for the inferior classes of animals, has a property of conducting heat very imperfectly; and hence it has the effect of keeping the body cool in hot weather, and warm in cold weather. The heat which is produced by powers provided in the animal economy within the body, has a tendency, when in a cold atmosphere, to escape faster than it is generated; the covering being a non-conductor, intercepts it, and keeps it confined. Man is endowed with faculties which enable him to fabricate for himself covering similar to that with which nature has provided other animals. Clothes are generally composed of some light non-conducting substances, which protect the body from the inclement heat or cold of the external air. In summer, clothing keeps the body cool, and in winter warm. Woollen substances are worse conductors than those composed of cotton or linen. A flannel shirt more effectually intercepts heat than a linen or a cotton one; and whether in warm or in cold climates, attains the end of clothing more effectually.

If several pieces of cloth, of the same size and quality, but of different colors, black, blue, green, yellow, and white, be thrown on the surface of snow in clear daylight, but especially in sunshine, it will be found that the black cloth will quickly melt the snow beneath it, and sink downwards. The blue will do the same, but less rapidly; the green still less so; the yellow slightly; and the white not at all. We see, therefore, that the warmth or coolness of clothing depends as well on its color as its quality. A white dress, or one of a light color, will always be cooler than one of the same quality of a dark color, and especially so in clear weather, when there is much sunshine. A white and light color reflects heat copiously, and absorbs little, while a black and dark color absorbs copiously and reflects little. From this we see that experience has supplied the place of science in directing the choice of clothing. The use of light colors always prevail in summer, and that of dark colors in winter.

The scheme authorized by an act of the last session for forming the CAPE FEAR AND YADKIN RAILROAD, is abandoned by the subscribers in Wilmington and its vicinity. Dr. Wm. P. Hort, one of the Commissioners for receiving subscriptions to it, informs the subscribers that he is now ready to pay them back the money deposited on their shares, after deducting 12 per cent. for disbursements, the inhabitants of the western counties having failed to subscribe *a cent* towards effecting the proposed object.

The proposed Central Railroad, also authorized by an act of the same body, may also be considered as abandoned for the present. We hope, hereafter, when Mr. Clay's land bill shall become a law, that both schemes will be effected. At present there is too little capital and public spirit in North Carolina, unaided by Government, to effect any great scheme of internal improvement. In the mean time, we trust that enterprising individuals will continue to prosecute and complete smaller works.—[Raleigh Register, May 7.]

Pensacola Canal.—The route of the proposed canal from Mobile to Pensacola has been surveyed, and the company have arrived at the latter place. The particulars, however, are not made public.

BABBAGE
ON THE
ECONOMY OF MANUFACTURES.

INTRODUCTION.

The object of the present volume is to point out the effects and the advantages which arise from the use of tools and machines; to endeavor to classify their modes of action; and to trace both the causes and the consequences of applying machinery to supersede the skill and power of the human arm.

A view of the mechanical part of the subject will, in the first instance, occupy our attention, and to this the first section of the work will be devoted. The first chapter of the section will contain some remarks on the general sources from whence the advantages of machinery are derived, and the succeeding nine chapters will contain a detailed examination of principles of a less general character. The eleventh chapter contains numerous subdivisions, and is important from the extensive classification it affords of the arts in which copying is so largely employed. The twelfth chapter, which completes the first section, contains a few suggestions for the assistance of those who propose visiting manufactories.

The second section, after an introductory chapter on the difference between *making* and *manufacturing*, will contain, in the succeeding chapters, a discussion of many of the questions which relate to the political economy of the subject. It was found that the domestic arrangement, or interior economy of factories, was so interwoven with the more general questions, that it was deemed unadvisable to separate the two subjects. The concluding chapter of this section, and of the work itself, relates to the future prospects of manufactures, as arising from the application of science.

SOURCES OF THE ADVANTAGES ARISING FROM MACHINERY AND MANUFACTURES.

1. There exists, perhaps, no single circumstance which distinguishes our country (England) more remarkably from all others, than the vast extent and perfection to which we have carried the contrivance of tools and machines for forming those conveniences, of which so large a quantity is consumed by almost every class of the community. The amount of patient thought, of repeated experiment, of happy exertion of genius, by which our manufactures have been created and carried to their present excellence, is scarcely to be imagined. If we look around the rooms we inhabit, or through those storehouses of every convenience, of every luxury that man can desire, which deck the crowded streets of our larger cities, we shall find in the history of each article, of every fabric, a series of failures which have gradually led the way to excellence; and we shall notice, in the art of making even the most insignificant of them, processes calculated to excite our admiration by their simplicity, or to rivet our attention by their unlooked-for results.

2. The accumulation of skill and science which has been directed to diminish the difficulty of producing manufactured goods, has not been beneficial to that country alone in which it is concentrated; distant kingdoms have participated in its advantages. The luxurious natives of the East,* and the ruder inhabitants of the African desert, are alike indebted to our looms. The produce of our factories has preceded even our most enterprising travellers.† The cotton of India is conveyed by British ships round half our planet, to be woven by British skill in the factories of Lancashire: it is again set in motion by British capital; and, transported to the very plains whereon it grew, is re-purchased by the lords of the soil which gave it birth, at a cheaper price than that at which their coarser machinery enables them to manufacture it themselves.*

3. The large proportion of the population of this country, who are engaged in manufactures, appears from the following table, deduced from a statement in an Essay on the Distribution of Wealth, by the Rev. R. Jones:

For every hundred persons employed in Agriculture, there are,

	Agriculturists.	Non-Agriculturists.
In Italy -	100 - -	31
In France -	100 - -	50
In England -	100 - -	200

The fact that the proportion of non-agricultural to agricultural persons is continually increasing, appears both from the Report of the Committee of the House of Commons upon Manufacturers' Employment, July, 1830, and also from the still later evidence of the last census, from which document the annexed table of the increase of population in our great manufacturing towns has been deduced.

Increase of population per cent.:

Names of Places.	1801 to 1811.	1811 to 1821.	1821 to 1831.	Total. 1801 to 1831.
Manchester,	22	40	47	151
Glasgow,	30	46	38	161
Liverpool,†	26	31	44	138
Nottingham,	19	18	25	75
Birmingham,	16	24	33	90

Thus, in three periods of ten years each, during each of which the general population of the country has increased about 15 per cent., or nearly 51 per cent. upon the whole period of thirty years, the population of these towns has, on the average, increased 123 per cent. After this statement, the vast importance to the well-being of this country, of making the interests of its manufactures well understood and attended to, needs no farther argument.

4. The advantages which are derived from machinery and manufactures seem to arise principally from three sources, viz.: The addition which they make to human power; The economy they produce of human time; The conversion of substances apparently common and worthless into valuable products.

5. *Of additions to human power.* With respect to the first of these causes, the forces derived from wind, from water, and from steam, present themselves to the mind of every one; these are, in fact, additions to human power, and will be considered in a future page: there are, however, other sources of its increase, by which the animal force of the individual is itself made to act with far greater than its unassisted power; and to these we shall at present confine our observations. The construction of palaces, of temples, and of tombs, seems to have occupied the earliest attention of nations just entering on the career of civilization; and the enormous blocks of stone moved from their native repositories to minister to the grandeur or piety of the builders, have remained to excite the astonishment of their posterity long after the purposes of many of these records, as well as the names of their founders, have been forgotten. The different degrees of force necessary to move these ponderous masses will have varied according to the mechanical knowledge of the people employed in their transport; and that the extent of power required for this purpose is widely different under different circumstances will appear from the following experiment, which is related by M. Redelet, *Sur l'Art de Batir.*

A block of squared stone was taken for the subject of experiment:

1. Weight of stone - - - 1080lbs.
2. In order to drag this stone along the floor of the quarry, roughly chiselled, it required a force equal to - - - - - 758
3. The same stone dragged over a floor of planks, required - - 652
4. The same stone placed on a platform of wood, and dragged over a floor of planks, required - 606
5. After soaping the two surfaces of wood which slid over each other, it required - - - 182
6. The same stone was now placed upon rollers of three inches diameter, when it required to put it in motion along the floor of the quarry - - - - - 34
7. To drag it by these rollers over a wooden floor - - - 28
8. When the stone was mounted on a wooden platform, and the same rollers placed between that and a plank floor, it required - - 22

From this experiment, it results that the force necessary to move a stone along the roughly chiselled floor of its quarry is nearly two-thirds of its weight; to move it along a wooden floor, three-fifths: by wood upon wood, five-ninths; if the wooden surfaces are soaped, one-sixth; if rollers are used on the floor of the quarry, it requires one-thirty-second part of the weight; if they roll over wood, one-fortieth; and if they roll between wood, one-fiftieth of its weight. At each increase of knowledge, as well as on the contrivance of every new tool, human labor becomes abridged. The man who contrived rollers invented a tool by which his power was quintupled. The workman who first suggested the employment of soap, or grease, was immediately enabled to move, without exerting a greater effort, more than three times the weight he could before.*

6. *The economy of human time* is the next advantage of machinery in manufactures. So extensive and important is this effect, that we might, if we were inclined to generalize, embrace almost all the advantages under this single head; but the elucidation of principles of less extent will contribute more readily to a knowledge of the subject; and, as numerous examples will be presented to the reader in the ensuing pages, we shall restrict our illustrations upon this point.

As an example of the economy of time, the use of gunpowder in blasting rocks may be noticed. Several pounds of that substance may be purchased for a sum acquired by a few days' labor; yet when this is employed for the purpose alluded to, effects are frequently produced which could not, even with the best tools, be accomplished by other means in less than many months.

7. The art of using the diamond for cutting glass has undergone, within a few years, a very important improvement. A glazier's apprentice, when using a diamond set in a conical ferrule, as was always the practice about twenty years since, found great difficulty in acquiring the art of using it with certainty, and at the end of a seven years' apprenticeship many were found but indifferently skilled in its employment. This arose from the difficulty of finding the precise angle at which the diamond cuts, and of guiding it along the glass at the proper inclination when that angle is found. Almost the whole of the time consumed, and of the glass destroyed, in acquiring the art of cutting glass, may now be saved by the use of an improved tool. The gem is set in a small piece of squared brass, with its edge nearly parallel to one side of the square. A person skilled in its use now files away one side of the brass, until, by trial, he finds that the diamond will make a clean cut, when guided by keeping this edge pressed against a ruler. The diamond and its mounting are now attached to a stick similar to a pencil, by means of a swivel allowing a small angular motion. Thus the merest tyro at once applies the cutting edge at the proper angle, by press-

* The Bandana handkerchiefs manufactured at Glasgow have long superseded the genuine ones, and are now consumed in large quantities both by the natives and Chinese.—[Crawfurd's Indian Archipelago, vol. iii. p. 505.]

† Captain Clapperton, when on a visit at the court of the Sultan Bello, states that "provisions were regularly sent me from the Sultan's table on pewter dishes with the London stamp; and I even had a piece of meat served upon a white wash-hand basin of English manufacture."—[Clapperton's Journey, p. 88.]

* At Calicut, in the East Indies, (whence the cotton cloth called calico derives its name,) the price of labor is one seventh of that in England, yet the market is supplied from British looms.

† Liverpool, though not itself a manufacturing town, has been placed in this list, from its great connection with Manchester, of which it is the port.

* So sensible are the effects of grease in diminishing friction, that the drivers of sledges in Amsterdam, on which heavy goods are transported, carry in their hand a rope soaked in tallow, which they throw down from time to time before the sledge, in order that it may, by passing over the rope, become greased.

ing the side of the brass against a ruler; and even though the part he holds in his hand should deviate a little from the required angle, it communicates no irregularity to the position of the diamond, which rarely fails to do its office when thus employed.

The relative hardness of the diamond, in different directions, is a singular fact. An experienced workman, on whose judgment I can rely, informed me that he had seen a diamond ground with diamond powder on a cast iron mill for three hours without its being at all worn, but that, changing its direction with reference to the grinding surface, the same edge was ground down.

8. *Employment of materials of little value.* The skins used by the goldbeater are produced from the offal of animals. The hoofs of horses and cattle and other horny refuse, are employed in the production of the prussiate of potash, that beautiful yellow crystalized salt which is exhibited in the shops of some of our chemists. The worn out saucepans and tin ware of our kitchens, when beyond the reach of the tinker's art, are not utterly worthless. We sometimes meet carts loaded with old tin kettles and worn out iron coal-scuttles, traversing our streets. These have not yet completed their useful course; the less corroded parts are cut into strips, punched with small holes, and varnished with a coarse black varnish for the use of the trunk-maker, who protects the edges and angles of his boxes with them; the remainder are conveyed to the manufacturing chemists in the outskirts of the town, who employ them, in conjunction with pyroligneous acid, in making a black die for the use of calico printers.

9. *Of tools.* The difference between a *tool* and a *machine* is not capable of very precise distinction; nor is it necessary, in a popular explanation of those terms, to limit very strictly their acceptation. A *tool* is usually more *simple* than a machine; it is generally used with the hand, whilst a machine is frequently moved by animal or steam power. The simpler *machines* are often merely one or more *tools* placed in a frame, and acted on by any moving power. In pointing out the advantages of *tools*, we shall commence with some of the simplest.

10. To arrange twenty thousand needles thrown promiscuously into a box, mixed and entangled with each other in every possible direction, in such a form that they shall be all parallel to each other, would, at first sight, appear a most tedious occupation; in fact, if each needle were to be separated individually, many hours must be consumed in the process. Yet this is an operation which must be performed many times in the manufacture of needles; and it is accomplished in a few minutes by a very simple *tool*; nothing more being requisite than a small flat tray of sheet iron, slightly concave at the bottom. The needles are placed in it and shaken in a peculiar manner, by throwing them up a very little, and giving at the same time a slight longitudinal motion to the tray. The shape of the needles assists their arrangement; for if two needles cross each other, (unless, which is exceedingly improbable, they happen to be precisely balanced,) they will, when they fall on the bottom of the tray, tend to place themselves side by side, and the hollow form of the tray assists this disposition. As they have no projection in any part to impede this tendency, or to entangle each other, they are, by continually shaking, arranged lengthwise, in three or four minutes. The direction of the shake is now changed, the needles are but little thrown up, but the tray is shaken endways; the result of which is, that in a minute or two the needles which were previously arranged endways become heaped up in a wall, with their ends against the extremity of the tray. They are now removed by hundreds at a time, by raising them with a broad iron spatula, on which they are retained by the fore-finger of the left hand. During the progress of the needles towards their finished state, this parallel arrangement must be repeated many times; and unless a cheap and expeditious method had been devised, the expense of manufacturing needles would have been considerably enhanced.

11. Another process in the art of making needles furnishes an example of one of the simplest contrivances which can come under the denomination of a *tool*. After the needles have been arranged in the manner just described, it is necessary to separate them into two parcels, in order that their points may be all in one direction. This is usually done by women and children. The needles are placed sideways in a heap, on a table, in front of each operator, just as they are arranged by the process above described. From five to ten are rolled towards this person by the fore-finger of the left hand; this separates them a very small space from each other, and each in its turn is pushed lengthwise to the right or to the left, according as its eye is on the right or the left hand. This is the usual process, and in it every needle passes individually under the finger of the operator. A small alteration expedites the process considerably: the child puts on the fore-finger of its right hand a small cloth cap or finger-stall, and rolling out of the heap from six to twelve needles, he keeps them down by the fore-finger of the left hand, whilst he presses the fore-finger of the right hand gently against their ends; those which have the points towards the right hand stick into the finger-stall; and the child, removing the finger of the left hand, slightly raises the needles sticking into the cloth, and then pushes them towards the left side. Those needles which had their eyes on the right hand do not stick into the finger cover, and are pushed to the heap on the right side previously to the repetition of this process. By means of this simple contrivance each movement of the finger, from one side to the other, carries five or six needles to their proper heap; whereas, in the former method, frequently only one was moved, and rarely more than two or three were transported at one movement to their place.

12. Various operations occur in the arts in which the assistance of an additional hand would be a great convenience to the workman, and in these cases tools or machines of the simplest structure come to our aid; vices of different forms in which the material to be wrought is firmly grasped by screws, are of this kind, and are used in almost every workshop; but a more striking example may be found in the trade of the nail-maker.

Some kinds of nails, such as those used for defending the soles of coarse shoes, called hob-nails, require a particular form of the head, which is made by the stroke of a die. The workman holds the red-hot rod of iron out of which he forms them in his left hand; with his right hand he hammers the end of it into a point, and cutting the proper length almost off, bends it nearly at right angles. He puts this into a hole of a small stake-iron, immediately under a hammer connected with a treadle, which has a die sunk in its surface corresponding to the intended form of the head; and having given one part of the form to the head by the small hammer in his hand, he moves the treadle with his foot, which disengages the other hammer, and completes the figure of the head; the returning stroke produced by the movement of the treadle striking the finished nail out of the hole in which it was retained. Without this substitution of his foot for another hand, the workman would, probably, be obliged to heat the nails twice over.

13. Another, although fortunately a less general substitution of tools for human hands, is used to assist the labor of those who are deprived by nature, or by accident, of some of their limbs. Those who have had an opportunity of examining the beautiful contrivances for the manufacture of shoes by machinery, which we owe to the fertile invention of Mr. Brunel, must have noticed many instances in which the workmen were enabled to execute their task with precision, although laboring under the disadvantages of the loss of an arm or a leg. A similar instance occurs at Liverpool, in the Institution for the Blind, where a machine is used by those afflicted with blindness, for weaving sash-lines; it is said to have been the invention of a person suffering under that calamity. Other instances might be mentioned of contrivances for the use, the amusement, or the instruction of the wealthier classes, who labor under the same natural disadvantages. These triumphs of skill and ingenuity deserve a double portion of our admiration, when applied to mitigate the severity of natural or accidental misfortune—when they supply the rich with occupation and knowledge—when they relieve the poor from the additional evils of poverty and want.

15. *Division of the objects of machinery.* There exists a natural, although, in point of number, a very unequal division amongst machines: they may be classed as, 1st, Those which are employed to produce power; and as, 2dly, Those which are intended merely to transmit force and execute work. The first of these divisions is of great importance, and is very limited in the variety of its species, although some of those species consist of numerous individuals.

Of that class of mechanical agents by which motion is transmitted—the lever, the pulley, the wedge, and many others—it has been demonstrated that no power is gained by their use, however combined. Whatever force is applied at one point can only be exerted at some other, diminished by friction and other incidental causes; and it has been farther proved, that whatever is gained in the rapidity of execution is compensated by the necessity of exerting additional force. These two principles, long since placed beyond the reach of doubt, cannot be too constantly borne in mind. But in limiting our attempts to things which are possible, we are still, as we hope to show, possessed of a field of inexhaustible research, and of advantages derived from mechanical skill, which have but just begun their influence on our arts, and may be pursued without limit—contributing to the improvement, the wealth, and the happiness of our race.

15. Of those machines by which we produce power, it may be observed, that although they are to us immense acquisitions, yet in regard to two of the sources of this power—the force of wind and of water—we merely make use of bodies in a state of motion by nature; we change the directions of their movement, in order to render them subservient to our purposes, but we neither add to nor diminish the quantity of motion in existence. When we expose the sails of a wind-mill obliquely to the gale, we check the velocity of a small portion of the atmosphere, and convert its own rectilinear motion into one of rotation in the sails; we thus change the direction of force, but we create no power. The same may be observed with regard to the sails of a vessel: the quantity of motion given by them is precisely the same as that which is destroyed in the atmosphere. If we avail ourselves of a descending stream to turn a water-wheel, we are appropriating a power which nature may appear, at first sight, to be uselessly and irrecoverably wasting, but which, upon due examination, we shall find she is ever repairing by other processes. The fluid which is falling from a higher to a lower level, carries with it the velocity due to its revolution with the earth at a greater distance from its centre. It will, therefore, accelerate, although to an almost infinitesimal extent, the earth's daily rotation. The sum of all these increments of velocity, arising from the descent of all the falling waters on the earth's surface, would in time become perceptible, did not nature, by the process of evaporation, convey the waters back to their sources; and thus, again, by removing matter to a greater distance from the centre, destroy the velocity generated by its previous approach.

16. The force of vapor is another fertile source of moving power; but even in this case it cannot be maintained that power is created. Water is converted into elastic vapor by the combustion of fuel. The chemical changes which thus take place are constantly increasing

the atmosphere by large quantities of carbonic acid and other gasses noxious to animal life. The means by which nature decomposes or reconverts these elements into a solid form, are not sufficiently known: but if the end could be accomplished by mechanical force, it is almost certain that the power necessary to produce it would at least equal that which was generated by the original combustion. Man, therefore, does not create power; but availing himself of his knowledge of nature's mysteries, he applies his talents to diverting a small and limited portion of her energies to his own wants: and, whether he employs the regulated action of steam, or the more rapid and tremendous effects of gunpowder, he is only producing on a small scale compositions and decompositions which nature is incessantly at work in reversing, for the restoration of that equilibrium which we cannot doubt is constantly maintained throughout even the remotest limits of our system. The operations of man participate in the character of their Author; they are diminutive, but energetic during the short period of their existence: whilst those of nature, acting over vast spaces, and unlimited by time, are ever pursuing their silent and resistless career.

17. In stating the broad principle, that all combinations of mechanical art can only augment the force communicated to the machine at the expense of the time employed in producing the effect, it might perhaps be imagined that the assistance derived from such contrivances is small. This is, however, by no means the case; since the almost unlimited variety they afford enables us to exert to the greatest advantage whatever force we employ. There is, it is true, a limit beyond which it is impossible to reduce the power necessary to produce any given effect, but it very seldom happens that the methods first employed at all approach that limit. In dividing the knotted root of a tree for the purposes of fuel, how very different will be the time consumed, according to the nature of the tool made use of! The hatchet, or the adze, will divide it into small parts, but will consume a large portion of the workman's time. The saw will answer the same purpose more effectually and more quickly. This, in its turn, is superseded by the wedge, which rends it in a still shorter time. If the circumstances are favorable, and the workman skilful, the time and expense may be still farther reduced by the use of a small quantity of gunpowder exploded in holes judiciously placed in the block.

18. When a mass of matter is to be removed, a certain force must be expended; and upon the proper economy of this force the price of transport will depend. A country must, however, have reached a high degree of civilization before it will have approached the limit of this economy. The cotton of Java is conveyed in junks to the coast of China; but from the seed not being previously separated, three-quarters of the weight thus carried is not cotton. This might, perhaps, be justified in Java by the want of machinery to separate the seed, or by the relative cost of the operation in the two countries. But the cotton itself, as packed by the Chinese, occupies three times the bulk of an equal quantity shipped by Europeans for their own markets. Thus the freight of a given quantity of cotton costs the Chinese nearly twelve times the price to which, by a proper attention to mechanical methods, it might be reduced.*

ACCUMULATING POWER.

19. Whenever the work to be done requires more force for its execution than can be generated in the time necessary for its completion, recourse must be had to some mechanical method of preserving and condensing a part of the power exerted previously to the commencement of the process. This is most frequently accomplished by a fly-wheel, which is in fact nothing more than a wheel having a very heavy rim, so that the greater part of its weight is near the circumference. It requires great power applied for some time to put this into rapid motion; but when moving with considerable velocity, the effects are exceedingly powerful, if its force be concentrated upon a small object. In some of the iron works where the power of the steam-engine is a little too small for the rollers which it drives, it is usual to set the engine at work a short time before the red-hot iron is ready to be removed from the furnace to the rollers, and to allow it to work with great rapidity until the fly has acquired a velocity rather alarming to those unused to such establishments. On passing the softened mass of iron through the first groove, the engine receives a great and very perceptible check; and its speed is diminished at the next and at each succeeding passage, until the iron bar is reduced to such a size that the ordinary power of the engine is sufficient to roll it.

20. The powerful effect of a large fly-wheel, when its force can be concentrated in a point, was curiously illustrated at one of the largest of our manufactories. The proprietor was showing to a friend the method of punching holes in iron plates for the boilers of steam-engines. He held in his hand a piece of sheet-iron, three-eighths of an inch thick, which he placed under the punch. Observing, after several holes had been made, that the punch made its perforations more and more slowly, he called to the engine-man to know what made the engine work so sluggishly, when it was found that the fly-wheel and punching apparatus had been detached from the steam-engine just at the commencement of his experiment.

21. Another mode of accumulating power arises from lifting a weight and then allowing it to fall. A man, even with a heavy hammer, might strike repeated blows upon the head of a pile without producing any effect. But if he raises a much heavier hammer to a much greater height, its fall, though far less frequently repeated, will produce the desired effect.

REGULATING POWER.

22. Uniformity and steadiness in the rate in which machinery works are essential both for its effect and its duration. That beautiful contrivance, the governor of the steam-engine, must immediately occur to all who are familiar with that admirable machine. Wherever the increased speed of an engine would lead to injurious or dangerous consequences, it is applied; and is equally the regulator of the water-wheel which drives a spinning-jenny, or of the windmills which drain our fens. In the dock-yard at Chatham, the descending motion of a large platform, on which timber is raised, is regulated by a governor; but as the weight is very considerable, the velocity of this governor is still farther checked by causing its motion to take place in water.

The regularity of the supply of fuel to the fire under the boilers of steam-engines is another mode of contributing to the uniformity of their rate, and also economizes the consumption of coal. Several patents have been taken out for methods of regulating this supply: the general principle being to make the engine supply the fire by means of a hopper, with small quantities of fuel at regular intervals, and to diminish this supply when it works quickly. One of the incidental advantages of this plan is, that by throwing on a very small quantity of coal at a time, the smoke is almost entirely consumed. The dampers of ash-pits and chimneys are also, in some cases, connected with machines in order to regulate their speed.

23. Another contrivance for regulating the effect of machinery consists in a vane or a fly, of little weight, but presenting a large surface. This revolves rapidly, and soon acquires a uniform rate, which it cannot greatly exceed, because any addition to its velocity produces a much greater addition to the resistance it meets with from the air. The interval between the strokes on the bell of a clock is regulated by this means; and the fly is so contrived, that this interval may be altered by presenting the arms of it more or less obliquely to the direction in which they move. This kind of fly, or vane, is generally used in the smaller kinds of mechanism, and, unlike the heavy fly, it is a destroyer instead of a preserver of force. It is the regulator used in musical boxes, and in almost all mechanical toys.

24. Another very beautiful contrivance for regulating the number of strokes made by a steam-engine, is used in Cornwall: it is called the *cataract*, and depends on the time required to fill a vessel plunged in water, the opening of the valve through which the fluid is admitted being adjustable at the will of the engine-man.

INCREASE AND DIMINUTION OF VELOCITY.

25. The fatigue produced on the muscles of the human frame does not altogether depend on the actual force employed in each effort, but partly on the frequency with which it is exerted. The exertion necessary to accomplish every operation consists of two parts: one of these is the expenditure of force which is necessary to drive the tool or instrument; and the other is the effort required for the motion of some limb of the animal producing the action. If we take, as an example, the act of driving a nail into a piece of wood, the first of these is the *propelling* the hammer head against the nail; the other is, *raising* the arm in order to lift the hammer. If the weight of the hammer is considerable, the former part will cause the greatest portion of the exertion. If the hammer is light, the exertion of *raising* the arm will produce the greatest part of the fatigue. It does, therefore, happen that operations requiring very trifling force, if frequently repeated, will tire more effectually than more laborious work. There is also a degree of rapidity beyond which the action of the muscles cannot be pressed.

26. The most advantageous load for a porter who carries wood up stairs on his shoulders, has been investigated by M. Coulomb; but he found from experiment that a man walking up stairs without any load, and raising his burden by means of his own weight in descending, could do as much work in one day as four men employed in the ordinary way with the most favorable load.

27. The proportion between the velocity with which men or animals move, and the weights they carry, is a matter of considerable importance, particularly in military affairs. It is also of great importance for the economy of labor, to adjust the weight of that part of the animal's body which is moved, the weight of the tool it urges, and the frequency of repetition of these efforts, so as to produce the greatest effect. An instance of the saving of time, by making the same motion of the arm execute two operations instead of one, occurs in the simple art of making the tags of boot-laces: they are formed out of very thin, tinned, sheet-iron, and were formerly cut out of long strips of that material into pieces of such a breadth that when bent round they just enclosed the lace. Two pieces of steel have recently been fixed to the side of the shears, by which each piece of tinned-iron, as soon as it is cut, is bent into a semi-cylindrical form. The additional power required for this operation is almost imperceptible; and it is executed by the same motion of the arm which produces the cut. The work is usually performed by women and children, and with the improved tool more than three times the quantity of tags is produced in a given time.*

Whenever the work is itself light, it becomes necessary, in order to economize time, to increase the velocity. Twisting the fibres of wool by the fingers would be a most tedious operation: in the common spinning-wheel the velocity of the foot is moderate, but by a very simple contrivance that of the thread is most rapid. A piece of cat-gut passing round a large wheel, and then round a small spindle, effects this change. This contrivance is common to a multitude of machines, some of them very simple. In large shops for the retail of ribands, it is necessary at short intervals to "take stock," that is, to measure and re-wind every piece of

* Crawfurd's Indian Archipelago.

* Transactions of the Society of Arts, 1826.

riband, an operation which, even with this mode of shortening it, is sufficiently tiresome, but without it would be almost impossible from its expense. The small balls of sewing-cotton, so cheap and so beautifully wound, are formed by a machine on the same principle, and but a few steps more complicated.

28. In turning from the smaller instruments in frequent use to the larger and more important machines, the economy arising from the increase of velocity becomes more striking. In converting cast into wrought iron, a mass of metal of about a hundred weight is heated almost to a white heat, and placed under a heavy hammer moved by water or steam power. This is raised by a projection on a revolving axis; and if the hammer derived its momentum only from the space through which it fell, it would require a considerably greater time to give a blow. But as it is important that the softened mass of red hot iron should receive as many blows as possible before it cools, the form of the cam or projection on the axis is such, that, the hammer, instead of being lifted to a small height, is thrown up with a jerk, and almost the instant after it strikes against a large beam, which acts as a powerful spring, and drives it down on the iron, with such velocity that by these means about double the number of strokes can be made in a given time. In the smaller tilt-hammers, this is carried still farther: by striking the tail of the tilt-hammer forcibly against a small steel anvil, it rebounds with such velocity that from three to five hundred strokes are made in a minute.

29. In the manufacture of scythes, the length of the blade renders it necessary that the workman should move readily, so as to bring every part on the anvil in quick succession. This is effected by placing him in a seat suspended by ropes from the ceiling: so that he is enabled, with little bodily exertion, by pressing his feet against the block which supports the anvil, to vary his distance to any required extent. In the manufacture of anchors, an art in which this contrivance is of still greater importance, it has only been recently applied.

30. The most frequent reason for employing contrivances for diminishing velocity arises from the necessity of overcoming great resistances with small power. Systems of pulleys, the crane, and many other illustrations, might also here be adduced; but they belong more appropriately to some of the other causes, which we have assigned for the advantages of machinery. The common smoke-jack is an instrument in which the velocity communicated is too great for the purpose required: and it is transmitted through wheels which reduce it to a more moderate rate.

EXTENDING THE TIME OF ACTION OF FORCES.

31. This is one of the most common and most useful of the employments of machinery. The half minute which we daily devote to the winding up of our watches is an exertion of labor almost insensible, yet by the aid of a few wheels its effect is spread over the whole twenty-four hours. In our clocks, this extension of the time of action of the original force impressed is carried still farther; the better kind usually require winding up once in eight days, and some are occasionally made to continue in action during a month or even a year. Another familiar illustration may be noticed in our domestic furniture; the common jack, by which our meat is roasted, is a contrivance to enable the cook in a few minutes to exert a force which the machine retails out during the succeeding hour in turning the loaded spit, thus enabling her to bestow her undivided attention on the other important duties of her vocation. A great number of automatons, and mechanical toys moved by springs, may be classed under this division.

32. A small moving power, in the shape of a jack or a spring with a train of wheels, is often of great convenience to the experimental philosopher, and has been used with advantage in magnetic and electric experiments, where the

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Week ending Monday, May 13, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hour.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesday, May 7	6 a. m.	54	30·13	sw	light	sw	fair—smoky
	10	64	30·13	s	"	"	"
	2 p. m.	76	30·08	"	"	"	"
	6	74	29·98	variable	"	"	cloudy—thunder storm
Wednesday, " 8	6 a. m.	63	30·00	sw	fresh	"	run [from 7 to 8
	10	68	30·05	sw	light	"	cloudy
	2 p. m.	78	29·95	sse	"	s	fair
	6	71	29·89	"	"	"	"
	10	67	29·92	wnw	"	wnw	cloudy—showers
Thursday, " 9	6 a. m.	64	29·91	"	"	"	"
	10	77	29·97	nnw	"	"	"
	2 p. m.	78	30·00	nne	"	w	fair
	6	60	30·01	e	"	"	"
	10	54	30·09	ese	fresh	"	"
Friday, " 10	6 a. m.	51	30·17	"	"	"	"
	10	60	30·20	se	moderate	"	"
	2 p. m.	63	30·23	ese	fresh	"	"
	6	52	30·21	ene	strong	sw	cloudy
	10	51	30·20	"	"	"	"
Saturday, " 11	6 a. m.	54	30·20	ene	moderate	s	—rainy
	10	56	30·12	se—sse	"	sw	rainy —thick scuds fr sw
	2 p. m.	62	30·09	s	"	"	"
	6	63	30·09	"	"	"	cloudy—
	10	62	30·10	sse	"	"	"
Sunday, " 12	6 a. m.	63	30·10	"	"	"	fair
	10	66	30·11	"	"	wsw sw	cloudy—rainy—
	2 p. m.	70	30·06	"	fresh	"	fair—cloudy—
	6	65	30·03	"	"	"	"
	10	63	30·03	"	"	"	cloudy—fair
Monday, " 13	6 a. m.	63	30·02	"	"	"	"
	10	68	30·01	"	"	"	fair
	2 p. m.	74	30·01	"	moderate	"	showers
	6	65	30·00	"	light	"	"
	10	63	30·03	"	"	"	"

Average temperature of the week, 64.2.

rotation of a disk of metal or other body is necessary, thus allowing to the inquirer the unimpeded use of both his hands. A vane connected by a train of wheels, and set in motion by a heavy weight, has also on some occasions been employed in chemical processes, to keep a solution in a state of agitation. Another object, to which a similar apparatus may be applied, is the polishing of small specimens of minerals for optical experiments.

Self-Steering Ship. [From Elements of Physics, or Natural Philosophy, General and Medical.]

It is possible to make a ship or boat steer itself, by placing a powerful vane on the mast head, and connecting it with the tiller-ropes by two projecting arms from its axis. If it were desired to make the ship sail directly before the wind, the tiller-ropes would be fixed to the vane so that the helm should be in the middle position, when the vane were pointing directly forward; should the vessel then from any cause deviate from her course, the vane, by its changed position with respect to her, would have produced a corresponding change on the position of the helm, and just such as to bring her back to her course. Again, it is evident that, by adjusting such a vane and rudder to each other, in different ways, any other desired course might be obtained, and which would alter only with the wind. The vane would require to be of large size to have the necessary power—a wide hoop, for instance, with canvass stretched upon it; and the rudder, that it might turn with little force, would be hung on an axis passed through its middle, instead of, as usual, by hinges at one edge. Cases have occurred where shipwrecked persons might have sent intelligence of their disaster to a distant coast, by a small vessel, or even a block of wood, fitted up in this way; and the method might sometimes save an additional hand in a boat's crew. It admits also of other applications, particularly in war.

As fluids act on surfaces, in a direction perpendicular to them, the water on the right side of a ship's bow is always pressing towards the left side; but owing to the equivalent and contrary pressure there, the ship holds her course evenly between the two, or straight forwards. When a ship, however, owing to a side wind, lies over, or *heels*, as it is called, that side of the bow which sinks most is more pressed than the other; and were it not for a counteracting inclination of the rudder then made, constituting what is called *weather helm*, the ship's head would come round to the wind. Now, ships so rarely have the wind exactly astern, that, to diminish the almost constant necessity for weather helm, the mast or masts, and consequently the mass of the sails, are placed more towards the bow than the stern.

Again, because the bow of a ship is oblique downwards as well as sideways, the water, when she moves, is constantly tending to lift the bow; hence, when a vessel is dragged by a low horizontal rope, as in the case of a boat attached to a sailing ship's stern, or is moved by paddle-wheels, like steamboats, the bow rises much out of the water, and the stern sinks in the hollow or furrow of the track: but when she is driven by sails, as these are high on the mast, and are acting therefore on a long lever to depress the bow, the two opposing tendencies just balance each other, and the vessel sails evenly along.

The form of the fore part of a ship has less influence upon her speed of sailing, than the form of the hind part from the middle to the stern, called the *run*. When a ship is at rest, there is of course as much forward pressure of water about the stern as of backward pressure on the bow; but when she sails, she is running away from the propelling pressure, and is increasing the resisting pressure. A gradual tapering of the hind part therefore, or a *fine run*, as it is called, which allows the water to apply itself readily to it, as it passes along, must quicken much the rate of sailing. A tree, or the tapering mast of a ship, can be drawn through the water the most easily with the large end foremost.

Rice Paper.—The fine and beautiful tissue brought from China and Calcutta, and employed under the name of *rice paper*, is far from being an artificial substance fabricated from rice or any other farinaceous material. By holding a specimen of it between the eye and a clear light, it will be seen to consist of a vegetable tissue, composed of cellules so exactly similar, and so perfect, that no preparation of a paper could be possibly made to acquire.

It is now known to be made of the internal part of the *Œschynomene paludosa*, Roxburg,—a leguminous plant which grows abundantly on the marshy plains of Bengal, and on the borders of vast lakes between Calcutta and Hurdwart. It is a hardy plant, requiring much moisture for its perfect growth and duration. The stem rarely exceeds two inches in diameter, spreading extensively, but not rising to any great height.

The stems of this plant are brought in great quantities in Chinese junks, from the island of Formosa and other places, to China and Calcutta. These stems are cut into the lengths intended for the leaves or sheets, and then, by means of a very sharp and well tempered knife, about ten inches long and three inches wide, the pith is divided into thin circular plates, which, being pressed, furnish the leaves sold under the name of rice paper. The operation of cutting the leaves is very similar to that of cutting corks. The leaves are generally seven or eight inches long and five wide; some are even a foot long. Those which are not fit for drawing are colored for other purposes. Rice paper absorbs water, and swells so as to present an elevation, which continues after it becomes dry, and gives to the drawing a velvety appearance and a relief, which no other kind of paper produces.

Rice paper may, with care, be written upon, as the ink does not spread. The writing is glossy, showing some metallic surfaces.

Examined chemically, it seems to be analogous to the substance which Dr. John calls medulline. Treated with nitric acid, it forms oxalic acid.

The white and pure specimens are much used for drawings; the inferior are variously colored, and now extensively used in forming artificial flowers. In India, a pasteboard is made by cementing many leaves together, and of this hats are fabricated, which, covered with silk or other stuff, are firm and extremely light.

Rice paper was introduced into Europe about thirty years ago. The flowers which were first made of it sold at an exorbitant price. A single bouquet cost the Princess Charlotte of Wales £70 sterling.

From the quality of this paper, it may be most successfully employed in painting butterflies, flowers, birds, plants, and animals. For this purpose, the object is first sketched on common paper, which is then to be pasted on a card. The sketch must be of a deep black. On this the rice paper is fastened, and the painting effected with a pencil and fine colors. When executed in this way, by the most skilful hands, the pictures of butterflies, insects, &c. have been often mistaken for the animal itself pasted on paper. Rice paper has also been employed in lithography, with the most brilliant effect.

It is desirable for the purposes of art, that some aquatic plant should be found in our own climate whose pith is analogous to that of the Œschynomene. Is it not possible, also, to fabricate a paper, the tissue of which may absorb water, and furnish the relief which gives to rice paper its greatest value? —[Jour. des Connais. Usuelles, Fev. 1832.]

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LITERARY NOTICES.

History of England; vol. III; by Sir Jas. McIntosh; forming vol. 22, of Lardner's Cabinet Cyclopædia: *Philadelphia*, Carey, Lea & Blanchard.—The hand that traced, in the pages now open before us, the instructive lessons which history, truly and philosophically written, reads to living men, was arrested in mid career by death; and even the close of the present volume, which brings us down to the reign of Elizabeth, is from another pen, from which all that remains to be written of the history of England is to proceed. We particularly lament that this work could not have been completed by Sir Jas. McIntosh; for it is one which by its comparative brevity will, as the world grows busier and busier which it seems to us to do, be more read than the larger histories; and the spirit in which it is commenced and thus far conducted, is such a one as men loving freedom and the rule of the laws, must approve.

In this volume of more than 300 pp., 200 are by McIntosh; and it is gratifying to be assured, as we are in a preliminary notice of the editor of the Cyclopædia, that the materials prepared by Sir James—and particularly the MSS. embodying his view of the revolution of 1688—have been purchased for, and will be used in, the completion of the history.

We quote the annexed extract as indicating the generous spirit and high moral feeling which pervade this history. It relates to a memorable period, and in the worst sense to a memorable man.

The duke of Alva was recalled from his deplorable administration of the Netherlands, where he boasted that in six years he had put to death 18,000 persons by the hands of the hangman. Vargas, his sanguinary instrument, when he arrived with his master at the frontier, looking back on the provinces which had endured his rod for nine years, exclaimed, "There is a country lost by indulgence!" A degree of cruelty is conceivable which might altogether extinguish the spirit and resolution which resistance requires: but this extent of destruction, though it may doubtless be conceived, can hardly ever be practised. Tyrants are ignorant of the laws which limit their destructive power. Strangers to pity themselves, they know not its power over other men. Unbelievers in the force of moral indignation, it bursts upon them when they are least prepared. They know not that every new crime dissolves some link of that mutual trust between them and their accomplices or followers, without which assassins and robbers cannot act together. Men who must more and more distrust and abhor each other, and who are doomed to end in hating themselves, cannot always preserve the union and concert without which their malignity becomes powerless. The infirmities of human nature undermine the conspiracies of the wicked, perhaps, even more than they loosen the union of the good. No man was ever so consistently depraved as never to be visited by misgivings in a course of guilt which, save only the fellows of his crimes, renders all mankind his enemies, for whose constancy and fidelity he has no other security than a common criminality, which, brittle, as it is, has no force but against the virtuous; for, in their relations to each other, every villain must live in continual dread of fraud, treachery, destruction from his brethren in blood. The greater part of them, unripe in atrocity, must be often unmanned by cowardice, and appalled by fearful anticipations that they are doomed one day to regard their own dispositions with some degree of that abhorrence which they must sometimes read in the eyes of their fellow-creatures. They at last fall unpitied victims to the eternal law which dooms the vices to perpetual discords, arms the virtues with that power which flows from unbroken harmony, and has decreed that peace and faith are blessings too sacred to be allotted to any except the good.

As an instance of impartial and severe scrutiny into the glosses with which the conduct of kings is too often varnished over by the pen of the historian, we would refer to the brief but conclusive examination of the question of premeditation, imputed and here fixed upon Charles IX of France, in respect of the massacre of St. Bartholemew.

In the appendix, a very curious letter is published, taken from Murden's State Papers. It is from Mary Queen of Scots to Elizabeth, and embodies certainly as it strikes us, all that female malice could devise to wound another woman and a queen. It is in French; and though written by a Queen to a Queen, cannot be decently published in a newspaper.

It is doubtful whether it ever reached Elizabeth, having been found among the Burleigh papers; but if it did, every line, as is well remarked by the editor, "must have been a poinard to her heart, and would alone account for her pursuing the writer to death.

John Milton, his Life and Times, &c. &c. with an Appendix, containing Animadversions upon Dr. Johnson's Life of Milton: by Joseph Ivimey, author of the 'History of the English Baptists.' 1 vol. New York, D. Appleton.—The aim of the writer of this Life of Milton, is chiefly to vindicate his character as "a patriot, a Protestant, and a non-conformist:" and this is accomplished, and fortunately so, by means of considerable extracts from the prose writings of this sublimest of English poets. We should say, fortunately so, let who would have been the writer of a Life of Milton; for few can approach, in vigor and eloquence, the prose of Milton; but it is particularly fortunate in this instance for Mr. Ivimey is *not* a great master of style. He writes, moreover, somewhat intemperately, though frequently reprehending, especially in the Appendix, and in occasional passages or notes in the main narrative, others for that fault. But he writes with a warm love of Liberty, for devotion to which, he justly argues, that Milton was little liked, and most unjustly dealt with by Johnson, and with a full appreciation of the genius and mighty power of the great Secretary of Cromwell, the unrivalled Epic Bard of England.

The Life and Writings of John Jay; by his Son, William Jay. 2 vols. 8vo. pp. 500. New-York, J. & J. Harper.—We only received these volumes—precious we are sure they will be found, for they relate to a great, an able, and an honest man—yesterday; and can therefore only announce them this week, reserving to another occasion the remarks and extracts which their perusal, we are sure, will richly furnish forth. We add here only, that they are, as far as the paper and printing are concerned, worthily got up.

The French Law and Practice of Patents for Inventions, &c. by A. Perpigna: Paris.—This work, in English, is sent to us by *Wm. A. Colman*, of this city, who has been appointed the agent of the author, who keeps, and for some years has kept, an office in Paris, for obtaining and securing patents for distant applicants. The mode of proceeding, expense, &c. in order to obtain a patent in France, is set forth in this pamplet: and to so inventive a people as we are in mechanics, the information it furnishes cannot but be useful.

While referring to Mr. Colman, we take occasion to speak of two magnificent engravings of *Martin's*, which we saw at his rooms, representing scenes from Paradise Lost,—the one of "Satan in Council," the other a "View of Pandemnium." They are sublime in their conception, execution, and effect, and impress the mind most strongly.

Asmodeus at large, by the author of Pelham, Eugene Aram, &c.—1 vol., Philadelphia, *Carey, Lea & Blanchard*.—The pieces collected in this volume appeared originally in successive numbers of the London New Monthly Magazine, edited by Mr. Bulwer, the writer of them. Extracts from

several of them, and the last entire, recording the ill ated love of "Julia," have been published in this paper—so that our readers have felt that the impassion-pen of the author of Eugene Aram has not lost its power in these sketches.

School of Cavalry, or System of Organization, Instruction, and Manœuvres, prepared for the Cavalry of the United States; by William Theobald Wolfe Tone, Lieut. 1st Regt. U. S. Artillery: second edition: *Georgetown, D. C.*, Jas. Thomas.—The recent institution of a cavalry corps as part of the standing military force of the United States, has very properly suggested this new edition of the ingenious work of the lamented Mr. Tone upon cavalry tactics; and as there is no work upon the subject yet adopted for the use of the corps, it is more than probable that the one before us written expressly for the cavalry service at a time when it was proposed to introduce that arm into our peace establishment several years since, will be temporarily, if not permanently adopted. It was compiled at the express request of the present Commander in Chief, out of the regulations and practice of the several armies of Europe, by an officer, who, after being educated in the imperial school of cavalry of St. Germain's, was employed for several years under Napoleon in the light horse and staff of the French armies; and who, both from training new levies, and crossing sabres with veteran troopers, had full opportunity to compare not only the theoretical systems of the several nations of Europe, but their practice in the field. The work is divided into three parts. The first contains a system of organization and formation in the field, proposed for the cavalry of the United States—including a nomenclature and explanation of the technical terms used in the service. The second contains the preliminary instruction which every cavalry recruit should receive before he is allowed to manœuvre with his corps; and the third gives a system of manœuvres proposed for the use of the corps to be raised. In the course of the work, the author takes occasion to investigate the principles upon which the manœuvres of cavalry are founded, as well as to analyze the elementary movements by which they are executed; and while he disclaims all pretensions for his work to the title of a complete course of instruction for a cavalry officer, he has given a compendium which must be invaluable, if the military information conveyed in it be but as sound as it is clearly and logically arranged. *

Traveller's Guide to the Middle and Northern States, and Canada; *M. Davison.*—This is the fifth edition, enlarged and improved, of Mr. Davison's useful little pocket companion. It is ornamented with a great number of engravings, and includes in its descriptions of places, routes, &c., a number of valuable historical notices, amusing legends, and interesting facts. It is for sale at the Carvills.

FOREIGN INTELLIGENCE.

Late from France.—By the packet ship *Charlemagne*, from Havre, whence she sailed on the 7th ult. we have our Paris files to the 6th inclusive. The most material intelligence is that relating to the condition of the Porte, and the possible quarrel that menaces to break out between France and Russia, for the honor and advantage of defending the Grand Signior from the triumphant arms of his rebellious Egyptian Pacha. A private letter from Paris, of 5th April, published in the Havre Journal of 6th April, gives this account of the refusal of *Mehemed Ali* to accept the proposals of France for an armistice and termination of the war.

We have received by express most important intelligence from Alexandria of the late date of 11th March. It comes to us from Toulon, where the brig *Swan* has arrived, with urgent despatches for Government. The amount of the intelligence is, that the Pacha of Egypt, *Mehemet Ali*, refuses to acquiesce in the propositions of France respecting the war between Egypt and the Porte. Admiral Roussin having sent to Alexandria an express in order to inform our Consul general of the note delivered at Constantinople, in concert with the English and Austrian Ambassadors, having in view to stop the march of Ibrahim, and to deprive Russia of all pretext for intervention; *M. de Mimault*, our Consul general, immediately asked and obtained an interview with Mehemet. The Pacha, who had on his side received dispatches from Ibrahim, received our Consul coolly, and refused plumply to expedite orders to his son to suspend his march upon Constantinople. It would seem that the part assigned him by the mediators excited his indignation, especially when he ascertained that conditions were in some sort prescribed to him without his being previously consulted. Our Consul immediately despatched the Swan with this intelligence.

This news, if accurate, and it seems very direct, and the vessel having arrived at Toulon from Alexandria, must necessarily be later than the intelligence by the way of Constantinople, is certainly important, and satisfactorily accounts for the capture of Smyrna and other military movements of *Ibrahim* after the armistice stipulated between the Porte and Admiral Roussin. The intervention of Russia now seems imminent; and on that head, we find the following letter from

Odessa, March 15.—A vessel in 64 hours from Constantinople, brings an account of the Russian fleet being still quietly at anchor in the Bosphorus. Meantime our government has hired many transports destined to convey to Constantinople the Russian troops which are advancing by forced marches to this region, in the event of the affairs of Turkey rendering such a movement necessary. The troops will certainly sail if Ibrahim should resume his advance; the more so, as the French ambassador having only guarantied peace on the condition that the Russian fleet should depart from the vicinity of Constantinople; and that condition not having been fulfilled, France will no longer feel herself bound.

The life of the Duchess of Berri is positively spoken of by the Gazette de France, as being in imminent danger. There is a daily report in that paper—surrounded in anticipation with mourning lines—of all that can be collected respecting her health.

M. de la Grange, the friend and confidential counsel of *M. Lafitte*, publishes a letter in the Paris papers, respecting *M. Lafitte's* affairs, in which, after bearing testimony to the unbounded liberality of his client towards the unfortunate and the needy, in his days of prosperity, avers that all the present creditors but *one* of M. Lafitte are paid—but that one, tho' abundantly secured otherwise, insists upon the sale of *M.L.'s* dwelling—and to this very individual, now his creditor, M. Lafitte remitted, some years back, more than 600,000frs. ($120,000) of debt due him.

Paris, March 30.—The following letter, addressed to M. Belmonlet, a man of letters, will be read with interest:—

London, March 20.

Sir—The unaccountable and too real proscription to which I and my family have been subject for so many years, will prevent me being present at the fete which is to take place for the benefit of the imprisoned patriots, and which is to be presided by the illustrious friend of Washington, and the Hon. M. de Cormenin. As you are one of the Stewards, I request you to present my offering. The bearer will deliver you to that effect a decoration of the Legion of Honor, set in diamonds, which belonged to my brother, the Emperor Napoleon, which he wore in the camp at Boulogne, and during the campaign of Ulm and Austerlitz, and which he gave me on his return. I wish that the events which it calls to mind may so enhance its value, as to render it of some utility to the generous citizens who are the object of the fete. I add to this decoration the sum of 600fr. for the same purpose. Accept, etc.

Joseph Napoleon Bonaparte.

The entertainment for the benefit of the imprisoned patriots referred to in Joseph Napoleon's letter, was to have taken place in the Salle Ventadour, but that building was refused by the Prefect of Police. It will consist of a grand ball and lottery, for which numerous valuable articles have been already sent. A hotel, situated in the rue de Sèvres, has been hired for the above purpose, and the day that is fixed is said to be the 7th of April. It is added that M. Belmontet intends, also, to place in the lottery, the decoration of Napoleon, which is intrinsically worth a considerable sum. He will add to it a very valuable sabre, which he has received for the same purpose from young Louis Napoleon. The workmanship of this sabre is admirable. On its blade are these words: *Honneur, Liberté, Patrie.*

The following letter has been addressed to the Editor of the *National*:—

London, March 23.—Sir,—I learn by the journals that a subscription has been opened for the purpose of buying in the hotel of one who, in July, sacrificed his fortune with a view to insure the prosperity and liberty of his country. The people are always generous; they do justice to the pure intentions of M. Laffitte, and are now rewarding, by a token of their esteem, his strict integrity and his noble patriotism. Desirous of associating myself with all who are generous in France, I send you my offering; for in exile we are affected, even in a higher degree, by the glory as well as by the misfortunes of our country. Accept, &c.

Louis Napoleon Bonaparte.

General Guilleminot is definitively nomihated Governor of Algiers.

Paris, April 4.—The Bill for coercive measures against Ireland passed the House of Lords in the session of the 1st of April. The royal sanction was given to the Bill by commission.

London, April 2.—We learn that our Government has received the reply of Prussia and Austria relative to their views on the subject of the affairs of Holland. It is asserted that they are in perfect accordance with those of France and England. This, it is said, is the occasion of the conference which took place yesterday, and the rise of the funds. Consols 87 3-4.

M. Dedel, (the Dutch Envoy) it is said, after his proposition had been rejected, made new ones, which consisted in demanding the release of the Dutch prisoners of war, and the removal of the embargo; in offering the opening of the Scheldt as before the citadel of Antwerp, (this is the important point) and in leaving it entirely to the decision of the whole conference to regulate the definitive Treaty between Holland and Belgium, provided the latter should consent to the same thing. The last proposition was to have been presented to the Belgian Government on the 31st March.

From the well-known character of the King of Holland, it is evident that this proposition conceals a new danger. The Cabinet of the Hague would not have demanded that the question should be left entirely to the discretion of the Conference, without having previously consulted the intentions of the Cabinets of the North, and satisfying themselves that the three Courts of the North would probably be favorable to the claims of Holland

Constantinople, 8th March.—The greatest activity prevails among the diplomatic body. A rupture between France and Russia is apprehended if the former does not disavow the precipitate conduct of Admiral Roussin. That officer nevertheless persists in demanding the sending away of the Russian fleet, asserts that this may easily be done if the will be there, that the vessels may be towed out by the steamboat which is in the great harbour. The Sultan does not appear to desire their departure, however some voices have been heard in the Divan in support of the French Ambassador, on the other hand, the Divan is suspected, as from there, since the defeat of the Grand Vizier, a number of intrigues have proceeded which have had the effect of spreading consternation and paralyzing the preparations of defence made by the Porte.

Daily conferences take place between the Envoys of France and England, but the latter appears to act with more precaution, and merely to prevent any serious difficulties. Seldom has there been so great a schism as at present among the diplomatists of Pera. They certainly existed at the time of the Greek insurrection, but then were attempted to be concealed. Now it is quite the reverse.—[Augsburg Gazette.]

Paris, April 4.—It is announced that at the moment the Egyptians took possesson of Smyrna and changed the Turkish officers of that town, the French and English Consuls took down their flags, signifying to the commandant of the detachment that they would quit Smyrna if the Egyptian troops did not withdraw. At the last dates from Constantinople, which go to the 7th March, it was hoped that an arrangement would take place.

London, April 2.—*Evening.—Postscript.*—We learn from a person entitled to the utmost confidence, that news from Constantinople, via Odessa, has been

received by the government this evening. The dates reach to the 10th March. Admiral Roussin was making preparations to quit Constantinople, on account of his protestations against the prolongation of the presence of the Russian fleet at Bujukdere, and the march of the Russians from Jassy, proving unsuccessful. It is added that the French Ambassador had had a sharp altercation with the Reis Effendi, and that in consequence of said interview, he has demanded his passports.

Second Postscript.—Some additional information has been communicated to us on the subject of the despatches received by the Government from Constantinople. Admiral Roussin has not demanded his passports of the Porte, but had written to Paris to ask permission to retire.

New Granada.—We have files of Bogota papers to the 25th March—the address of President Santander—and a long report made by the Secretary of Domestic and Foreign Affairs, to the Constitutional Congress of 1833.

The message of Presid't Santander, the choice of Joaquim Mosquera as Vice President, and the general tone of the papers, inspire us with confidence that New Granada—even if all attempt to reunite the former States which composed the republic of Colombia should fail,—will enjoy in tranquillity, and gradually mature, free institutions. Both the President and Vice President have had the opportunity of examining the practical operation of a free representative system in this country, and of comparing the mass of happiness, of security and of equality diffused by it, with the results produced in Europe by the monarchical system. Our public schools and other means of disseminating as widely as possible the blessings of education, were objects of attentive inquiry to both those distinguished individuals;—and will be, we are persuaded, of their anxious imitation in New Granada—we hope not in vain.

[*From the Canton Courier.*]

Late from China.—*The Rebellion in Formosa.*—*Canton, Jan.* 10.—We hear that the rebellion on this island has assumed a very formidable appearance; and that all the disposable military force is being sent, with all speed, from the province of Fokien. Our native informants are by no means communicative on the subject. perhaps from the ignorance in which the government wisely shrouds all information of an unpleasant nature from the knowledge of the public Some reports are afloat of the rebels having submitted, and the ringleaders surrendered to the Imperial forces, but to these we do not attach much credit. The gross national vanity of the Chinese makes them exceedingly jealous of any reports, that may detract from the supposed power of the empire, reaching the ears of foreigners; and thus it is, that the usual reply to any question as to any of the numerous rebellions (which, year after year, spring up in some part of China, or its half conquered tributaries) is that the business is "just settled."

Canton, Jan. 10.—*The Weather.*—Our meteorological diary for the past month shows a more singular change in the temperature than can, we believe, be found in any other inter-tropical country in the world. At the beginning of the month, while a southerly wind prevailed, the thermometer stood at 76 deg. with sultry and oppressive weather, but the northerly wind, which in Canton always brings with it severe weather, suddenly reduced the temperature, especially at night. During the night of the 30th, a registering thermometer showed a fall of one degree below the freezing point, and ice was, on the following morning, found in considerable quantities, about half an inch in thickness.

Pirates.—By the Governor's orders, proclamations have been issued concerning a fleet of pirate boats, which have come up from Cochin-China, finding their depredations checked by the vigilance of that Government. Two of the boats have been taken, and the prisoners have stated that the whole fleet consists of upwards of 90 sail. The leader's name is Yang-tsew-foo, a Chinese of Lintin (or Singan) district.

Canton, Jan. 5.—Our late Governor Le, of whose death so many reports have been circulated since his disgrace, has, it appears, arrived at Peking, where he awaits his trial for bad management during the Lee Chow insurrection, and other charges which have been preferred against him.

Canton, Jan. 12.—We hear that an edict has been received by the local government from his Imperial Majesty at Peking respecting the appearance of foreign vessels upon the coast. A copy of this document has been transmitted to the Chief of the British Factory, in which he is enjoined to prohibit in future the vessels of his country from persevering in these attempts to open a trade which can by no means be suffered. The officers of the Imperial Marine are also directed to keep a strict watch upon these strangers and send them back to Canton, whore alone the foreign trade is permitted to be carried on.

This is only one out of several similar edicts; but we presume that it has been provoked in this instance by the appearance of the Jamesina, which vessel left Lintin sometime since, as was understood, on a cruise of this description.

SUMMARY.

From Norfolk to New-York in 33 hours!!—The new arrangement of the Baltimore steam-boat Columbus and Pocahontas, says the Norfolk Beacon, which goes into operation on Sunday next, proposes to give a degree of despatch unexampled, to the conveyance petween Richmond, Norfolk and New-York, transporting the passengers from Richmond to New-York, in 41, and from Norfolk to that great commercial emporium in 33 hours.

The Genesee Aqueduct.—It appears that serious apprehensions are entertained, lest the aqueduct at Rochester should fail. A meeting has been held in that place to take its condition into consideration, and to take precautions to prevent the interruption of the navigation of the Canal in case of its being injured.

Tam O'Shanter.—Of the admirable group referred to in the annexed notice, we lose not a moment in advising every one to go and see it. No praise of these figures can go beyond the truth.

We feel great pleasure in announcing that Tam O'Shanter and his interesting companions, for whose safety fears have lately been expressed, are comfortably seated in the Sculpture room of the Academy in Barclay street, where they are now daily exhibited to the public. They are the first attempt at the comic in stone, which has, in any country, challenged the notice of the public. Contrary to expectation, their debut in England was completely successful; and not only the uninitiated gazer, but the cultivated artist, and even the fastidious connoisseur alike joined heartily in the merriment of the laughter loving group, and in their commendations of the genius which conceived and the hand which executed it.—We confess that we warmly participate in the anxiety which has been felt to behold the bold productions which have thus set the narrow bounds of the art at defiance, and have "won golden opinions" from its professors themselves; and we rejoice that these works, whose praises have been sung from the great metropolis of England to the "modern Athens" of Scotland, have found an asylum in the American Academy of Arts.

Inundation at Albany.—The steam boat Novelty, Captain Thomas Wiswall, arrived Tuesday evening at half past 8 o'clock, having left Albany at 10 o'clock in the morning. When the boat left Albany, the water had risen over the pier and wharves at Albany, and was still rising very fast. Large quantities of timber and lumber were to be seen floating down the river and property to a large amount in cellars near the wharfs had been damaged.

Naval.—The U. S. ship Natchez Capt. Zantzinger, bound to Brazil, went to sea from Hampton Roads, on Wednesday evening.

Passengers—Lieut. T. W. Shaw, James W. Watson, and W. W. Hunter, and W. P. Zantzinger, Purser.—[Norfolk Herald.

The U. S. schr. Experiment, Lt. Com. Mervine, with Commodore Elliot and family on board, sailed from Norfolk on the 7th inst. bound to Boston.

We regret to learn that the Hon. Langdon Cheves has had his arm broken by the upsetting of the stage between Augusta and Savannah. The driver of the stage was also much injured, but we understand they are both doing well.—[Charleston Post.]

Survey of the Gulf of St. Lawrence.—We learn from the Quebec Gazette, that Captain Bayfield and party are to proceed in the Gulnare to survey the Gulf, about the 22d inst. A tender built the past winter of about 40 tons, is to accompany the Gulnare, the navigation of the Gulf being too dangerous to admit of surveying in an open boat. The party are to return to Quebec in September.

[*From the Journal of Commerce of Saturday.*]

Exhibition of the deaf and dumb.—This exhibition attracted as great a crowd at Chatham street Chapel last evening, as was ever brought together there, on any occasion.

The pupils, of both sexes, and of different ages, had an appearance of uncommon neatness, cheerfulness, and intelligence. In their interesting exercises, they displayed a quickness of apprehention, and readiness of expression, which surpriaed every one.—The very youngest class, which had been instructed, in connected composition, not longer than ten days, wrote more readily and correctly than other children of the same age in any of our schools.

The recitation, by signs, of passages from the Spectator and Shakspeare, and the illustration, by signs, of various passions and emotions, and of the meaning of different words, were very interesting and curious. Roscius himself, who could express thoughts by gestures with as much nicety and variety as Cicero could give them in words, would have found a rival in the lad who recited Shakspeare's seven ages.

The President of the Institution, the Rev. Dr. Milnor, delivered a brief address concerning the affairs of the institution, from which we are sorry to learn that it labors under much pecuniary embarrassment. Four thousand dollars are wanted to discharge debts already incurred; and, notwithstanding the aid afforded by the Legislature, the funds of the Institution are wholly inadequate to the instruction of all the deaf and dumb in the State. The whole number of deaf and dumb in the State, at the present time, is about nine hundred, and even on the supposition that it will remain stationary, there will always be one hundred and fifty of suitable age for instruction. The whole number now under tuition is ninety-six.

Very able instructors have been obtained, and improvements in the mode of instruction are making. During the intervals of the usual course of instruction, lectures, by signs, on various subjects, are to be given to the pupils, by the professors.

The young men are also taught various trades, and the girls are instructed in plain and ornamental needle work, household affairs, &c.

Infant School Society.—The sixth annual meeting was held on Friday, (10th) at the Canal street Church.

The annual Report exhibits a gratifying view of the increasing number, popularity, and success of the schools in this city. The first Infant School was established here in May 1827, and the experience of six years has placed beyond dispute the practicability of instructing infants, not only in the branches of primary education, but in the principles of morals and religion.

There are now, in this city, 16 schools, wherein 2360 infant children receive instruction—1400 in the charity Schools, and 970 in those attached to the Public Schools. There are also 11 private schools conducted upon the Infant plan, comprising about 420 children. There are still 6000 children, under four years of age, who are not embraced in any of the schools. The Managers report that their funds are entirely exhausted, and unless their Treasury is replenished, their exertions can be of little avail. The impression that provision is made for the instruction of the infant children of the poor, is erroneous. That Society will be able to support but few infant schools, and their funds cannot be appropriated to children under four years of age. Under these circumstances, the Managers appeal with confidence to the public for further contributions.

Infant School Exhibition.—The Exhibition of one of the Infant Schools, comprising about 100 children, from a year and a half to five years of age, took place at the same time, and afforded much gratification to all who were so fortunate as to be present. They could not only read very well and converse intelligently, but they seemed to be no mean proficients in morals, arithmetic, grammar, geography, astronomy, &c. We have reason to belive that the children thoroughly understood what they seemed to understand, and that none of their answers or remarks were mechanical.

A liberal Act.—An act of liberality has come to our knowledge within a few days past, which deserves to be mentioned. A friend of ours purchased of the New York Life Insurance and Trust Company, an annuity of $400 for two near relatives, (mother and daughter) and within a few weeks after the purchase the annuitants both died, and all claim on the Institution for compensation, with them. A knowledge of the facts being laid by the President before the trustees, the Board unanimously passed a resolution awarding to the purchaser $400, being one

year's annuity. Such an act of liberality will go far to increase the confidence of community in this institution.—[Hudson Republican.]

The Collector of the Port of Philadelphia, has received the document addressed to Captain Kinsman of the brig Gazelle, by the Royal Humane Society of London, adverted to in the subjoined letter from the American Consul at London; and as it does not appear that the brig Gazelle belongs to this port, adopts this method of advising Captain Kinsman of the circumstance, and requesting to be informed where he may addressed.

CONSULATE OF THE UNITED STATES,
London, 22d March, 1833.

SIR—The Royal Humane Society of London, having unanimously adjudged that a vote of thanks inscribed on vellum, should be presented to Captain Kinsman of the United States brig Gazelle, for the preservation of the crew of the British schooner "William and Elizabeth," on the 27th September, 1831; and having requested me to forward it, I take the liberty of transmitting it to your care by Captain Mott of the brig Margaret Anne, as I understand from him that the Gazelle belongs to Philadelphia. Should he be mistaken, I would ask the favor of you to endeavor to ascertain in what way it can be sent to Captain Kinsman. I have the honor to be, Sir, your obedient servant, THOS. ASPINWALL.

We find in the Cincinnati (Ohio) Gazette, the following paragraph relative to the only bank, out of many applied for, incorporated by the Ohio Legislature at its last session.

Franklin Bank.—The following gentlemen were elected directors of the Franklin Bank, on Saturday last:—J. H. Groesbeck, Saml. Wiggins, W. Greene, Marcus Smith, J. P. Foote, M. T. Williams, George Luckey, Josiah Lawrence, Edward King, David Loring, Jas. McGregor, Wm. Disney, and Danl. Corwin.

Mr. J. H. Groesbeck was elected, by the Directors, President of the Bank.

Premium of $300.—The American Lyceum, during their late interesting annual session in New York, passed a resolution offering a premium of $300 for the best text book on Physiology for teachers. This they were enabled to do through the liberality of an individual who wishes to see the body trained with the mind.

A few days since, three young men, on the south side of the Island of Martha's Vineyard, were engaged in laboring in a field which was once an orchard—two of them ploughing, and the other picking up stones at a distance. As the plough passed over a certain part of the land, the ploughshare started up two or three pieces of silver coin, which were hastily snatched up by the holder, and put in his pocket.—His companion observed him stoop and pick up something, and when the plough went over the spot again, seeing him repeat the movement, he desired to change situations with him. This was done, and he too reaped his crop; when each finding that the other was master of the secret, they proposed a manoeuvre to get rid of the third person, so that they could divide the spoil without his coming in for a share.—They therefore declared it best to leave off work that afternoon, as it was nearly 12 o'clock, which was readily acquiesced in. What they obtained no one can exactly state—but it is believed that not far from two or three thousand dollars, which had been originally buried there in a bag, (ascertained by pieces of cloth adhering to some of the coin,) which were excavated. This was divided between the two, leaving the man in the field, (who was no less a personage than our good friend Jones, well known as the author of Haverhill) to attest the truth of the old adage,

"He who by the plough would thrive,
"Must either *hold* himself or *drive*."
[New Bedford Gazette.]

A fire broke out in the city of Troy on Friday morning, which destroyed six buildings, occasioning a loss of property exceeding 10,000 dollars.

Tennessee Emigrants to Liberia.—A letter has been received from Mr. H. D. King, agent of the Colonization Society of Tennessee, dated at N. Orleans, announcing his safe arrival there with the last company of colored emigrants from this State on the 9th of April, and stating that the whole party from the west, amounting to about 150 or 160 persons, would sail in a few days from that port for Liberia, in the brig Ajax, Capt. Taylor.—Mr. King had determined to accompany the emigrants to Liberia, to examine in person the condition and prospects of the colony.—[Nashville Republican.]

Afflicting Casualty.—We learn that on Wednesday afternoon last, a part of the upper floor of the Flouring Mill of Mr. Storm Truesdell, at the Hudson Print Works, gave way, supposed to have been caused by the great weight of grain and flour, and Mr. James Clark, the miller, was killed. When the floor gave way, Mr. Clark and a young man by the name of Staats were on it engaged in removing grain from the front to the rear of the mill; Mr. C. was precipitated head foremost into the hopper; the grain and rubbish falling in upon him smothered him to death. Staats was not injured. The loss to Mr. Truesdell must be very great.

Mr. Clark was a native of England. and had been in this country about four years. What renders this accident still more afflicting, he was daily expecting his family from England. His wife and children are now on the ocean, or have arrived within a few days. He was a man much respected.—[Hudson Republican.]

The laying of the corner stone of the monument to the mother of Washington, took place at Fredericksburg on the 7th inst. agreeably to the concerted arrangements.

About 9 o'clock the President was escorted from his lodgings to the Town Hall, where he was introduced to a number of citizens and strangers, who called to pay their respects to the Chief Magistrate of the Nation. The day was fine, and the occasion attracted a large concourse of persons from the adjoining counties. The procession set out from the Town Hall at half past ten o'clock, and moved according to the arrangement of the Committee, in the order and through the several streets previously designated, to the site of the Monument.

As the procession moved up Main street, the extended line, the various uniforms of the military, the glittering arms, the music, the dense mass that thronged the side walks, the crowded windows, overlooking the whole scene, altogether presented a view grand and imposing.

Arrived at the spot, after an appropriate Prayer by the Rev. E. C. M'Guire, an Address was delivered by the President, and also by Mr. Bassett, the plate with the inscription deposited, and the other usual caremonies were performed. The procession then returned to the Town Hall, where the proceedings were concluded, and the companies separated.

PORT GIBSON, (MI.) APRIL 20.—The Indian who was convicted and sentenced for murder, at our last Circuit Court, received the reprieve of the Governor on Tuesday last. What few Indians were in the neighborhood made much rejoicing at his liberation.

It is stated by a writer in a recent number of the Galenian, that new and valuable discoveries of lead ore have been made upon the east bank of the Mississippi river, between the Platte and Grant Rivers, in Iota county, M. T. The ore is said to be of the best quality, found in large bodies, and over an extensive tract of country. Among the most valuable discoveries, is a horizontal cave, the entrance of which is about 150 feet above the level of the river. It is from two to four feet wide, and from six to nine feet high. From this cave about 400,000 pounds of lead ore have been taken, with little labor; and the operation was still continued. The land is of the best quality, and covered with timber. A town, called Van Buren, (which name has also been given to the mines and cave adjacent,) has been laid out, and that part of the country is rapidly increasing in population.

Choctaw Indians.—About 7,000 of these Indians it is estimated have removed during the past season.—A white teacher among them represents that they presented on their journey an appearance of great wretchedness. The cholera made great ravages among them.

Sir Archy.—This famous horse has cleared for his proprietor, (independent of his atchievements on the turf) $70,000. He is still living, but in the extremity of old age, (in his 30th or 31st year.) His vigor is extinct. He has not shed his hair for several years, and it has grown to the length of two or three inches. A gentleman who has lately seen him, says that of all animals he is the worst looking, and would be the last taken for the most celebrated horse of his age. His owner treats him with all possible kindness, as it would be unpardonable indeed if he did not. Provender without stint, at rack and manger, and a soft and delicate bed, proclaim the Proprietor's gratitude. The door is left open to allow his egress and ingress at pleasure, but it is observed that Archy only comes out to drink, and having done so, immediately returns to his stable.

Except those of the finny tribes, it is conjectured that Sir Archy's posterity out numbers that of any living animal.—[Richmond Whig.]

LOTTERIES.—By the annexed act, it will be seen that after the 31st December, 1833, the State of New York will be freed from this most mischievous species of gambling.

An Act fixing the period for closing all the lotteries authorized to be drawn within this State. Passed April 30, 1833.

Whereas, John B. Yates and Archibald McIntyre, assignees of all the unsatisfied lottery grants made by this State, have executed to the people thereof an agreement, bearing date the twenty-fifth day of January last, that all lottery grants heretofore made by this State shall cease and determine from and after the close of the present year, and releasing and acquitting the people of this State from all right, title and claim to continue or draw any lottery within this State after the last day of December next, provided the legislature will pass an act declaring that the lotteries authorized by this State may be continued until the close of the present year: Therefore,

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. The lotteries authorized by law to be drawn within this State may be continued until the close of the present year; after the end of which period it shall not be lawful to continue or draw any lottery within this State; but all and every lottery heretofore granted or authorized within this State, shall absolutely cease and determine.

§ 2. That the said agreement and release of the said John B. Yates and Archibald McIntyre, shall be filed and recorded in the office of the Secretary of State.

Mortgages on personal property.—By an act of the last Legislature, every mortgage, or a copy thereof, of personal property is required to be filed in the office of the town clerk, where the mortgager resides, or if a non-resident, where the property is at the time of conveyance. If, however, there be a county clerk's office in the city or town, then it shall be filed in his office. Such mortgage is valid as against creditors, or subsequent purchasers for one year only, unless within thirty days next preceding the expiration of the one year, a true copy of the mortgage, together with a statement exhibiting the interest of the mortgage in the property, be filed as before.—[Hudson Rep.]

VERY LATE FROM CHARLESTON.—By the steam-boat David Brown, Capt. Penoyer, we have received Charleston papers to Saturday evening, 11th inst.

A POOR STORY.—By a statement of the affairs of the Merchants and Planters Bank of Augusta, it appears, that the bank owes $345,734 59, and has in available assets $85,927 51. The only hope for so great a deficiency rests upon $281,822 00 of doubtful debts. This statement does not include the amount due to stock holders for capital paid in, which is $224,975 00.

A correspondent of the Augusta *N. American Gazette*, writes from Milledgeville, under date of the 7th inst. that Judge WAYNE has been elected President of the Georgia Reduction Convention. The vote stood, JUDGE WAYNE 151; W. H. CRAWFORD 88, scattering 9. The same writer states, that the majority of the Union and administration members is *at least two to one.*

DANISH CLAIMS.—The Washington Globe of Tuesday last contains a list showing the result of every claim presented to the Board of Commissioners, under the late Treaty with Denmark. The full amount awarded in all the cases is $2,154,425. The sum actually payable is $670,564 78.

Green Peas.—The Alexandria Gazette of yesterday says, that Green Peas are quite plenty in that market.—Green Peas were on the table of the Cincinnati (Ohio) Hotel, on the 7th inst.

Important to Mariners.—We learn from a gentleman just arrived from St. John's, East Florida, that the lights at that place have been discontinued and the lighthouse itself will soon be taken down. This is owing to a sudden alteration in the channel of the river, which washed away part of the dwelling house attached to the station, and partly undermined the lighthouse. Proposals were issued for taking it down to prevent its falling into the water. The lanterns, railings, and stone, have been taken down and conveyed to a safe place.—[Balt. Gaz.]

PRESBYTERIAN EDUCATION SOCIETY.—The annual meeting of the Presbyterian Education Society was held last evening at Chatham street Chapel—The Hon. Theodore Frelinghuysen in the chair. The Report was read by the Rev. Mr. Patton. This Society was formed in 1818. During the whole period

of its existence, it has assisted 679 young men in obtaining an education for the Gospel ministry. The number now under patronage is 471, of whom, 74 are in 10 theological seminaries, 150 in 15 colleges, and 247 in 52 Academies. The number of new applicants received under patronage during the year, is 162; licensed to preach, 25; patronage withdrawn from 4. Amount of earnings by beneficences during the year, chiefl by manual labour, $6,504 04; being an average of $28 40 to each individual. Receipts of the year, exclusive of the above, $23,024 56. Expended, $24,014 56. Addresses were made by Rev. Messrs. Gilbert of Wilmington, Del., Waterman of Providence, Peters of this city, and Wisner of Boston. The House was well filled, and the services were listened to with great apparent interest.

We yesterday examined, in the Exchange, the beautiful row boat constructed by Mr. Joseph Francis, for which he has secured a patent. It is about 12 feet in length, beautifully modelled, clinker built, and put together with brass screws. It can, at pleasure, be taken apart put in a small portable box, and transported from river to river and from lake to lake. It is calculated for three men or boys to row with sculls, and will carry the weight of half a dozen individuals, with tolerable comfort and safety.—[Gaz.]

Fire Engine.—An Engine remarkable for the excellence of its mechanical finish and for the beauty and splendour of the ornamental work, has lately been made for the Corporation by Mr, James Smith, of 55 Elm street, and presented to Fire Company No. 23. It was yesterday placed for some hours in front of the Exchange, and excited general admiration.

It is but jnstice to the mechanics and the artist employed, beside Mr. Smith, in the making of this Engine, to give their names to the public. The decorations were designed and the carving executed by Mr. John F. Miller, Warren street. The painting, gilding and bronzing of the body was done by Smith & Freeborn, Cherry street. The painting on the back is from the pencil of Mr. G. W. Twibell, N. A., a most promising young artist: it is a copy of "*the Trojan Fugitives*," by Jones, R. A., London, and one more appropriate could with difficulty be imagined.

The total cost of this engine is sixteen hundred dollars, only about one-half of which is given by the Corporation, the remainder has been contributed, with laudible pride, by the members belonging to the fire company to which the engine is attached.—[Courier and Enquirer.]

M. *Grothe*, charge d'Affaires from Holland to Mexico, who sailed on the 8th in the Roscoe, for Liverpool, is accused by the Mexican Secretary of State, M. Gouzales, of quitting the country to which he was accredited without the customary formality of taking leave, and of dishonouring his diplomatic character and abusing the privileges attached to it, by leaving a large amount of debts unpaid.

We publish to-day two laws from the Argus; the one relating to the mutilation of bank notes—the other restricting the trading capacities of that indefinite person, Co.

An Act to prevent the mutilation of Bank Bills, passed April 30, 1833.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. Every person who shall mutilate, cut, deface, disfigure, or perforate with holes, or shall unite or cement together, or to any other thing, any bank bill, draft, note, or other evidence of debt, issued by any incorporated bank in this state, or shall cause or procure the same to be done, with intent to render such bank bill, draft note, or evidence of debt, unfit to be re-issued by said bank, shall, upon conviction, forfeit fifty dollars to the corporation who shall be injured thereby.

§ 2. This act shall take effect immediately after the passage thereof.

An Act to prevent persons from transacting business under fictitious names—passed April 29, 1833.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. No person shall hereafter transact business in the name of a partner not interested in his firm, and where the designation "and Company," or "& Co." is used, it shall represent an actual partner or partners.

§ 2. Any persons so offending against the provisions of this act, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and be punished by a fine not exceeding one thousand dollars.

§ 3. This act shall be published by the Secretary of State immediately, and shall not take effect until six months after its passage.

MISCELLANY.

[*From the Encyclopædia Americana.*]

ANTHONY WAYNE,

A distinguished general in the American army, was born in the township of Eastown, Chester county, Pennsylvania, January 1, 1745. His father was a farmer of great respectability, and passed a long life of usefulness to his country, having frequently occupied a seat in the provincial legislature, and repeatedly distinguished himself in expeditions against the Indians. His grandfather was a warm friend of liberal principles, and commanded a squadron of dragoons, under King William, at the memorable battle of the Boyne. He emigrated to America in 1722. The subject of this sketch received a good education, though, for some time after his entrance into school, he spent much more time in planning and executing military amusements, than at his books; but, in consequence of a threat of his father to consign him to the drudgery of the farm, he applied himself assiduously to study, and in mathematics, attained great proficiency. After leaving the Philadelphia academy, at eighteen years of age, he took up his residence in his native county, and commenced the business of a surveyor, in which he acquired great reputation and success, devoting also a portion of his time to practical astronomy and engineering. On these subjects he left manuscripts, which have obtained high commendation from adequate judges. He likewise filled some county offices, and took a very active part in the preparation for the struggle which resulted in the independence of these United States. He was one of the provincial deputies, who, early in the year 1774, were chosen by the different counties of Pennsylvania to take into consideration the alarming state of affairs between Great Britain and her colonies and report concerning it; and a member of the Pennsylvania convention, which shortly afterwards assembled at Philadelphia, and excited powerful emulation in the other colonies. In the same year he was chosen a represeutative of Chester county, in the provincial legislature, and, in the summer of 1775, was appointed a member of the committee of safety, to whom the duty appertained of calling into actual service the *associators* (as they were termed,) and providing for the defence of the province against invasion from abroad and insurrection at home. Being desirous of serving his country in a military capacity, to which his natural bent was strong, he retired from civil employment in Sept. 1775, and raised a company of volunteers, of which he was nnanimously elected colonel. In January of the ensuing year, he was appointed, by congress, colonel of one of the regiments which they had resolved to raise in Pennsylvania, and, at the opening of the campaign, received orders to join the army under general Lee, at New York. Thence he proceeded with his regiment to Canada, and shared in the unsuccessful attack upon the enemy at Three Rivers (conducted by general Thompson,) on which occasion he was wounded, and distinguished himself for his bravery and good conduct in uniting and bringing off the broken troops. After the retreat from Canada, and the departure of Gates to join Washington's army, he was entrusted, by general Schuyler, with the command of the fortresses of Ticonderoga and Mount Independence. Feb. 21, 1777, he was promoted, by Congress, to the rank of brigadier general. He continued in command of Ticonderoga and its dependencies until the month of May, when, in consequence of his earnest solicitations, he was allowed to join the main army, under Washington, in New Jersey, where he was immediately placed at the head of a brigade, which he made every exertion to bring into the field in the highest state of discipline.—After the British retreated from New Jersey, the commander in chief complimented him on his bravery and good conduct. As soon as the object of the next movement of Sir William Howe was developed, general Wayne, in pursuance ot the directions of Washington, left his brigade under the next in command, and proceeded to Chester, in Pennsylvania, to arrange the militia who were to rendezvous there. In the battle of Brandywine (Sept. 11, 1777,) he commanded a division stationed at Chad's ford, for the purpose of resisting the passage of the column under Knyphausen. He maintained the contest with the utmost gallantry until near sunset, when, at length, overpowered by numbers, and perceiving the enemy, who had defeated the right column of the American army, approaching his flank and rear, he was compelled to retreat. A few days afterwards (on the 16th,) Washington determined to try the fate of another battle; and, both armies being arrayed in Goshen township, Chester county, on the road leading from Philadelphia to Lancaster, the action was commenced with great spirit by Wayne, who led the advance. It was soon arrested, however, by a violent storm, which rendered it impossible to keep the field. On the 20th, Wayne, in pursuance of the orders of the commander-in-chief, to move forward upon the enemy, and endeavor to cut off his baggage, took an excellent position, with 1500 troops, including militia, a mile south of the Warren tavern, and three miles in rear of the left wing of the British army, whence, after being reinforced, it was his intention to march and attack the enemy's rear when they decamped. He made every arrangement to prevent a surprize; but the British, having received full intelligence of his movement from traitors, and being faithfully piloted by them, contrived to attack him unawares, with superior numbers, and obliged him to retreat after an obstinate resistance: but his troops formed again at a small distance. This affair having caused some to attach blame to him, he demanded and obtained a court martial, by whom it was unanimously decided, that he had done "everything that could be expected from an active, brave, and vigilant officer, under the orders which he then had;" and he was therefore acquitted "with the highest honor." At the battle of Germantown, he evinced his wonted valor, leading his division into the thickest of the fight, and in covering the retreat, he used every exertion which bravery and prudence could dictate. His horse was killed under him within a few yards of the enemy's front, and he received two slight wounds, in the foot and in the hand. During a large portion of this campaign of 1777, owing to a combination of circumstances, he performed alone the duty of three general officers. About the middle of February, 1778, when the army was in winter quarters at Valley Forge, and suffering miserably from want of provisions, he was detached with a body of troops to New Jersey, in order to secure the cattle on the eastern banks of the Delaware, and to destroy the forage which could not be removed, lest it should fall into the hands of the enemy. This was a most hazardous and arduous enterprize, within the limits of the enemy's lines, and in a disttrict of country subject to his control whenever he chose to exert it; but he cheerfully proceeded to execute the orders of the commander-in-chief and literally carried on a winter campaign beyond the reach of any aid. After several skirmishes with the enemy, in all of which was successful, he succeeded in sending to camp several hundred head of fine cattle, many excellent horses, suited for cavalry service, and also in securing a quantity ef forage, and destroying much more, for the whole of which, for the well affected, he executed certificates in due form. He returned to the army about the middle of March and, with his officers and soldiers received the thanks of the commander in chief. In all councils of war, general Wayne was distinguished for supporting the most energetic and decisive measures. In that which was held before the battle of Monmouth, he and general Cadwallader were the only two of the seventeen general officers who were in favor of fighting. This engagement added to his reputation, his ardor and resolution having been so conspicuous that Washington mentioned him with particular distinction in his official report to Congress. In 1779, Washington, having formed a corps of light infantry, composed of a select body of troops from the different regiments of the army, appointed general Wayne to its command. In July of this year, he was intrusted, by the commander in chief with the execution of a design which he had formed for attacking the strong post of Stony Point, on the Hudson river. For the details of his success in carrying the fort (on the 15th of July) by a night assault, and making the garrison prisoners with bayonets alone, without firing a single gun, we must refer to the history of the times. In the attack, he was struck by a musket ball on the forehead, which grazed the skull nearly two inches in length, just under the hair. He fell, but instantly rose on one knee, exclaiming, "Forward, my brave fellows, forward!" then, in a suppressed voice, said to his aids, "Assist me: if mortally wounded, I will die in the fort." They did so, and the three entered amongst the foremost troops. The wound fortunately proved slight. The thanks of Congress, and a gold medal emblematic of the action, were presented to Wayne for his "brave, prudent, and soldierly conduct." At the end of the year 1779, the corps of light infantry was dissolved; and, soon afterwards Gen. Wayne resumed his command in the Pennsylvania line. During the campaign of 1780, he was constantly actively employed; and, in that of 1781, which ended in the capture of Cornwallis and the British forces at Yorktown, he bore a conspicuous part. He was sent by Washington to take command

of the forces in Georgia, where the enemy were making formidable progress. After some sanguinary encounters, he accomplished the establishment of security and order, and was presented by the Legislature of the State with a valuable farm for his services. Peace soon after followed, when he retired to private life. In 1789, he was a member of the Pennsyvania Convention, and an advocate of the present Constitution of the United States. In 1792, he was appointed by Washington the successer of Gen. St. Clair in the command of the army engaged against the Indians on the western frontier. It was at first supposed that his ardor would render him an unfit opponent of a foe remarkable for caution. He soon, however, proved the incorrectness of this idea. He established admirable discipline among his troops, and by his wise and prudent measures in preparing for an engagement, and the skill and bravery with which he fought and gained the battle of August 20, 1794, near the River Miami of the Lakes, he brought the war to a completely successful termination. In 1795, he concluded a definitive treaty of peace with the Indians. Gen. Wayne died in December, 1796.

ABBOTSFORD.—In the London Literary Gazette of 23d March, we find copied from this paper nearly at full length, the very interesting account of the visit paid by Prof. McVickar and his family, to the departed Genius of Abbotsford—with the following preliminary observations:

ABBOTSFORD.—At the time when a noble effort is making to preserve the mansion of Abbotsford, with its literary treasures, and the specimens of art and taste collected by its late possessor, that they may remain forever in the line and name of Scott; and that generations yet unborn may have the opportunity of seeing, as they were created and formed by him, the darling abode, and sources of intellectual enjoyment, of the man who has so largely contributed to the enjoyments of his kind—we have read with great pleasure the description of a visit to Abbotsford, by an enlightened American traveller, and published in the "New York American," of Nov. 23. From this interesting paper we are induced to copy the leading parts, feeling assured that the perusal of so vivid and touching a narrative will have the effect of promoting the patriotic and national object to which we have alluded. If the inhabitant of another hemisphere, in our own day, experienced such emotions and delight in exploring the spot rendered immortal by the genius of its owner, what must be the sensations of his own countrymen in future ages, when they may perform a pilgrimage to the sacred scene—may witness the very works of his living hand, before they drop a tear on the grave where his mortal remains have their lasting rest in Dryburgh's mouldering Abbey!

The following interesting information respecting the progress of the subscription for the purchase of Abbotsford, is given at the conclusion of Prof. McVickar's narrative:

Having occupied so large a portion of our No. with what we trust will excuse its length by its interest, we have not room to do more than mention the present progress of the Abbotsford subscription.

Within the present week, her Majesty the Queen of Spain, having previously subscribed 20*l.* to the proposed Edinburgh monument, has transmitted another donation of 20*l.* towards the perpetuation of Abbotsford as a family and public monument. This noble instance of royal regard for a foreign object, was communicated through the Spanish minister, le Chevalier de Cordoba, a gentleman himself of distinguished literary talent, which made it the more gracious and acceptable, especially as no other continental government has shown any regard for this design. Perhaps the illustrious and gratifying example may yet be followed; for Scott's memory will be cherished by the people of Germany, France, and other continental nations, almost as much as among ourselves. At all events, we shall not forget the Queen of Spain.

There is to be another general meeting of the subscribers, &c. next month, when the state of the fund will no doubt be made public; and such measures be adopted as will complete what may yet remain to be done for the full accomplishment of the proposed plan.

One of the most interesting books produced on the occasion, was recently transmitted by that estimable Scotsman, Sir Pultney Malcolm. It is filled from the first line to the last with the subscriptions of all ranks in the squadron under his gallant command—from the pounds of the higher officers to the shillings of the jolly mates. Such a tribute is, indeed, well worthy of being bound up with the rest among the archives of Abbotsford.

How beautifully the common love of literature amalgamates adverse political and other opposing feelings which belong to the busy world! An Abbotsford subscription-book has been opened by our consul at Algiers, and the first name upon its page is that of the Duc de Rovigo, the personal friend of Napoleon, whose life, by Sir Walter Scott, gave so much offence to his admirers.—[Ed. Lit. Gaz.]

[FOR THE NEW YORK AMERICAN.]

Anecdote concerning Sir Walter Scott, not before published.—Contrast of taste between Husband and Wife. On a fine day in spring Sir Walter Scott and his lady sallied forth to enjoy a walk upon his own grounds of Abbotsford. In their wandering they passed through a grass field where ewes were nibbling at the pasture, each attended by one or more lambs. Attracted by the sportive frisking of the lambs, Sir Walter remarked, that "there was no "wonder that Poets, from the earliest ages had se-"lected the lamb as an emblem of innocence, for no-"thing could be conceived more innocent than its "lively playful gambols." "Yes," replied Lady Scott, "I like them very much with mint sauce!!" Many husbands would, for obvious reasons, have allowed this incident to pass into oblivion; but Sir Walter, who seems to have thought the joke too good to be lost, communicated it to a respected neighbor and friend, without any injunction of secrecy. He however, considering that there might be, to a certain extent, an implied confidence in the communication, abstained from giving it publicity till both the gifted Baronet and his unpoetical helpmate should be placed, as they are now, beyond the possibility of having their feelings hurt, even in the smallest degree, by its publication.

DESCRIPTION OF BRITISH SHIPS AT THE TIME OF CÆSAR'S INVASION.—Their botttoms were flatter than those of the Roman vessels, that they might be the better accommodated to tide harbors and to a shoal coast; and they were elevated both at the prow and the poop, because that mode of building was then deemed best adapted for stormy seas. They were constructed wholly of oak for strength; the anchors were socured by iron chains instead of cables; and the sails were made of skins and thin leather, either because the people were not acquainted with the use of linen, or because it was erroneously supposed and this was thought by Cæsar to be more likely) that no weaker material could withstand the winds to which they were liable in these parts. It was by disabling their rigging that he defeated them; and this he effected by affixing keen bill-hooks to long poles, and catching with these the ropes whereby their sails were fastened to the mast: this hold having been caught, the Roman rowers put forth all their strength, and when the tackling was cut the ship became unmanageable. Thus the Romans obtained a victory which they knew not how to seek by any other means; for the beaks of their galleys could make no impression upon the strong oak timbers of the Gauls and Britons; and even when they set up towers, the enemy looked down upon them from their lofty poops, and threw their weapons with advantage. An opportune calm enabled Cæsar to complete his success, when the ships which had saved their cordage endeavored to make off; and of two hundred and twenty sail, of which the allied fleet consisted, so few escaped, that their naval force was in that action destroyed.—[Southey's Naval History of England.]

Hydro Oxygen Microscope.—An exhibition has just been opened in London, which combines the wonderful with the instructive in an extraordinary degree. By a very ingenious philosophical application of an intensely brilliant gas light, the whole effect of a solar microscope is constantly produced, independent of atmosphere or cloud. The most minute objects in nature are magnified many hundred thousand times, and the most remarkable phenomena that can be imagined are shown to the spectators. The appearance of living animals in drops of water are enough to astonish the thirst for that liquid into adjuration. We cannot recommend to old or young a more curious and impressive half hour's disposal of time than in witnessing the whole of this very scientific and entertaining exhibition.

LOBSTERS.—Southey mentions in his Naval History, that "naval war, since the introduction of gunpowder, has affected the lobsters. After a great naval action the fishermen say that those on the adjacent coast are found to have cast their claws, and for a while they forsake those parts."

Foreign Journals.—By Colombo papers, to October 13, we learn, that the mail coach travelling introduced into Ceylon continues to open the way to a better acquaintance with the interior.

POETRY.

THE MOTHER OF WASHINGTON.—BY MRS. SIGOURNEY.

[*From the Political Arena.*]

ON LAYING THE CORNER-STONE OF THE MONUMENT OF MRS. WASHINGTON.

Long hast thou slept unmoved! Nature stole
In her soft ministry around thy bed,
And spread her vernal coverings, violet-gemm'd,
And pearl'd with dews. She bade bright Summer bring
Gifts of frankincense, with sweet song of birds,
And Autumn cast his yellow coronet
Down at thy feet,—and stormy Winter spake
Hoarsely of Man's neglect.

But now we come
To do thee homage,—Mother of our Chief!—
Fit homage—Such as honoreth him who pays.

Methinks we see thee, as in olden time,—
Simple in ga.b—majestic and serene—
Unaw'd by 'pomp and circumstance'—in truth
Inflexible,—and with a Spartan zeal
Repressing Vice, and making Folly grave.
Then didst not deem it Woman's part to waste
Life in inglorious sloth, to sport awhile
Amid the flowers, or on the Summer wave,
Then fleet like the Ephemeron away,—
Building no temple in her children's hearts,
Save to the vanity and pride of life
Which she had worshipp'd.

Of the might that cloth'd
The "Pater Patriæ,"—of the deeds that won
A nation's liberty, and earth's applause,
Making Mount Vernon's tomb a Mecca-haunt
For patriot and for sage, while time shall last,
What part was thine, what thanks to thee are due.
Who 'mid his elements of being wrought
With no uncertain aim—nursing the germs
Of godlike Virtue in his infant mind,
We know not—Heaven can tell.

Rise, noble pile!
And shew a race unborn who rests below,—
And say to Mothers, what a holy charge
Is theirs,—with what a kingly power their love
Might rule the fountains of the new-born mind—
Warn them to wake at early dawn, and sow
Good seed before the world doth sow its tares,
Nor in their toil decline,—that angel-hands
May put the sickle in, and reap for GOD,
And gather to His garner.

Ye, who stand,
With thrilling breast, and kindling cheek, this morn,
Viewing the tribute that Virginia pays
To the blest Mother of her glorious Chief,
Ye, whose last thought upon your nightly couch,
Whose first at waking, is your cradled son—
What though no dazzling hope aspires to rear
A second WASHINGTON—or leave your name
Wrought out in marble with your country's tears
Of deathless gratitude,—yet may ye raise
A monument above the Stars—a soul
Led by your teachings and your prayers to GOD.

L. H. S.

CHILDHOOD.

We come to being from the night,
As cometh forth the morning light;
The world is beautiful and new,
The earth is filled with flowers and dew;
Birds loudly sing on wing and spray,
And we more merrily than they.
We gather strength, we run, we leap,
Find joy in every thing—and sleep.
With mirth and beauty hand in hand,
We take poss sion of the land:
Life *then* is surely not a breath—
What *then* has life to do with death?
A mother's love, her smiles, her tears,
Are with us in those blessed years;
The seeds of fond affection sown
In youth, that strong in age are grown;
Love, that in part her love repays,
Her solace in declining days;
Warmth, light in age's wintry gloom,
Fair stars, sweet blossoms to the tomb.
Then knowledge comes with manhood's noon,
With care and sorrow—all too soon.
The springs of mystery are unsealed,
Whate'er was hidden is revealed:
A common vision is the spring;
The rainbow is a common thing;
The morning and the sunset skies
Are gazed on with familiar eyes;
The reign of wild delight is o'er,
And the bright earth is heaven no more!

R. HOWITT

Yriarte.—The following is a translation from one of the best fables of this distinguished writer:—

The Ass and the Flute.

As through a field a merry ass
In search of thistles chanced to pass
A shepherd's flute forgotten lay
Direct, by chance, in Grizzle's way,
And as again he stops to feed,
His breath, by chance, inflates the reed.
Sudden th' unusual sound he hears,
Astonished Grizzle pricks his ears,
And proudly said or seemed to say:
"Oh, oh! how well this flute I play!
Will mortals still our music slight?
Egad! I'll bray from morn 'till night."

MORAL.

A fool, without a claim to wit,
May once succeed the mark to hit;
And should success be crowned with praise,
Enough—the ass for ever brays.

REVENGE.

A vixen wife who felt the horsewhip's smart,
Ran to her father, begg'd he'd take her part;
"What is your fault," said he: "come state the case,"
"I threw some coffee in my husband's face,
For which he beat me!" "Beat you, did he! 'slife!
He beat my *daughter!* zounds! I'll beat *his wife.*
If for such fault he gives my daughter pain,
Come but his wife—I'd beat her home again."

MARRIAGES.

On the 7th inst. at West Town, Orange Co. N. Y. by the Rev. Mr. Depew, JAMES M. TAYLOR, Merchant, of New Orleans, to Miss HANNAH ROSAMOND, second daughter of Caleb Howell, Esq of the former place.

Yesterday morning, in Grace Church, by the Rev. Dr. Wainwright, WILLIAM P. VAN RENSSELAER, of Albany, to ELIZA BAYARD, youngest daughter of B. W. Rogers, Esq. of this city.

Wednesday morning, 15th instant, by the Rev Dr. McAuley, OLIVER BRONSON, M. D. to Miss JOANNA DONALDSON, both of this city.

DEATHS.

Wednesday night, 8th instant, at 11 o'clock, after a lingering sickness of 8 months, ROBERT MATTHEWS, Printer, a native of Guernsey.

On Tuesday evening, at the house of L. Baker, Esq. Mrs. SUSAN U. NIEMCEWICZ, wife of *Julian Urzin Niemcewicz*, of Poland, aged 74.

Last evening, EVERT C. LITTELL, of the complaint of the lungs, in the 38th year of his age.

This morning, GEORGE CLEMENT, infant son of Dennison and Maria Williams, in the 5th year of his age.

This morning, Mrs. ELIZABETH JONES, in the 56th year of her age.

Last evening, MARY PEARSALL, aged 27 years.

On Sunday morning, after a long and painful illness, which he bore with christian fortitude, Mr. G. W. TYLER, (son of Mr. William T and grandson of the celebrated comedian) in the 29th year of his age. Having devoted himself to the fine arts, and furnished promise of great professional excellence, his good qualities have endeared him to his associates, and left a durable claim to their sympathetic recollection.

At Barnum's City Hotel, Baltimore, on Monday night last, P. VAN BERCK VOLLENHOOVEN, Esq. son of the chief of the old and respectable house of Van Beeck Vollenhooven, of Amsterdam. He retired at his usual hour, and was found dead in the morning apparently in the same position in which he had reclined. He was a young gentleman of highly engaging mind and manners, and in his whole tour through the United States, was universally a favorite in the highest circles of society.

At the residence of her brother-in law M. J. Myers, Esq., Mobile, on the 23d ult., Miss MARY ANNA, daughter of the late Abraham Reynolds, of this city.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MAY 11.

Between the ages of

90 and 100—	0	50 and 60—	2	10 and 20—	3
80 and 90—	2	40 and 50—	8	5 and 10—	4
70 and 80—	2	30 and 40—	6	2 and 5—	10
60 and 70—	6	20 and 30—	10	1 and 2—	5

Of and under one year, 33.

Total, 91—22 men, 14 women, 32 boys, 23 girls.

Diseases.

Asphyxia	1	Inflammation of brain	1
Cancer	1	Inflammation of chest	1
Casualty	1	Insanity	1
Consumption	27	Intemperance	1
Convulsions	6	Marasmas	4
Cramp in the stomach	1	Mortification	1
Diarrhœa	2	Old age	2
Dropsy in the chest	1	Palsy	1
Dropsy in the head	6	Peripneumony	6
Fever	1	Sore throat	1
Fever, bilious remittent	1	Spasms	1
Fever, intermittent	1	Stillborn	10
Fever, typhus	1	Tabes Mesenterica	1
Hives or croup	1	Unknown	1
Inflammation of bowels	4	Whooping cough	3

ABM. D. STEPHENS, City Inspector.

RAILROAD NOTICE.

☞ The subscriber having been appointed by the General Assembly of this State, at their session in New-Haven, in May last, to call the first meeting of the "Boston, Norwich and New-London Railroad Company," hereby gives notice that the first meeting of said Corporation will be holden at Clark's Hotel, in the city of Norwich, on Wednesday the 29th day of May next, at 2 o'clock in the afternoon. WM. P. GREENE.

Norwich, Conn. April 22, 1833. m18 2t

QUINEBAUG BANK.

☞ The Commissioners appointed to receive subscriptions to the Capital Stock of the Quinebaug Bank, will open the books for that purpose, at Clark's Hotel, in the city of Norwich, on Wednesday the 29th day of May, at 9 o'clock, A. M. At the time of subscribing, an instalment of ten dollars will be required to be paid, in gold or silver, or in bank notes of any bank in the state of Connecticut, or of the Bank of the United States, or of any of the banks in the cities of New-York or Boston.

DENNIS KIMBERLY,
EBEN. JACKSON, Jr.
J. G. W. TRUMBULL,
JEDEDIAH HUNTINGTON
SAMUEL INGHAM,
} Commissioners.

Norwich, Conn. April 24, 1833. m18 2t

TO DIRECTORS OF RAILWAY COMPANIES AND OTHER WORKS.

☞ An Engineer lately from England, where he has been employed in the location and execution of the principal railways in that country, wishes to engage with some company in the United States.

From his practical knowledge of the various kinds of motive power, both of stationary and locomotive engines, also the construction of railway carriages of many descriptions, he has no doubt that he would prove of efficient service to any company having works now in progress.

Letters addressed to W. E. G. 35 Wall street, or to the care of Wm. & F. Jacques, 90 South street, will be punctually attended to. Most satisfactory reference can be given. m11tf

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

MECHANICS' MAGAZINE,

AND

Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, $3 per annum, *in advance.*

D. K. MINOR, 35 Wall street, New-York.

*** No 4 (for April) is just published and ready for delivery.

G. LANSING, *Engraver on Wood,*

35 WALL STREET.

☞ All kinds of Machinery correctly drawn, and neatly engraved. M4

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J23 1am H. BURDEN.

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May*, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F31 tf

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.

J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad. I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compabe," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad, Germant and Norrist Railroad

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☞ GRACIE, PRIME & CO., offer for sale, at 22 Broad street—

2 cases Gum Arabic		
20 do. Danish Smalts, EFFF		
10 do. Saxon do. do.		Reduced Duty
100 bags Saltpetre		
2 do. Gall Nuts; 20 tons Old Lead		
100 do. Triest Rags, FF		
6 boxes each 50 lbs. Tartaric Acid		
6 do. each 25 lbs. do. do.		
1 case 50 bottles Syrup de Vinaigre		
10 cases White Hermitage; 20 do. Cote Rotie		
10 do. Dry St. Peray; 50 do. Bordeaux Grave		
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil		
8 bales Fine Velvet Bottle Corks		
100 do. Bourton Cloves		
30 do. Molieres Almonds		
143 bundles Liquorice Root		
4 bales Goat Skins		
1 cask Red Copper, 1 do. Yellow do.		

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints
40 do. 3-4 and 6-4 colored and black Merinos
15 do. 5-8 colored and black Circassians
2 do. Silk Bandannas, black and colored
4 do. Italian Lustrings
3 do White Satteens
4 do. White Quiltings
10 do. Borrie's Patent Thread, No. 22 and 25
10 do Super high col'd Madras Hdkfs, ent. to debenture
100 pieces Fine English Sheetings, for city trade
3 cases Cantoon Cords
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors
25 bales low priced pelo Blankets.

PAPER—

IMPERIAL AND ROYAL—From the celebrated Saugerties Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—24x35, 24½x36, 24x34½, 26x36, 26x37, 29x41, 27x38½, 21x33, 24x29, 24x23, 21x26, 21x27, 20x24, &c., &c.

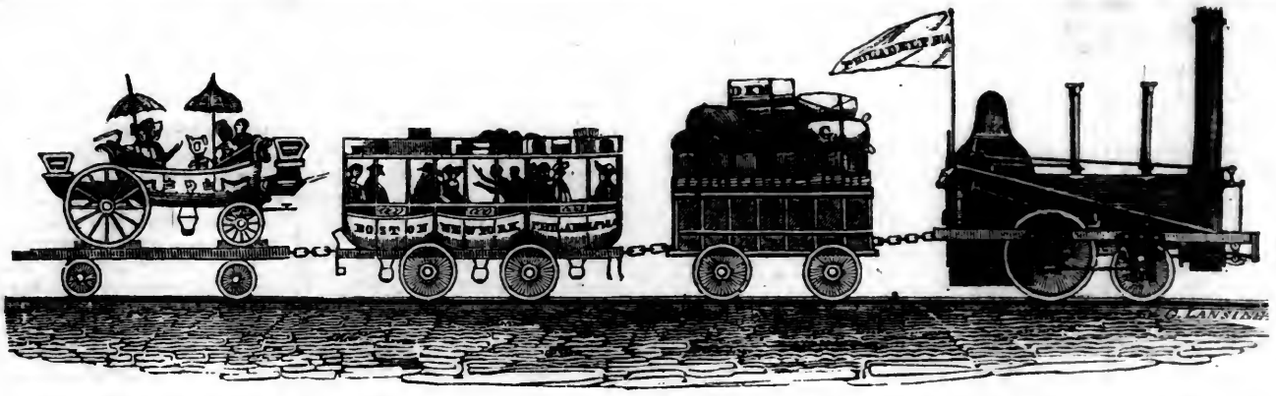
Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.

5 cases each 1600 Sheets Colored Paper

2	do	do	do	do	do	superfine
2	do	do	do fig.	do	do	
3	do	do	do plain	Gold	do	
2	do	do	do plain	Silver	do	
2	do	do	do	Silver	do	with red figures
2	do	do	do	Gold	do	do
2	do	do	do	Red	do	Gold do
2	do	do	do	White	do	Silver do. A20



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, MAY 25, 1833.** [VOLUME II.—No. 21.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MAY 25, 1833.

Great Western Railroad.—We would ask the attention of those of our readers who are at all interested in the prosperity of the *city* and *state* of New-York, to the communication of "G. Jr." in this number of the Journal, upon the subject of the *Great Western Railway*. It is a work of great importance to New-York, —one in which every *New-Yorker* should feel deeply interested, and we therefore cheerfully join with our correspondent in saying, "go on."

South Carolina Railroad Report.—The last Annual Report of Alexander Black, Esq. which will be found in this number of the Journal, gives us the desired information relative to the South Carolina Railroad. We have of late heard many inquiries relative to the condition and prospects of this road, and are therefore gratified to be able to give an answer so favorable as that which may be gathered from this Report. In order to give a fair view of the advantages and privileges of this company, we also give the 1st and 11th sections of the act of incorporation, from which it will be at once seen that their privileges are very extensive, and secured for a long period.

When we reflect for a moment upon the extent of its privileges, the enterprise of those engaged in its construction, and the wide extent of country for which it is destined to become the medium of intercourse with the Atlantic, we cannot but believe that the stock will become exceedingly valuable.

Section 1. Be it enacted by the Honorable the Senate and House of Representatives, now met and sitting in General Assembly, and by the authority of the same, That the Company provided for in the aforesaid act, and hereinafter more especially incorporated and authorized, shall, and may direct and confine their first efforts and enterprise to the formation and completion of the rail communication between Charleston and the Savannah river, at or near Hamburg, and other points or places on the said river, by branch or branches of the said railroad, in the manner hereinafter mentioned; and when such communication shall be completed, or before, if the said company shall find it practicable and advantageous, they shall have power and authority to lay off and construct branches thereof, to Columbia and Camden, or to the most convenient points at or near these towns, or otherwise to construct railroad or railroads between these two towns and Charleston; and the right to make, keep up, and employ such railroads, shall be vested in the company herein and hereby incorporated exclusively; and for the term of time hereinafter mentioned, no other communication between Charleston and Savannah river, at or near Hamburg, or the waters of the Savannah river, or the towns of Columbia and Camden, or to any point on the rivers at or near the same, by other railroads, or newly constructed canals, shall be constructed by or under the authority of this state.

Sec. 11. And be it further enacted by the authority aforesaid, That the said South Carolina Canal and Railroad Company shall, at all times, have the exclusive right of transportation or conveyance of persons, merchandise, and produce, over the railroad and railroads, and canals, to be by them constructed, while they see fit to exercise the exclusive right: *Provided*, That the charge of transportation or conveyance shall not exceed thirty-five cents per hundred pounds on heavy articles, and ten cents per cubic foot on articles of measurement, for every one hundred miles, and five cents per mile for every passenger: *Provided always*, That the said Company may, when they see fit, rent or farm out all or any part of their said exclusive right of transportation or conveyance of persons, on the railroad or railroads, with their privileges, to any individual or individuals, or other company, and for such term as may be agreed upon, subject to the rates above mentioned; and the said Company, in the exercise of their right of carriage or transportation of persons or property, or the persons so taking from the Company the right of transportation or conveyance, shall, so far as they act in the same, be regarded as common carriers. And it shall be lawful for the said Company to use or employ any sections of their intended railroad, subject to the rates before mentioned, before the whole shall be completed, and in any part thereof, which may afford public accommodation for the conveyance of persons, merchandise, or produce; and also to lay off and construct, and put in operation and use, any branch or branches of the said railroad, so as to communicate with the waters of the Savannah river, or navigable waters of the Edisto or its branches, subject to the aforesaid rates of transportation. And the said Company shall have power to take, at the store-houses they may establish on or annexed to their railroad, all goods, wares, merchandises and produce intended for transportation or conveyance, prescribe the rules of priority, and charge such just and reasonable terms and compensation for storage and labor, as they may by rules establish, (which they shall cause to be published,) or may be fixed by agreement with the owners; which compensation shall and may be distinct from the aforesaid rates of transportation.

The Erie Canal.—We are gratified (says the Albany Argus of Wednesday) to learn that the breaches in the canals have been all repaired, and that the entire line of the Erie canal is now navigable. The packets arrive at and depart regularly from Schenectady. Much credit is due to the superintendants of repairs, for their activity in preventing and promptitude in repairing injuries by the late rain. Under their supervision, the amount of damage to the canals, compared with what might have been anticipated, is very trivial.

There are 1681 Canal Boats that ply on the Erie canal. 300 of these are said to belong to Cayuga Lake alone.—[Alb. Adv.]

Homer and Steam.—At the ninth anniversary of the London Mechanics' Institution, Dr. Birkbeck, in awarding a prize of £20 for the best essay on steam, observed, that the author had discovered several notices of the power of steam by the ancients, which had escaped preceding writers. He had also detected, in the eighth book of the *Odyssey*, a probable allusion to steam navigation:

"So shalt thou instant reach the realms assigned,
In wondrous ships, self-moved, instinct with mind:
No helm secures their course, no pilot guides;
Like man intelligent they plough the tides,
Conscious of every coast and every bay,
That lies beneath the sun's all-seeing ray.
Though clouds and darkness veil the encumbered sky,
Fearless through darkness and through clouds they fly,
High tempests rage, high rolls the swelling main,—
The sea may roll, the tempests rage in vain."

Some Remarks respecting our Western and Pennsylvanian Counties, and the Means of Communication with them. By G. Jr. [For the American Railroad Journal.]

Since the first agitation of the question of a great Western Railroad, from the city of New-York, through our southern counties, to Lake Erie, there has been at times much excitement expressed by the community upon this important subject. A subject we will venture to declare of more *vital* importance, not only to our city, but to our state, has not, since the first projection of that living artery, the Erie Canal, been held before the public consideration. But, unfortunately for us, within the last year, the public mind has been so much distracted by general, political, and, at times, opposing interests, that the subject for the present *appears* to be at a pause.

At the Kaatskill, upon the Hudson river, a ridge of mountainous district commences, and extends in greater or less elevation, with a broad sweep through Madison county, and then southerly again, across the whole state. The only break worthy of importance along its whole extent is the gorge of the Beaver Creek and Cattatune, showing, from Ithaca, at the head of Cayuga Lake, in Tompkins county, to Owego, on the head waters of the Susquehannah river, the present route of the Ithaca and Owego Railroad: so that you will at once observe, that from the westerly portions of Green, Ulster, and Sullivan, and so through all the southern and more western tier of counties, we are, in a commercial point of view, entirely deprived of any communication, either by canal, good road, or navigable water, with the grand focus of the wealth of the State—our city.

These counties, especially the more western, are in richness, depth, and fertility of soil, not surpassed by any, either in the country or state; and some of them possess immense resources in quarries of an excellent quality of white and grey granite, limestone, and gypsum.

Every moment that we procrastinate is an age of interest against us. Baltimore, that city whose enterprise and *public spirit* is so justly celebrated, is now, this very moment, drawing increased resources from out the very bosom of some of our western and richest counties in the state!

The Susquehannah, whose head waters branching out in navigable and many courses, look upon and embrace our frontier, is every season whirling down its rapid tide the rich produce of not only Alleghany, Tioga, Steuben, Broome, and Delaware, but since the canal from Seneca Lake to Newtown, is extending its trade in Ontario, Yates, Seneca, and Tompkins; the three latter counties, especially, considered the garden of our State. And now that the Ithaca and Owego railroad will have overcome the former heavy and expensive carrying pass, it will, like a funnel, draw wealth and business down the Susquehannah, even the very produce of Erie and Genesee!

This is not imagination: I call upon every person conversant in our western trade to agree with me; it is not that we have looked upon this fair and productive soil, and that the pitiful jealousy of seeing its rich produce borne onward to Baltimore, Philadelphia, or any other place, has caused me to regret that its richness has gone that way, nor is it either that the trade will continue to go to any of these places; but it is that I would rather *that it should come here.*

Competition, we are told, is the very soul of business, of trade; and if we can, by a good and profitable investment, draw resources to our own house—if we can do this, too, with *greater ease*, in *less distance*, and with *less expense*, than others can draw it to them, (and if you will look at the map of our state, or visit the remarked sections of country, you will, I am convinced, say with me that we *can*,)—let us up while we may, and about it.

Taking Owego, (which, if our contemplated road go into operation, will be the Utica of the route,) as the general and most proper *one* point of calculation, and that too at which the computed distance, reckoning from Baltimore and New-York city, would meet, we have, by following either of our proposed courses, and the bed of the Susquehannah, a balance of 50 or 60 miles in our favor.

Some persons I have heard who consider Philadelphia as the great rival of New-York city in the benefits resulting from the improvements in the west. For my own part, I know not in what, nor about *where*, this rivalry will be, for if you will observe the face of the remarked country, where *their* feasible points of communication come out, they are at just such distances from any one point of *our own*, that any information from thence will rather benefit than injure *our* enterprise.

Who, conversant with the topography of both states, and acquainted with such matters, would advise, for the benefit and interest of our neighbor, a line of Railway from Philadelphia to Owego? I would, were I assured of our present inert, and, shall I say, culpable procrastination of our western railway for *ten years* to come, recommend a route of way *along the Hudson and canal, and so join the Ithaca road through the Cattatune gorge*: I repeat, were we to procrastinate *ten* years longer. Let us look into the advantages of the contemplated route: We will take the one running through the north-eastern corner of Pennsylvania, and connecting itself with the Paterson road. All proposed routes that I have heard of yet, meet in Owego. Let us begin at the south. Here we would have the Paterson trade; that the iron, and Goshen, and Neversink trade, a great share of the lumber and ore trade of the Jerseys; new mines of wealth would be opened, and speculations would be profitable in the soil and produce of Sullivan, Delaware, Broome, and so on, along the whole line far west. Property would be brought out, and cultivation where is a wilderness.

A railroad company is chartered to run through Broome and Oneida, another from Utica to Watertown, in Jefferson county, (lateral arms these of powerful strength and extent, commanding a rich valley country, and much cultivated space,) the Binghampton lumber trade, the lumber, flour, grain, and plaster, demanded from the entire vicinity of Cayuga and Seneca, (and in time much farther,) by the Ithaca and Owego Railroad. Other railways will be made, but thus far, and without other aid, will suffice to cut off the Baltimore trade.*

When we arrive here we can branch off with profitable advantage far into Pennsylvania, some way down the Genesee, and so continue our direct line on to Portland, upon the shores of Lake Erie.

The whole route to Owego completed, the merchant at New-York city would get his produce to market from Rochester, by the way of the Ithaca road, in from 2 to 2½ and 3 days; later in winter, earlier in the spring, and at a cheaper rate than now.

If we look around this section of country, we will find chartered railways in every direction, waiting out for our great road to intersect every corner of these counties. The Ithaca Railroad, continued through Ovid to Geneva, Geneva to Rochester, and so on, by two other routes to Buffalo. In fact, we cannot now (neither could we of the Erie Canal,) compute the *number*, nor hardly *where* these little but vigorous finebriæ would extend to.

I have not entered into any particular calculations of the amount of the *present*, or *probable* trade; my intention is a communication to the public of such considerations as have come within my own observation. Such matters as those other I conceive to be the peculiar province and privilege of that gentleman who has probably bestowed more attention upon this subject, and is perhaps possessed of more general practical information (I will not yield to him in an interest in) respecting the route than any other individual—I mean Mr. Engineer De Witt Clinton.

As far as an interest in its construction along its proposed route may be satisfactory to those engaged in its welfare, I am assured, partly by observation, and in particular by the committee appointed from Tompkins county, (those two intelligent gentlemen, Judge Geer, and Mr. Bloodgood, the President of the Ithaca and Owego Railroad,) that along its whole route from Owego to New-York city, the inhabitants were rejoiced at its proposition. Mr. B., with a laudable spirit and generosity, travelled in the fall of 1831 through every principal town along its proposed route, appointing meetings, and gaining expressions of the inhabitants' feelings towards the proposed road, as we all know it was successfully chartered the following session of the Legislature.

From a want of decision in the *exact* route, from disputing whether it shall commence here or commence there, and from a very inert, though, strictly speaking, a just delaying, waiting for *Government* to commence, it has remained in pretty much the same state up to the present moment. The whole moment of this great national Appian way has with a great burthen rested upon, been borne up, and defended, by a *few* public-spirited men, the President and Directors of the Western Railway, and one or two more public-spirited individuals. Every one seems to be in favor of it, but no one will act. This should not be so. Why should New-York wait for Government to help *her*? Away with Government patronage; it is very good, but let others *beg* for it who need it more than we do. We have always got along without it, and still can. I aim, then, that we go to work on "our own hook." Call in your instalments upon your shares, give Mr. Clinton his instruments—not next year, but *now*—and set him to work. I know its difficulties, but he shall be cheered on. I have pioneered in some places he will have to go by; and, Mr. Editor, I want you to join with me in saying—Go on—go on!

G. Jr.

April, 1833.

* When I was in Baltimore last November, I took considerable pains in inquiring into the Susquehannah trade of that city—found large and extensive store-houses rising up, the growth of its budding richness, and not a single individual whom I could hear of had regretted his investment of capital in that trade; on the contrary, I was told it was "a chief hope" of that city's prosperity. I have since been informed, that the last Maryland Legislature chartered a railway to run north along the Susquehannah.

Report of Alexander Black, *Commissioner, to the Stockholders of the South Carolina Canal and Railroad Company.*

To Elias Horry, Esq. President:

Sir,—Having in my communications to the Directors, at their stated monthly meetings, furnished them with all the facts in relation to the road, requiring their consideration and direction, I shall, at present, omit every thing but what is necessary to enable the Stockholders to form an opinion as to the future prospects of the enterprise, appending data which will enable every one to judge for himself. My recent visit of examination on the western division of the line has enabled me to arrive with greater accuracy at the results stated in the summary. The execution of the work throughout this division of the line is of a very substantial and superior character, especially through the valleys of Horse and Wise creeks, where extensive sections of the trussel work have been substituted for the piling construction. In some cases the elevation of the

grade of road above the surface of the country rendered this mode of construction indispensable, and in other cases, where the soil consists of soft mud, ten or twenty feet below the natural surface, its adoption was judicious, as the most effectual mode of acquiring solidity of foundation, and stability of structure. But there are portions of the work where a more economical mode of construction than that adopted would have answered the purpose, and comported better with the fiscal means of the Company. To the above causes may be ascribed in part the unexpected excess of expenditure over the estimated cost, on this division of the road, of which the Board were not duly informed, and consequently had not provided for. Though this excess may cause a temporary inconvenience, and has disappointed our expectations, yet it is a matter of regret that the means of the Company did not permit the introduction of this mode of construction in many places through swamps, difficult of access, either for repair or renewal, where the piles are used. There will be required to complete the work on this division of the line, $20,000, including $7,000 due the contractors and for back wages to the hands, and also $2,500 for the stationary engine-house: this amount however, does not include the construction of a depository, work-shop, &c. at Hamburg, the cost of which will be decided by the style of finish and size which the Board may consider proper.

A statement showing the actual cost of every department of the work, and of each branch of service, is now preparing. The classification of the accounts, by separating each item from the general account, and carrying it to its appropriate head, is nearly completed: without this statement it will be impossible to explain in a satisfactory manner the apparent discrepancy between the amount expended and the estimated cost of the road. Considerable sums have been judiciously invested, and other amounts necessarily expended, on objects not taken into consideration in forming the original estimate, nor chargeable to the cost of the road or the machinery used on it. I shall advert to a few cases, out of many, to sustain this remark.

There is invested in lands and improvements, $15,588 25, and in negroes $6,146 00. Felling trees to clear the track two hundred feet, in order to preserve the road against the danger it would have been liable to from the trees falling across it, and to shield it from the pernicious influence of their shade, averaging about $60 per mile, amounted to $7,200. It was nd experience that ditching was essential to solidity of foundation, although, at first, it was supposed to be unnecessary. This with lateral drains have constituted a considerable item of expense. The stock of tools and machinery, with the materials for future use, now on hand, may be estimated at $10,000, add to which preliminary expenses, office rent, stationary, agencies, camp equipage, and surveying instruments. The enterprise created a demand for labor far beyond the ability of the country to supply, and caused that increase in price which scarcity invariably produces. The only alternative left was to permit the work to languish, or to urge its completion at the market price of labor; the latter course was adopted as the most conducive to the interests of the Stockholders. During the last year the company and several of the contractors have been compelled to pay 50 to 75 per cent. more for labor than the price at which it was valued in the estimate.

The liberality exhibited by our State Legislature in granting the prayer of the Company's petition at their last session merits the warmest thanks of the stockholders, and evinces a spirit of liberality and a disposition to foster our infant enterprise. The citizens of Barnwell, who have ever evinced a lively interest in the prosperity of our enterprise, and to whose friendly co-operation the company are indebted for many valuable facilities in the progress of their operations, are now actually engaged in opening a communication between the court-house and the railroad, more direct, and in all respects better than that heretofore used.—There are three stations on this line, between which a spirited though friendly competition exists, to attract the trade and intercourse of the populous neighborhood of the village, and products of the fertile lands in the Edisto Fork. This competition must necessarily result in a manner favorable to the convenience of the public and the interest of the Company.

It is pleasing to reflect, and must ever be a subject of sincere thankfulness, that during the execution of our work, no accident has occurred involving either the loss of life or limbs of any of the workmen employed in the construction of the road, though their number has sometimes exceeded 2000, and has averaged 1500 the whole time; and also that during the last 12 months, though the trips performed have been more numerous and the number* of passengers greater than at any former period, no personal injury has been sustained by a single individual.

Our sole reliance for the conveyance of passengers and freight during the last four months has been on two engines of the smallest class, viz. the "Westpoint" and the "Phœnix," the "South Carolina" being under repairs the greater part of this time, and the "Charleston" having but recently arrived, contributed nothing to the increase of our cash receipts. Whatever may have been done by the "South Carolina" in the above period while in working order, is more than balanced by transportation of workmen, with iron and other materials, by the engines, to advance the work, which, of course, is not noticed in the cash receipts.

The performance of the West-Point during the 120 days has been as follows:

60 trips to Branchville, each 62 miles, is	3726
52 trips to Midway, each 72 miles, is	3744
Aggregate, - - - - -	7464

(The West-Point lost 8 days occupied in repairs.)

The performance of the Phœnix during the 120 days has been as follows:

60 trips to Branchville, each 62 miles, amounting in all to - - - - -	3720
58 trips to Midway, each 72 miles, 4176, and 2 double trips, each 144—288,	4446
	8184

(The Phœnix was employed every day during the 120.)

The total number of miles performed by the West-Point and Phœnix is 15,648, in 120 days.

The number of passengers that arrived and departed during the above period, (exclusive of attendants, officers of the company, clergy, contractor, and workmen, who had, during the progress of the work, passed free,) is 4109, or on an average 34 per diem. Cash receipts for freight and passage money, $11,526 78. By a reference to the detailed statement marked (B.) and hereunto annexed, it will be observed that there has been an uniform increase in the passage and freight money. On referring to previous cash receipts, I find the amount received the three first months of the present year to be greater than the amount received during the six last months of the past year. The operations were chiefly confined to the transmission of passengers, staple production of the country, light merchandize, and materials to advance the completion of the work. Horses, cattle, vehicles for travelling, staves, shingles, and other commodities of less profitable transportation, were necessarily declined.

In order that the Board may have an opportunity of estimating the comparative importance (as regards revenue and public intercourse) of the different stations or stopping places on the line, I have annexed returns for January and April, which will exhibit all the essential particulars in detail. My information in relation to the performance of the locomotives lately placed upon the railroads in the United States is not sufficiently minute to estimate the value of their performance, when compared with that of the "Phœnix;" but it is extremely questionable whether the same distance, divided into daily trips, has been accomplished without a single day's interruption by any other engine in the United States. Much credit is due to her engineer, Mr. Henry Ravworth. It is known to the Board, but not to the public generally, that the engine now called the Phœnix was formerly the "Best Friend." It was built according to the plan, and under the personal direction of our talented and enterprising fellow-citizen, E. L. Miller, Esq. Its performance was tested on the 9th of December, 1830, on which occasion it exhibited a power much beyond that stipulated for in the contract; it was, therefore, accepted, and performed with entire success till the next summer, when the negro who acted as fireman, being incommoded by the unpleasant noise of the steam escaping through the safety valve, ventured on the expedient of confining it, by pressing the weight of his body on the lever-gage of the safety valve, which experiment resulted in the explosion of the boiler. At the time this engine was engaged, Mr. Miller led the van, among the advocates of steam over horse or other power for railroads. Public opinion was at that time much divided on the subject: the Baltimore and Ohio Company leaned in favor of horse power; nothing daunted by the weight of their authority, Mr. Miller persevered, and with an unyielding fixedness of purpose, proposed to construct an engine on his own personal responsibility equal to the best then used in England; he succeeded, and to him belongs the honor of planning and constructing the first locomotive ever worked in the United States.

Many of the Stockholders have expressed a strong desire that the Board should make trial of an English engine; the subject is properly referable to the chief engineer, and I should not advert to it only from the impatience of the public and the absence of that gentleman on official duties. So far as material, and the construction of the mechanical part, is a matter of consideration, it is doubtful whether any advantage would be gained, either in economy, strength, or execution of the work, by importing one locomotive from abroad. No one now thinks of sending abroad for vessels for commerce or steamboats. American skill and industry produce specimens of both, that excite the admiration of foreigners from every portion of the civilized world. They will, ere long, exhibit a similar success in the machinery used on Railroads. A little more experience alone is wanting to enable them to effect the object. It is also desirable that our wants should be supplied from a source not liable to be affected by the casualties of a long voyage, or by the interruption and risk consequent on foreign wars; indeed the policy of the Company would seem to dictate the enlargement of their own works, so as to furnish the entire road equipment within themselves; it might at the commencement be more expensive and troublesome, but would very soon be the most economical and satisfactory; for the work would be subject constantly to rigid inspection in all its parts, and all inducement either of interest or carelessness to slight the work would be removed. The many evidences of skill and ingenuity displayed in remodelling, and advantageously changing the arrangement of locomotives, at our workshops, afford abundant evidence that encouragement of our own workmen will be the best means of insuring a supply of our wants in this particular. There are considerations, however, which should have weight in making up a decision on so important a subject. Steam, as a moving power on roads, is still in its infancy, though no new principles have been discovered; the manner of applying those already known is the subject of almost daily improvement; and judg-

* The number of persons who have travelled on the road during the last twelve months are supposed to exceed 16,000.

ing of the future by the past, there is every reason to suppose that the locomotives now in use will give place, before many years, to others of a more improved construction.

The engines, whose performances astonished even the scientific world, at the great prize competition on the Liverpool and Manchester Railway in 1829, are now laid aside to make way for others better calculated for the purpose. Since that period, genius and science, fostered by the great and the adjacent, have been incessantly engaged in rendering the locomotive a powerful and efficient agent to railroads. A mass of talent and experience is therefore to be found there, which can be obtained no where else, and it will be for the Board to determine (after consulting the Chief Engineer) on the expediency of ordering one or more engines from England, for the purpose of testing their relative value with those constructed in this country.

The system of supervision which was introduced last fall, to protect, maintain, and keep the road in order for daily service, as communicated to the Board in my report of the 7th of January last, has fully realized my expectations. Monthly reports are received from the persons in charge of the several stations, exhibiting the aggregate of work done; from which the total cost per annum of maintaining and preserving the road can be ascertained, and those portions of the road most liable to derangement, or "wear and tear," corrected and strengthened by repairs and renewals. Serious apprehensions were entertained by some persons that the sinking of the piles in loose, uncertain, or wet soils, would be a great source of difficulty and expense. Indeed, it was not unreasonable to infer that a superstructure weighty in itself, extending one hundred and thirty-six miles, subject to enormous weights, passing rapidly over it daily, and depending for its support and permanency chiefly on posts driven into the ground, should yield in some places. The first five miles from the Lines, which was constructed as an experiment, exhibit more cases of this kind than four times the distance on any other part of the road. The experience gained there suggested the use of posts larger in size, and less pointed or tapering at the end inserted in the ground, which has obviated the evil. The mode of restoring the road to the true grade, when a depression is occasioned by this cause, is simple, efficient and economical, giving at the same time additional strength and permanency, and its execution is within the range of the duties assigned to the road police.* From the experience we have had, I am inclined to believe that the expense of repairing and keeping the road in secure travelling order, will fall within the amount per annum stated in the original suggestions on the subject, viz. twenty thousand dollars. On the Eastern Division of the road, the charge will be less than eight thousand, including materials. It has been found that opening works of this kind for the first year for public use, cost more than at any subsequent period. Many defects remain undetected, until the severe test of a regular performance is brought to bear on them. On examining the half-yearly statement prepared for the Stockholders of the Manchester and Liverpool Railroad, it appears that repairing the injuries sustained in one year after the road† was opened for the locomotives, cost fourteen thousand six hundred and sixty-two pounds sterling, for thirty miles, being upwards of three thousand dollars per mile, to repair and re-adjust the derangement produced by the steam cars, &c. in one year; and I am informed by a gentleman, who was engaged in constructing a canal one hundred and six miles in extent, at the north, that the repairs the first year it was opened for public use amounted to ninety thousand dollars; in addition to which, the same work sustained injury by a freshet, which cost thirty thousand dollars to repair, within two years after its completion.* It is not necessary, and indeed it would be invidious to go further in these statements, than the two cases referred to. As a general result, it may be affirmed that most works for conveyance or transportation, whether rail or turnpike roads, or canals, incur a greater expense the first year they are brought into operation, than the average cost of the next succeeding ten years. The plan adopted in the construction has been peculiarly fortunate; it has been emphatically called the "Inland Bridge"—recently it has proved itself so. At a time when every mail teemed with accounts of the disasters occasioned by the late heavy freshets, when the Savannah river rose higher than it has done since the memorable Yazoo freshet, when serious apprehensions were at one time entertained for the safety of the Augusta Bridge, when the houses in Hamburg were encompassed by water, and all communication between Hamburg, Augusta, and Barnwell Court-house, was suspended for three days, and resumed on the fourth, at the risk of losing the mail and the lives of those entrusted with its conveyance—when the navigation of the rivers was stopped, their banks strewed with the fragments of houses, mills, &c. the highland roads washed into gullies, and the bridges in the low country in many places washed away—at this period, so destructive to property, and when intercourse between various parts of the country was entirely stopped, it will be gratifying to the Stockholders to learn that, with the exception of the sliding of the side of a bank on the road (avalanche) within two miles of Hamburg, the works have not sustained injury to the amount of five dollars. During this whole period the trips were performed regularly in the usual time, and with the usual loads, and the passengers experienced no inconvenience, except that resulting from a moist atmosphere. Had the system of embankment which is generally resorted to in similar works, in order to preserve the grade over low grounds, been adopted in this work, it is probable that a large portion of it would this day have been a mass of ruins; as human sagacity could scarcely have anticipated the necessity of culverts sufficiently capacious to have afforded an outlet to such immense and overwhelming floods.

As the duties of my appointment will cease on the completion of the work, which may be shortly expected, at which time a new system for the permanent administration of the affairs of the Company will be necessary, and as this is the last annual communication which I shall have the pleasure of making to the Board, I will conclude by a summary of the proceedings of the Company since its formation. The books, according to the stipulation of the charter, were opened for subscriptions to the stock on the 17th of March, 1828. A moiety of capital only was subscribed. On the first Monday in May, 1828, the subscribers organized the Company by electing a Board of Directors, and appointing a Secretary. The Board, on entering on the delicate, arduous, and responsible duties imposed on them by the charter, and by the expectations of the public, found little to guide or enlighten their deliberations, from works of this character or construction elsewhere. It is true that the impulse which the railroad system in England had received, offered a powerful inducement to persevere under circumstances otherwise unpropitious; but the material, climate, soil, and resources, of the two countries, were so essentially different, as to render all hopes of following the English plans altogether visionary and illusive. Nor were they more fortunate in turning their attention to the efforts of their sister States. Few works of this nature had then been contemplated, and but one (the Baltimore and Ohio) which at all approached in magnitude to that contemplated by the Board. All were in the incipient stages of progress, and the most that could be said of the best plans then proposed was that they were "*splendid theories.*" Their value was yet to be tested, by the infallible touchstone of experience. Unaided by examples elsewhere, with no precedent that could be followed with safety or confidence, the Board were thrown upon their own resources, and finally determined to construct a road five miles in length by way of experiment, on the novel and untried mode on which the road is now constructed, as best adapted to the climate, soil, material, and class of labor of the country, and also as being better suited to the finances of the Company. With what success, and how far judicious, is for the Stockholders and the public to determine.

Meantime the limited essays made in the railroad system responded favorably to the anticipations of the sanguine, and the important bearing of this enterprise on the future destinies of the State and city rendered it a subject of the most intense interest, not only to the capitalist, but to the patriot and the statesman. The Stockholders were convened on the 19th of August, 1830, at which meeting, stock sufficient to increase the capital to $581,340 was subscribed, and the Board authorized to commence operations, with a view to the completion of the entire line to Hamburg. The Board determined that the road should be surveyed, with a view to a definite location, and that the work should be placed under contract forthwith.

On the 5th of November, Mr. Allen, as Chief Engineer, with an efficient corps of assistants, commenced an examination of the route, with a view to a final location, and in the following June reported a line *fourteen miles shorter than had been expected from former examinations, and four miles less in distance than the most direct communication by the common travelling roads.* On the 28th of December, the first contract for the construction of four miles of road was concluded with Messrs. Gifford, Holcomb & Co. The balance of the eastern division was let out, as promptly as advantageous offers could be obtained, in small sections, so as to enlist all the efficient working force attainable in the vicinity of each.

On the 17th of March, 1831, the first contract (except four miles of swamp to Charles De Witt,) on the western division, was signed by Messrs. Gray & Couty for the construction of thirty miles of road, to commence the same on the first of May, 1831.

The balance of the western division, except 3½ miles on Savannah River Swamp, was placed under contract to Messrs. W. & J. D. Gray and General Ware, to commence on the first of June.

The eastern division to Branchville, 62 miles from the city, was opened for public travelling on the 7th day of November, 1832, being one year ten months and twenty-one days from its commencement.

On the seventh day of February, 1833, the road was opened for travelling to Midway, 72 miles. It is two years precisely, from the date of this communication, since the contractors engaged to commence the work on the western division.

The distance reported by the Chief Engineer being 136 miles, and taking the divisions of labor, embraced in the form of contracts, as an exemplification, the progress of the work stands thus: the track is opened by felling the trees 200 feet wide throughout the line, except

* The Road Police on the eastern division is adequate to keep the Road in a state of repair and security, under any increase of travelling, and a slight increase in the number of the clerks at the stations. Conductors and attendants of the cars will be competent to transact ten times the amount of business at present done. While, however, our expenditure has nearly reached its maximum, our income can scarcely be considered as commenced: and every day's operations will present the affairs of the Company in a more gratifying position.

† The Liverpool and Manchester road.

* Since the above was penned, I have found more unquestionable evidence of this statement, viz. in Document No. 101, being a report on Steam Carriages, submitted to the 22d Congress, 1st Session, page 180. The following is an extract in relation to the Mauch Chunk and Bristol Canal, 59½ miles along the Delaware. "This canal, however, has not yet been brought into profitable use, on account of the extensive repairs which had to be made during the year 1831, and amounting to $97,339 51, or $1,629 per mile.

within about nine miles of the city, and a few miles in the valley of Horse Creek near Hamburg, which has been deferred, owing to the reluctance of some of the landholders to have their timber destroyed.

The excavations are entirely completed. Ditches and lateral drains sufficient for present purposes are formed. All the bridges to accommodate the public, neighborhood and plantation roads, are built.

The foundation, whether consisting of piles, sills, sleepers, or trussel work, is completed for whole distance of - - -	136	miles.
The caps and transverse pieces are permanently fixed on for the distance of - - - - -	135¾	do.
The rails are laid and keyed for	134¾	do.
All requisite braces or stiffening to strengthen the road is completed for - - - - - - -	134	do.
The iron is spiked down permanently for - - - - - -	98	do.

The surface is prepared for 24 additional miles.

Nine turnouts or passing places have been constructed.

Twelve pumps or watering places have been established.

The iron for Ware's contract 6 miles, is delivered, and the balance of the road has its surface prepared for the reception of iron, except about 14 miles.

RECAPITULATION.—The road to Branchville was opened for public travel on the 7th of November, 1832, which was, from the day its commencement was authorized by the Company—*two years two months and eleven days.*

From the day that the Engineers entered on their field duties—*two years and eleven days.*

And from the day the first contract was signed for its construction—*one year ten months and twenty-one days.*

In three months after it had been opened to Branchville, viz. the 7th February, it was opened ten miles further, crossing the Edisto River on a bridge constructed for the purpose, being 72 miles from the city.

If the iron, and locomotive power to convey it, were now at our command, and the stationary engine should equal our expectation, the western division might be completed one month from this date, which would be two years and one month from the day the first contract to commence the work was executed.

Amidst the many disappointments and difficulties necessarily arising in an undertaking so novel and extensive, it must be matter of gratulation to reflect that the line of railroad now finished, on which our engines travel, is greater in extent (in consecutive miles) than any other in the world.

All which is respectfully submitted,

ALEXANDER BLACK,
Commissioner S.C. C. & R. R.Co.

Office of Commissioner, May 1st, 1833.

From the Notes appended to the foregoing Report, we take the following:

Extract from the rules defining the duties of persons acting as Road Police: "You are to walk over the section assigned to your care daily, going down on one side of the road and returning on the other, examining minutely every part of the road and correcting every defect, attending to the most serious first. And should any derangement occur, by accident or otherwise, beyond your means to repair in due time, call in the assistance of those on the adjoining stations. To attend especially to securing the wedges, and to correcting all depressions in the road, occasioned by the sinking of piles or sleepers; also to securing the iron where the spikes are drawn or broken. When these essentials are done, to employ the time in clearing the road of weeds, undergrowth, and other trash, that would subject it to injury by shade and moisture, or accidental fire. To be fully provided with a supply of fuel and water on the arrival of the engines, and keep a record of each day's work, mentioning particularly the quantity and nature of the work, the number of spikes replaced, &c."

Statement of the number of passengers conveyed, and the amount of cash receipts at the Depositories of Charleston, Branchville, and Midway, from the first of January to the 1st of May, 1833: Line Street, $8,645 92; Branchville, $2,369 24; Midway, $512 02: total, $11-527 18. Total number of passengers up, including stage passengers down, amount to 3,200; passengers down, from Jerico, 50; from Sineath's, 79; from Woodstock, 385; Summerville, 180; Laurence's, 60; Inabnet's, 69; George's, 45; way passengers from one intermediate station to another, 41; total, 4109.

Statements of locomotives, passengers, crank, freight, tender, and horse cars, on the line and at the depository, and the arrangements in train towards an increase of the same:

2 eight-wheeled locomotives, viz. South Carolina and Charleston, (6000, 7000,)	13,000
2 four-wheeled locomotives, viz. West Point and Phœnix, (4,000,)	8,000
3 first class passenger cars, outside bearings, (500,) - - - -	1,500
4 second class passenger cars, inside bearings, (250,) - -	1,000
4 crank cars, one at Hamburg, one at Branchville, one on the line, and one at the depository, (220,) -	880
10 freight cars, outside bearings, (150,)	1,500
9 do. do. inside do. (180,)	1,620
8 tender do. 5 attached to the locomotive, and 3 in readiness, (160,)	1,280
11 lumber cars, 8 on the line and 3 at the depository, (135,) - -	1,185
1 fire light *a* $135, and 2 horse cars, *a* $250, - - - - - -	635
1 sett of timber wheels, $65, and 13 tarpaulins for freight cars, *a* $9,75,	191 75
50 setts of springs *a* $50 is 2500, and 3 setts at $100, is 300, - -	2,800
	$33,891 75

To the Editor of the American Railroad Journal:

SIR,—I am pleased to see that the Boston and Providence Railroad is pressed on with energy, though our Boston friends have exerted an influence unfavorable to this road, preferring that New-York should be kept at a respectful distance, and some depression has been occasioned here by persons who wished to purchase stock; yet the stock will regularly advance, and will, no doubt, stand as high, or higher, than other railroad stock in the United States.

Should any doubt, let them look at the facts! I think that the road will command as large an amount of transportation of passengers and merchandise as any in the country. By reference to the map it will be seen that no other route can interfere with it. Between this city and Philadelphia other roads may be built, and the canal may take a large amount of business, but from Stonington to Boston the route brings Providence nearly in a direct line, and no other road can rival its natural advantages.

Should any, without reflection, suppose that a line of boats will be run to Providence, let it be observed that, with fare at $6, they heretofore have not been profitable to stockholders: they make one passage, only, in two days, and that requires from 16 to 17 hours, whereas the boats to Stonington can make a passage every day, and not requiring births, would carry a greater number of passengers. The price from this to Providence will not be over four dollars, and the time required less than eleven hours.

Will boats run against such a competition? Certainly not. The transportation company will no doubt engage the present boats, to the advantage of their proprietors as well as their own. Besides passengers, the steamboats will have spare room for much freight, which can be delivered in Providence at less than insurance, interest, and freight of carrying it on other vessels to Providence, fitted out purposely for freight, without comparing the advantage to the merchant of dispatch and certainty, as has been stated in the engineer's report, the Stonington road will be remarkably level, averaging only 12 feet per mile elevation; and the country abounds with the best materials for a railroad. The economy and saving to the company will be very great, by using timber to bridge across low lands, and to overcome the irregularity of surface, instead of incurring the expense of embankments.

I understand it is the determination of the directors to urge this work on with all practicable dispatch, that it may be completed even before the Boston and Providence. Engagements have been already entered into with the most experienced engineers, to superintend the work and it is to be at once commenced.

O. Q.

Amount of Power lost by Curves on Railways.

By S. D. To the Editor of the American Railroad Journal.

SIR,—A very curious and very necessary table remains still a desideratum in the science of railways, which I am inclined to believe the observations of experienced engineers would be able to furnish us with—I mean of the amounts of power lost by curves on railways. This loss, for the sake of a ready perception of its value, I would oppose to a relative inclination in this manner, which would, I imagine, bear to fully elucidate a very important section of that branch of engineering:

A curve of 5,000 feet radius is equal to a rise of, say			1 in 200
"	1,000	"	1 in 150
"	600	"	1 in 100
"	200	"	1 in 50, &c.

&c., always supposing the outer rail of the curve as in practice to be raised above the level of the inner rail.

I know that some experiments have been made with this view, but I have never met with an account of them, and, in common with many others, am anxious to learn the results of such experiments. It appears to me to be one of those chapters on railways least understood at present, and on which the greatest improvements remain yet to be effected. Very respectfully yours.

S. D.

Boston, May 12, 1833.

The subject referred to in the above communication we deem one of considerable importance, and shall be much obliged if some of our correspondents will furnish us with the desired information.—[ED. R. J.]

PRICES OF RAILROAD STOCKS.

New-York and Harlaem	asked	99—	offered 99
New-York and Albany		— —	—
Canajoharie and Catskill		— —	—
Mohawk and Hudson		111 —	116½
Do. (Branch).			
Ithaca and Owego		94 —	91
Saratoga and Schenectady		128 —	127½
Fort Edward and Saratoga		110 —	107½
Boston and Worcester		105 —	102
Boston and Providence		115 —	114½
N.York, Providence, and Boston		106 —	106
Paterson and Hudson		103 —	102
N. J. Railroad & Transp. Line		110 —	107½
Morris Canal		91 —	90
Delaware and Hudson Canal		129 —	129

MERCHANTS' EXCHANGE, NEW-YORK.

This building is situated on the south-west side of Wall street, on the corner of Hanover street, extending through to Exchange Place, having a front of about 125 feet in Wall street, and forming nearly a square. The basement story is occupied principally by the Post Office. On the principal story is the Exchange Room, which is 100 feet in length and 60 feet in width, with an arched ceiling suspended from the rafters of the building. It is constantly kept well lighted, warmed, and ventilated, and is attended by a person competent to give such information as strangers may require. The other parts of the building comprise the Stock Exchange, and various other offices devoted to mercantile pursuits, which are always in request.

In the dome is the Exchange Telegraph, connected with several stations in the harbor, the most remote of which is on the Highlands of Neversink, in the State of New-Jersey, the distance of which, in *a direct line*, is about 27 miles. This station is situated upwards of 400 feet above the level of the sea, and in clear weather commands a prospect of the offing, upwards of 30 miles in extent. The means of communication by the Telegraph are so easy, that any information can be conveyed through the whole line in less than five minutes.

In addition to the station on Staten Island, the proprietors have placed signal poles, which always show, during the day, the number of inward bound vessels in sight, and they form a guide for pilots, by whom they can be seen from the principal wharves in the city. These stations have been erected at great expense by the Company.

In the Exchange Room is a book, open to the public, in which the Telegraphic communications are entered immediately they are received.—[Amer. Mec. Mag.]

TWINKLING OF THE FIXED STARS.—Having never yet seen any solution of the twinkling of the fixed stars, with which I could rest satisfied,* I shall offer the following, which may not perhaps be found an inadequate cause of that appearance; at least it has undoubtedly some share in producing it, especially in the smaller stars. It is not, I think, unreasonable to suppose that a single particle of light is sufficient to make a sensible impression upon the organs of sight. Upon this supposition, a very few particles of light, arriving at the eye in a second of time, will be sufficient to make an object visible, perhaps not more than three or four; for though the impression may be considered as momentary, yet the perception, occasioned by it, is of a much longer duration—this sufficiently appears from the well known experiment of a lighted body whirled round in a circle, which needs not make many revolutions in a second to appear as one continued ring of fire. Hence, then, it is not improbable that the number of the particles of light, which enter the eye in a second of time, even from Sirius himself, may not exceed three or four thousand; and from stars of the second magnitude, they may therefore not much exceed an hundred. Now, the apparent increase and diminution of the light which we observe in the twinkling of the stars, seems to be repeated at not very unequal intervals, perhaps about four or five times in a second: why may we not then suppose that the inequalities, which will naturally arise from the chance of the rays coming sometimes a little denser and sometimes a little rarer, in so small a number of them, as must fall upon the eye in the fourth or fifth part of a second, may be sufficient to account for this appearance? An addition of two or three particles of light, or perhaps of a single one upon twenty, especially if there be an equal deficiency out of the next twenty, would, I suppose, be very sensible; this seems at least probable from the very great difference in the appearance of stars, whose light is much less different than, I imagine, people are in general aware of; the light of the middlemost stars in the tail of the Great Bear does not, I think, exceed the light of the very small star next to it, in a greater proportion than that of about sixteen or twenty to one; and Bouger tells us in his *Traite d'Optique*, that he finds a difference in the light of objects of one part in sixty-six sufficiently distinguishable.

It will perhaps be objected, that the rays coming from Sirius are too numerous to admit of a sufficient inequality arising from the common effect of chance, so frequently as would be necessary to produce this effect, whatever might happen in respect to the smaller stars; but till we know what inequality is necessary to produce this effect, we can only guess at it either one way or the other; there is, however, another circumstance, that seems to concur in the twinkling of the stars, besides their brightness, and this is a change of color. Now the red and blue rays being very much fewer, I apprehend, than those of the intermediate color, and therefore much more liable to inequality from the common effect of chance, may help very much to account for this phenomenon, a small excess or defect in either of these making a very sensible difference in the color.

It will now naturally be asked, why the frequency of the changes of brightness should not be often much greater, as well as sometimes less, than that above-mentioned, and why the interval of the fourth or fifth, or some such part, should be pitched upon, rather than the fortieth or fiftieth part of a second, or than a whole second, &c.; for, according to the length or shortness of the time assumed, the changes that will naturally occur from the effect of chance will be smaller or greater in proportion to each other. The answer to this question will, I think, tend to render the above solution more probable, as well as to throw a good deal of light upon the whole subject. The lengths of the times then between the changes of brightness, if I am not mistaken, depend upon the duration of the perception before-mentioned, occasioned by the impression of the light upon the eye, than which they seem to be neither much longer nor shorter. Whatever inequalities fall within a much shorter time than the continuance of this perception, will necessarily be blended together, and have no effect, but as they compose a part of the whole mass; but those inequalities, which fall in such a manner as that they may be assigned to intervals nearly equal to, or something greater than, the continuance of this perception, will be so divided by the imagination, which will naturally follow, and pick them out as they arise.—[Phil. Trans. 1767.]

* Some astronomers have lately adopted, as a solution of this appearance, the extreme minuteness of the apparent diameters of the fixed stars, which, they suppose, must in consequence of this be [illegible]ted by every little mote that floats in the air; but, then an object should be able to intercept a star from us, it must be large enough to exceed the apparent diameter of the pupil of the eye; so that, if the star were a mathematical point, it must still be equal in size to the pupil of the eye.

[From the New-York Mechanics' Magazine.]

Annexed is the engraving promised in our last, of the apparatus "for producing engravings of medals by machinery applied to the surface of the medal itself, or to that of the caste from it;" the description is by Mr. Hebert, Editor of the Register of Arts, and which we copy from the London Mechanics' Magazine. In our Analysis of the December number of that work, we omitted to state that the Editor had done ample justice to the claims America had to the invention, an oversight which we are glad to have an opportunity of rectifying.

"Fig 1—*a a* represents a portion of the table, to which is screwed a standard *b*, that receives the medal *c*, or other subject to be copied. To this table is also fixed a brass socket *d d*, in which a bolt *e*, fitted to it with great accuracy, is made to slide up and down by the agency of a fine threaded screw *f*, provided with a micrometer head at *g*, for the purpose of adjusting the motion through equal spaces. The vertical bolt *e* is surmounted by a strong plate or guide frame *h*, fixed to it in an inclined position: on the upper edge of this frame is a groove, in which run two or more rollers, or little conical edged wheels (as that seen at *i*), fixed to the under side of the upper part of a carriage *j*: this carriage has another roller at bottom, marked *k*, which runs upon a flat plate bolted to *h*. This carriage, made of brass, has a flat steel plate *l l* passed through it, with conical edges moving against anti-friction rollers, and to the upper edge of the steel plate is fixed the tracing point *m*, as will be hereafter more particularly described. *n* is a standard fixed to the tracer carriage, bearing a three-armed piece *o p q*; the lower extremity of the arm

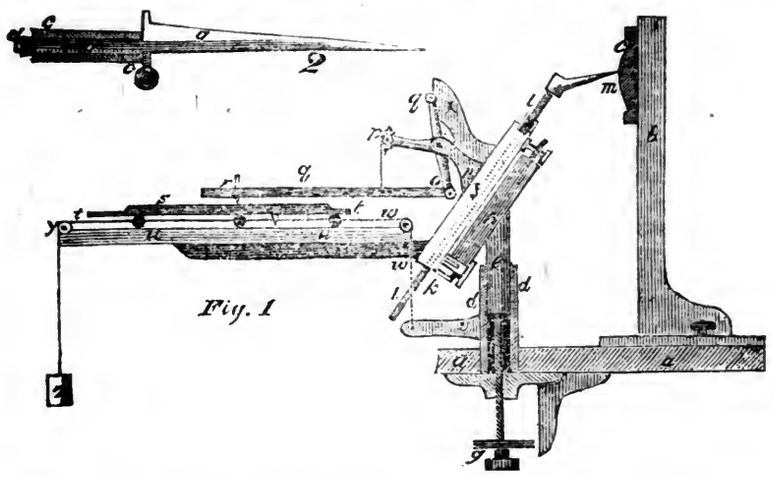


Fig. 1

o being jointed to a bar, which carries the etching point *r* over the copper or steel plate *s*, lying on its carriage *t t*, running upon a metallic stage *u u*. *v* is a metallic arm fixed to the socket *d*, and connected by a steel chain *w w* to a stud *x* in the under side of the plate carriage; to this stud is also attached a silken cord passing over a pully at *y*, suspending the weight *z*: the province of this weight is to draw the carriage plate backwards, as the tracing point passes over the projections of the medal, while the chain *w* draws the carriage forward as the tracing point passes into the cavities. In cases where the descent into cavities is perpendicular, or nearly so, to the plane of the middle, neither the common conical point, nor the tapering blade *m*, will reach the required spot; to obviate this difficulty, the patentee has inserted a very ingenious tracer of the blade form (fig. 2) —*a* is the blade, having an axis *b*, with the centre of motion coincident with one straight edge of the blade, *c c c c* represent a socket, into which the pivot *b* of the blade fits with great accuracy, but made to turn with facility; the nut *d* keeps the tracer up to its bearing, to prevent its shaking longitudinally. It is evident that this form of tracer will admit of its being passed down the perpendicular sides of any declivity, in whatever direction the perpendicular side may be."

The Journal of the Franklin Institute, for September last, contains an elegant engraved portrait of WILLIAM CONGREVE, the Dramatist, executed by Mr. A. Spencer, of Philadelphia, in the manner described, and has inserted the following proofs that the invention can be claimed for America.

"Believing that the credit of the invention of a machine for medal ruling is due to America, we will briefly set forth our proofs, and then speak of the improvements which of late years the method has undergone.

"The proofs to be given of the existence and state of a machine are to be derived from the results produced by it.

"In 1817, by the use of a machine which had been invented in Philadelphia, Christian Gobrecht, die-sinker, produced upon copper an engraving from a medal, having upon it the head of Alexander of Russia: from this engraving impressions were taken and distributed. One of these impressions we have seen.

"In 1819, Asa Spencer (now of the firm of Draper, Underwood & Co. bank note engravers,) took with him to London a machine of the kind above alluded to, which was designed principally for straight and waved line ruling. This machine was used in London during the year just mentioned, and the mode of ruling waved lines, and of *copying medals*, was then exhibited and explained by Mr. Spencer to several artists; particularly to Mr. Turrell, who took, by permission, a drawing of the machine, for the purpose of having one made for his own use.

"Little, however, was done in the way of medal ruling until about three years since, when a desire to apply the method to the engravings of designs for bank notes caused it to be revived by Mr. Spencer, who bestowed great attention upon it, and overcame the difficulties met with in the outset.

"The peculiar construction of this machine has never been made a secret, nor has it ever been patented, although prudential motives have required that it should not be minutely described, and thus be placed in the hands of those by whom its use might be perverted. In consequence of this free communication in relation to this machine, it is now made, with modifications in the details, for engravers, by some of our machinists. We have lately had the pleasure of inspecting one of beautiful workmanship, made by Messrs. Tyler, Fletcher & Co.

"The operations performed by this machine are the ruling of parallel straight lines at any required distances apart, and either continuous or broken; ruling converging straight lines; ruling waved lines, the waves being either similar or varying by more or less imperceptible gradations; and medal ruling, or transferring to copper the fac-simile of a medal without injuring its surface, the waved lines presenting a copy of the minutest parts of the medal.

"Mr. Bate is said, in the extract which we have given, to be engaged in *perfecting* a machine for medal ruling: in his patent he claims the improvements on a machine for that purpose. It is impossible to say how far this latter claim may be borne out, since a description of the patented improvements has not yet reached us.

"That Mr. Spencer has essentially *perfected* this machine, as far as beauty of execution and fidelity of representation in the work to be done by it are concerned, we do not hesitate to say; and that the public here, and our brethren of England, may be enabled to judge for themselves, we have obtained from Mr. Spencer a specimen* of medal ruling executed with his machine, an impression from which we give.

* "Various specimens of this work have been long since sent to London, and may be found in the possession of Messrs. Perkins and Heath, and of other artists."

"The engraving is made from a copper medal placed in an embossed card of the ordinary kind. The surface of the medal bears not the slightest trace of injury from the machine, and even the yielding surface of the card is not roughened by it.

"An impression taken thus from a plate gives but a faint idea of the exquisite effect produced by engravings themselves made by this machine upon a polished surface of gold or silver.

"A series of the Napoleon medals, together with a portion of the series of medals struck in commemoration of the events of the first French revolution, attest the skill of Mr. Spencer."

The Journal of the Franklin Institute observes truly, that

"America *has been* without her journals to put forth the claims of her ingenious men, and the credit of more than one invention has passed from her to those who have been able to give greater publicity to their designs; but this day has passed away, and we find notices of the ingenious works of our countrymen transferred to the pages of foreign journals, to be appreciated and acknowledged abroad as well as at home."

That need be no longer a cause of complaint, our pages are open to all communications that have utility for their object, and we invite communications from inventors and practical men on all subjects relative to the Arts and Sciences.

ARCHITECTURE.—Without entering deeply into the subject of Architecture, we propose to devote a portion of our succeeding pages to the explanation of the general and fundamental principles upon which this highly interesting and beautiful science depends.

The science of Architecture has at all times, and in all civilized countries, been considered not only a pleasing but a highly useful branch of knowledge.

The great utility of this science, and the elegant accomplishments connected with its study, have almost rendered a knowledge of its rules and principles necessary to complete a liberal education. But it is not our intention to bestow encomiums on the science, nor to give any thing like a detailed history of it, but to present our readers with a plain and condensed account of what may be termed its elementary principles.

Architecture is usually divided, with respect to its objects, into three branches, *civil*, military, and naval.

Civil Architecture, called also absolutely, and by way of eminence, *Architecture*, is the art of contriving and executing commodious buildings for the uses of civil life; as houses, temples, theatres, halls, bridges, colleges, porticoes, &c.

Architecture is scarcely inferior to any of the arts in point of antiquity. Nature and necessity taught the first inhabitants of the earth to build themselves huts, tents, and cottages; from which, in course of time, they gradually advanced to more regular and stately habitations, with variety of ornaments, proportions, &c. To what a pitch of magnificence the Tyrians and Egyptians carried *Architecture*, before it came to the Greeks, may be learned from Isaiah xxiii. 8. and from Vitruvius's account of the Egyptian Oeci; their pyramids, obelisks, &c.

Yet, in the common account, *Architecture* should be almost wholly Grecian original: three of the regular orders or manners of

building are denominated from them, viz. *Corinthian*, *Ionic*, and *Doric:* and there is scarcely a single member, or moulding, but comes to us with a Greek name.

Be this as it may, it is certain the Romans, from whom we derive it, borrowed what they had entirely from the Greeks; nor do they seem, till then, to have had any other notion of the grandeur and beauty of buildings, beside what arises from their magnitude, strength, &c. Thus far they were unacquainted with any other beside the *Tuscan.*

Under Augustus, *Architecture* arrived at its glory: Tiberius neglected it, as well as the other polite arts. Nero, amongst a heap of horrible vices, still retained an uncommon passion for building; but luxury and dissoluteness had a greater share in it than true magnificence. Apollodorus excelled in *Architecture*, under the emperor Trajan, by which he merited the favor of that prince; and it was he who raised the famous Trajan column, existing to this day.

After this, Architecture began to dwindle again; and though the care and magnificence of Alexander Severus supported it for some time, yet it fell with the western empire, and sunk into a corruption, from whence it was not recovered for the space of twelve centuries.

The ravages of the Visigoths, in the fifth century, destroyed all the most beautiful monuments of antiquity; and *Architecture* thenceforward became so coarse and artless, that their professed architects understood nothing at all of just designing, wherein its whole beauty consists: and hence a new manner of building took its rise, which is called the *Gothic.*

Charlemagne did his utmost to restore *Architecture;* and the French applied themselves to it with success, under the encouragement of H. Capet: his son Robert succeeded him in this design, till by degrees the modern *Architecture* was run into as great an excess of delicacy, as the Gothic had before done into massiveness. To these may be added, the Arabesk and Morisk or Moorish *Architecture*, which were much of a piece with the Gothic, only brought in from the south by the Moors and Saracens, as the former was from the north by the Goths and Vandals.

The architects of the 13th, 14th, and 15th century, who had some knowledge of sculpture, seemed to make perfection consist altogether in the delicacy and multitude of ornaments, which they bestowed on their buildings with a world of care and solicitude, though frequently without judgment or taste.

In the two last centuries, the architects of Italy and France were wholly bent upon retrieving the primitive simplicity and beauty of ancient *Architecture;* in which they did not fail of success: insomuch, that our churches, palaces, &c. are now wholly built after the antique. *Civil Architecture* may be distinguished, with regard to the several periods or states of it, into the antique, ancient, gothic, modern, &c. Another division of *Civil Architecture* arises from the different proportions which the different kinds of buildings rendered necessary, that we might have some suitable for every purpose, according to the bulk, strength, delicacy, richness, or simplicity required.

Hence arose five orders, all invented by the ancients at different times, and on different occasions, viz. Tuscan, Doric, Ionic, Corinthian, and Composite. The Gothic Architecture may also be mentioned here, for it is perfectly distinct both from the Grecian and Roman style, although derived from the latter.

Proposals for constructing a Steam Camel. By John L. Sullivan, Civil Engineer.

To the Editor of the Mechanics' Magazine.

New-York, April 24, 1833.

Sir,—It will be recollected that the name of *camel* is given to the hollow floats, used to buoy up ships of war to cross barred harbors, especially at Amsterdam.

Wherever the current of a river meets the tide, a shoal is of course formed by the deposition of sediment, and may at length obstruct navigation. All that *art* can do, then, is to contract the passage, and by a more rapid current compel the shoal to form further down stream. The effect of dredging is but partial and temporary. Vessels might be fitted out for foreign voyages, at Albany, and the largest class of coasters come to this port, but for this obstruction.

The *Overslough* is becoming a more sensible impediment to vessels since the increase of the population and trade at this city. Being the seat of government, and the meeting of the lakes and the ocean, it might become very commercial.

In case no permanent work should be devised to remedy the inconvenience of this shoal, it has occurred to me that a *steam camel* is capable of being made, at once to raise and bear vessels of any size over it.

Having acquired the right to the recent improvement made in steamboats by Mr. Blanchard, for the North River Companies, I have invented, by the combination of two of them, with machinery, the instrument to which I have given the name of the *steam camel.*

The *peculiarity* of his boat was essential to its construction. It required that their hulls should be exceedingly light, yet very *stiff*, because vessels sit in the water according to the weight on board, and the displacement that equals it. The greatest weight will be in the broadest part of the vessel, but when she is lifted out that burden is transferred to the buoyant vessels, (or camel,) and will come on them somewhat unequally. And if so, their vertical strength must be such that one end may be depressed without injury to the other: she must be incapable of changing her vertical shape.

The requisite lightness and stiffness of this vessel is owing to her frame being composed of *arches.* These arches are vertical and opposite, and their ends are connected strongly: they are then braced apart by cross studs, and then tied together by screw bolts close to each stud. Thus combining the strength of the column with the longitudinal strength of the fibre of the wood of the curves.

Two such frames placed parallel and vertical, and resting the inverted arch on the floor timbers, the hull receives any desired model. The ends project far enough to bear up the impelling wheel, which is thus placed at the stern, and others may, for great speed, be placed also at the sides. The cylinders lay horizontal, in connection with the frames, and thus the most vigorous action of the engine can be well sustained. This kind of steamboat draws about *one foot*, all on board. So far as we have experience, her performance is extraordinary. One runs up the Connecticut, over Enfield falls, between Hartford and Springfield; another runs up the Kennebec, from Gardiner, over the rapids, to Waterville. Another has ascended the Alleghany as far as Hamilton, the key to a direct trade with the valley of the Mississippi, from New-York, without the intervention of aid by the laws of other states: probably of future consequence.

Two of these light and stiff steamboats being properly *connected*, yet apart sufficiently to come on both sides the vessel to be assisted, she is lifted as much out of the water as is requisite, by means of their steam power, and the application of the machinery, combined with them, to form the *camel;* and then applying the power to the wheels, she is carried quickly over the shoal. Thus any vessel might load at Albany, and be carried below the shoals, or be brought up, loaded; and sea vessels brought up more easily than to New-Orleans.

The Dutch camel is filled with water, and brought under the sides of the ship, when, on being *pumped out*, they buoy her up; but this is a slow process. The impatient trade of the Hudson requires the most active aid. In five minutes the vessel should be raised, and in ten more set down. The specification of this improvement is too long for insertion in this place. This notice serves merely to show that the nature of the shoal is such as not to permit of a radical remedy, but may be thus practically surmounted.

John L. Sullivan, Civil Engineer.

On the Methods of describing various Curves for Arches. By J. Thomson, Civil Engineer, Nashville, Tenn. [From the American Journal of Science.]

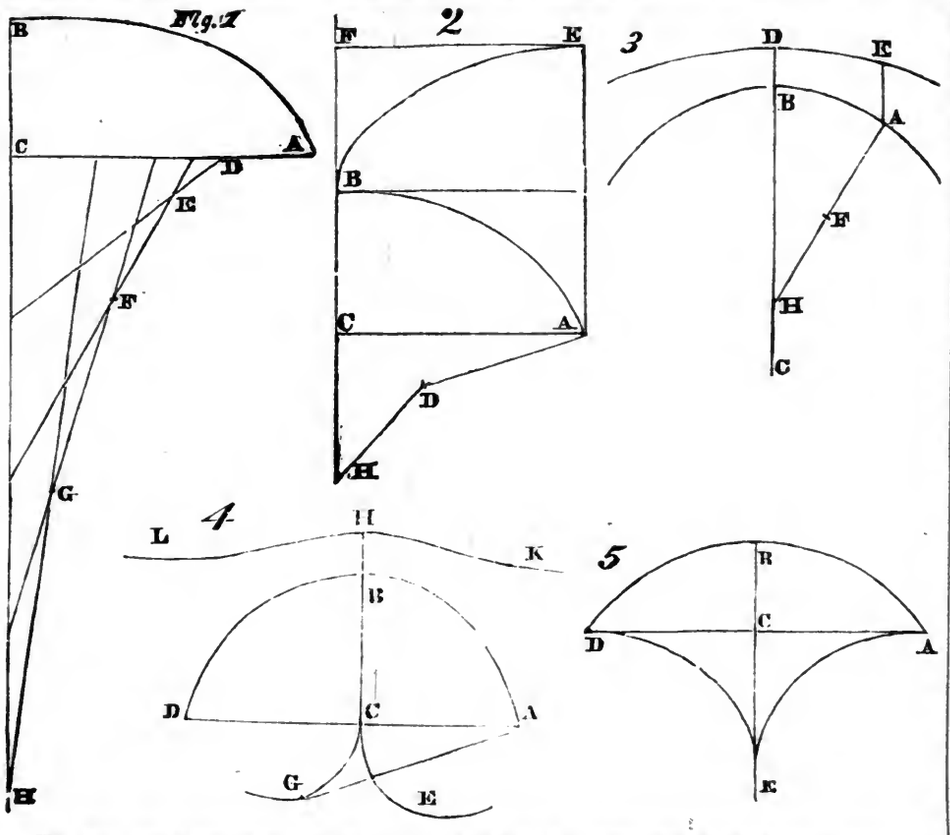
Mr. Editor—The following observations on the methods of tracing various curves for arches are submitted for publication in the American Journal, with the hope that they may be found useful to mechanics, by saving the time and labor of tedious calculation.

The merely practical mechanic, unacquainted with algebraical calculations, is still uninformed in regard to the method of finding the point D (fig. 1), or the distance C D, the determination of which is the only difficulty he will encounter. The distance C D, in that communication, is only expressed in indefinite parts, and not by means of a quantity derived from the ratio of A C to C B.

In order to find C D, *divide the difference of the rise and half span* of the arch by the following decimal numbers:

For five centers,	divide by	0.794.
For seven centers,	‘ ‘	0.771.
For nine centers,	‘ ‘	0.758.
For eleven centers,	‘ ‘	0.749.

The method of finding these divisors will be given hereafter. It may be observed that the last divisor is nearly =0.75, hence when eleven centers are used, multiply the above difference of rise and half span by 4, and divide by 3, the result will be the distance C D. Having found C D, make C H=3 C D. Take one from the number of centers to be used, and half the remainder will be the number of parts into which C H and C D are to be divided; C H into *equal* parts, and C D into *unequal* parts, increasing from D as 1, 2, 3, &c. Join these points of division, as in the figure, by straight lines, whose intersections will give the centers H, G, F, &c. Thus, when nine centers are used, as in the figure, C H is divided into four equal parts, and C D into the same number of unequal parts, increasing as 1, 2, 3, 4, from the point D.



To find the above divisors, put C D=y, A D=x and the given quantities A C=a, and B C=d. Now when the number of centers is given, the broken line H D is equal to C D multiplied by a constant quantity; put this constant quantity =c, then H D=cy, and since the broken line A H must be equal to B H, we have

$$x+cy=d+3y, \text{ whence}$$
$$x=d+y(3-c), \text{ and since}$$
$$\text{A C}=\text{A D}+\text{C D},$$
$$a=y+d+y(3-c), \text{ hence}$$
$$y=\frac{a-d}{4-c}=\text{C D}.$$

In order to apply this general equation, c must be calculated for the required number of centers. For five centers, take C D= any assumed quantity, say three; then by trigonometry we find the sum of the lines that constitute H D=9.619, hence $c=\frac{\text{H D}}{\text{C D}}=3.206$. In the same way we find for seven centers c=3.229, and for nine centers c=3.242, and for eleven centers c=3.251. Hence we have for

Five centers, $\text{C D}=\frac{a-d}{0.794}$

Seven centers, $\text{C D}=\frac{a-d}{0.771}$

Nine centers, $\text{C D}=\frac{a-d}{0.758}$

Eleven centers, $\text{C D}=\frac{a-d}{0.749}$

Since it is thus almost as easy to trace an oval arch with nine or eleven centers as with three, the description of this arch by means of three centers ought always to be avoided, as it is not only disagreeable to the eye, but it is deficient in strength, in consequence of the sudden change of curvature resulting from this mode of description.

Perhaps no curve unites beauty and strength in a greater degree than the cycloid. The arch, equilibrated by a horizontal road-way, is remarkable for strength, but it is deficient in beauty. The elliptic arch is perhaps the most graceful, but when the rise is small, compared with the span, it will not admit of great pressure with safety at the crown. The cycloidal arch, with the same rise and span with an elliptic arch, is more curved at the crown than the latter, and hence it will sustain a greater weight at that point, such as a heavy load passing over it. We are not at liberty, however, to choose the ratio between the rise and span of this arch, these being always to each other as the diameter of a circle to the circumference.

The mechanical construction of the cycloid is very easy. The following method I have not seen noticed in any work on Mechanics. Having fixed upon the dimension of the half span A C, (fig. 2,) take the rise B C such that A C will be to B C as half the circumference of a circle to the diameter, the lines F H and A E being parallel to each other, and perpendicular to A C, and make C H=C B. Let the describing line taken equal to B H or twice B C, be extended from H to A, and brought to a proper tension by means of the point or pin D. The curve A B is then described with the centers D and H. This curve will be an approximation to the cycloid. Fix a number of centers (the more the better) along the curve A B, and with these centers describe the curve B E, which will be a cycloid as near as can be obtained by any mechanical means. If, instead of a single point, D, three or four points be taken as centers between H and A, so arranged as to be nearly in a cycloidal curve, and keeping at the same time the line A D H at its proper tension, the resulting curve A B will itself be a very near approximation to the cycloid; but not much greater sensible accuracy can be attained in the second curve B E, than when a single point D is first assumed.

The above method of tracing this kind of arch is derived from the principle, that when any curve or broken line A D H is assumed between the parallel lines A E and F H, the successive developments or involutes A B, B E, &c. between the same parallels, constantly approach to, and finally terminate in a cycloid. These involutes converge so rapidly to the form of this curve, that when the above method is adopted, the second involute B E may always be assumed in practice as the required curve.

One advantage that might be mentioned, in tracing curves for arches with a variable radius, is that we may always obtain the height of the road-way above any point in the arch, such that it may be equilibrated by the superincumbent weight. Thus, let D E (fig. 3) represent a road-way passing over the arch A B, let B C=radius of curvature at the point A, D B=height of road-way at the crown, then we have $\text{A E}=\frac{\text{D B}\times\text{B C}}{\text{A F}\times(\cos \text{A H B})^3}$.

An arch that will require a gentle elevation of road-way at the crown, in order to produce equilibration, may be described by the following method. Let A D, (fig. 4,) represent the span of the arch, B C the rise; describe an arc C G of a circle on D C as a diameter; extend the describing line from A to G, where it is a tangent to the circle; the line being fixed at G, describe the half arch A B with centers arranged along the curve C G, and in the same manner describe the half arch B D with centers on C E. If the span A D be=100, A G will be=70.7, and hence the rise B C will be 40. It will be found from the above equation that this arch will be nearly equilibrated by a road-way of the form of L H K, gradually rising at the crown of the arch, when H B is taken equal to about one-fourth of the rise.

A very graceful arch may be described (fig. 5) by centers arranged along circles tangent to the span and axis of the arch, at the points D, E, and A, E. This arch will also admit with safety a horizontal road-way. The span of this arch will be to the rise as $2r$ to $\frac{1}{4}c-r$, r being the radius of a circle, and c the circumference, or the ratio will be as 1 to 0.2854. The use, however, of arches of this description is limited to cases where we are at liberty to adopt the constant ratio that necessarily exists between their rise and span.

Stucco for walls.—In Italy great use is made of a stucco which gives to walls the brilliancy, the cleanliness, and almost the hardness, of marble. It may be variously colored, to suit the taste of the employer. This stucco is made very easily, by mixing lime and pulverized marble, in nearly equal proportions, according to the meagerness or richness of the marble. A paste or mortar is made of this mixture, and applied to the wall in the thickness of a five-franc piece, with a trowel wet with soap suds, and in such a way that the whole of the wall may be finished in the same day. None but mineral colors should be mixed with the stucco, as the lime would destroy those derived from the vegetable kingdom. To obtain the greatest brilliancy, the mortar should be applied with a cold trowel. Workmen, for the sake of ease and expedition, usually employ it warm. Chips and fragments of marble may be advantageously employed for this purpose. In cases where the appearance of a marble wall would be objectionable on account of its coldness, any portion of it may be covered with paper.

If you do not hear reason, she will surely rap your knuckles.—[Franklin.]

NEW-YORK AMERICAN.

MAY 18, 20, 21, 22, 23, 24—1833.

LITERARY NOTICES.

THE LIFE OF JOHN JAY, WITH SELECTIONS FROM HIS CORRESPONDENCE AND MISCELLANEOUS PAPERS, by his son WM. JAY: 2 vols. 8vo. 500 pp. N. York; J. & J. Harper.—"I have long been convinced that human fame was a bubble, which, whether swelled by the breath of the wise, the good, the ignorant or malicious, must burst with the globe we inhabit. I am not of the number of those who give it a place among the motives of their action. Neither courting nor dreading the public opinion on the one hand, or disregarding it on the other, I joined myself to the first assertors of the American cause, because I thought it my duty; and because I considered caution and neutrality, however secure, as being no less wrong than dishonorable." In this brief extract from one of his own writings—a history of his Spanish Mission—we have an epitome of the character of John Jay. Such as it was, when he first joined himself, in 1774, to the American cause, such it continued to be till, in 1829, at the advanced age of 84 years, death put his final seal upon a lofty and unblemished career.—It is impossible to read these volumes without feeling unqualified admiration for the high motives, the singleness of purpose, the purity, the energy, the zeal and the ability, to which every page of them bears such ample and irrefutable testimony. Time is the great Revealer—the great Justifier. That public man who can stand before posterity in the presence of Truth—and have his whole career opened—his inmost views and feelings scanned—and his opinions—often perhaps at the time hastily but imperishably, recorded—adduced in evidence and contrasted with each other—whose age can be confronted with his youth—and his public with his private life—and can pass this ordeal unscathed—may be ranked among the Great and Good. Such a man was John Jay; and the cause of virtue and true patriotism is deeply indebted to the son, who, by the publication of these memoirs, has so signally served *it*, while he discharged a sacred duty to a father's fame.

We have not room—nor for the great majority of our readers can it be necessary—to furnish a sketch, however slight, of the public life and services of Mr. Jay. These are already a part of our history. We must content ourselves therefore today, with culling here and there some of the less known incidents and personal characteristics developed in these pages.

While the second Congress in 1775 was sitting in Philadelphia, the following incident, of which we do not remember seeing any previous notice, occurred, as related by Mr. Jay:

Some time in the course of this year, probably about the month of November, Congress was informed that a foreigner was then in Philadelphia, who was desirous of making to them an important and confidential communication. This intimation having been several times repeated, a committee consisting of Mr. Jay, Dr. Franklin, add Mr. Jefferson was appointed to hear what the foreigner had to say.—These gentlemen agreed to meet him in one of the committee rooms in Carpenter's Hall. At the time appointed they went there, and found already arrived an elderly lame gentleman, having the appearance of an old wounded French officer. They told him they were authorized to receive his communication; upon which he said that his Most Christian Majesty had heard with pleasure of the exertions made by the American colonies in defence of their rights and privileges; that His Majesty wished them success, and would, whenever it should be necessary, manifest more openly his friendly sentiments towards them. The committee requested to know his authority for giving these assurances. He answered only by drawing his hand across his throat, and saying "Gentlemen, I shall take care of my head." They then asked what demonstrations of friendship they might expect from the King of France. "Gentlemen," answered the foreigner, "if you want arms, you shall have them; if you want ammunition, you shall have it; if you want money, you shall have it." The committee observed that these assurances were indeed important, but again desired to know by what authority they were made. "Gentlemen," said he, repeating his former gesture, "I shall take care of my head:" and this was the only answer they could obtain from him. He was seen in Philadelphia no more. It was the opinion of the committee that he was a secret agent of the French court, directed to give these indirect assurances, but in such a manner that he might be disavowed if necessary. Mr. Jay stated that his communications were not without their effect on the proceedings of Congress.

A truly American feeling on every question with foreigners respecting the rights and dignity of his country, was a marking trait in the character and conduct of Mr. Jay. Under the pressure of adverse circumstances Congress suffered themselves, in 1781, to receive the dictation of the French minister as to the terms on which alone American ministers in Europe should treat for peace with England; and they actually agreed, on the proposition of *M. Gerard*, to insert in the instructions of their ministers the following paragraph additional to that in which the American functionaries were directed to repose full confidence in, and freely to consult the French cabinet—"and ultimately to govern yourself by their advice and opinion." John Adams, then minister in France, having been found of too sturdy honesty, and too sagacious judgment, for the purposes of Count de Vergennes, Congress was induced, chiefly by the importunity of the French minister in Philadelphia, to associate other four Commissioners with him, in order to treat of peace. The persons selected were John Jay, Thomas Jefferson, Benjamin Franklin and Henry Laurens. Mr. Jay, when he received his new commission with the instructions just alluded to, was in Madrid. How they affected him will be perceived by the following letter—admirable not less for unaffected personal humility, than for high and genuine pride of country:

To the President of Congress.

ST. ILDEFONSO, 20th. SEPT. 1781.

Sir,—Your excellency's favor of the 5th July past, with the papers therewith enclosed, were delivered to me on the 29th ult. by Major Franks, whom the procrastination of the minister still obliges me to retain.

The new commissions with which Congress have honored me, argue a degree of confidence which demands my warmest acknowledgements; and which, so far as it may be founded on an opinion of my zeal and integrity, they may be assured will not prove misplaced.

At the commencement of the present troubles I determined to devote myself, during the continuance of them, to the service of my country, in any station in which she might think it proper to place me.—This resolution, for the first time, now embarrasses me. I know it to be my duty, as a public servant, to be guided by my own judgment only in matters referred to my discretion; and, in other cases, faithfully to execute my *instructions* without questioning the policy of them. But there is *one* among those which accompany the commissions, which occasions sensations I never before experienced, and induces me to wish that my name had been omitted.

So far as personal pride and reluctance to humiliation may render this appointment disagreeable, I view it as a very unimportant circumstance; and should Congress, on any occasion, think it for the public good to place me in a station inferior and subordinate to the one I now hold, they will find me ready to descend from the one, and cheerfully undertake the duties of the other. My ambition will always be more gratified in being useful than conspicuous; for, in my opinion, the solid dignity of man depends less on the height or extent of the sphere allotted to him, than on the manner in which he may fulfil the duties of it.

But, sir, as an American, I feel an interest in the dignity of my country, which renders it difficult for me to reconcile myself to the idea of the sovereign independent States of America submitting, in the persons of their ministers, to be absolutely governed by the *advice* and *opinion* of the servants of another sovereign, especially in a case of such national importance.

That gratitude and confidence are due to our allies is not to be questioned; and that it will probably be in the power of France almost to dictate the terms of peace for us, is but too true. That such extraordinary extent of confidence *may* stimulate our allies to the highest efforts of a generous friendship in our favor, is not to be denied; and that *this instruction* receives some appearance of policy from this consideration, may be admitted.

I must, nevertheless, take the liberty of observing, that however our situation may, in the opinion of Congress, render it necessary to relax their demands on every side, and even to direct their commissioners ultimately to concur (if nothing better can be done) in any peace or truce not subversive of our independence, which France may be determined to accede to, yet that this instruction, besides breathing a degree of complacency not quite republican, puts it out of the power of your ministers to improve those chances and opportunities which, in the course of human affairs, happen more or less frequently unto all men. Nor is it clear that America, thus casting herself into the arms of the King of France, will advance either her interest or reputation with that or other nations.

What the sentiments of my colleagues on this occasion may be, I do not as ket know; nor can I foresee how far the negotiations of the ensuing winter may call for the execution of this commission.—Thus circumstanced, and at such a distance from America, it would not be proper to decline this appointment. I will, therefore, do my best endeavors to fulfil the expectations of Congress on this subject; but as for my own part, I think it improbable that serious negotiations for peace will soon take place, I must entreat Congress to take an early opportunity of relieving me from a station where, in character of their minister, I must necessarily receive and obey (under the name of *opinions*) the directions of those on whom I really think no American minister ought to be dependent, and to whom, in love for our country, and zeal for her service, I am sure that my colleagues and myself are at least equal. I have the honor to be, &c. JOHN JAY.

While Mr. Jay was in Paris, a Commissioner to treat for peace—Mr. Oswald being the British Commissioner—the following anecdotes are recorded. It is matter of regret certainly that Mr. Jay's opinion, as to their exactitude and authenticity, was never ascertained:

In Mr. Jay's diary are found two extraordinary anecdotes, which, if true, convict the French government of a degree of perfidy and baseness rarely paralleled in history.

21st October, 1782.—Visited Mr. Oswald; he told me that a Mr. Pultney had within a few days arrived here to place his daughter (a rich heiress) in a convent; that Mr. Pultney in confidence gave him the following anecdote, viz: That in the latter part of last winter, or beginning of last spring, there was an Englishman of distinction here who, in conversation with a friend of Mr. Vergennes, expressed his regret that the affairs of America could not be so arranged as to lead to peace. The friend mentioned this to Vergennes, who agreed to admit the Englishman to an audience on the subject. Accordingly, the Englishman and this friend waited upon the minister, who, in the conference, offered to divide America with Britain, and in case the latter agreed to the partition, that the force of France and Britain should be used to reduce it to the obedience of the respective sovereings. On parting, the minister said that in case this offer should not be accepted, he reserved to himself the right of denying all that he had said about it; that this offer was refused, and that the friend in a letter to the Englishman had expressed his regret on the subject. Mr. Oswald told me further, that Mr. Pultney assured him that he received this information from the Englishman's own mouth. Mr. Oswald spoke handsomely of Mr. Pultney's character. I advised him to trace the matter further, and if true, to get it properly authenticated, which he promised to do.

It appears from the date of this anecdote that it was told to Mr. Jay after the preliminary articles had been agreed on by the negotiators, but before they had received the assent of the British cabinet. It may therefore be supposed that the object of the communication was to prejudice the American commissioner against the French court, and thus to induce him more readily to yield to the objections which England might possibly make to the articles. Such a supposition will not apply to the following narrative, which was not given till after the preliminary treaty was signed, and all the great points in dispute finally settled.

22d December, 1782.—Between 7 and 8 o'clock this evening I visited Mr. Oswald. After some general conversation he took occasion to say that Lord

Mount Stuart, the son of Lord Bute, had dined with him to-day; and that he had also seen his brother, Col. Stuart, who had served the whole war in America. He spoke of the Colonel's aversian to the American war, and the account he gave of the want of discipline and the disorder which prevailed in the British army there. He passed several encomiums on the Colonel's character; sometimes of the father and then of the son's, observing how unlike they were to what the father was supposed to be; though for his part, he believed that more sins were laid on his back than he had ever committed. He said that Lord Mount Stuart execrated the American War, and had shown him to-day several letters written by him at Turin (where he was ambassador) to Lord Hilsborough on that subject. Mr. Oswald asked me if I remembered what he had told me of Mr. Pultney's information about the proposition of Count Vergennes, to divide America with Britain. I told him I did. 'Well,' says he, 'the same kind of proposition was made to Lord Mount Stuart. His Lordship brought with him here to dinner his letter-book, which he did not choose to leave with his Chargé d'affaires, and in which he showed me his letters written with his own hand, (for he would not confide it to his secretary) to Lord Hilsborough; and the first letter written was dated in the month of September, 1780; from which it appears that a Mr. Mally, who had formely traveled with Lord Mount Stuart, and is an honorary professor at Geneva, and is employed to write the history of Hesse, &c., for which he receives annuities; a man, in short, well known among men of letters, was employed by Mr. Neckar to make overtures to Lord Mount Stuart, about putting an end to the war, by dividing America between Britain and France, the latter to have the eastern part.

Mr. Oswald also says that Lord Mount Stuart went to Geneva on the occasion, where he conversed with Mr. Mally, and that his lordship read to him out of his letter-book French letters from this Mr. Mally to his lordship on the subject, after his return to Turin: that this correspondence contains a very curious and particular account of French intrigues, particularly that Neckar wished for peace, because his system could only raise money enough to provide for old arrears and for current expenses; and were he obliged to sustain the expense of the war, he must break in upon it, and perhaps be disgraced; it also mentioned the intrigues to get De Sartine out of the marine department; and Mr. Oswald says that the overtures about America were conducted with a variety of precautions for secrecy, and with a stipulation or condition that both parties, in case they did not agree, should be at liberty to deny all that passed. He told me that my lord wrote strongly to Lord Hilsborough against the American war, and that the latter in answer told him it was a subject out of his line, and with which it was not proper for him to interfere. Lort Mount Stuart was offeuded with the Minister for this, and he brought his letter-book with him to Mr. Oswald to show him the full state of the matter. Mr. Oswald said, that as he had told me the affair of Mr. Pultney, he could not forbear mentioning this also, for it was a little strange that so extraordinary a matter should come so circumstantial and correspondent from such different and unconnected quarters. He desired me to consider this communication as very confidential, adding that he could say more, but that it wouln not be proper for him at present to enter into a detail of further particulars.

The high respect entertained for Mr Oswald by the American commissioners precludes all suspicion that the facts above related were fabricated by him. How far he was imposed upon by his informants, how far his informants were themselves deceived, and how far these relations are correct or otherwise, are questions which probably will never be fully answered. It is not known what were Mr. Jay's sentiments on the subject. He recorded at the time the information he rec'd, but without comment.

"Aptitude to change in any thing never made a part of my disposition, and I hope makes no part of my character." It is thus that Mr. Jay speaks of himself, to an old and valued friend, the late *Peter Van Schaack* of Kinderhook, who having embraced the King's side in the quarrel with the mother country, had gone to London, and was separated by distance as well as feeling from the former loved associate of his youth, Mr. Jay. When Mr. Jay was the minister of the independent United States at Paris, Mr. Van Schaack wrote a letter to him, communicating his own unaltered regard for the friend of his early life, but expressive of uncertainty as to the present feelings of that friend. The reply of Mr. Jay commences with the sentiment above quoted, and it led to an interchange of letters which we would gladly quote here, as examples of enlightened liberality of sentiment and real toleration of that hardest of all things to be tolerated, difference of opinion and practice. The correspondence, so honorable to both, will be found at p. 159, *et seq.*

We find ourselves compelled to break off from this work; but as we hope to return to it once and again, we conclude with an extract from a letter in the 2d volume, showing that on minor, as well as higher subjects, the views of Mr. Jay were always just, manly, and in good taste:

We remove next week to Aranjuez, where I expect again to spend some agreeable weeks. It is a charming place. containing a tract of several miles in circumference, and divided into gardens, meadows, parks, cultivated grounds, and wilds, full of fine trees, fine roads, and fine walks, and watered by a slow winding river, which, if more clear, would be very beautiful. But still, my friend, it is not America. A genius of a different character from that which presides at your hills and gardens reign over these. Soldiers, with fixed bayonets, presents themselves at various stations in these peaceful retreats; and though none but inoffensive citizens are near, yet horsemen with drawn swords, guarding one or other of the royal family in their excursions to take the air daily, renew and impress ideas of subjection. Power unlimited, and distrust misplaced, thus exacting homage and imposing awe, occasion uneasy reflections, and allay the pleasing sensations which nature, smiling in such delightful scenes, never fails to excite. Were I a Spaniard, these decorated seats would appear to me like the temporary enchantments of some despotic magician, who, by reextending his wand, could at pleasnre command them to vanish, and be succeeded by galleys and prisons.

Nothing is more true, than that all things figure by comparison. This elegant seat being surrounded by extensive wastes, appears like a blessed and fortunate island in a dreary ocean. The contrast heightens its charms, and every traveller arrives with a mind predisposed to admire and enjoy them; but as the first impression wears away, and he begins to recollect the more happy, though less magnificent abodes in his own country, the attractions and allurements of this insensibly diminish. I have more than once experienced this, and though not difficult to please or be contented, yet I confess that I find little here that resembles, and nothing that can compensate for the free air, the free conversation, the equal liberty, and the other numerous blessings which God and nature, and laws of our making, have given and secured to our happier country. I would not be understood to insinuate, that good society and agreeable companions are wanted here. They may perhaps, abound more in some other parts of the world, but they are also to be found here, though an unsocial kind of policy requires unceasing attention to the most austere rules of caution and prudence. The little that I have seen and observed of this people, induces me to think that (except the generality of those who compose the highest and lowest orders,) they possess many qualities which are praiseworthy; and that two or three long and wise regins would make them a very powerful, and an amiable nation. But as I have not had sufficient opportunities of mixing with, and personally knowing many of them, time and further information may either confirm or alter this opinion. The evident suspense and indecision of the court respecting us, has kept many at a distance, with whom I should otherwise have been on a very familiar footing, and some of them have been so candid as to tell me so. This is a kind of prudence which naturally grows out of a jealous and absolute government, under which the people have, for many generations, been habituated to that kind of dependence, which constrains every class to watch and respect the opinions and inclinations of their superiors in power.—The prosperous tide of our affairs, however, has for some time past run so strong, that I think many of our obstacles here must soon give way. Shyness will then cease, and I shall not afterwards find it difficult to be received into more of their houses, and that in the only manner I ever wish to be received into any—I mean, at the front door, by direct invitation from the master of them, and without the precursory good offices of upper servants and unimportant favorites, whom I never could submit to court. Until this period arrives, I shall continue to cultivate the few acquaintances I have, and without giving offence to any, endeavor to increase their number, whenever it may be done with propriety and to advantage; but I shall, as heretofore, avoid embarrassing and intruding upon those who, in the mean time, may think it necessary to be reserved. Self respect joins with prudence in pointing out this line of conduct; and as I have no enemies of my own making. I am persuaded that instead of losing, I shall eventually be a gainer, by adhering to it, especially as those who may have been led to ascribe this conduct to improper motives, will then immediately find themselves undeceived.

New York as it is in 1833, and Citizens' Advertising Directory, &c. &c. Edited by Edwin Williams. New York: *J. Disturnell.*—This is a capital little book—and the better for being little. It has a good map of the city—a copy of the amended charter—lists of all the institutions of Education, Commerce, Charity, &c. &c. It is what it purports to be, an epitome of the city as it now is.

Botany of the Northern and Middle States, &c. &c. By Lewis C. Beck, M. D. &c. &c. Albany: *Webster & Skinners.*—The object of this work, according to the statement in the preface, is "to furnish a description of the plants of which it treats, adapted to the present state of botanical science." The plants, therefore, are arranged according to the natural system—with a "synopsis of the genera according to the Linnæan System." A sketch of the rudiments of botany is given, so as to adapt the work to beginners, as well as to those who have made some progress in the study; and a glossary of the terms usually employed. All plants found north of Virginia are embraced in this manual.

Elements of Criticism, by Lord Kames. Edited by Abraham Mills, A. M. 1 vol. New York: *Conner & Cooke.*—This American edition of Kames's Elements of Criticism is printed from the last Edinburg edition, revised by the author himself. The part of Mr. Mills in the book is that of preparing and prefixing to each chapter an analysis of its contents—and the supplying from good standard translations English versions of the various poetical illustrations, from classical and foreign writers, with which the work abounds. In this matter Mr. Mills judges rightly—for as a school book these Elements necessarily fall most frequently into the hands of persons unacquainted with foreign tongues, and who yet would desire to understand what they see before them, although aware that as examples of any peculiar figure or style, they lose their value in a translation.

There should have been more care bestowed by the proof reader on the typographical accuracy of the quotations. There are very many errors in them. Otherwise the book is well printed.

Voyages round the World, with selected Sketches of Voyages to the South Seas, &c., &c.; by Edmund Fanning: Collins & Hannay.—The narrative of Captain Fanning is well compiled, and written in that simple, unpretending style which should alway mark the relation of events in which the narrator is the chief actor. The interest of the work commences with the appearance of the author upon the scene in the humble capacity of a cabin boy in a coasting vessel; and—apart from a variety of general entertaining and instructive matter spread through the volume—it is for those who love to contemplate a manly and independent character, gradually rising in the world to competence, influence and usefulness, amply sustained by those particulars which refer solely to the author himself. The voyages described commence in the year 1792, and are brought down to 1832; and with much general information relating to the North and South Pacific, the China Seas, and late discoveries in various parts of the world, include a particular report of the commander of the first exploring expedition ever patronized by government, performed in the brigs Seraph and Annawan to the southern hemisphere. This report speaks in the highest terms of the Aurocanian Indians, a tribe previously but little known—for the Spaniards never could subdue them—and whom it describes as

"a noble and warlike nation," habituated to the use of arms, and bold and alert in defending their rights, but frank and friendly in their intercourse with the American strangers, so soon as they understood that their intentions were not hostile. An account of this interesting people is now in preparation for the press, by one of the gentlemen engaged in the expedition. This work is printed in a style highly creditable to the publishers. *

ASTRONOMY AND GENERAL PHYSICS, CONSIDERED WITH REFERENCE TO NATURAL THEOLOGY: by the Rev. WM. WHEWELL. Philadelphia, Carey, Lea & Blanchard.—The series of treatises of which this is one, is published in accordance with a provision in the will of the late Earl of Bridgewater, by which a munificent sum was left to be paid out of his estate to certain competent persons who should produce approved treatises on the Power, Wisdom, and Goodness of GOD, as manifested in the creation; sustaining the same by all reasonable arguments, and bringing the discoveries, ancient and modern, in the arts, sciences, and literature, to the illustration of the subjects treated:—a bequest which, while it could have suggested itself to no common mind, transcends in philanthropic foresight and enlightened benevolence towards the human family, all the endowments of churches and hospitals, and similar praiseworthy charities, that ever ennobled the last moments of those who have bequeathed their millions to the public. Infidelity in those of cold and sterile hearts, can only be met by the weapons they affect to wield alone themselves,—reason and knowledge. And, though fervent piety often exists in the true but humble mind, independent of such support, it should be ever backed by their influence in those of more fortunate opportunities. The severest study of the scholar may not lead him nearer to Heaven than the untutored reflection of the ploughman; but it arms him with weapons to make good his passage when once upon the true path, and it enables him to make the practice of his faith respected in himself, by those who want the judgment, the courage, or the feeling, to embrace it for their own sake: Religion, though she sit brooding like the dove in the bosom which she makes her home, may defend herself with the talons of the eagle when hawks are abroad that would drive her from her peaceful nestling place. Infidelity and skepticism have ever made their greatest strides when assuming the robes of learning; and in our day especially, we are all familiar with the attempts made, under the garb of science, to promulgate the wildest systems, and thoroughly to disorganize society. It only remains, then, for those who have the best interests of mankind—the cause of Eternal Truth at heart,—to bring that worldly knowledge, which has been likened to the wisdom of the serpent, to bear upon doctrines that wind with a serpent's cunning into the bosoms of the ignorant and half-educated. The laws of nature were never violated in the age of miracles, when natural means could accomplish the end in view: nor, while men have the faculties which, properly exerted, could keep pace with, and crush, the most active efforts of their fellows to swell the stream of infidelity, will Heaven interpose to stay a torrent which men should have the power to withstand. Let but half the active talent and practical knowledge of men which infidelity enlists under her gloomy banners, be substituted for the feeble understanding and ill-regulated zeal which too many well-meaning teachers of religion bring to their labors; let reason be opposed to sophistry, and sound knowledge to false learning; let, in fine, works like that before us be widely disseminated, and the bold, active, and ingenious enemies of religion be met by those equally sagacious, alert, and resolute, and the most timid of the many who depend upon the few, need never fear the host that come with subtile step to "steal their faith away." *

PENCIL SKETCHES; or OUTLINES OF CHARACTER AND MANNERS; by MISS LESLIE. Philadelphia: *Carey, Lea & Blanchard.*—The ingenious authoress of this little collection has already attained quite an extensive celebrity from the favor with which most of these tales have been received in the periodicals where they originally appeared. And the happy faculty she has of catching a thousand little peculiarities of manner, and hitting off the broader features of character, certainly entitles Miss Leslie to very great praise as a new writer, and holds forth liberal promise for her future efforts. Her forte appears to be decidedly in a species of half caricature, by which the airs and absurdities of individuals or coteries are placed in the strongest colors; but as a painter of society generally, she wants as yet that just and delicate blending of light and shade which can alone stand the test of scrutiny and give truth to such views. Still, even in her partial views of character and manners, there are occasional touches which remind us of the happiest of her brother's pencil. As the work of a young and rising authoress, we may take another opportunity to refer to that before us. *

The following is a list of other works lying on our table, which we must endeavor to give some account of hereafter:—

LECTURES, EXPLANATORY AND PRACTICAL, ON THE EPISTLE OF ST. PAUL TO THE PHILIPPIANS; intended chiefly for the use of families; by MANTON EASTBURN, Rector of the Church of the Ascension, N. Y.; 1 vol.; New York, G. & C. & H. CARVILL.

THREE YEARS IN NORTH AMERICA: by JAS. STUART; 2 vols.; N. York, J. & J. HARPER.

DIARY OF A PHYSICIAN, 2d vol., including the latest stories published in Blackwood; N. York, J. & J. HARPER.

THE MOTHER'S MEDICAL GUIDE, &c. &c.; by *R. & H. O. Bradford;* with notes amendments by Jerome V. C. Smith, M. D.: Boston, ALLEN & TICKNOR.

SCHINDERHANNER, OR THE ROBBER OF THE RHINE; 2d vol. of the Library of Romance; by LEIGH RITCHIE; Philadelphia, CAREY, LEA & BLANCHARD.

ZOHRAL, OR THE HOSTAGE; by the AUTHOR OF HADJI BABA; vol. 2; N. York, J. & J. HARPER.

The 26th number of the American Quarterly Review, as we learn from the National Gazette, —is in forwardness and will appear at the stated period. The titles of the several articles are—Froissart and his Times; 2. Army of the United States; 3. Morrell's Voyages; 4. Fortification and Sieges; 5. Dungilson's Physiology; 6. Life of Sir Humphry Davy; 7. Negro Slavery; 8. Stuart's North America; 9. Palgrave's British Commonwealth.

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—The packet ship Sovereign, from London, furnishes dates from that city to the 12th ult. and from Paris to the 9th. The intelligence is of more than ordinary interest. The affairs of the East become more complicated. * * * * * The French circular, explaining the course of France in seeking to mediate between the Porte and its Egyptian adversary, explains the actual condition of things—while it looks manifestly to the not improbable chance that this Eastern quarrel may extend to the Western Powers of Europe.

Don Pedro's cause is again somewhat in the ascendant—a supply of men, money and provisions having reached him.

A popular tumult and insurrection had occurred at Frankfort, caused by the systematic efforts which the German Diet is making, to extinguish, in all the States represented in or controlled by it, all free discussion, and every trace of liberal political institutions. No immediate consequence is to be looked for from the occurrence; nevertheless it is to be regarded as another indication—if oppressors could ever be forewarned—that the German population are ready at any moment to throw off the yoke that degrades them.

King William of Holland continues to play off the mighty nations which please themselves with the idea of regulating his affairs—while he gains time, and of course all the chances which time brings with it.

The bill for the coercion of Ireland is, it will be seen by Lord Anglesea's proclamation, already in force in one district in Ireland. The agitator O'Connell promises, while that bill remains in force, a weekly address through the papers to the people of Ireland.

A debate, angry and unbecoming, occurred in the Chamber of Deputies of Paris on the 8th April, in regard to the Editor of the *Tribune*—accused of breach of privilege for publishing that a member of the Chamber of Deputies received a monthly stipend from the French government. On the first day, M. de la Fayette moved the order of the day; upon this question the Chamber divided, when there appeared —for it 168; against it 179—Majority 11. The next day an order of the day motivé was moved. This motion, however, was negatived, 206 to 156, and the subject remained for further discussion.

Some recent elections in England, for vacancies in the House of Commons, appear to have resulted unfavorably to Ministers—whose stability, or at any rate popularity, seems to be somewhat shaken.

First Proclamation of the Irish Government under the New Bill.—DUBLIN, SUNDAY, APRIL 7.—The following proclamation extending the provisions of the Bill to the county and city of Kilkenny, appeared in the Dublin Gazette. It is stated that a proclamation will appear early in the present week, prohibiting the meetings of the Volunteers, the Conservatives, and the Trades' Union:—

By the Lord Lieutenant and Council of Ireland, a Proclamation.

ANGLESEY.—Whereas by an Act passed in the third year of his present Majesty's reign, intituled 'An Act for the more effectual Suppression of local Disturbances and dangerous Associations in Ireland,' it is amongst other things enacted that it shall and may be lawful for the Lord Lieutenant and other Chief Governor or Governors of Ireland, with the advice of His Majesty's Privy Council in Ireland, at any time after the passing of the said Act, and from time to time during the continuance thereof, as occasion may require, to issue his or their proclamation, declaring any county, county of a city, or county of a town in Ireland, or any portion thereof, respectively, to be in such a state of disturbance and insubordination as to require the application of the provisions of the said Act.

Now we, the Lord Lieutenant, do, by this our Proclamation, in pursuance and execution of the said Act, and by and with the advice of His Majesty's Privy Council in Ireland, declare the County of Kilkenny, the county of the city of Kilkenny, the city of Kilkenny, and the liberties of the said city, to be in such a state of disturbance and insubordination as to require the application of the provisions of the said Act.

And we do, by this our Proclamation, warn the inhabitants of the said county of Kilkenny, the city of the county of Kilkenny, the city of Kilkenny, and the liberties of the said city, to abstain from all seditious and other unlawful assemblages, processions, confederacies, meetings, and associations, and to be and remain in their respective habitations at all hours between sunset and sunrise, from and after Wednesday the tenth day of April instant, of which all Justices of the Peace of the said county, and county of a city, constables, peace officers, and others whom it may concern, are to take notice.

Given at the Council Chamber in Dublin, this 6th day of April, 1833.

ROSSE, WM. M'MAHON, WM. SAURIN,
JOHN RADCLIFFE, JOHN DOHERTY,
F. BLACKBURNE, R. H. VIVIAN.

"God save the King."

PARIS, APRIL 9.—Our accounts from Constantinople continue to be vague and unsatisfactory, and beyond the confirmation of Ibrahim's disavowal of the occupation of Smyrna, there is no new fact in the news received to throw a light upon the probable issue of

the contest in the East. Although it is said here that the government has received news of a favorable nature, the great features of the question remain unchanged in all the intelligence which has reached us through various channels.

Forty-four officers, from the half pay list, are to be immediately commissioned to act as members of the Courts Martial, to be held under the Coercion Bill. They are not to belong to any regiment doing duty in Ireland.—[Dublin Times.]

SUMMARY.

Custom House in Albany.—A branch of the New-York Custom House is soon to be established in Albany William Seymour, Esq. has received the appointment of Collector.

Temperance in Albany.—The Temperance Recorder says:

By a unanimous vote of the corporation of the city of Albany, on the evening of the 26th of April, it was determined that no license should be granted for retailing ardent spirits, to be drank in stores or groceries the coming year.

Bunker Hill Monument.—We learn that a gentleman of this city has proposed to the Government of the Mechanic Association, to give $5000 towards completing the Bunker Hill Monument, provided that $50,000 shall be raised within three months, to finish the Monument agreeably to the original design. The offer has been accepted by the Association, and the members have undertaken to raise the requisite sum by subscription. It is stated that to this $5000, $10,000 have been added, and that the whole $50,000 will in all probability be raised within the given time.—[Boston Centinel.]

Aurora Borealis.—One of those wonderful exhibitions of nature in which the heavens are decked in robes of splendor, and which men behold with awe and admiration, was visible for some time about nine o'clock last evening. Unlike that luminous and majestic arch which was seen to span the sky on a similar occasion a few years since, the light in this instance flashed along the northern and western horizon in brilliant and successive undulations. It seemed as though the banners of the upper sanctuary, in folds of living silver light, were let down, and waving and trembling in the breeze. (!)—[Troy Press.]

Aurora Borealis.—Yesterday evening the beautiful phenomenon of the Aurora was seen, at this city, shooting in beautiful corruscations, and enlightening the northern part of the heavens, while the southern was enveloped in darkness. The rays ascended to an altitude of forty five degrees, and, after playing for the space of about ten minutes, merged into a steady light, resembling that which immediately precedes the rising of the sun, and continued to shine in the north for some time afterwards.—[Wash. Tel.]

The Philadelphia United States Gazette remarks, that a brilliant aurora was visible there, too, on Friday evening. We have not heard that it was seen in this city.

[*From the National Intelligencer.*]

Georgia Convention.—On Thursday the 9th inst. the Convention resolved itself into a committee of the whole, and the report of the committee of 27 was taken into consideration. Thursday, Friday, and Saturday, were consumed in speeches, and in the discussion of various propositions for the organization of the Senate and House of Representatives of the General Assembly. Judging from what had taken place, it seems to be the opinion that the Senate will be considerably reduced, if not the House. But the great point of contention is the basis of representation. Sectional feelings and interests had prevailed, so far, in the debate. A large number of the Delegates, especially those of the northwestern counties, advocate the white population alone as the basis of representation, while the middle counties contend for the present basis of representation, which is the Federal, as established in the Constitution of Georgia, and in that of the United States. The Delegates of the lower counties contend for territorial representation, and appear willing to unite with those who will offer them advantages in the General Assembly which, on account of the sparseness of the population of those counties, they cannot possess, unless territory is represented in one or the other branch of the Legislature. On Saturday the main question at issue was tested, in committee of the whole, and decided *in favor of white population as a basis for representation*, but it was thought, when the subject would come before the committee, the Federal representation might be retained by a spirit of compromise between the various interests and views of the several sections of the country.

The Flood.—The Albany papers of Tuesday give further disasters by the late flood.

The docks and piers at Albany were above water, and business in a measure resumed. No particular account had been received as to the extent of damage to the canal, but it was believed that in a week it would be navigable. At Pulaski, considerable damage had been done. Lands had been overflown, bridges had been carried away, &c. At Cansjoharie, H. St. John had part of his distillery carried off, and much other property was destroyed. And we find that Lyons, New Berlin, &c. had suffered from the sad effects of the flood.

[*From the Mohawk Gazette of Wednesday.*]

Freshet.—The streams in this vicinity have been raised to an unusual height by the late rains. We understand that the creek which runs near Fort Johnson, has been swollen to such a height that it has carried away nearly every bridge and mill-dam on it. Among the dams swept away we understand is the one at Fort Johnson.

The Auries creek, we also learn, has been so high that it has carried away thirty feet of the canal dam, near the village of Auriesville, and has occasioned a breach in the canal that it will probably take some days to repair.

The floods occasioned by the recent rains are not confined to the Hudson and its tributaries. The Connecticut, we hear, had swollen greatly above high water mark, and, by the extract below, from a Harrisburg paper, it appears that the Susquehanna, too, was rolling down angry torrents.

[*From the Harrisburg, (Pa.) Intelligencer, Tuesday.*]

The Flood.—After some weeks of warm dry weather, in which the Susquehanna became so low opposite this place, that droves of cattle forded the river, we have had a series of successive showers which have continued for nearly a week; and the change in vegetation is almost unparalelled.

When our paper went to press the Susquehanna had reached the heighth of 16 feet above low water mark, and was still rising. The oldest inhabitants say that the rise is greater than has taken place for thirty years—higher than the great flood 16 years ago. The rain must have been much more powerful up the river than in this vicinity. There must be a great destruction of property—the river is full of floating timber—sometimes whole rafts pass swiftly by.

B. B. Thatcher, Esq. the author of "Lives of the Indians," and favorably known as a gentleman of high literary attainments, has assumed the editorship of the Boston Mercantile Advertiser.

[*From the Albany Evening Journal, May* 18.]

The proprietors of the Evening Journal are called upon to discharge a painful duty, in recording the death of their estimable partner and friend, Mr. Benjamin D. Packard, who, after a protracted illness, expired at 9 o'clock this morning, in the 54th year of his age.

Mr. Packard was one of the oldest and most respectable citizens of Albany. He occupied the building in which this paper is published, as a Bookseller, for thirty years. His affection for his family, and his devotion to business, absorbed and occupied his whole attention and time, After faithfully and honestly discharging all the duties which humanity imposed, he balanced and closed his worldly ledger, and has gone to render his last and final account.

Ice.—The Bostonians are about sending a cargo of ice to Calcutta, in the ship Tuscany. The Lowell Journal says "it is compactly stowed in the lower hold, surrounded with *tan*, which is well known to be a non-conductor of heat, and great care has been taken to exclude the external air. If this cargo should arrive there safe, it would doubtless command in that sultry climate an enormous price; but we may venture to say that the idea of transporting such a *perishable commodity*, so many thousands of miles, in the course of which the Equator must be twice traversed, would never enter into the head of any other being than a *Yankee*."

The venerable editor of the Raleigh Register, Joseph Gales, Sen. father of the editor of the National Intelligencer, has vacated his editorial chair, in favor of his son, W. R. Gales, and is about to remove to the city of Washington. A complimentary dinner was given to him prior to his departure, by the citizens of Raleigh, at which the Governor of the State presided, and Chief Justice Marshall was among the invited guests.—[Baltimore Chronicle.]

Comfortable Indifferences.—The New Orleans Courier of the 1st instant, says:

Seven or eight northern mails arrived to-day; by which we got a lot of old papers from the cities whence new were expected. The post office officers had not undertaken to open all the bags, as it is a most arduous task; so that we do not know whether the New York dates of the 12th, and Charleston of the 19th, which we lately received by way of Cincinnati, are more recent than those expected by this day's mail. Probably we shall be enabled to ascertain the fact to-morrow. It is, however, of little or no consequence.

Life Assurances.—For the information of those who may wish to provide for their families at a very small rate, and who have not the means of rendering them any adequate assistance at their death, by will or inheritance, the following case (which occurred in this city within a few months past, and which is but partially known) is now made public.

A merchant well advanced in life, and who for more than forty years had been successful in business, became unfortunate. His family was large, and so far as *his* means extended, must necessarily have been left destitute in the event of his speedy dissolution, which, however, was not, at that time, even probable. He, notwithstanding, it seems, was fully sensible of the uncertain tenure of *Life*, and caused his to be insured in the latter part of November, at the Baltimore Life Insuance Company, in the sum of $10,000. He died in the middle of February ensuing, within eleven weeks from the date of the policy, and his widow has received the whole sum without any trouble or expense, and before the period provided for the payment thereof had expired. This provident act has rendered his family not only comfortable, but, with prudence, independent; and they have abundant cause to bless the day when a resolution so happy in its consequences was formed and acted on.—[National Intelligencer.]

Manufacture and Consumption of Ardent Spirits.—The quantity of gallons of proof spirits distilled in England, in 1832, is stated to be 3,788,068; in Scotland, 7,979,038; and in Ireland, 9,260,920; making a total of 21,028,026 gallons. The quantity upon which the duties were paid for home consumption were, for England, 7,259,287 gallons; for Scotland, 4,861,515 gallons; for Ireland, 8,657,756 gallons.

The Sulky and the Sociable.—A gentleman and his wife were reduced from a life of splendor and luxury, by unavoidable misfortunes, to a more moderate way of living. He had been since their misfortunes extremely morose and gloomy, and it was a lively reply of his affectionate wife, that caused a change. "Wife," said he one morning, "my affairs are embarrassed, and it is necessary I should curtail my expenses. I should like to have your opinion as to the reduction." He spoke this in a more gentle tone than usual. 'My dear husband,' said she, 'I shall be perfectly happy if you will get rid of the *sulky*, and let us retain the *sociable*.'

We learn that the cargo of the brig Orb, lost on the Triangles, (Gulf of Mexico) on the 14th April, was worth about *fifty thousand dollars*. It was insured in this city. Vessel insured in Baltimore.—[Journal of Commerce]

Old Berks Forever.—The wife of Mr. Peter D. Miller, in Upper Bern township, Berks county, was safely delivered of *three sons at one birth*, who, with the mother, are all doing well.

Mr. Audubon, says the Boston Patriot, in a letter addressed to a gentleman in this city, dated Eastport, May 9th, observes, that he has concluded to charter a schooner of some 50 or 60 tons, for his voyage, in the following direction:—From Eastport to Sable Island, thence to Newfoundland, and all around it—thence to the coast of Labrador, and up towards Hudson's Bay, as far as the season will admit."

On Monday last, while several persons were at work in the marble quarry of John Broke, near Norristown, Pa. one of the banks fell in, and instantly killed one of the workmen—another died a short time after he was taken out, and a third and fourth were seriously injured. On the same day, in Plymouth township, in making a blast in a lime stone quarry, a stone weighing about 240 pounds, fell upon the roof of a neighboring house, and passed down the whole building to the lower floor, where the family were eating breakfast. No person was injured.

Mr. *Secretary Woodbury* arrived in Pensacola on 27th April, and remained there till the 30th, examining the Navy Yard, the Live Oak plantations, the fortifications, and, (as he states in a letter to the citizens declining a public dinner,) "the various improvements, contemplated in connection with Pensacola, as a healthy and important Naval Station for our West India Squadron, and for the whole Gulph of Mexico, as well as for the special protection of the growing commerce of Mobile Bay and the vast trade of the Mississippi River."

Pensacola, May 2d.—The U. S. Schooner Shark, *Lieut. Comd'ng Boerum* arrived in our harbour on the 29th ult. The Shark has been absent from this place near five months, and has cruised around the Gulf of Mexico, the North side of Cuba around the windward Islands and along the whole coasts of Venezuella, New-Grenada and Central America. She is last from Porto Bello in ten days. Her Officers and Crew are all well,

[*From the Baltimore American.*]

We learn that ——, Saunders, Esq. of Carolina, has been appointed Commissioner under the French Treaty of Indemnity, vice —— Williams resigned.

We also learn that Daniel Brent, Esq, Chief Clerk of the Department of State, has been appointed Cousul General of France, to reside at Paris.

Mr. Saunders is we presume the former member of Congress of that name from North Carolina.

Mr. Brent's appointment is to the place occupied by the late *J. Cox Barnet.*

Appropriations.—The appropriations made at the last session of Congress, were briefly as follows :

Civil list for 1833	$2,897,487 20
Military service do	4,966,036 40
Pensions do	628,917 00
Naval service do	3,860,963 28
Indian Department, treaties, annuities, &c	2,226,696 76
Improvements of harbors, rivers and roads, and surveys	1,086,993 30
Public buildings and grounds, penitentiary, &c	89,869 00
Miscellaneous	733,880 00
Private claims	30,021 19
Amount of definite appropriations made 2d session 22d Congress	$16,500,864 83

Patents.—The number of patents granted for 'useful inventions' in 1832, was 474, viz. to persons in

Maine	24	Georgia	4
New Hampshire	11	Kentucky	7
Massachusetts	56	Tennessee	7
Rhode Island	4	Ohio	54
Connecticut	29	Louisiana	1
Vermont	14	Indiana	4
New York	122	Mississippi	3
New Jersey	8	Alabama	2
Pennsylvania	82	Missouri	1
Maryland	12	Michigan Territory	2
Virginia	11	District of Columbia	7
North Carolina	5	4	—
South Caiolina	4	Total	474

The Mayor and Aldermen of Boston were arraigned at the bar of the Municipal Court, recently, upon an indictment found against them by the Grand Jury, for a false return of votes in April last. They severally pleaded not guilty. Their trial was assigned for Monday next, and they were discharged on their recognizance of $200 each.

Discovery.—Among the late new publications in Paris, we find one with the following title : "Grammaire Conjugale" (Conjugal Grammar) or general principles by the aid of which a wife may be broken in, and made to go with the regularity of a clock, and render her at the same time as mild as a lamb.

The journeymen carpenters have turned out, and demand $1 50 wages per day. The present pay is $1 37 1-2. They paraded the streets yesterday, to the number of between 3 and 400—very peaceably however.

Steamboat Accidents.—The Steam Boat Spy was snagged in descending the Arkansas, twenty-five miles below Fort Gibson, and the last accounts she lay with the water up to her guards. On the night of the 7th ult., the Steam Boats Wyoming and Arkansaw came in contact in the Arkansas, and the former was considerably damaged.—[Louisville Gazette.]

Health of New Orleans.—The New Orleans Courier of 30th ult. has this paragraph.

We are not alarmists, nor would we wantonly instil chimerical fears into the minds of our fellowcitizens. But we believe it to be sound policy, and conceive it our duty, to inform them of the actual situation of the health of the city. It would be ridiculous to deny, that for some days past, the number of deaths has been increasing, and that the greater part expired after a very few hours sickness ; to speak plainly, they died of the merciless cholera ; or, if we mistake the character of that dire disease, the prevailing one is, at least, as fatal in its effects ; and although, hitherto, the number of victims may be deemed inconsiderable, we nevertheless are of opinion that our constituted authorities should inquire into the state of the public health, and adopt such measures as might tend to prevent further mischief.

[*From the Boston Transcript.*]

Go alone.—The following is the superscription of a letter which passed through our Post office, yesterday, on its way to Canada, and will no doubt be duly received, provided John gives the credit asked for :

Eighteen and three-fourths cents I've paid
To Uncle Sam, to be conveyed
To Derby Line, without delay,
Betwixt Vermont and Canada ;
From Derby Line, if John Bull will
Carry me safely to Georgeville,
Four and a half pence will I engage
He shall receive from Gotham Page ;
And if said Page will not comply,
I'll stay in Georgeville until I die.

MISCELLANY.

[*From the Western Monthly Magazine for May.*]

A SCENE IN 'THE DARK AND BLOODY GROUND.'

James Morgan, a native of Maryland, married at an early age, and soon after settled himself near Bryant's station, in the wilds of Kentucky. Like most pioneers of the west, he had cut down the cane, built a cabin, deadened the timber, enclosed a field with a worm-fence, and planted some corn.

It was on the 15th day of August, 1782; the sun had descended, a pleasant breeze was playing through the surrounding wood, the tall cane bowed under its gentle influence, and the broad green leaves of the corn proudly waved in the air; Morgan had seated himself in the door of the cabin, with his infant on his knee ; his young and happy wife had laid aside her spinning-wheel, and was busily engaged in preparing the frugal meal. That afternoon, Morgan had accidentally found a bundle of letters, which he had finished reading to his wife, before he took his seat at the door. It was a correspondence in which they had acknowledged an early and ardent attachment for each other, and the perusal left evident traces of joy on the countenance of both; the little infant, too, seemed to partake of its parents' feelings, by its cherub smiles, its playful humor, and its infantile caresses. While thus agreeably employed, the report of a rifle was heard ; another, and another, followed in quick succession. Morgan sprang to his feet, his wife ran to the door, as they simultaneously exclaimed, 'Indians!' The door was immediately barred, and the next moment all their fears were realized, by a bold and spirited attack from a small party of Indians. The cabin could not be *successfully* defended, and time was precious. Morgan, cool, brave, and prompt, soon decided. A puncheon was raised; while Morgan was in the act of concealing his wife under the floor, a mother's feelings overcame her, she arose, seized her infant, but was told that its cries would betray her place of concealment. She hesitated, gazed silently upon it. A momentary struggle between affection and duty took place. She once more pressed her child to her agitated bosom, again, and again, and kissed it with impassioned tenderness. The infant, alarmed at the profusion of tears that fell upon its cheek, looked up in its mother's face, threw its little arms around her neck, and wept aloud. 'In the name of Heaven, Eliza, release the child, or we shall all be lost,' said the distracted husband, in a soft imploring tone of voice, as he forced the infant from the arms of his wife, hastily replaced the puncheon, took up his gun, knife and hatchet, ran up the ladder that led to the garret, and drew it after him. In a moment the door was burst open, and the savages entered. By this time Morgan had secured his child in a bag, and lashed it to his back, then throwing off some clapboards from the roof of the cabin, resolutely leaped to the ground. He was instantly assailed by two Indians. As the first approached, he knocked him down with the butt of his gun. The other advanced with uplifted tomahawk ; Morgan let fall his gun, and *closed in.* The savage made a blow, missed his aim, but severed the cord that bound the infant to his back, and it fell. The contest over the child now became warm and fierce, and was carried on with knives only. The combatants thrust and plunged their deadly instruments into each other, with desperate fury. The robust and athletic Morgan at length got the ascendancy. Both were badly cut, and bled freely, but the stabs of the white man were better aimed and deeper. The Indian now became frantic with rage and disappointment. His teeth were clenched together, the veins in his neck swollen, his eyes seemed to emit sparks of fire, as he grasped Morgan by the hair, elevated himself on tip-toe, and raised his bloody knife. It descended with a desperate intent, but Morgan, watchful as he was brave, took advantage of the moment, made a quick and violent thrust at the side of the Indian—the blood gushed out, the savage gave a feeble groan, and sunk to the earth. Morgan hastily took up his child and gun, and hurried off. The Indians in the house, busily engaged in drinking and plundering, were not apprized of the contest in the yard, until the one that had been knocked down gave signs of returning life, and called them to the scene of action. Morgan was discovered, immediately pursued, and a dog put on his trail. Operated upon by all the feelings of a husband and a father, he moved onward with the speed of a hunted stag, and soon outstripped the Indians, but the dog kept in close pursuit.—Finding it impossible either to outrun or elude the cunning animal, trained to hunts of this kind, he halted, waited until it came within a few yards of him, fired and brought it down, reloaded his gun, and again pushed forward. Bryant's station was not far off—firing was heard—he stopped for a moment, and again advanced. Fires could now be distinctly seen, extending for some distance on both sides of Elkhorn creek. The station was in view ; lighted arrows fast descending on the roof of the cabins ; it was no longer doubtful; Bryant's station was besieged by a large force, and could not be entered at that time. He paused—the cries of his infant, that he had again lashed to his back, aroused him to a sense of his own danger, and his wife's perilous situation. Another effort was made, and he in a short time, reached the house of a brother, who resided between the station and Lexington, where he left the child, and the two brothers immediately set out for his dwelling. As they approached the clearing, a light broke upon his view—his speed quickened, his fears increased, and the most agonizing apprehensions crowded upon his mind. He emerged from the cane-brake, beheld his house in flames, and almost burned to the ground. 'My wife!' he exclaimed, as he pressed one hand to his forehead, and grasped the fence with the other, to support his tottering frame. He gazed for sometime on the ruin and desolation before him, advanced a few steps, and sunk exhausted to the earth. Morning came ; the bright luminary of heaven arose, and still found him seated near the almost expiring embers. In his right hand, he held a small stick, with which he was tracing the name of Eliza on the ground—his left was thrown over his favorite dog, that lay by his side, looking first on the ruin, and then on his master, with evident signs of grief. Morgan arose ; the two brothers now made a search, and found some bones, almost burned to ashes, which they carefully gathered and silently consigned to their mother earth, beneath the wide spread branches of a venerable oak consecrated by the purest and holiest recollections. One of the most interesting pages in the annals of Tacitus is that in which he so eloquently and so feelingly describes the return of Agrippina, to her country and her home, bearing the urn that contained the ashes of her murdered husband, surrounded by her weeping children and mourning friends. There is an awakening interest in the deep-rooted sorrow, that calls into action all the kind feelings and tender sympathies of our nature ; and the heart can, no doubt, be as warmly operated upon in the wild plains of America as on the classic grounds of Italy. There is something peculiarly touching in the performance of the last sad duty of burial, whether encompassed by the proud and lofty towers of Imperial Rome, while the cries of mourning thousands ascend to heaven, or surrounded by the tall green trees of republican Kentucky, where the stricken heart silently pours forth its sorrows.

On the evening of the 16th of August, Morgan, his brother, and a number of men from Lexington, gallantly threw themselves into the besieged station, and saved the fortress. After a bold, spirited, and unsuccessful siege, Simon Girty drew off his men on the morning of the third day, and marched in the direction of the Lower Blue Licks. By this time, the whole neighborhood had risen in arms, and with the aid promptly given by Harrodsburg and Boon's station, one hundred and sixty six mounted men mustered under the command of Colonels Todd and Trigg. The line of march was immediately taken up, and the pursuit commenced. After marching a short distance, colonel Daniel Boon, and some others, watchful and experienced, and well acquainted with Indian *signs*, discovered strong evidences

of tardiness and ostentation, that seemed to invite an attack. The trees were chopped for the purpose of pointing out the *route*, while they took pains to conceal the number, by marching in single file, stepping in each other's track, and contracting their camps. As the van arrived on the south bank of Licking river, at the Lower Blue Licks, a few scattering Indians were discovered, *slowly* and *carelessly* retiring over the hills on the north side of the river. A halt was immediately called, and a consultation took place. Neither of the commanding officers being much acquainted with Indian warfare, they asked the opinion and advice of the soldier and woodsman, colonel Boon, who was well acquainted with the situation of the ground. He, in his plain, frank, and impressive manner, stated, that in his opinion, the enemy invited an attack; their number might probably vary from three to five hundred, owing to the ambiguous nature of the sign; the main body was near, and prepared for action, and the ground was well calculated for *ambuscade*. The river wound in an irregular ellipsis, near the centre of which, and on the top of the hill then in view, passed the great Buffalo road, leading to Limestone; two ravines made up in different directions, about one mile in advance, and terminated near each other, on the right and left of the road; both ravines were covered with small oak and underwood, while the ground between the river and ravines was uneven and barren; the Indians would be able to fight under cover, while the Kentuckians could scarce be protected by a single shrub. It was, therefore, most advisable to wait for the reinforcement hourly looked for, under the command of colonel Logan, and in the meantime, the surrounding country could be examined, and the position of the enemy reconnoitered, but in the event of an immediate attack being resolved on, the troops ought to be divided; one division to march up on the south side of the river, cross the mouth of a small creek, and fall upon the outside of the ravines, while the other division should place itself in a position to take advantage of circumstances, co-operate with the first division in event of an attack, and make an effort to take the enemy in their *own snares*, should they be in *ambuscade*. Already had Boon gained over to his opinion a large portion of those who heard him, when the rash and impatient M'Gay applied the rowels to the sides of his horse, and plunged into the stream, crying out at the same time in a loud voice, "Those who are not cowards will follow me, and I will show them where the Indians are!" A confusion, so common and so fatal among undisciplined troops, now took place. One followed, another followed, some doubted, others wavered, a few were determined, and a part stood firm. But unfortunately, the prompt and authoritative word '*halt*,' was not given, and the council was broken up. Morgan, together with some others, who had listened to the advice of Boon, were convinced of its correctness, and opposed to crossing the river, but at length suffered themselves to be carried along in the crowd, until the whole force was on the northern bank. No order was observed, no command was given. The narrow strip of bottom-ground, in which the salt-spring is situated was soon passed, and the hill ascended. Here they were led, by the re-appearance of the few Indians first discovered, to a ridge on the left, which terminated near the two ravines, and at its termination, was covered with small oak. The distance from the spring to the ravines was about one mile, and the intervening ground uneven and barren; for ages back it had been stripped of its foliage by the tread of the innumerable herds of deer and buffalo that resorted to the Lick, and presented an almost unbroken pavement of rocks, through which a few scattering scrubby oaks had here and there forced their way. M'Gay and M'Bride, at the head of the party in front, that first reached the woods, were instantly attacked by the Indians that lay concealed, and waiting for them. The action now commenced, and soon became warm and bloody. A constant and destructive fire was kept up. The savage war-whoop, that burst from both ravines, filled the air with loud and increased peals of discordant yells. It was soon discovered that the two ravines, which concealed the enemy, extended beyond the whole line of the Kentuckians, and now poured forth a countless horde of hungry cannibals prepared for slaughter and thirsting for blood. Todd and Trigg rushed forward, and fearlessly fronted the enemy; they fought, they bled, and fell in the early part of the action, nobly evincing that they were as brave in the field of battle, as amiable in private life. The patriot Harland was also slain, bravely defending himself, and proudly sustaining his country's honor. The gallant and youthful Boon fell by the side of his heroic father, who hewed his way through the enemy, and laid every opposing warrior low. All that could be accomplished by patriotism, effected by bravery, won by a disregard of death, or gained by a love of country, was now performed. Arm to arm, breast to breast, they had struggled with the enemy, but all in vain. A force of three to five, and that in ambuscade, was overwhelming and irresistible. Pressed in the front and assaulted on the right, attacked on the left, and about being surrounded, many of the best and ablest slain, and others fast falling in every direction, a retreat was attempted under the edge of the tomahawk. When the firing commenced, the greater portion of the troops had dismounted; some regained their horses, others retreated on foot. The victorious enemy pursued with deadly and victorious perseverance. The retreating Kentuckians hurried over the rocks, rushed down, and the victors and the vanquished plunged together in the stream; some were slain before they reached the bank, but the river presented a scene bloody as it was destructive. The day was warm, the retreat rapid; the unarmed and exhausted Kentuckians fell easy victims to the tomahawk and scalping knife, and in a short time Licking ran streams of blood. The few who had gained the southern shore on horseback, halted and fired: this caused a momentary check, but after a short pause, the pursuit was again renewed, and safety only found in Bryant's station, thirty-six miles from the field of battle. Here the defeated Kentuckians met the van of Col. Logan's command, about four hundred strong. The Colonel halted until the rear came up, and the next day marched in pursuit of the enemy. The battle ground was reached the second day after the action, and presented a scene that agonized every bosom, pained every heart, and moistened every eye. The dead bodies, exposed to the rays of a scorching sun, were so much swollen and mangled, that the father, brother and friend, who had come to perform the last sad rites of burial, were denied even the melancholy satisfaction of knowing whether those for whom they sought were killed or taken prisoners. The aged parent, in hope of recognizing a favorite son, turned, anxiously turned, body after body, but all in vain; the tear rolled down the furrowed cheek, yet it fell upon he knew not whom.

James Morgan was among the last that had crossed the river, and was in the rear until the hill was ascended. As soon as he beheld the Indians reappear on the ridge, he felt anew his wrongs, and recollected the lovely object of his early affections. He urged on his horse, and pressed to the front. While in the act of leaping from his saddle, he received a rifle ball in his thigh, and he fell: an Indian sprang upon him, seized him by the hair, and applied the scalping-knife. At this moment, Morgan cast up his eyes, and recognized the handkerchief that bound the head of the savage, and which he knew to be his wife's. This added renewed strength to his body, and increased activity to his fury. He quickly threw his left arm around the Indian, and with a death-like grasp, hugged him to his bosom, plunged his knife into his side, and he expired in his arms. Releasing himself from the savage, Morgan crawled under a small oak, on an elevated piece of ground, a short distance from him. The scene of action shifted, and he remained undiscovered and unscalped, an anxious spectator of the battle. It was now midnight. Girty and his savage band, after taking all the scalps they could find, left the battle ground. Morgan was seated at the foot of the oak, its trunk supporting his head. The rugged and uneven ground that surrounded him was covered with the slain; the once white projecting rocks, bleached with the rain and sun of centuries, were crimsoned with the blood that had warmed the heart and animated the bosom of the patriot and the soldier. But a few hours before, he had seen the gallant Todd, Trigg, Harland, Boon, and many others, in all the pride of life, flushing with hope, glowing with zeal, and burning with patriotism—now lifeless, as the rocks that lay scattered over '*the dark and bloody ground*;' friends and enemies, the red and the white man, side by side, quietly slumbering in eternal repose. The pale glimmering of the moon occasionally threw a faint ray of light upon the mangled bodies of the dead, then a passing cloud enveloped all in darkness, and gave additional horror to the feeble cries of a few, still lingering in the last agonies of protracted death, rendered doubly appalling by the coarse growl of the bear, the loud howl of the wolf, the shrill and varied notes of the wild-cat and panther, feeding on the dead and dying. Morgan beheld the scene with heart-rending sensations, and looked forward with the apathy of despair, to his own end. A large and ferocious looking bear, covered with blood, now approached him; he threw himself upon the ground, silently commended his soul to Heaven, and in breathless anxiety awaited his fate. The satiated animal slowly passed on without noticing him. Morgan raised his head, was about offering thanks for his unexpected preservation, when the cry of a pack of wolves opened upon him, and again awakened him to a sense of his danger. He placed his hands over his eyes, fell on his face, and in silent agony again awaited his fate. He heard a rustling in the bushes—steps approached—a cold chill ran over him. Imagination, creative, busy imagination, was actively employed—death, horrible death, awaited him; his limbs would, in all probability, be torn from his body, and he devoured alive. He felt a touch—the vital spark was almost extinguished—another touch more violent than the first, and he was turned over—the cold sweat ran down in torrents—his hands were violently forced from his face—the moon passed from under a cloud, a faint ray beamed upon him—his eyes involuntarily opened, and he beheld his wife, who, in a scarce audible voice, exclaimed, 'my husband!' and fell upon his bosom.

Morgan now learned from his wife that, after the Indians had entered the house, they found some spirits, and drank freely; an altercation soon took place, one of them received a mortal stab and fell; his blood ran through the floor on her; believing it to be the blood of her husband, she shrieked aloud, and betrayed her place of concealment. She was immediately taken and bound. The party, after setting fire to the house, proceeded to Bryant's station. On the day of the battle of the Blue Licks, a horse with saddle and bridle rushed by her, which she knew to be her husband's. During the action the prisoners were left unguarded, made their escape, and lay concealed beneath some bushes under the bank of the river. After the Indians had returned from the pursuit, and left the battle-ground, she, with some other persons that had escaped with her, determined to made a search for their friends, and if on the field and living, save them if possible from the beasts of prey. After searching for some time, and almost despairing of success, she fortunately discovered him. The party of Col. Logan found Morgan and his wife, and restored them to their friends, their infant, and their home.

Mason County, Kentucky.

POETRY.

[The following pathetic piece is copied here from the Alexandria Gazette, with the omission of a single verse, the indifferent construction of which mars the simple beauty of the others:]

"ARE WE ALMOST THERE?"

"Are we almost there—are we almost there?"
Said a dying girl, as she drew near home—
"Are those our poplar trees which rear
Their forms so high 'gainst the heavens' blue dome?"

Then she talked of her flowers, and thought of the well,
Where the cool water splash'd o'er the large white stone,
And she thought it would soothe like a fairy spell.
Could she drink from that fount when the fever was on.

While yet so young, and her bloom grew less,
They had borne her away to a kindlier clime—
For she would not tell that 'twas only distress
Which had gathered life's rose in its sweet spring-time.

And she had looked, when they bade her to look,
At many a ruin and many a shrine—
At the sculptured niche, and the pictured nook,
And marked from high places the sun's decline.

But in secret she sighed for a quiet spot,
Where she oft had played in childhood's hour;
Tho' shrub or flowret marked it not,
'Twas dearer to her than the gayest bower.

And oft did she ask, "Are we almost there?"
But her voice grew faint, and her flush'd cheek pale:
And they strove to soothe her, with useless care,
As her sighs would escape on the evening gale.

Then swiftly more swiftly, they hurried her on:
But anxious hearts felt a chill despair;
For when the light of that eye was gone,
And the quick pulse stopp'd, she was almost there!

IMOGENE.

PATERNAL AFFECTION—*By Barry Cornwall.*

The feelings of a parent, regarding a child in dangerous sickness, are beautifully expressed in the following stanzas:—

Send down thy winged Angel, God!
Amidst this night so wild,
And bid him come where now we watch,
And breathe upon our child.
She lies upon her pillow, pale,
And moans within her sleep,
Or waketh with a patient smile,
And striveth not to weep.

How gentle and how good a child
She is we know too well,
And dearer to her parents' hearts
Than our weak words can tell.
We love—we watch throughout the night,
To aid, when need may be,
We hope—and have despaired at times,
But *now* we turn to Thee!

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

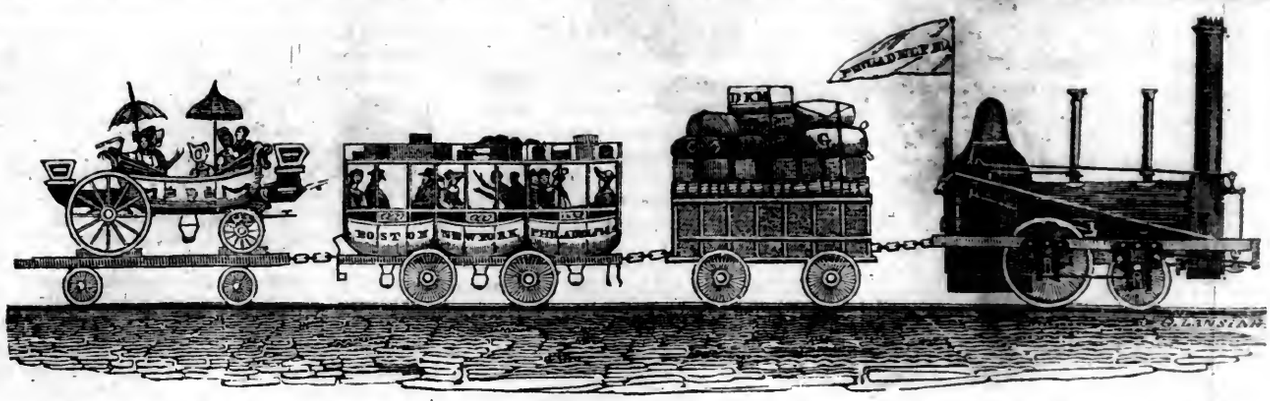
For the Week ending Monday, May 20, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hour.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesdy. May 14	6 a. m.	63	30·08	SE	light	S	rainy
	10	68	30·11	S by E	..	..	cloudy
	2 p. m.	73	30·07	S	..	..	..
	6	65	30·03	SSE	..	SE	fair
	10	63	30·04	..	..	..	..
Wednesd. " 15	6 a. m.	65	30·00	..	..	..	rainy
	10	68	30·03	N	..	..	..
	2 p. m.	72	30·07	NNE	..	SW / NNE	cloudy
	6	68	30·10	ENE	..	N	rainy
	10	66	30·12	..	..	..	cloudy
Thursday, " 16	6 a. m.	59	30·18	NE	fresh	..	..
	10	59	30·16	..	..	..	..
	2 p. m.	58	30·15	..	strong	NNW	rainy
	6	52	30·15	..	..	..	..
	10	53	30·11	..	..	..	rain
Friday, " 17	6 a. m.	55	30·06	..	light	..	..
	10	61	30·05	..	..	..	cloudy
	2 p. m.	67	30·04	SSW	..	SW	fair
	6	64	30·01	..	..	..	..
	10	61	30·00	..	..	..	cloudy
Saturday, " 18	6 a. m.	60	30.00	..	..	WSW	..
	10	66	29·98	..	moderate	..	..
	2 p. m.	76	29·88	..	..	W—NW	fair
	6	72	29·85	..	..	NW	..
	10	72	29·86	..	..	..	..
Sunday, " 19	6 a. m.	70	29·85	SW	light	WSW	..
	10	76	29·87	SW by W	moderate	..	.. —horizon mostly
	2 p. m.	82	29·86	WSW	..	..	.. — .. [cloudy
	6	76	29·88	..	..	WSW / SW	.. — ..
	10	72	29·90	..	..	..	.. — ..
Monday, " 20	6 a. m.	68	29·93	NE—ENE	..	WSW	.. —cloudy
	10	64	29·99	ENE—E	..	..	cloudy
	2 p. m.	62	29·95	E	..	..	.. —rain
	6	60	29·95	..	..	..	rain
	10	58	29·93	..	..	..	rainy

Average temperature of the week, 65°.54.

N. B.—During the early part of the current week all our great rivers and their tributary streams have been greatly swollen by the heavy rains which succeeded the late drought. The Connecticut rose 20 feet at Hartford, and the Ohio, the Susquehannah, the Hudson, and the Mohawk, as well as well as the rivers which discharge into Lake Ontario, have all risen to an extraordinary height, and much injury has been sustained. It is worthy of remark, that the barometer has stood much above its mean elevation during the period of these rains, and for a considerable time previous thereto, having ranged from 30 inches to 30.23, except on the occurrence of the first showers, when it subsided only to 29.89 and soon recovered its altitude. This fact shows conclusively that the production of rain has no *necessary* connection with the fall of the Mercury in the barometer.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, JUNE 1, 1833.** [VOLUME II.—No. 22.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 1, 1833.

Go to Saratoga—say we to our friends; aye, say we to *all* who wish to improve feeble or preserve good health. Go to Saratoga indeed! Who would not? Certainly not a solitary individual, who *can* go—for, in no *other* excursion of equal distance can any thing like equal pleasure, or comfort, or benefit, be enjoyed by the invalid, or those in good health, at so little expense and fatigue as in a trip to Saratoga.

To our worthy citizens who have little business to attend to, or have just closed, or nearly so, an arduous and we trust a profitable, spring business, after a winter's confinement within the brick walls of Gotham, we need not repeat the short saying at the head of this article, as they will undoubtedly avail themselves of the earliest opportunity for participating in the pleasures of such an inviting and invigorating excursion. They would do so, indeed, even if it were only to put again in circulation a part of their surplus income, or of the rich harvest so recently gathered by their enterprise; but to thousands of *others* equally industrious, and equally enterprising, although upon a more limited scale, who think they cannot afford it, we would *again* say *go to Saratoga*, and you may rely upon it that you will never forget the pleasure, nor regret the expense; and as for the *time*, you will scarcely miss it from your business. If *time* is an object to you, adopt the following plan: Rise early each morning and be industrious through the week until Friday at 3 P. M.; then get ready for the 5 o'clock boat, (and you need not apprehend any danger, as formerly, from that useless practice of steamboat *racing*, for it is abolished under the present admirable arrangement,) which will land you in Albany next morning, in time for the *first* or half past six o'clock train of cars to Schenectady, where, at Davis's, you may take your coffee and toast, or whatever else you may prefer, previous to taking a seat in those very convenient Cars on the Saratoga Road, which is now completed and connected with the Mohawk and Hudson Railroad. From Schenectady to Saratoga, through Ballston, the distance is 22 miles, which is performed by horse power in two hours with great ease. By this arrangement, 17 hours only are required from the time you leave New-York to perform the journey to the Springs. Once there, it is hardly necessary for us to designate a house at which good fare may be found, as there are undoubtedly several excellent houses. We cannot, however, omit to say, that better beef-steak, coffee, and butter, cannot be found, and a greater variety need not be wished for, than was spread before us at Union Hall, kept by Mr. W. Putnam, on Monday morning, 27th ult. The *eggs*, it is true, the ladies said were too much boiled, but this was a small matter, especially as there were eggs cooked in various modes. In short, the breakfast was excellent, the waiters attentive, the house in good order, and every thing indicated a determination to satisfy those who may make it their quarters during their stay. The other principal houses, as Congress Hall and the United States Hotel, are not yet open for company, although in a state of forwardness. The village presents an appearance exceedingly inviting, to one who has been long confined to the brick walls and dust of a city.

Having performed the journey out in 17 hours, the same time only is necessary to return, as follows: Having remained there until Monday, leave Saratoga at 12 M., Albany at 5 P. M., and reach home next morning at or before 6 o'clock,—having been absent 85 hours, travelled 366 miles, spent 34 hours on the way, and 51 at the Springs. The excursion may, however, very soon be made in much less time by those who wish only to take a half dozen glasses of Congress water, and return immediately. They may leave New-York by the evening boat of Monday—dine at Saratoga on Tuesday at one o'clock—return to Albany in time for the five o'clock boat—and be at home at six o'clock on Wednesday morning,—thus performing in thirty-seven hours what would have required, a few years ago, at least ten or twelve days.—Wonderful, indeed, are the improvements that have been made in the conveniences for travelling, within a few years. Great, however, as they are, *greater* will undoubtedly be made in the course of the *following*, than have been during the past twenty years. *Within* that time, Railroads will be constructed where they are now scarcely dreamed of; and with improvements upon the present plans, equal at least to those which have been made in Steamboats in the same length of time. We would therefore again say, *Go to Saratoga*—if it is only to have a ride upon the Railroad,—that you may be able not only to appreciate their value, but also to say that you have contributed to the prosperity of those who have done so much for the public.

New-York and Erie Railroad Company.—We learn with much satisfaction that preparations are making for opening books of subscription to the capital stock of this Company, in conformity with the charter as recently amended; and we cannot but feel confident that when the requisite information respecting the route of the proposed railway, and its incalculable importance to this city, is spread before the public, a high interest will be felt in the object by our citizens, and an effort worthy of this metropolis and of the undertaking will be promptly made. Nothing, we feel assured, is wanting but a spirited commencement of this work, to render certain its speedy and complete accomplishment. We are of opinion that this thoroughfare, connecting our commercial capital with the Lakes and Western States by the shortest and most feasible of all possible routes, will prove not less beneficial to the trade and growth of this city than the Erie canal has been. Its effects on the business of the city with the Western States cannot fail to be of immense value. To the southern counties of this state, which at present are almost shut out from markets, the prospect of this work being commenced will no doubt be hailed with the liveliest satisfaction. Every proprietor of the soil on its route should obtain stock when the books are opened.

We are gratified to learn that a bill authorizing the construction of a Railroad between the cities of Hartford and New-Haven has passed both houses of the Connecticut Legislature. The feasibility of the route, and the large amount of business which now pertains to it, will, we are confident, insure its early completion. Much advantage will accrue to the large manufacturing interest, as well as to the general productive industry of the rich and populous valley of the Connecticut river, from this enterprise, and from the unobstructed intercourse which it will afford with our great commercial mart during the winter months.

Method of conducting the Canal Surveys in the State of New-York. By E. F. Johnson, Civil Engineer. [From the American Journal of Science and Arts, No. 1. Vol. XXIV.

At the time when the two great Canals of the State of New-York were constructed, the outlines or boundaries of the ground which they occupied were not established by any accurate or systematic surveys, and hence no means were offered for ascertaining the precise extent of ground intended to be appropriated by the state for their use.

At the period of their completion, the damages to the different proprietors whose lands were intersected and injured by them were assessed by commissioners duly appointed and authorized for the purpose. These commissioners in making their estimates directed measurements to be made, in very many instances, for determining as nearly as practicable, without too much delay and expense, the average length and breadth of the several portions of ground taken from the different proprietors through whose lands the canals passed.

From these measurements the approximate quantity of ground contained in each portion was deduced, which, compared with its value per acre, enabled the commissioners to determine with greater certainty than could otherwise have been attained, the actual damage to individuals occasioned as above stated.

Although the measurements thus made may have answered sufficiently well perhaps for the purpose for which they were instituted, yet the want of more perfect and systematic surveys in accurately defining the outlines of the canals was soon felt. The proprietors of the adjoining grounds, being ignorant of the precise extent of the claims of the State, could only refer, in their instruments of conveyance, in a general manner, to the canal as a boundary, and were equally at loss in the erection of buildings in those cases where as near an approach to the canals as possible was desirable without infringing upon the rights of the State.

The inconvenience resulting from this state of things was not confined altogether to individuals. The rapid increase in the value of lands bordering the canals, which followed their completion, and the numerous encroachments which were in consequence made upon the ground required for their efficient and successful operation, rendering it necessary for the State to devise some means of preventing any future inconvenience from the same source. This it was apparent could be done only thro' the medium of surveys properly executed, the maps, field books, &c. of which should be deposited in some place convenient for reference.

The result of the legislative action upon the subject is to be found in Part I. Chap. IX, Title IX. of the Revised Statutes of the State of New-York, in nearly the following words:

A complete manuscript map and field notes of every canal that now is or hereafter shall be completed, and of all the lands belonging to the State adjacent thereto or connected therewith, shall be made, on which the boundaries of each parcel of such lands to which the State shall have a separate title shall be designated, and the names of the former owners and the date of each title be entered. The expense to be defrayed out of the canal fund. The surveys to be executed under the direction of the Canal Commissioners, and approved by the Canal Board, and when completed to be filed in the office of the comptroller. Copies of the maps and field notes so filed are to be made under the direction of the Canal Board, and transmitted by the comptroller to every county intersected by the canals to which the maps shall relate, and filed in the Clerk's office of such county.

The portion of the revised statutes from which the preceding is taken received the legislative sanction in 1827, and in 1828 and '9 the attention of the Canal Commissioners was directed to the subject, with the view of making the necessary arrangements for the execution of the surveys.

The canals which were at this time completed and considered as the property of the State, were the Erie, Champlain, Seneca and Cayuga, and Oswego, which, including the Chemung and Crooked Lake Canals, upon which operations had already been commenced, constituted an extent of nearly six hundred miles.

In accomplishing the survey of these works the importance was at once seen of a rigid adherence to the same uniform system throughout; and it was likewise obvious that the greatest caution and judgment should be exercised in selecting from the different modes which might be devised, the one which should afford the means of determining at any future day, with the greatest practicable degree of precision, the outlines of the land set apart by the state for the use of the canals.

In the investigation of the subject, it became apparent that one of two modes, differing materially from each other in their general principles, must be adopted.

The first method contemplated the measurement in the usual manner, with the circumferentor and chain, of the outlines of the ground occupied by the canals, with such references to permanent objects and cross measurements as were necessary for verifying the accuracy of the survey.

In the other method the location of the outlines or boundaries was to be determined by offsets, made in a specified manner, from a base line situated upon and coinciding with the inner edge of the towing path, the best defined, and (as an object for general reference) the most permanent part of the canal. References were likewise to be made as contemplated in the preceding method to all accessible objects of a permanent character for verifying the accuracy of the survey.

This latter method being the one which received the sanction of the Commissioners and Canal Board, its details will be more fully described as follows:

1. The measurements in the direction of the length of the canal were made upon the base line above mentioned, situated upon or coincident with the inner edge of the towing-path. The height of the surface of the towing-path, and the inclination of its inner slope, being supposed the same as specified in the transverse profile adopted in the construction of the canals.

2. The several changes in the direction of the base line were referred to the magnetic meridian: the whole line being thus resolved into as many separate alignments, as it contained portions having different courses or bearings.

3. The several alignments were accurately measured in chains and tenths, (fractions other than tenths being avoided by a very little care in arranging the stations); and the distances upon each to the several points where the lines of roads, counties, towns, patents, lots, &c. intersected the same, together with their courses or bearings, were carefully observed.

4. The distance likewise to all waste-weirs and culverts, and to all streams that discharge themselves into or otherwise intersected the canals were taken, and the same was done with respect to the road and farm bridges, locks, aqueducts, &c. The distances to the bridges were taken to the lines joining the two nearest angles or corner posts of their abutments—those to the locks to the lines passing through the centres of the two nearest quoin posts, and those to the aqueducts to the faces of their abutments.

5. Offsets for determining the breadth of ground occupied by the canal were made from the base line at each angle or station, and likewise at every other point where a variation in the breadth of the canals required. The directions of the offsets were such as to bisect the angles formed by the two portions of the base line situated contiguous to them on each side, or in other words, the directions of the offsets at the several stations were such as to bisect the angles formed by the alignments, on the towing-path, the intermediate offsets being described perpendicular to, and the distances upon both reckoned from, the same alignments in links.

6. The offsets on one side, across the towing path, were made to extend at least twenty links (that being the minimum fixed by the Commissioners), and in every case to reach to the base of the outer slope of the embankment. The offsets in the opposite direction, across the canal, were made to extend at least fifteen links from the margin of the water, that being the minimum allowance for the breadth of the berm, and in every case to reach to the base of the exterior slope of the embankment, if any, upon that side.

7. Wherever an enlargement in the breadth of the canal rendered the method of offsets inconvenient or impracticable, the portion included in said enlargement was surveyed in the usual manner by measuring the courses and distances of the several lines that enclosed it on the side opposite to the towing path.

8. The survey embraced within its limits all grounds pertaining to the canal, including all tracts or lots of land set apart or appropriated for the purposes of lock-houses, weigh-locks, collectors' offices, &c. with the names of the former owners and the date of each separate title inserted as far as the same could be ascertained.

9. The results of the measurements made as above described were inserted in a field book. Each page of the book was ruled into parallel lines one fourth of an inch distant from each other. Near the centre of each page, and at right angles with those lines, a red line was drawn, extending across all the pages of the book.

10. The red line thus drawn represented the base line of the survey. The portion of this line corresponding to any given alignment, was made to embrace in its length as many of the spaces included by the parallel lines as there were chains in the alignments, or, if the smallness and number of the objects to be noted rendered it necessary to enlarge the scale, double the said number of spaces were taken for the purpose mentioned.

11. The offsets for the breadth of the survey were in every case represented upon the large or double scale, that is, two spaces or one half of an inch was assumed as equal to one chain. The offsets at the several stations or angles in the base line were represented by continued red lines. The intervening offsets were indicated by the red dotted lines.

12. The distances between the several stations, or the lengths of each separate alignment, were inserted at the ends of the same, within the space occupied by the canal. The same was likewise done with respect to the intervening offsets and all other measurements upon the base line, the distances being in each case reckoned from the last preceding station. The lengths of the offsets were inserted on the right and left of the canal, according as they were made on the one side or upon the other.

13. In the field-book thus arranged, all lines appertaining to the survey were described as near as possible in their true positions; likewise all such objects of interest of every description, including roads, streams, buildings, changes in the inclination of the ground, geological characteristics, localities of minerals, &c. &c. as came within the limits of the field-book, were carefully sketched. The sketches being executed with greater accuracy through the aid of the parallel lines as above described.

14. The results of the measurements for the several bearings and distances were distinctly put down upon the lines to which they respectively belonged, and the whole accompanied by such remarks as were necessary completely to elucidate every thing of importance relating to the survey.*

* It is perhaps proper to remark that occasional observations for determining the variation of the magnetic needle were contemplated, but from the want of the necessary instruments were omitted. The importance of such ob-

The maps were formed on separate sheets of super-royal paper, bound in the Atlas style, each volume containing fifty sheets, and comprehending about thirty or thirty-five miles of canal. They were projected upon the same uniform scale of two chains to the inch, and the border lines, on each separate sheet, were so drawn relatively, as to coincide in direction with the magnetic cardinal points of the horizon. The shading and lettering were executed in a superior manner, and the whole exhibited a style and perfection of finish corresponding with the importance of the survey.

Of the two modes of survey, whose merits were canvassed by the Commissioners, the one above described was the one to which, as already stated, the preference was awarded.

In this method the principal measures in the direction of the length of the canals were made upon the base line, situated upon the level and even surface of the towing-path, under circumstances, it will be conceded, in the highest degree favorable for accuracy; while in the other mode, the measures would have been subject to all the errors arising from inequalities of ground, and the various obstacles to be met with upon the outlines, such as trees, fences, streams of water, ravines, swamps, rocks, &c. which occur more or less frequently upon all portions of the canals; add to this the absolute impracticability of making such a survey in the many places where the canal is bounded on both sides by impassable swamps, as is the case at the Cayuga marshes, or is separated, as it frequently is, from an adjoining river, by a high terrace wall or embankment, or is bounded upon the berm side by a steep and thickly wooded side-hill, or by lofty and precipitous rocks, similar to what is seen at the Little Falls, at Flint Hill, at the Big Nose, or at the Cohoes upon the Mohawk, and at various other places.

In the method as pursued, the base or governing line is located upon the inner edge of the towing path, the best defined, and, for the purpose of general reference, unquestionably the most permanent part of the canal. The importance of maintaining a hard and even surface for the horse track renders it necessary to construct it of materials of a solid and durable character. Its inner edge likewise is usually protected by a slope wall of stone or docking of timber, to resist the action of the water, the abrasive effects of which, if they occur at all, are confined to short distances and to particular places, and under circumstances which render it an easy matter to determine the precise extent of the encroachment. Upon the New-York canals, and indeed upon most other works of the kind in the country, there are distances of miles together where substantial buildings or bridges or objects of an equally permanent character cannot be found, in consequence of which, and from the little reliance to be placed upon the directive property of the magnetic needle, in tracing long and irregular lines, in cases where an error of even one or two feet in the distance of a mile would be attended with serious inconvenience, and considering moreover the imperfection and disagreement of different instruments, and the want of the requisite skill not uncommon with many surveyors, a constant reference to some part of the canal, as a standard for preserving the location of the outlines, becomes absolutely essential.

In selecting the part of the canal for this purpose, the choice, it will be obvious, would necessarily fall either upon the inner edges of the berm or towing-path, or upon one or both margins of the water. Of these the towing-path was considered as entitled to the preference, since the berm side is not only constructed of less durable materials, more liable to abrasion and seldom kept in proper repair, but for much of the distance where the canal runs along sidelong ground no regular or artificial berm is formed, the water being allowed to flow back and conform to the natural irregularities of the surface. In some places, likewise, the berm is subject to alteration from the gradual sliding or *giving* of the earth, producing a contraction of the channel, while the embankment on the side of the towing-path remains comparatively firm and undisturbed. Similar objects will likewise apply to either margin of the water, particularly on the berm side, while on both sides the marginal line is subject to constant variation from the fluctuations of droughts and floods, and the irregular demand for the supply of inferior levels and for the purposes of lockage.

From the preceding it will appear, that even in the mode of surveying the outlines, as rejected by the commissioners, a general reliance must necessarily have been placed, as in the other method, upon offsets to the inner edge of the towing-path, with this difference, that as no survey is made along the inner edge of the towing-path, any changes or variations in it cannot be so easily detected and rectified. These offsets, likewise, owing to the great difference in level of the surface of the towing-path, and the ground on which the outlines are situated, particularly in places where there are high embankments or deep excavations, would be subject to very great inaccuracy, which, combined with the difficulty of reducing them to any regular system, would occasion many irreconcilable discrepancies between the measures upon the offsets and those upon the outlines, and render the precise location of the boundaries a matter of corresponding uncertainty. In the mode as pursued, the accuracy or inaccuracy of the offsets does not in the least affect the location of the base line, and by means of the measures upon it, and the uniform mode of describing the offsets, the bearings and distances of the outlines can be calculated, if required, with much greater precision than they could possibly be measured, and when so calculated, the different parts of the survey will have the additional merit of a perfect agreement with each other, a desideratum which in the other method must be pronounced to be practically unattainable.

Another consideration of much importance in favor of this mode is found in the facilities afforded for recording the field notes, and representing the whole by means of sketches and diagrams in such a manner as to avoid all liability to mistake or confusion, and presenting at the same time a very tolerable map of the survey. The check likewise which the mode of sketching exercises over the measures with the chain—the one keeping pace in all cases with the other, and both under the immediate and constant supervision of the surveyor, (each chain distance on the base line being represented by its corresponding space in the field-book,) combined with the practice of requiring a separate account from each of the chainmen, rendered an error in the reckoning almost impossible.

In the other mode the frequent obstructions to be encountered upon the outlines, and the constant necessity of deviating by offsets from a direct course, would add very much to the liabilities to error, and although the measures upon the two outlines, if the cross measures were repeated often enough, would serve to detect any errors or omissions of integer chains upon each, yet no evidence would be afforded upon which of the lines it occurred, and an attempt to correct without an actual re-survey would be as likely to increase as to remedy the evil; add to this, the discrepancy that would unavoidably result from the circumstance of the two outlines being surveyed at perhaps different times by different surveyors, with different instruments and different assistants, and the great inconveniences of referring at any future time, for the results of the measures of a given portion of the canal, to different field-books or to different parts of the same field-book, a necessity which from the nature of the case could not be avoided.

The disadvantage of this mode is likewise evident in another respect. The law of the Legislature authorizing the survey requires that the maps and field-books, with all that they contain, shall be sanctioned and certified by the Commissioners, and for this purpose, before the survey can be said to be completed, the whole ground must be examined by the Commissioners in company with the surveyor, and in the many instances where the opinion of the former would probably differ from the latter, as to the precise extent of ground proper to be embraced in the survey, alterations in the measures and the field-books must necessarily be made. These cannot be effected without completely deranging the previous surveys, and requiring an entire re-survey of the objectionable portions, while, in the method as adopted, the necessary alterations are speedily and easily effected by simply enlarging or diminishing the offsets to the extent required. In tracing the outlines, moreover, by the former mode, the surveyor, from a natural desire to expedite his work, by reducing the number of separate courses or bearings, might perhaps extend his lines to an undue length, the consequence of which would be that the outlines would, in many places, approach nearer to, and in others recede farther from, the canal, than would be proper, and too much or too little ground would be embraced within the survey. This would be particularly the case, upon the concave and convex sides of those portions of the canal which were the most curved. In the method as pursued, this difficulty is entirely avoided. The variations in the breadth of the ground embraced in the survey are gradual, conforming as nearly as possible to the natural changes in the surface of the ground and the requisitions of the canal. It moreover completely secures to the State the possession of the specified breadth of ground appropriated to the canal, and in this respect it accords in its practical operation with the established principle that the interest of the public should take precedence of that of individuals, in all cases where the means necessary for the perfect protection of the former are so limited that the extreme of abuse or encroachment which can possibly result will not expose the rights of the latter to material or important injury.

There is still another consideration of great importance in favor of this method which does not exist in the other. In all ordinary cases the location of the boundaries may be determined without the aid of the circumferentor, by means of the chain only. The greatest error which can thereby result in the position of either boundary will not exceed ten or twelve inches, supposing the offsets to be made twelve degrees out of their proper direction, and in the majority of cases will not probably exceed one third or one fourth of that amount.

The expense likewise of this mode is at least forty per cent. less than by the other, and when it is considered that the object to be attained is effected in a much more perfect and scientific manner, it must be conceded that it possesses a decided superiority.

The mode of survey above described is alike applicable to railways as to canals, and the description of it is thus publicly made, that those who are engaged in the construction of works of inter-communication may avail themselves of the advantages which it possesses over the less perfect methods ordinarily pursued in such cases.

Middletown, Conn. Nov. 1832.

servations was however duly considered, and the precaution was frequently taken to note with precision the magnetic bearings of distant and permanent objects, so that, should suitable observations be hereafter instituted, the exact variation of the magnetic meridian as it existed at the time of making the survey can be easily ascertained.

The Undulating Railway. By JUNIUS REDIVIVUS. [From the London Mechanics' Magazine.]

SIR,—I have been casually informed that there is exhibiting somewhere about town a model of an Undulating Railway, whereby the inventor undertakes to convince the public that the antique notion of level surfaces being the best adapted for wheel carriages, is entirely

wrong; and, of course, if his position be correct, the road-surveyors have wasted a "pretty considerable" quantity of money to make roads worse than they were before, by levelling the hills, which ought to be restored without delay. But the inventor of the undulating railway is by no means an originator. The Russian ice-hills on the Neva, for the amusement of the sleighers in the winter season, formed of boarded scaffolds, overlaid with blocks of ice, are much more ancient; and the *Montagnes Russes* of the *Champs Elysees*, which served as summer amusement to the youths and maidens of Paris, the King of Prussia inclusive, some fifteen years back, were railroads of something the same nature as that now proposed. But the proposer of the present undulating railway has stumbled upon a fallacy, which possibly may deceive himself, but which ought not to be suffered to deceive the "barren spectators" amongst the public, because all such fallacies serve to inflict mischief upon the really useful inventors, by getting them classed under the invidious name of "schemers," which ought properly to be confined to the plotters of absurdities alone.

There can be no doubt that a carriage placed on the top of a hill of sufficient inclination will descend with so much momentum as to drive it partly up a second hill of the same height and inclination. There can be no doubt, also, that a fly-wheel, put in motion, will continue to revolve for some time after the original moving power ceases to act on it; but it is a woeful error to suppose that either the fly-wheel or the carriage can generate additional power of their own. I once heard a story of an Irish schemer who had devised a plan for increasing the power of a ten-horse engine to that of a fifty, by means of an enormous fly-wheel. Finding a "flat," he was set to work; and when he had, after some difficulty, succeeded in casting his enormous wheel, he expended much money in fitting up an apparatus to turn and polish it all over, to prevent the loss of power by friction in the atmosphere with a rough surface! Much time being lost, the proprietor, who was at all the expense, became impatient, and then there was another delay to know how the wheel was to be stopped, with all its giant power. This having been arranged, both schemer and proprietor were much astonished to find that it would not go at all. The proposition to get additional power, or save power, by means of an undulating surface, savors much of a perpetual motion scheme. It is clear that what is called *momentum* in falling bodies can be nothing more than *gravitation*, whereby all bodies have a tendency to get as near as they can to the centre of the earth, and the heaviest have the most success. The momentum of the carriage in going down the hill is in proportion to the height which it is raised, and the diminishing of friction by the degree of inclination. In the Russian ice-hills, the first from which the sleigh starts is of a given height; the second diminishes; the third also; and so on till the level ice is attained. Were all the hills of the same height, the sleigh would descend the first, partly ascend the second, and then oscillate for a time between both, until it stopped. The reason that the sleigh moves at all, that it possesses the power of motion, is, that it is removed from a lower to a higher level, and the tendency of its gravitating power is to reach the lowest, as is the case with water, which has the advantage of being a more mobile substance. But what places the sleigh in the situation to use this power—or, rather, what confers the power upon it? The animal power, either of human hands or horses' shoulders, which has been communicated to it, and which, doubtless, if means were taken to ascertain it, would be found to be exactly equivalent to the power put forth in surmounting the hills, with the exception of the loss by friction, i. e. the animal power applied in the first instance would have served to draw the sleigh on level ground as great a distance, I mean over as many yards of surface, as it traversed on the hills. Therefore, in this case, there would be no *gain* of power, or of any thing but amusement.

The late Mr. Bentham was accustomed to say, in a jocular manner, that when he made a world it should be all down hill. Now, such a contrivance would be admirable for diminishing friction, if there were any arrangement whereby we might always be at the top. If the new invented railway were contrived so that it might be constantly down hill, or over diminishing hills, there is no doubt that much friction might be avoided; but by what process are we to get to the top to begin again? There is but one answer. By labor—got out of animals or steam. And what would be the increase of work up hill! What was gained one way would be lost the other. I say nothing of the mischief resulting both to cattle and engines by the irregular motion. But we will suppose the railway an average level, i. e. the undulations to be all alike: what possible advantages can it have over a straight and level surface? It has been shown that to get the momentum of the high level, the power must be, so to speak, "put into it," i. e. it must be applied beforehand, just as the steam of an engine is got "up" to start with effect, or as is said of a horse who has been off work a few days, "his go is bottled up." When the carriage on the undulating railway has reached as far up the second ascent as the momentum will drive it, how much power must be put on to carry it up the remainder of the ascent? Probably as much as it would have taken to perform the distance of two undulations on a level road. The *Montagnes Russes* of Paris were formed in a circle, and consisted of one descent and one ascent. The descent was steeper than the ascent, yet the impetus or momentum only served to carry the car one-third up the ascent, when it was hooked by an endless band, worked by horse-power, below, and drawn to the top. Now, the power applied by the horses in drawing that car to the top was probably equivalent to the power which would have been exerted in drawing the car the whole distance on level ground, difference of friction excepted. The fact is, that in all cases the same quantity of power must be consumed to drag a wheel carriage up to a given height. If the ascent be steep, a large amount of power is requisite for a short time. If the ascent be gradual, a small amount of power will be requisite for a longer time. The total will be equal. Increase of speed is loss of power, and *vice versa*; yet, strange to say, there are numerous unthinking people who believe that, by making a simple machine complicated, as in the case of this railroad, they actually multiply their power, as if an accelerated motion down hill were not balanced by an up hill to ascend in turn.

The process is somewhat similar to that of a man who, determining to erect a water-mill, were first to erect a windmill or steam engine to pump up the water to the height necessary for his water-wheel. There are, I believe, water-mills in some of the mining districts which are supplied from the pumps worked by engines, but then the power of the engines is not expended for the purpose of getting a stream of water, but for the purpose of getting rid of a stream of water. The power got out of the water afterwards was first put into it by the engines, and the saving that power by using it for the water-mill is analogous to the process of the soap-makers, who boil down their waste ley to recover the alkali it may contain; but they do not make waste ley for the purpose of getting the alkali out of it. The power of the water-mill is commonly but a very small proportion of that of the engines which supply it, because the descent of the fluid is much less than its ascent. Were it to fall on the wheel from a height equal to that from which it was pumped up, the power of the engine and the power of the water-wheel would be nearly equal, the friction of the pump being taken into account.

Whatever the proprietor of the undulating railway may think, "power" cannot be self-generated. A man who is in a valley cannot get up into a mountain without labor of some kind; and whether the ascent to the mountain be a straight inclined plane, or a number of undulations, will matter very little; but what difference of labor there is will be in favor of the former. When the boy makes his marble bound on the stone pavement, there is no saving of labor to him, because it happens to bound three times with one exertion of his muscles. He is obliged to exert so much the more power. The proposition to gain power by making a carriage go up hill and down hill, instead of on a level, reminds me of a scheme I once saw of a self-moving carriage, which was to go on as soon as it was loaded; and the greater the load the faster it was to travel. The ingenious inventor had heard talk of a wheel within a wheel, and he literally put it in practice, small wheels being contrived to run on a rail within the periphery of large ones, both before and behind a four-wheeled vehicle, and so fixed, by means of guides, that the weight was pressing on the rim of the large wheels, at a considerable height above the ground, in the expectation of making them revolve. The inventor had entirely forgotten that while the large wheel was pressed down hill, the small one had to travel up hill, and consequently that it was "no go." Perfectly similar is the undulating railway. If the eight-wheeled vehicle could have moved at all, it might have been running even unto this day; and if up hill and down hill, *versus* level, were a clear gain, it might be improved on till animal and machine power might be dispensed with, and the railway locomotive power of every man might reside in his own fingers. We have not come to that yet. We may exert a great quantity of power in various ways, it is true, but no more power can come out of a thing than that we put into it. If we wind up a jack, or a clock, or a watch, the amount of power which we have rapidly given is slowly expended—that is the whole process; but a man would be laughed at who were to assert, that the power we had given to the machines increased in quantity while in their progression; and thus should the man be laughed at who asserts that the power of a horse or machine is multiplied by going up and down hill.

Since writing the above, I have caused inquiries to be made at the place of exhibition, and am informed that the inventor has gone to Birmingham (I think) for the purpose of setting his scheme going on an undulating railway of three miles in length, to try it on a large scale. So much capital lost to John Bull, and his heirs for ever, if the report be correct!

I remain, Sir, yours, &c.

JUNIUS REDIVIVUS.

March 19th, 1833.

[In consequence of a very elaborate paper which appeared two weeks ago on this undulating railway in the *Athenæum*, [see Railroad Journal, vol. 2, page 243,] professing to place beyond all doubt, not only that a great advantage had been actually gained by it, but the "physical principle" on which it depends—we went to the place where it was said to be exhibited, in order that we might see the prodigy with our own eyes. We were informed, however, that the inventors had left town on the very hopeful mission alluded to at the close of the preceding communication—(how curious that, after all, a *flat*, a *flat* should be the thing!)—and so for the present were obliged to rest, content with the statements furnished by our contemporary. Some remarks on these statements we were on the point of committing to paper, when we received the very acute and sensible letter on the subject, which we now insert, from our friend, "Junius Redivivus," and which appears to us to make all further observation superfluous.—[ED. LONDON M. M.]

TIME AND SPACE.—A project is started, and we hope will be consummated, of making a railroad from Philadelphia to Baltimore, by the way of Oxford and Port Deposite. The distance will only be 118 miles—the transportation of commodities exceedingly large, and the line of travel, for passengers and the mail, not

more than 7 hours, at the rate of going now established on the Newcastle and Frenchtown railroad—without any transhipment of goods, or transfer of baggage—unless desired on the way. Such a road would make a vast change in the existing condition of things; and especially in the winter season, when passengers and the mails have to be dragged through the mud—hub-deep, in many places.

A large part of this contemplated road is really completed—45¼ miles at the Philadelphia extremity; and the stock has been subscribed for a railroad from Baltimore to Port Deposit. The middle section, then, of between 30 and 40 miles, only, remains undetermined.

When this road shall be made, and that from Baltimore to Washington is completed, as it pretty soon will be—Philadephia will be *nine hours distant* from the capital of the United States.

We see, also, that a project is going on to make a continuous railroad from Philadelphia to the west shore of the Hudson, opposite New-York, via Trenton, New-Brunswick, Rahway, Elizabethtown, and Newark. We much desire that this may soon be accomplished—and it appears that it will be. The stock must be among the most profitable in the United States. It is stated that 600 persons, *even now*, daily pass between New-York and Newark, over the toll bridges, besides those carried in steamboats, and the transport of merchandize is equal to 82,445 tons a year! The stock of the turnpike road between these places is 800 dollars for two hundred paid—that of the bridges, 150 for $100 paid. It seems that the unwise MONOPOLY, which was thought to have been granted to the Camden and Amboy Railroad Company, by the Legislature of New-Jersey, will not hold—for the new company has purchased an *old* turnpike road, and cannot be prevented from laying rails on the sides of it! This is pleasant. We would encourage *home competition;* aye, and might be reconciled even to "*free trade*" *with foreigners*: but not so far as to admit English tapes and bobbins, while England forbids payment for them in bread and meat!

With these roads made, (and they *must* be made,) New-York will be *fifteen hours distant* from Washington.

The prophecy of Oliver Evans (made in the presence of the editor of the REGISTER, and in the house of his father), many years ago, is near its fulfilment. Oliver Evans said, that "the child was then born who would travel from Philadelphia to Boston in one day." Oliver allowed, then, 80 or 90 years, but it will be done in half the time. Already the journey between New-York and Boston is being made in 17 hours 41 minutes, and the time on the railroad to be made between Philadelphia and New-York (less than six hours) will perfect the prophecy; however, it seemed to partake of *insanity* when first proclaimed.—[Niles' Register.]

GEORGETOWN, D. C. May 24.—*Our Canal and its advantages.*—It is with real pleasure we announce that the Canal and locks, as far as the eye can reach from Georgetown towards Crommelin, is literally covered with boats as close as they can stow, filled with flour and other produce. Not less than 15,000 barrels passed through the locks into the Basin yesterday; more than 150 boats, it is said, were above the town coming down.

PRICES OF RAILROAD STOCKS.

New-York and Harlaem	asked	99 —offered	88
New-York and Albany.....		— —	—
Canajoharie and Catskill		— —	—
Mohawk and Hudson.....		142¾—	142¾
Do. (Branch).			
Ithaca and Owego.....		91¾—	91¾
Saratoga and Schenectady		127¾—	127
Fort Edward and Saratoga....		— —	—
Boston and Worcester		— —	—
Boston and Providence.....		114 —	114
N.York, Providence, and Boston		105 —	sales
Paterson and Hudson.....		102 —	100
N. J. Railroad & Transp. Line..		— —	—
Morris Canal		102 —	100
Delaware and Hudson Canal ..		— —	—

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Week ending Monday, May 27, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hour.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. May 21	6 a. m.	56	29.27	ENE	moderate	SW	cloudy and foggy
	10	58	29.29	E—SSE—S			—thund'r'ng all	
	2 p. m.	60	29.24	S			do. at 4
	6	66	29.22				—fair
	10	63	29.26				fair—high cirri from SW
Wednesd. " 22	6 a. m.	61	29.87	NNW		SSW	
	10	67	29.93		light	SSW	
	2 p. m.	76	29.95	WSW		SSW	
	6	72	29.98			W by S	
	10	67	30.00				
Thursday, " 23	6 a. m.	63	30.10	N—NE		WSW	cloudy
	10	66	30.15	NE—S	moderate		
	2 p. m.	70	30.13	S—SSE			
	6	67	30.13	SE			
	10	63	30.12				
Friday, " 24	6 a. m.	58	30.27	NE		ENE	fair } with light cirrous
	10	62	30.34	ENE			clouds from WSW
	2 p. m.	67	30.32	E—ESE			
	6	63	30.32	ESE		NE	cloudy
	10	58	30.34			WSW	
Saturday, " 25	6 a. m.	55	30.27	ENE			—cloudy
	10	58	30.22		fresh		
	2 p. m.	56	30.18				
	6	58	30.10				
	10	56	30.07		moderate	SW—SSW	sw-s'ow } cloudy—fair—rainy
Sunday, " 26	6 a. m.	58	29.98	NNW	light		
	10	66	29.98	NW—SW			
	2 p. m.	74	29.89	SW			
	6	71	29.87	SSE			
	10	66	29.90	NNW			
Monday, " 27	6 a. m.	62	29.94	ENE	moderate	ESE—E	fair } with light cirrous
	10	66	29.98	E—ESE			clouds from WSW
	2 p. m.	70	29.98	SE by E		ESE	
	6	65	29.98	ESE		SW	cloudy
	10	61	29.30	E		E	

Average temperature of the week, 63·54.

HEMP MACHINE.—Arnold Zillner, Esq. of Giles county, has invented and obtained a patent for a machine for breaking and cleaning hemp, which, after repeated experiments, has been found admirably to answer the purpose intended. We have before us the certificate of *twelve* of the most respectable citizens of Bedford county, all hemp growers, who witnessed two experiments on a machine erected on the farm of Col. Samuel Mitchell, of that county. The first experiment resulted in the breaking and cleaning, in a very superior manner, of sixty-seven pounds of neat hemp, and twenty-two and a half pounds of tow that came out of it, in thirty-three minutes, with the assistance of six hands, exclusive of the drivers of the horses. On the second experiment, the result was twenty-eight and a half pounds of well broken and nicely cleaned hemp, and eight and a half pounds of tow that came out of it, in sixteen minutes, with the assistance of four hands, besides the drivers of the horses. In both instances, the machine was kept in operation by two mules and the same number of horses, with two small boys for drivers; the horses did not go faster than a brisk walk. The great advantage of the machine, in addition to the saving of labor, appears to be, that it saves all the lint in the shape of hemp or tow, separating the tow from the hemp, and leaving the latter very smooth, straight and clean. We understand that with four good horses, the machine will easily turn out fifteen hundred weight of clean hemp per day. Boys from twelve to fifteen years of age, or women, possess ample strength to attend it. The gentlemen who witnessed the experiments are all conversant with the culture of hemp, and they unite in recommending it as the most valuable machine within their knowledge for breaking and cleaning hemp. One of them, who has been for the last six or seven years a manufacturer of hemp into bagging and rope, considers the hemp broken and cleaned in this machine superior to that broken any other way, as it will make less tow in hackling, and the tow that is separated from the hemp in the process will answer very well for making baling rope.

We understand the patentee will be in this place shortly, when those who desire it will have an opportunity of obtaining further information.—[Nashville paper.]

[*From the Albany Daily Argus.*]

SARATOGA AND FORT EDWARD RAIL-ROAD.—We are gratified to learn that this Company is now fully organized, and commences its operations under the most favorable auspices. An election was held in this city yesterday, and the following gentlemen chosen Directors of the Road for the ensuing year, viz: C. C. Cambreleng, W. G. Bucknor, and A. Hamilton, of New-York; Erastus Corning, John Townsend, James Porter, and Lewis Benedict, of Albany; John I. De Graff, of Schenectady; and G. M. Davison, of Saratoga Springs.

At a subsequent meeting of the Directors, the following appointments were made:

C. C. Cambreleng, President.
John Townsend, Vice-President.
W. G. Bucknor, Treasurer.
John I. De Graff, Secretary.
John Townsend,
John I. De Graff, and } Executive Committee.
G. M. Davison,
William E. Young, Engineer.

We understand that a survey is forthwith to be commenced, and that it is the intention of the directors to complete the road early next summer. The Schenectady and Saratoga Railroad Company, 21 1-2 miles in length, was completed (save the intermediate point at Ballston) within nine months. The line of this road is 16 miles, of an average easier constructed than that. The route indeed is represented to be highly favorable for the construction of a Railroad.

This improvement, besides its separate advantages, will be of great public utility as a continuation of the Mohawk and Saratoga roads; and when completed, will form a continuous line of Railroad communication from this city to Fort Edward, a distance of fifty-four miles, and within about twenty miles of Whitehall; giving to travellers on the route from Lake Champlain to the South, an easy, economical and expeditious mode of conveyance.

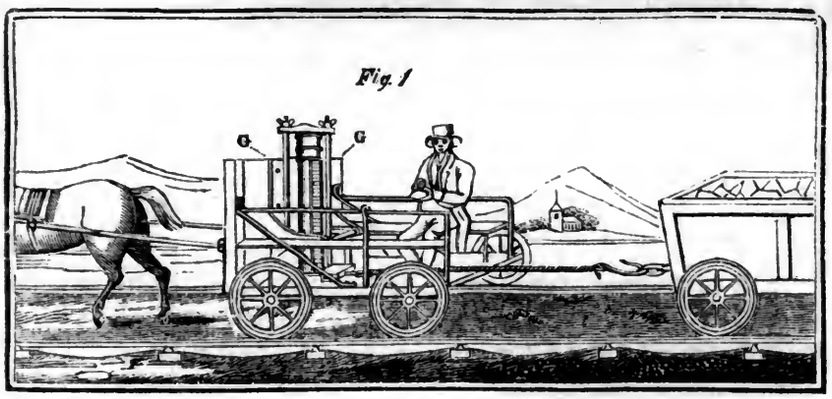
The eye of the master will do more work than both his hands. Not to oversee workmen is to leave them your purse open.

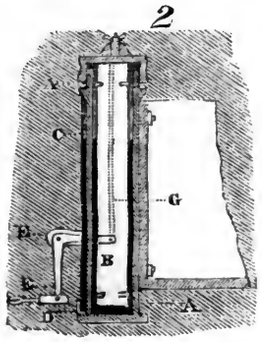
He that lives upon hope will die fainting—industry need not wish.

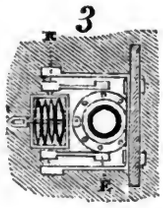
There are no gains without pains.

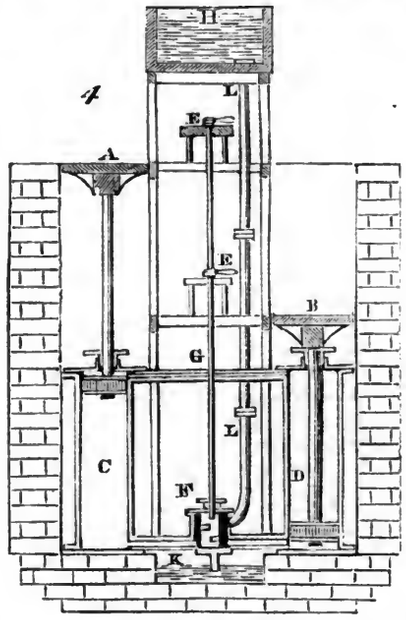
TO CORRESPONDENTS.

The communications of "U. A. B." "F and "J. W." are received: our column however, previously occupied. The attended to next week.









Milne's Mercurial Dynamometer, and Railway Lock for raising Carriages from one Level to another. [From the London Mechanics' Magazine.]

In our review of Mr. Milne's excellent "Practical View of the Steam Engine," we made mention of a mercurial dynamometer, for which Mr. M. had received the honorary gold medal of the Highland Society of Scotland. We now proceed to fulfil our promise of extracting from Mr. M.'s "Appendix" the following descriptive particulars of this instrument; and shall subjoin thereto an account of an ingenious apparatus which Mr. M. has also devised for raising or lowering railway carriages from one level to another.

The Dynamometer.—Practical engineers complain that those dynamometers which indicate the quantum of force applied by a horse upon a railway, by the inflection of springs, lose their elasticity when kept at work for a considerable time; the oscillations of the index-pointer, too, make it impossible to ascertain the medium of unequal draught applied by the animal in stepping out. Such also is the case when any other common instrument is used for this purpose. Both of these defects are completely obviated by the mercurial dynamometer now to be described. This instrument consists of a hollow metallic cylinder, A, fig. 2, in which is placed a floating piston, B, which should be about one tenth of an inch less in diameter than the cylinder in which it must move freely up or down. To prevent friction, four small rollers should be inserted into the side of this wooden float, both at its top and bottom; which rollers should not project further than to admit of the piston being "shake-free" within its cylinder. In order, also, to prevent absorption of the mercury, the wood should be coated with bees' wax mixed with whitening or with lamp-black. These things being attended to, and a portion of mercury placed within the cylinder, by pushing down the piston the fluid will ascend in a thin film between it and the cylinder, till the statical weight of the mercury, acting on the base of the floating piston, balances the force exerted in pushing it down. Hence, since the statical weight of the fluid increases reciprocally as the height to which it is caused to ascend by its displacing force, so must its various points of height within the cylinder be a measure of the force in equilibrio with the statical weight of the fluid.

Such being the construction of this dynamometer, it is only necessary to fix it in a vertical position to the front of the foremost of a train of waggons, and to turn the direction of the horses' draught in such a manner as to cause it to pull down the floating piston; while a glass tube exhibits the height of the fluid, and consequently the force exerted by the animal. To prevent any sudden elevations or depressions in the mercury in the tube, from the irregularity of the horses' draught, the socket in which it is placed has a ventricle at D, the diameter of which is .033 of an inch, while that of the glass tube is .250; wherefore $\frac{.250^2}{.033^2} = 57.4$; hence the elevation or depression of the mercury in the tube must be 57.4 times less than in the cylinder; the celerity of which fluid, too, is still further reduced by springs attached to the draught-hook, as seen in the plan, fig. 3. Since this machine was first constructed, it has occurred to Mr. Milne that, by attaching a stop-cock, the celerity of the motion of the mercury in the glass tube could be regulated to any required extent with the utmost exactness. In addition to these contrivances, oscillations of the fluid might be still further prevented by making the yoke-levers, E, shorter than those which pull down the piston. The friction of the arbor, F, might also be much lessened, by making its extremities similar to the bearing-pivots of a common balance.

Mr. Granger, the engineer, having placed this dynamometer on a carriage (represented in fig. 1) so constructed that neither the weight of the instrument nor of the persons upon it should affect the results, made a number of very interesting and useful experiments with it on the Kirkintilloch Railway. The first object in these experiments was to ascertain the capabilities of the dynamometer; on which head nothing can be more satisfactory than the testimony Mr. G. has given. "It is altogether superior," he says, "to any other I have seen; and it is the opinion of several engineers, who have seen it at work, that it is the best instrument for engineering purposes that has ever been tried." A long and circumstantial narrative of these experiments is given, but it is only necessary that we should here place before our readers the principal facts which they have established with respect to friction on railways:

1. The medium friction of a train of five waggons on a level part of the railway was 9 lbs. per ton; while on a curved part, with a radius of about 800 feet, it was 18 lbs. per ton.

2. A draught of 10.8 lbs. per ton was required to travel at the rate of three miles an hour when the rails were dry, and only 6·8 lbs. when wet.

3. On a level the force exerted by horse was observed to vary from 90 to 110 lbs., but when the train came to a part of the railway which inclined at the rate of 1 in 280, the waggons descended freely by their own gravity.

4. On a descent of 1 in 117, a waggon with wheels 2·5 feet in diameter carried 1020 lbs. more weight than one with 3 feet wheels, at the same rate of speed and with the same power applied: but on a curve with a radius of a thousand feet, the 3 feet wheels proved superior to the 2·5—a circumstance which Mr. Milne ascribes to the axles of the 3 feet wheels being of two pieces, meeting within a bush at the centre, while the 2·5 wheels were attached by an inflexible axle, whence it followed, in the case of the former, that "all the wheels would roll upon the rails of different radii, independent of the motions of each other."

5. The average force of draught required on a level at 3·5 miles per hour was 8 lbs. per ton; at 6·66 miles, 9·5 lbs.; at 7.5 miles, 10·2 lbs.; at 8 miles, 10·67 lbs.; at 8·57 miles, 11·63 lbs.

The Railway Lock.—Let A and B, fig. 4, be two platforms, on which the waggons are to be elevated or let down; A being at the upper level and B at the lower. C and D are two cast iron cylinders filled with water, and having water-tight pistons sup-

porting the platforms, A and B. Suppose, now, that a train of waggons has been placed on the platform, B, to be raised to the upper level, and that a greater weight is about to descend upon A; then by turning the handle, E, of the fourway-valve, F, to a proper point on an index beneath it, the superior weight on A will press the water below its piston through the valve F into D, and thereby elevate the weight upon B; the fluid above the piston in D passing over into C by the pipe G. But suppose there is no counterweight ready to descend on A when it is required to raise a load on B, then by turning the handle E, the water in the cistern H will descend and press upon the piston D, while simultaneously the water above D will pass off through the pipe G into C, and the water below the piston in C will make its exit through one of the water-ways of the valve F. Or if, on the other hand, there should be a load descending on A when there is none ascending on B, the valve F has only to be turned in proportion to the load (a matter which practice would easily determine), when a corresponding weight of water will be driven from the cylinders up the pipe and into the cistern H; in which case the cylinders below the ascending platform will fill themselves from the well K. The power of a machine of this kind may be stated as being equal to the weight of a column of water whose base is equal to the height of the fluid in the pipe L; and were this pipe a transparent tube, with a graduated scale attached to it, the height of the fluid in the tube would clearly point out the quantity of weight incumbent on one or other of the platforms, *minus* the friction of the pistons.

Babbage on the Economy of Manufactures.

[Continued from page 213.]

SAVING TIME IN NATURAL OPERATIONS.

33. The process of tanning will furnish us with a striking illustration of the power of machinery in accelerating certain processes in which natural operations have a principal effect. The object of this art is to combine a certain principle called *tanning* with every particle of the skin to be tanned. This in the ordinary process is accomplished by allowing the skins to soak in pits containing a solution of tanning matter: they remain in the pits six, twelve, or eighteen months; and in some instances, (if the hides are very thick,) they are exposed to the operation for two years, or even during a longer period. This length of time is apparently required in order to allow the tanning matter to penetrate into the interior of a thick hide. The improved process consists in placing the hides with the solution of tan in close vessels, and then exhausting the air. The consequence of this is to withdraw any air which might be contained in the pores of the hides, and to employ the pressure of the atmosphere to aid capillary attraction in forcing the tan into the interior of the skins. The effect of the additional force thus brought into action can be equal only to one atmosphere, but a farther improvement has been made: the vessel containing the hides is, after exhaustion, filled up with a solution of tan; a small additional quantity is then injected with a forcing-pump. By these means any degree of pressure may be given which the containing vessel is capable of supporting; and it has been found that, by employing such a method, the thickest hides may be tanned in six weeks or two months.

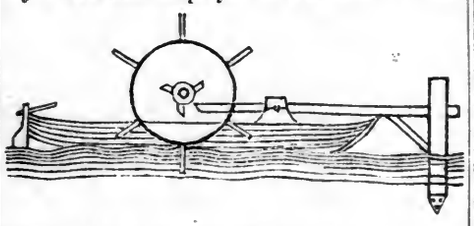
34. The same process of injection might be applied to impregnate timber with tar, or any other substance adapted to preserve it from decay; and if it were not too expensive, the deal floors of houses might thus be impregnated with alumine or other substances, which would render them much less liable to be accidentally set on fire. Some idea of the quantity of matter which can be injected into wood, by great pressure, may be formed from considering the fact stated by Mr. Scoresby, respecting an accident which occurred to a boat of one of our whaling-ships. The line of the harpoon being fastened to it, the whale in this instance dived directly down, and carried the boat along with him. On returning to the surface the animal was killed, but the boat, instead of rising, was found suspended beneath the whale by the rope of the harpoon; and on drawing it up, every part of the wood was found to be so completely saturated with water as to sink immediately to the bottom.

35. The operation of bleaching linen in the open air is one for which considerable time is necessary; and although it does not require much labor, yet, from the risk of damage and of robbery from long exposure, a mode of shortening the process was highly desirable. The method now practised, although not mechanical, is such a remarkable instance of the application of science to the practical purposes of manufactures, that in mentioning the advantages derived from shortening natural operations, it would have been scarcely pardonable to have omitted all allusion to the beautiful application of chlorine, in combination with lime, to the art of bleaching.

36. Another instance more strictly mechanical occurs in some countries where fuel is expensive, and the heat of the sun is not sufficient to evaporate the water from brine springs. The water is first pumped up to a reservoir, and then allowed to fall in small streams through faggots. Thus it becomes divided; and, presenting a large surface, evaporation is facilitated, and the brine which is collected in the vessels below the faggots is stronger than that which was pumped up. After thus getting rid of a large part of the water, the remaining portion is driven off by boiling. The success of this operation depends on the circumstance of the atmosphere not being saturated with moisture: if the air, at the time the brine falls through the faggots, holds in solution as much moisture as it can contain in an invisible state, none can be absorbed from the salt water, and the labor expended in pumping is entirely wasted. The state of the air, as to dryness, is therefore an important consideration in fixing the time when this operation is to be performed; and an attentive examination of its state, by means of the hygrometer, might be productive of some economy of labor.

37. In some countries, where wood is scarce, the evaporation of salt water is carried on by a large collection of ropes, which are stretched perpendicularly. The water passing down them deposites the sulphate of lime which it held in solution, and gradually incrusts the ropes, so that in the course of twenty years, when they are nearly rotten, they are sustained by the surrounding incrustation, thus presenting the appearance of a vast collection of small columns.

38. Amongst natural operations perpetually altering the surface of our globe, there are some which it would be advantageous to accelerate. The wearing down of the rocks which impede the rapids of navigable rivers is one of this class. A very beautiful process for accomplishing this object has been employed in America. A boat



is placed at the bottom of the rapid, and kept in its position by a long rope, which is firmly fixed on the bank of the river near the top. An axis, having a wheel similar to the paddle-wheel of a steamboat fixed at each end of it, is placed across the boat; so that the two wheels and their connecting axis shall revolve rapidly, being driven by the force of the passing current. Let us now imagine several beams of wood shod with pointed iron fixed at the ends of strong levers, projecting beyond the bow of the boat, as in the prefixed representation.

If these levers are at liberty to move up and down, and if one or more projecting pieces, called cams, are fixed on the axis opposite to the end of each lever, the action of the stream upon the wheels will keep up a perpetual succession of blows. The sharp-pointed shoe, striking upon the rock at the bottom, will continually detach small pieces, which the stream will immediately carry off. Thus, by the mere action of the river itself, a constant and most effectual system of pounding the rock at its bottom is established. A single workman may, by the aid of a rudder, direct the boat to any required part of the stream; and when it is necessary to move up the rapid, as the channel is cut, he can easily cause the boat to advance by means of a capstan.

39. When the object of the machinery just described has been accomplished, and the channel is sufficiently deep, a slight alteration converts the apparatus to another purpose almost equally advantageous. The stampers and the projection pieces on the axis are removed, and a barrel of wood or metal, surrounding part of the axis, and capable, at pleasure, of being connected with or disconnected from the axis itself, is substituted. The rope which hitherto fastened the boat is now fixed to this barrel; and if the barrel is loose upon the axis, the paddle-wheels make the axis only revolve, and the boat remains in its place: but the moment the axis is attached to its surrounding barrel, this begins to turn, and winding the rope upon itself, the boat is gradually drawn up against the stream, and may be employed as a kind of tug-boat for all the vessels which have occasion to ascend the rapid. When the tug-boat reaches the summit, the barrel is released from the axis, and friction being applied to moderate its velocity, the boat is allowed to descend.

EXERTING FORCES TOO GREAT FOR HUMAN POWER, AND EXECUTING OPERATIONS TOO DELICATE FOR HUMAN TOUCH.

40. It requires some skill and a considerable apparatus to enable many men to exert their whole force at a given point, and when this number amounts to hundreds or to thousands, additional difficulties present themselves. If ten thousand men were hired to act simultaneously, it would be exceedingly difficult to discover whether each exerted his whole force, and, consequently, to be assured that each man did the duty for which he was paid. And if still larger bodies of men or animals were necessary, not only would the difficulty of directing them become greater, but the expense would increase from the necessity of transporting food for their subsistence.

The difficulty of enabling a large number of men to exert their force at the same instant of time has been almost obviated by the use of sound. The whistle of the boatswain occasionally performs this service; and in removing, by manual force, the vast mass of granite, weighing above 1400 tons, on which the equestrian figure of Peter the Great is placed at St. Petersburg, a drummer was always stationed on its summit to give the signal for the united efforts of the workmen.

An interesting discovery was made a few years since, by Champollion, of an ancient Egyptian drawing, in which a multitude of men appeared harnessed to a huge block of stone, on the top of which stood a single individual with his hands raised above his head, apparently in the act of clapping them, for the same purpose of insuring the exertion of their combined force at the same moment of time.

41. In all our larger manufactories numerous instances occur of the application of the power of steam to overcome resistances which it would require far greater expense to surmount by means of animal labor. The twisting of the

largest cables, the rolling, hammering, and cutting large masses of iron, the draining of our mines, all require enormous exertions of physical force continued for considerable periods of time. Other means are had recourse to when the force required is great, and the space through which it is to act is small. The hydraulic press of Bramah can, by the exertion of one man, produce a pressure of 1500 atmospheres, and with such an instrument a hollow cylinder of wrought iron, three inches thick, has been burst. In riveting together the iron plates out of which steam engine boilers are made, it is necessary to produce as close a joint as possible. This is accomplished by using the rivets red-hot; while they are in that state the two plates of iron are rivetted together, and the contraction which the rivet undergoes in cooling draws them together with a force which is only limited by the tenacity of the metal of which the rivet itself is made.

42. It is not alone in the greater operations of the engineer or the manufacturer, that those vast powers which man has called into action, in availing himself of the agency of steam, are fully developed. Wherever the individual operation demanding little force for its own performance is to be multiplied in almost endless repetition, commensurate power is required. It is the same "giant arm which twists the largest cable," that spins from the cotton plant an "almost gossamer thread." Obedient to the hand which called into action its resistless powers, it contends with the ocean and the storm, and rides triumphantly through dangers and difficulties unattempted by the older modes of navigation. It is the same engine that, in its more regulated action, weaves the canvass it may one day supersede; or, with almost fairy fingers, entwines the meshes of the most delicate fabric that adorns the female form.*

43. The Fifth Report of the Select Committee of the House of Commons on the Holyhead Roads furnishes ample proof of the great superiority of steam vessels. The following extracts are taken from the evidence of Captain Rogers, the commander of one of the packets:

"*Question.*—Be so good as to acquaint the Committee in what manner the communication has been kept open between Holyhead and Dublin by steam packets, and what has been the success of the experiment of establishing them on that station.

"*Answer.*—We have done every thing that could be done, *by steamboats*; and they will go, no doubt, when a sailing vessel will not—that has been proved.

"*Question.*—Are you not perfectly satisfied, from the experience you have had, that the steam vessel you command is capable of performing what no sailing vessel can do?

"*Answer.*—Yes.

"*Question.*—During your passage from Gravesend to the Downs, could any square-rigged vessel, from a first-rate down to a sloop of war, have performed the voyage you did in the time you did it in the steamboat?

"*Answer.*—No; it was impossible. In the Downs we passed several Indiamen, and 150 sail, there, that could not move down the Channel; and at the back of Dungeness we passed 120 more.

"*Question.*—At the time you performed that voyage, with the weather you have described, from the Downs to Milford, if that weather had continued twelve months, would any square-rigged vessel have performed it?

"*Answer.*—They would have been a long time about it; probably would have been weeks instead of days. A sailing vessel would not have beat up to Milford, as we did, in twelve months."

44. The process of printing on silver paper, which is necessary for bank-notes, is attended with some inconvenience, from the necessity of damping the paper previously to taking the impression. It was difficult to do this uniformly; and in the process of dipping a parcel of several sheets together into a vessel of water, the outside sheets becoming much more wet than the others, were very apt to be torn. A method has been adopted at the Bank of Ireland which obviates this inconvenience. The whole quantity of paper to be damped is placed in a close vessel, from which the air is exhausted; water is then admitted, and every leaf is completely wetted; the paper is then removed to a press, and all the superfluous moisture is squeezed out.

REGISTERING OPERATIONS.

45. One of the most singular advantages we derive from machinery is in the check which it affords against the inattention, the idleness, or the knavery, of human agents. Few occupations are more wearisome than counting a series of repetitions of the same fact; the number of paces we walk affords a tolerably good measure of distance passed over, but the value of this is much enhanced by possessing an instrument, the pedometer, which will count for us the number of steps we have made. A piece of mechanism of this kind is sometimes applied to count the number of turns made by the wheel of a carriage, and thus to indicate the distance travelled: an instrument similar in its object, but differing in its construction, has been used for counting the number of strokes made by a steam-engine, and the number of coins struck in a press. One of the simplest instruments for counting any series of operations was contrived by Mr. Donkin.*

46. Another instrument for registering is used in some establishments for calendering and embossing. Many hundred thousand yards of calico and stuffs pass weekly through these operations, and as the price paid for the process is small, the value of the time spent in measuring them would bear a considerable proportion to the profit. A machine has, therefore, been contrived for measuring and registering the length of the goods as they pass rapidly through the hands of the operator, and all chance of erroneous counting is thus avoided.

47. Perhaps the most useful contrivance of this kind is one for ascertaining the vigilance of a watchman. It is a piece of mechanism connected with a clock placed in an apartment to which the watchman has not access, but he is ordered to pull a string situated in a certain part of his round once in every hour. The instrument, aptly called a *tell-tale*, informs the owner whether the man has missed any, and what hours during the night.

48. It is often of great importance, both for regulations of excise as well as for the interests of the proprietor, to know the quantity of spirits or of other liquors which have been drawn off by those persons who are allowed to have access to the vessels during the absence of the inspectors or principals. This may be accomplished by a peculiar kind of stopcock, which will, at each opening, only discharge a certain measure of fluid,—the number of times the cock has been turned being registered by a counting apparatus, accessible only to the master.

49. The time and labor consumed in guaging casks partly filled has led to an improvement, which, by the simplest means, obviates a considerable inconvenience, and enables any person to read off, on a scale, the number of gallons contained in any vessel, as readily as he does the degree of heat indicated by his thermometer. A small stop-cock is inserted near the bottom of the cask, which it connects with a glass tube of narrow bore fixed to a scale on the side of the cask, and rising a little above its top. The plug of the cock may be turned into three positions: in the first it cuts off all communication with the cask; in the second, it opens a communication between the cask and the glass tube; and, in the third, it cuts off the connection between the cask and the tube, and opens a communication between the tube and any vessel held beneath the cock to receive its contents. The scale of the tube is graduated by opening the communication between the cask and tube, and pouring into the cask a gallon of water. A line is then drawn on the scale opposite the place in the tube to which the water rises. This operation is repeated, and at each successive gallon a new line is drawn. Thus the scale being formed by actual measurement,* both the proprietor and the excise officer see, on inspection, the contents of each cask, and the tedious process of guaging is altogether dispensed with. Other advantages accrue from this simple contrivance, in the great economy of time which it produces in making mixtures of different spirits in taking stock, and in receiving spirit from the distiller.

50. The gas-meter, by which the quantity of gas used by each consumer is ascertained, is another instrument of this kind. They are of several forms, but all of them intended to register the number of cubic feet of gas which has been delivered. It is very desirable that these meters should be obtainable at a moderate price, and that every consumer should employ them; because, by making each purchaser pay only for what he consumes, and by preventing that extravagant waste of gas which we frequently observe, the manufacturer of gas will be enabled to make an equal profit at a diminished price to the consumer.

51. The sale of water, by the different companies in London, might also, with advantage, be regulated by a different kind of meter. If such a system were adopted, much water which is now allowed to run to waste would be saved, and an unjust inequality between the rates charged on different houses by the same company be avoided.

52. Another subject to which machinery for registering operations is applied with much advantage is the determination of the average effect of natural or artificial agents. The mean height of the barometer, for example, is ascertained by noting its height at a certain number of intervals during the twenty-four hours. The more these intervals are contracted, the more correctly will the mean be ascertained; but the true mean ought to participate in each momentary change which has occurred. Clocks have been proposed and made for this purpose, and the principle adopted has been that of moving a sheet of paper, slowly and uniformly, before a pencil fixed to a float upon the surface of the mercury in the cup of the barometer. Sir David Brewster proposed, several years ago, to suspend a barometer, and swing it as a pendulum. The variations in the atmosphere would thus alter the centre of oscillation, and the comparison of such an instrument with a good clock would enable us to ascertain the mean altitude of the barometer during any interval of the observer's absence.†

Instruments might also be contrived to determine the average force of traction of horses—of the wind—of a stream—or of any other irregular and fluctuating effort of animal or natural force.

53. There are several instruments contrived for awakening the attention of the observer at times previously fixed upon. The various kinds of alarums connected with clocks and watches are of this kind. In some instances it is desirable to be able to set them so as to give notice at many successive and distant points of time, such as those of the arrival of given stars on the meridian. A clock of this kind is used at the Royal Observatory at Greenwich.

Repeating clocks and watches may be considered as instruments for registering time, which communicate their information only when the owner requires it, by pulling a string, or by some similar application.

* The importance and diversified applications of the steam engine were most ably enforced in the speeches made at a public meeting, held (June, 1824) for the purpose of proposing the erection of a monument to the memory of James Watt; these were subsequently printed.

* Transactions of the Society of Arts, 1819, p. 116.

* This contrivance is due to Mr. Henneky, of High Holborn, in whose establishment it is in constant employment.

† About seven or eight years since, without being aware of Sir David Brewster's proposal, I adapted a barometer as a pendulum to the works of a common eight-day clock; it remained in my library for several months, but I have mislaid the observations which were made.

ECONOMY OF THE MATERIALS EMPLOYED.

54. The precision with which all operations by machinery are executed, and the exact similarity of the articles thus made, produce a degree of economy in the consumption of the raw material, which is in some cases of great importance. The earliest mode of cutting the trunks of a tree into planks was by the use of the hatchet or the adze. It might, perhaps, be first split into three or four portions, and then each portion was reduced to a uniform surface by those instruments. With such means the quantity of plank produced would probably not equal the quantity of the raw material wasted by the process; and, if the planks were thin, would certainly fall far short of it. An improved tool, the saw, completely reverses the case: in converting a tree into thick planks it causes a waste of a very small fractional part; and even in reducing it to planks of only an inch in thickness, it does not waste more than an eighth part of the raw material. When the thickness of the plank is still farther reduced, as is the case in cutting wood for veneering, the quantity of material destroyed again begins to bear a considerable proportion to that which is used; and, hence, circular saws, having a very thin blade, have been employed for such purposes. In order to economize still farther the more valuable woods, Mr. Brunel contrived a machine which, by a system of blades, cuts off the veneer in a continuous shaving, thus rendering the whole of the piece of timber available.

55. The rapid improvements which have taken place in the printing press during the last twenty years afford another instance of saving in the materials consumed, which is interesting from its connection with literature, and valuable because admitted and well ascertained by measurement. In the old method of inking type, by large hemispherical balls, stuffed and covered with leather, the printer, after taking a small portion of ink from the ink-block, was continually rolling them in various directions against each other, in order that a thin layer of ink might be uniformly spread over their surface. This he again transferred to the type by a kind of rolling action. In such a process, even admitting considerable skill in the operator, it could not fail to happen that a large quantity of ink should get near the edges of the balls, which, not being transferred to the type, became hard and useless, and was taken off in the form of a thick black crust. Another inconvenience also arose—the quantity of ink spread on the block not being regulated by measure, and the number and direction of the transits of the inking-balls over each other depending on the will of the operator, and being irregular, it was impossible to place on the type a uniform layer of ink, of exactly the quantity sufficient for the impression. The introduction of cylindrical rollers of an elastic substance, formed by the mixture of glue and treacle, superseded the inking-balls, and produced considerable saving in the consumption of ink: but the most perfect economy was only to be produced by mechanism. When printing presses, moved by the power of steam, were introduced, the action of these rollers was found well adapted to the performance of the machine; and a reservoir of ink was formed, from which one roller regularly abstracted a small quantity at each impression. From three to five other rollers spread this portion uniformly over a slab, (by most ingenious contrivances varied in almost each kind of press,) and another travelling roller, having fed itself on the slab, passed and repassed over the type just before it gave the impression to the paper.

The following is an account of the results of an accurate experiment upon the effect of the process just described, made at one of the largest printing establishments in the metropolis.* Two hundred reams of paper were printed off, the old method of inking with balls being employed; two hundred reams of the same paper, and for the same book, were then printed off in the presses which inked their own type. The consumption of ink by the machine was to that by the balls as *four to nine*, or rather less than one half. In order to show that this plan of inking puts the proper quantity of ink upon the type, we must prove, first, —that it is not too little: this would soon have been discovered from the complaints of the public and the booksellers; and, secondly,—that it is not too much. This latter point is satisfactorily established by a reference to the frequency of the change of what is called the *set-off sheet*, in the old method. A few hours after one side of a sheet of paper has been printed upon, the ink is sufficiently dry to allow it to receive the impression upon the other; and, as considerable pressure is made use of, the tympan on which the side first printed is laid, is guarded from soiling it by a sheet of paper called the *set-off sheet*. This paper receives in succession every sheet of the work to be printed, and acquires from them more or less of the ink, according to their dryness, or the quantity upon them. It was necessary in the former process, after about one hundred impressions, to change the *set-off sheet*, which in that time became too much soiled for farther use. In the new method of printing by machinery, no *set-off sheet* is used, but a blanket is employed as its substitute; this does not require changing above once in five thousand impressions, and instances have occurred of its remaining sufficiently clean for twenty thousand. Here, then, is a proof that the quantity of superfluous ink put upon the paper in machine-printing is so small, that if multiplied by five thousand, and in some instances even by twenty thousand, it is only sufficient to render useless a single piece of clean cloth.*

* This experiment was made at the establishment of Mr Clowes, in Stamford street.

* In the very best kind of printing, it is necessary, in the old method, to change the set-off sheet once in twelve times. In printing the same kind of work by machinery the blanket is changed once in 2000.

[*From the Southern Agriculturist.*]

REELING SILK.—With respect to the subject of silk, I have but little to say, when contrasting my knowledge of the business with those who are more experienced in the practical pursuit of it. But inasmuch as may pertain to the general good of the community, permit me to "cast in my mite." I amused myself last spring with about 2000 silk worms: as usual with me, I fed them upon the leaves of the common black mulberry of the country. They grew to their general size, in excellent health and vigor. As they matured they commenced spinning, and considering their situation they did well. The cocoons which they made were not generally as large as I had the year previous, which I think was occasioned by their being too much disturbed, owing to their situation. The silk which they produced is of excellent quality, exhibiting a very bright and lively fibre. There is, however, a manifest difference in the fineness and softness of the silk. Some of the cocoons are more coarse and harsh than the others; this difference attracted my attention, and by inspection I discovered that the lightest colored cocoons were the finest and softest silk. I have some large fair cocoons that are but a shade less than white; they uniformly are the finest and softest silk. This difference I cannot well account for, for they were produced by the same family of worms, were fed together on the same food, at the same time, and subject to the same vicissitudes. I can only admit that this difference in excellence is produced by worms of excellent constitutions; further, I submit to be corrected by my superiors on the subject.

When the cocoons were matured, I gathered them, and selected such as I intended for propagation; the rest were indiscriminately prepared for reeling: this I did in a very ready, simple, and easy manner, by which the silk is much improved. In order to destroy the vitality of the chrysalides, I procured a tin box with a top cover which shut very close; as I filled the box with cocoons, I sprinkled them with good spirits of wine, then closed the box tight, and set it in the sun. The heat soon evaporated the spirits, which when dissipated pervaded the whole cavity of the box, saturated the cocoons, and instantly suffocated the chrysalides. Thus the vital functions of the insect were destroyed without languishing. This process may be performed every three hours with the same box, while there is a warm sun. The spirits act upon the animal gummy matter of which the silk consists, dissolves it and sets the fibre free; improves the silk by leaving it bright, soft, and lively, and causes it to yield its fibres from the cocoon to the reel with the greatest freedom. Thus the process of reeling is performed with a facility unusually pleasing and profitable; for by this process a much greater quantity of reeling silk may be obtained from the same cocoon than is usually the case with the water bath, and by baking, which are both tedious and injurious to the silk, and of course unprofitable. I have had a ball or cocoon to run over the floor, similar to a ball of yarn, while I held the fibres in my fingers. For the principle in the use of spirits of wine, as above stated, I refer to "Dr. Lardner's excellent book on silk manufactures." To the application of the spirits of wine I have added camphor, which renders the process more immediately effectual, and is of much benefit to the cocoons, which are thus cured for market. Let objections (if any to this principle) be made. Thus I have completed my principal design, in having obtained a knowledge of the nature, disposition and general properties of the silk worm, and particularly so as concerns the congeniality of this climate with their health and the quality of their silk. With this attainment I am highly gratified. In faith, I believe I am willing to hazard an opinion, so far as to say that with a grove of the white, or any other mulberry suitable for the production of silk, a suitable building, with the necessary fixtures for the business, silk may be made in Louisiana and its vicinity, equal in quantity and quality to any other part of the United States. * * * *

I further believe, that it may be made a business of profit to the man of small capital—that in three months of every year, a single person well acquainted with the business may, with the aid of three small boys to gather leaves, &c. realize one thousand dollars in the product of labor from silk. I know of no business which I could more readily, and I think safely, recommend to every honest man, whose purse contains but few dollars, and whose house is ornamented with many healthy and promising children. I thing that any and every industrious man, who will cultivate a grove of mulberry trees, and obtain the other fixtures necessary, simply suited to the business, may realize three hundred dollars annually to every child of 12 or 13 years of age, that is able to labor. Such an income would do much more than maintain a family with all the necessary comforts of life. As a commodity of commerce, silk has ever been, is now, and ever will be, a cash article; and while human necessities exist, it will find a market, and command as ready a sale as cotton or any other raw material. Such emolument holds out strong inducements, and kindly invites the laboring part of the community into the silken garden, where, by their industry, they may not only obtain the common comforts of life, but with them may enjoy luxury. Hence, let honest industry dispel penury and distress. Let every rational man reflect, look into himself, and consider the end and aim of his existence, he will see that there is nothing wanting in his temporal concerns to render him comfortable and happy, but prudent application and persevering industry with economy. He who will embrace these principles as a maxim of conduct, will not be under the disagreeable necessity of disgracing himself, by annoying his neighbor with "pray, my good sir, can you favor me with the loan of five dollars a day or so." Accept the friendship of

J. B. BREWER.

NEW-YORK AMERICAN.

MAY 25, 27, 28, 29, 30, 31—1833.

LITERARY NOTICES.

THREE YEARS IN NORTH AMERICA; by JAS. STUART; 2 vols.: *Harpers.*—This work, which has already passed through two editions in England, and been most cordially received by the British public, is prefaced by the American publishers with an interesting communication from Dr. Hosack; which, from the insight it gives into the warm and excellent character of the author, is a passport at once for him into our favor. The circumstances under which the Doctor became acquainted with Mr. Stuart, forms one of those beautiful incidents which are often related in fiction, but rarely touch us in real life. It appears that Dr. Hosack—but the story is so well told to our hands, that we prefer copying it from the page before us, to risk marring the relation by putting it in our own language:

The statement to which you referred in another part of your note, as made by Mr. Stuart relative to my intercourse with his friends and family in Scotland, is essentially correct: but there are some circumstances connected with it, which his kind feelings have led him to suppress, and thereby to diminish the obligation the kindness of his parents imposed upon me, which I will endeavor to supply, as essentially connected with the story he has partially related in his work, and which it is due to him as well as to myself should be made known. It ought to be premised that, upon my arrival in Edinburgh, in the autumn of 1792, a letter of introduction from the late Dr. Witherspoon, then president of the college at Princeton, made me known to the celebrated divine Dr. John Erskine of Lauriston, whose daughter was married to Dr. Charles Stuart, an eminent physician of Edinburgh, to whom I was also introduced by a letter from his particular friend the late Dr. Wistar of Philadelphia. Both Dr. Stuart and Dr. Erskine manifested to me every kindness in their power.—Besides their cordial welcome, and personal attentions in obtaining for me suitable lodgings, giving me every advice in the prosecution of my medical sudies, introducing me to the medical professors, and to many of the literati of Edinburgh, I became domesticated in their families, receiving from them all the affectionate attention that I could have enjoyed in the paternal home I had left, and exciting in me feelings of gratitude never to be obliterated. You will therefore not be surprized at the incidents referred to in Mr. Stuart's narrative.

On a passage up the Hudson river, on board the steamboat North America, in June, 1830, I perceived my friend, the late Dr. Mitchill, standing at the side of the deck in conversation with a gentleman to me a stranger. Upon saluting the doctor he presented me to that gentleman as Mr. Stuart of Edinburgh. I immediately observed to him, "Sir, that is a name very dear to me;" to which he replied, "You refer, I presume, sir, to Professor Dugald Stewart." "No, sir, I refer to Dr. Charles Stuart, a physician, who was a father to me when I was in Edinburgh, and whose kindness I can never forget." He immediately dropped his head and was silent. I then added, "Sir, this was not all. I received similar kindness from a family with which Dr. Stuart was connected by marriage, the late Dr. Erskine, of Lauriston, in the vicinity of Edinburgh." I immediately found I had awakened very tender feelings in Mr. Stuart, for I perceived his eyes suffused and the tears trickling down his cheek. The conversation having terminated with Dr. Mitchill, Mr. Stuart took me by the arm, addressing me, "Dr. Hosack, after the kind expressions which have fallen from you, I cannot but make myself known to you. I am, sir, a son of the Dr. Charles Stuart, and the grandson of Dr. Erskine, of whom you spoke with so much gratitude and feeling. Although I am a stranger in this country, and wish to pass through it unknown, my feelings would not permit me to withhold myself from you." I then exacted from him the promise of further intercourse and acquaintance with him, and of giving me an opportunity, before he left the country, to reciprocate a portion of the kindness I had received from his parents and friends, when I was similarly situated as a stranger in his native land.

Mr. Stuart afterwards visited Dr. H. at his seat at Hyde Park, upon the beauties of which he seems to dwell with peculiar pleasure, when giving way to his lively admiration of the scenery of the Hudson; which he repeatedly speaks of as "this glorious stream," "the loveliest of rivers," even after having indulged in the following animated description of its charms:

The Hudson not only contributes most essentially to the commercial prosperity and greatness of New York, but in no ordinary degree to the enjoyment of its inhabitants, and of every foreigner who is led to the United States. Where is there such a river or such scenery, not only so easily, but so luxuriously seen, so near any other capitals in the world? It is in the power of a European, on the very day of his arrival in the United States, without any exertion on his part, except a five minutes' walk from his hotel, to behold that part of this "exulting and abounding river," the sight of which is sufficient to repay him for all the annoyances attending a transatlantic voyage. I, proceeded on 28th August from New York to Albany, in the North America steamer, the most beautiful and swift of the floating palaces on the Hudson, or, as I believe I may add with truth, in the world.

The distance is 154 miles, and the scenery thro'out of the most interesting and diversified description. We feel as having seen more of the beauties of nature in one day than we have ever done before, far too much to allow us to recollect all that passed before us, or to give even a sketch of it.

The boat leaves the wharf in the very heart of the city of New York, surrounded by splendid objects; on the one side of the river, the city and bay of New-York: and on the other, at the distance of a mile and a half, the city of Jersey, projected into the river, very much as Burnt island is on the Frith of Forth, the promontory and pleasure grounds of Hoboken, and behind them the abrupt hills of the Wehawken. Those hills, which, when they approach the river, are called the Palisadoes, form in most places a precipitons wall, from 200 to 700 feet high, for about thirty miles on the western side of the river. The New-York, or eastern side, exhibits a waving outline of rich, cultivated, and undulating country, ornamented with villas, farm-houses and cottages, and bounded by sloping rising grounds.

The river itself expands into a noble bay, four or five miles wide, called the Tappan Sea, about thirty miles from New-York, at the top of which, ten miles farther on, the banks approach each other so closely, that the channel, through which the river has at a distant period forced its way by some violent convulsion, is not perceived until you almost enter it. Here we suddenly found ourselves in a narrow pass between precipitous mountain tops, rising on both sides from the water's edge to an elevation of 1200 or 1500 feet. These mountains or hills, as we should call them, are what are called the Highlands of the Hudson; and the entry to them seemed to us the most remarkable point on the river, not to be contemplated without feelings of the deepest interest. The river course continues to run in this defile among romantic hills covered with wood, sweetly inlaid with plateaus of green pasture, and of table land, for about twenty miles. The farm-houses and villages look as if they hung on the cliffs, or rose by terraces from the water edge. The river is of various breadths, from a mile and a half to two miles. The projecting rocks often force it to change its direction, so much, indeed, that you frequently appear to be sailing in a lake, from which you cannot discover an outlet.

The ocean tides carry sufficient depth of water for the largest vessels through the whole of this primitive mountain chain, exhibiting the only example yet discovered where this takes place, excepting on the St. Lawrence, which passes through a chain of primitive mountains, on a branch of which Quebec stands.

After leaving the Highlands, the banks of the river are comparatively low, 100 or 150 feet in height. The hills through which we had passed incline to the right, and do not break off until they reach the St. Lawrence. The river for sixty or seventy miles frequently opens into beautiful lakes and bays, with projecting and marked shores. Great part of this district, which is called the Valley of the Hudson, consists of good land and fine corn-fields, and is one of the richest parts of the state of New-York. The town of Newburgh on the one side, the village of Fishkill on the other, the noble terrace of Hyde Park, the Dutchess County, famed for its fertility, are all situated in the southern part of this reach. On the upper part of it, the grand range of mountains called the Catskills, about 3,000 feet high, which are a spur from the Alleghanies, and the populous city of Hudson, strikingly placed on a fine promontory, are the most prominent objects. From Hudson to Albany, about forty [30] miles, the Hudson has more the appearance of a river than below. It is here ornamented with many islands—the shores become less steep—the country rich looking, and more peopled. Villas on the banks appear more frequently in approaching Albany, the view of which, from the river, is very striking. The oldest part of the city reaches to the water's edge, but a great part of it is on a fine elevation on the face of a hill.

Whether the glorious scenery of the Hudson be superior to that of the Rhine, the Danube, or any of the European rivers, which many of the Americans who have travelled in Europe maintain, I, who have not seen the greatest of those rivers, do not pretend to say; but I am very much mistaken, if there be anywhere continuously in Great Britain, so remarkable a combination of natural beauty and romantic scenery as on the Hudson between New-York and Albany. Nowhere in the British dominions can so great a variety of interesting and pleasing objects be seen in the course of a single day. The Trosachs, though in miniature, resemble the passage through the Highlands of the Hudson, in all respects but one, the grandeur of the bounding objects.

This just tribute to the prince of streams, the "Monarch Mohegan," (why can we not retain a name so expressive of his majestic and deep flowing tide?) is afterward rendered still warmer where Mr. Stuart calls our noble stream "the most beautiful of all beautiful rivers—admired the more the oftener seen." The craft which navigate its waters are thus described:—

The sailing vessels on the Hudson are extremely beautiful in form. They have no foresail, merely a jib and main sheet, bleached as white as a table cloth by the sun. The Americans may perhaps with some justice be accused of want of taste, in the sense in which the British generally understand the term.—But I suspect that in naval architecture, in the form of their ships, and boats of all descriptions, in their adaptation for sailing with speed, and their clean and handsome appearance, we ought to admit that they excel all other nations.

The fine eye which our author has for the beauties of Nature is already sufficiently apparent from the above extracts. But while gratified with descriptions from such a source, like that which follows, a degree of mortification arises in one's bosom to think that of those who pass their lives amid such scenes how few have the sense to appreciate or the taste to enjoy them:—

The shores of Staten Island are finely indented, and sprinkled with the white, clean looking villas of this country. The island rises quickly to a considerable height, containing an area of about fifty-two square miles.

The quarantine establishment and the adjoining village are pictures of cleanness, all painted of a bright white. The houses, hotels, &c. generally disjoined, and many of them enclosed in small gardens. The whole buildings are situated on a bank gently rising from the shore, and overhanging a beautiful bay below, in which there were some large ships, as well as a few of the elegant sailing craft, with which the bay of New York is always adorned. Behind the village the ground becomes abrupt, to a point at which a building is erected called the Pavilion, expressly on account of the splendor of the view, the top of which is, I should think, nearly 250 feet above the sea, consisting of handsome saloons, with balconies, piazzas, &c. on all sides, and a lookout place from the summit, from which the prospect is most glorious. I have never been more delighted with any of the prospects of this description which have charmed me most, on the Frith of Forth, the Clyde, the Bay of Dublin, or in the Isle of Wight.—I cannot help doubting whether there be a more magnificent prospect in the world. All the features which it contains are beautiful, and many of them splendid. Then the moving ships, pilot boats, and small craft, never allow the view of the water to be for two moments the same.

The view comprehends half a dozen friths, dividing by marked headlands, tracts of well-wooded and waving country; and it embraces not only the city of New York, surrounded with a vast mass of shipping, but the city of New-Jersey, projected into the bay, quite as much as Burnt Island is into the Frith of Forth, as well as the village of Newark. The cities lie too low, but they serve to convince the beholder that he is in the heart of a densely peopled country. Peninsulas, promontories, islands, isthmuses, land, in a variety of shapes, lie before him, and beyond all, the boundless Atlantic. New York, the magnificent Hudson, the Frith of Newark, and lands and hills of

Jersey are on the north; Long Island and its sound, the Narrows, and the Quarantine Ground, with the Atlantic, on the east, and the coast of New Jersey, Raritan Bay, Sandyhook, and the Atlantic, to the south; the whole forming a noble prospect in the heart of as rich looking a country as is in the world.

The opinions here expressed are elsewhere repeated with the same comparison in describing the approach to New-York:—

I had heard much of the beauty of the approach to New York from the sea, but the reality altogether exceeded my expectation. It is undoubtedly one of the most magnificent scenes in the world. I know of no more happy disposition of land and water, nor such variety of marked and pleasing features any where on the shores or rivers of the British Islands. Neither the Bay of Dublin, nor the Isle of Wight, nor the Frith of Forth, or Clyde, presents the works of nature on a grander scale, or in more varied and interesting aspects. That boldness of character which lofty hills and mountains produce is alone wanting. The hills which bound the prospect in three or four directions are no where above four or five hundred feet in height.

Within Sandy hook, the channel passes through the outer harbor of New Yark, called Raritan Bay, from one of the great rivers, which discharges itself into it. The bay is skirted by Long Island, and by the shores of New Jersey and Staten Island. About five miles from New York, Long Island and Staten Island approach each other within less than a mile, forming a strait, called the Narrows, from the northern part of which the sea view is splendid, commanding the harbor, or inner bay of New York, above twenty miles in circumference, with its islands and indented shores; and above all, in the centre of the bay, the Island of Manhattan, on the nearest or southern part of which is placed the city of New York, surrounded by its shipping. Half a dozen rivers, which in other countries we should call arms of the sea, viz. the Hudson, navigable for about 180 miles, the Raritan, Long Island Sound, the Passaic, the Hackensack, pour their waters into these bays, the shores of which, and of the Islands, are covered with ornamented villas and orchards. The sun was setting as we darted through the inner bay, decorated with the lightest and most graceful description of sailing boats we had ever seen; it had just set when our voyage was completed. The feelings of all the passengers, even of those to whom it was not new, were highly excited by such an exhibition of the beauties of nature, in such an evening, and at the most favorable moment for enjoying it. Words cannot express the delight with which a picture like this is seen by those who understand it.

The most partial burgher will be content with what Mr. Stuart says of the city itself.

We have now spent four days in the city, endeavoring to see those objects that are pointed out as best worthy of a traveller's attention; but the weather continues so exceedingly sultry, that we are resolved to discontinue the necessary exertion, and to set out, without delay, on a tour to the northern part of the state of New York, and to the Falls of Niagara. I must content myself, therefore, at present, with noticing what struck us as most remarkable, or as differing most from what we had been accustomed to see, in our perigrinations through the metropolis of the New World. Its situation has been most happily chosen; in nearly the most central position on the shores of this great continent, with a harbor safe and deep, and of unlimited capacity, comprehending, as it does, the mouth of the Hudson itself; unrivalled in its facilities of intercourse with the interior parts of the country, not merely by means of its sounds and rivers, but by its recently constructed canals, which, through the exertions of the late governor of this state, De Witt Clinton, were completed and brought into full operation three years ago. The Erie canal, which will immortalize the name of Clinton, begins at that point in the river Hudson, about 160 miles to the northward of New York, where the river becomes no longer navigable for vessels of great size. The canal is above 360 miles long, communicating with Lake Erie, which is elevated 568 feet above the Hudson at low water, and, of course with Lakes Huron, Michigan and Superior, the most extensive repository of fresh water on the globe. The successful execution of this great work has led to splendid continuations of the system of water communication, especially to the canal, now far advanced, from Lake Erie to the Ohio, which continues the internal navigation from New York to the Ohio, Missouri, and Mississippi, and, of course to Pittsburgh, Cincinnati, St. Louis, New Orleans, and the Gulf of Mexico—a length of internal water communication unparalleled in the world.

Our readers have already perceived from these quotations, if indeed they were not already familiar with the fact from the notices of this work in the British periodicals, that Mr. Stuart is a traveller of a very different complexion from the Fearons, Halls, and Trolloppes who have hitherto visited this country. Nothing, indeed, can be more liberal and gentlemanlike than the general tone of his work. His perception of the moral and political fitness of things, so to speak, being as unbiassed and discriminating as his views of the natural beauties of the country. Errors of course there are in his work, as there must be in the observations of every foreigner, commenting upon the customs of a strange country, and accumulating as many facts as possible in regard to it. His mistakes, however, are very few, considering the great quantity of actual information embraced in the two volumes before us; while, as in the following extract there are not a few passages wherein Mr. Stuart gives us credit for qualities which, if we do possess, can hardly be claimed, at least in the degree to which he ascribes them to us. In speaking of the effect of money and office, for instance, he says:

In the United States, the slightest assumption of superiority over a person conceived to be lower merely in point of station or wealth is not tolerated.—Superiority is yielded to men of acknowled talent alone. New York would be in a fever of joy were Mr. Clay, a man certainly of the first talents as a statesman in America, though at present unemployed and in retirement, to appear there; but the richest man in the United States,—such as Mr. Girard, who died lately at Philadelphia worth many millions,—thongh he appeared with as great a display of wealth as George the Fourth at his coronation, would command no respect or attention whatever.

The first part of this paragraph seems almost like broad satire in this political year 57: and for a comment upon the last sentence we would refer the reader to an admirable article in a back nnmber of the New England Magaziue upon the incense that was offered up throughout the country to the gilded name of Girard, when the decease of the rich banker had made the extent of his wealth fully known. As to the "superiority which is yielded to men of acknowledged talent alone," the concession, we apprehend, is hardly made from intellectual considerations. It is that in a country like ours, where the paths of wealth and distinction are alike open to all, talent is both power and capital. But it must be practical talent, such as can be brought to bear in the actual concerns of life, and made a productive, if not a marketable commodity. It is estimated by its fruits, and not by its flowers; not by its possessor delighting a private circle, or shining in a public address; but by his getting heavy damages in a case of trespass, or carrying his county in the teeth of an opposition. And it is perhaps right that it should be so; for though we are far from being thorough utilitarians, we do believe that in a country like ours, where the ferment of a newly formed society so often sends the scum to the surface, or where, in other words, so much pretension of all kinds, like light people in a crowd, gets boosted (the word is only in Webster, but it is a good one) above the backs of others, the *reductio ad utilitatem* (what is he good for, what will it bring) is the safest of all tests to be applied, alike to windy speeches and puffed up assumption. But to return to Mr. Stuart, who thus winds up his observations upon the general condition of society in the United States:

There are, it is true, many accomplished and poished persons, in the best sense of the word, in the United States; but their number is infinitely smaller in reference to the population than in Great Britain. In this admission, I of course neither allude nor mean to allude to that class of persons whose mode of life I have already attempted to describe, who acquire artificial habits, and pass through life alike useless to themselves and to the world. They are objects of pity in all countries. Our boasting, however, must be carried no farther than to the class of the highly educated, accomplished, and refined; for the great mass of the people of the United States are so much better educated, so much better informed, and possess so much better manners, so much more self possession and ease, that it is absolutely ludicrous to compare the people of Great Britain with whom in those respects.

It will easily be perceived, from this light examination of its contents, that Mr. Stuart's book will do more to remove with foreigners the load of misrepresentation that has been heaped upon the country, than all the vindictive replies that could possibly be hurled from this side of the Atlantic, upon our offending brethren over the way. But would that it could do more—would that it could give our countrymen that quiet appreciation—that assured and firm conviction of the blessings of the land they live in, and of the value of that constitution which makes that land half what it is, which would make them look only at home—within the bosom of their own country—for their feelings of satisfaction and just complacency. And not like a child, who values a toy by the estimation which is put upon it by other children—or a giddy girl, that prizes the attentions of her admirers in proportion as they rise and fall in the opinion of strangers—be looking forever abroad for some one to pat us on the back and tell us what a decent people we are, and what a clever country we live in. In taking leave of Mr. Stuart's book, we regret not being able to speak as warmly of it in a literary point of view as the liberal and intelligent character of its author would dispose us. It is hardly fair, however, to apply any severe standard of criticism to the style of a work which is confessedly a mere compilation of notes made upon the spot, and afterwards collected for the purpose only of disseminating useful information and not with any aim at literary distinction. *

The Protestant Episcopal Pulpit.—This excellent design of giving a series of original sermons by living preachers in a cheap form, appears to flourish, as it ought, by the publication having in the number before us, reached the 5th number of the 3d volume.

Frankenstein, or the Modern Prometheus; by Mrs. Shelley; 2 vols.: *Philadelphia*, Carey, Lea & Blanchard.—This strange and powerfully written story is one of the most original (some may say absurd) conceptions that ever entered the brain of a writer of fiction. The story is briefly this: Frankenstein, a young and ardent Genoese student, after pursuing the branches of chemistry and anatomy with great zeal and success, conceives the extravagant idea of forming, by the aid of those two sciences, an animated creature in his own form—a human being like himself. For this end, he passes his days in the labaratory and his nights in charnel houses, resolving the various forms of animal matter into its elements, and watching the gradual transition of decaying mortality as it passes through every loathsome shape into its original dust. At last, after consuming months in examining and analyzing all the minutiæ of causation as exemplified in the change from life to death and from death to life, his skill in each branch of natural philosophy that relates to physiology enables Frankenstein with incredible labor and fatigue to discover the cause of generation and life. But instead of pausing here, and resting contented with his stupendous discovery, although his health is already broken by extreme devotion to his terrible studies, he at once sets his mechanical contrivance to work to construct a frame, upon which to hang his wonderful discovery—to form a body in which to place the vitality he was able to call into being. The intricacies and complexities of the human system in men of the ordinary mould, are too minute for him to attempt at once a creature of the common scale; and he therefore proceeds to form

lifeless matter into a gigantic shape, and bestow animation upon the monster as it grows to life beneath his hands. The result of his unhallowed labors is a terrific looking creature, whose exaggerated features though embued with life preserve all the disgusting peculiarities of the separate corpses from which they are formed. His watery eyes roll in their dim white sockets, and his black lips quiver in frightful relief to his ghastly complexion; and Frankenstein shrinks from the monster he had so rashly called into being, as it stands erect in its unearthly proportions glowering upon the daring mortal that had caused its existence. He rushes from his apartment as the gigantic creature, whom it would be vain to contend with, attempts to detain him; but after being long withheld by mingled fear and horror from returning to the chamber where he had left his hideous creation, he can find no vestige by which to trace its departure, and he remains filled with ominous thoughts as to his destiny being involved for the future with that of the demonaical corpse to which he had given life. And now comes the most horrible part of the story: this fearfully uncouth creature, though gifted with several noble instincts, is repulsed in all his efforts to excite the sympathy of the beings in whose shape he had been formed. He is treated like a monster, and after being hunted down like a wild beast, becomes at last a fiend in earnest, and enters upon a career of outrages upon mankind, which, after destroying all the kindred of Frankenstein, results at last in the death of both.

Such is the outline of this fearful story, the relation of which, if not occasionally almost impious, certainly trenches at times upon what most men regard as hallowed: but as for the ultimate moral of the tale, we confess ourselves unable to discover that it is of the baneful character represented by some of the British critics. Frankenstein might be well taken to represent those rash individuals who, from having successfully explored a few of the most mysterious paths of knowledge, would carry their presumptuous ken through that veil which is at last interposed between the Creator and the creature; while the hideous result of his daring and ingenious labors, in its horrible departure from the physical and moral perfection he aimed at, represents how impossible it is for finite minds, in conceiving a better order of creation than that of which we form a part, to grasp each contingency that must have entered into the mind of an infinite Being, when he called us into existence. We have, however, given so much room already to Frankenstein, that it must now be left for more thoughtful heads to make their own deductions from the story, which, for those who like once in a while to 'sup on horrors,' is delightfully demoniac. *

Zohrab the Hostage: 2 vols. Harpers.—They who have dwelt with pleasure upon the entertaining and instructive pages of the ingenious Mr. Morier's Hajii Baba, will hardly find their expectations disappointed in the work before us, if a passing examination of its contents privileges us to form an opinion of them. The scenes and characters appear to be in the same excellent keeping as in the previous admirable Eastern story of the author.

FOREIGN INTELLIGENCE.

The foreign news by the Poland from Havre, and by the Britannia, since arrived from Liverpool with papers to the 17th ult. is more interesting than usual.

In the East, difficulties appear to multiply; and France and England both seem not a little embarrassed by their voluntary interposition to check the victorious march of the Egyptians.

The Belgian question recedes rather than advances—King William becoming more difficult just in proportion as the powers of the North seem less solicitous to keep up friendly appearances with France. Count *d'Appony*, long the Austrian Ambassador in France, has left Paris, and is, it is said, to be replaced merely by a *Chargé d'Affaires*. Russia it was rumored was to take a similar step; and in both, the substitution of an inferior for a superior diplomatic agent, was looked upon as a *quasi* ruptnre with the Revolution of July.

Paris was agitated by the trial, before the Chamber of Deputies, of the Editor of the Tribune, for a contempt of that body. All the guards were doubled on the day of the trial, 15th April, and every precaution taken to suppress any disturbances. None occurred; and the *National* and other liberal papers argue, reasonably enough as it seems to us, that all this parade of power and affected apprehension of revolt, were mere manœuvres of the Police—in order to have an excuse for arbitrary measures. Of the members of the Chamber, 69—among whom were General Lafayette and his son—refused to take part in the proceedings against *M. Lionne*, the Editor of the Tribune, deeming them unconstitutional.

The movement at Frankfort on 3d April would seem to have been connected with some extended scheme of insurrection among the smaller German States—and the departure from their assigned stations of several hundred Polish refugees in France, who marched for the disturbed districts, is supposed to have been connected with the plan. The premature explosion at Frankfort will probably defeat the whole scheme.

In English affairs we do not find any thing new. The Proclamation of Lord Anglesea, of which we heard by the way of Ireland some days ago, suppressing the Irish Volunteers, is given in the papers. It is of the same general tenor as that heretofore published, proclaiming Kilkenny as under the operation of the coercing act.

We find nothing authentic as to rumored change in the English Ministry. Cobbett, who proposed his son—upon the hereditary principle, we presume, which he has so long combatted in others—as a member for Coventry, had suffered a signal and deserved defeat. The ministerial candidate was chosen by a great majority.

From Portugal nothing new

We learn from Madrid, says the Journal des Debats, that the decrees issued to convoke the Cortes in order to swear allegiance to the daughter of the King as heiress of the throne, on the 20th of next June, has produced an excellent effect among the true friends of the Queen and the Monarchy. This resolution, and the news that government has received from all points, announce the most perfect tranquility in the provinces.

Later from Europe.—The *Napoleon* packet ship from Liverpool brings us papers to the 24th ultimo. The position of public affairs remains much as described above. From Constantinople, the accounts are contradictory as to the designs of the Porte. On the one hand, it is said the Sultan has agreed to treat with his rebellious and victorious vassal, upon the basis laid down by the conqueror; on the other, it is alleged, that urgent expresses had been sent off to hurry the march of a Russian army to defend Constantinople from Ibrahim. If the latter be the true version, England and France, neither of which powers has in the Levant or in the Dardanelles a force sufficient to give efficacy to their protests against the armed intervention of Russia,—will be made sensible of the mortifying disadvantage of relying on protocols against bayonets and hordes of Cossacks on the spot.

The *free?* city of Frankfort, as was to be expected, has been *tranquillized*, after its popular tumults, by an Austrian detachment marching into the city to keep the peace.

M. Lionne, the Editor of the Tribune, had been sentenced to three years' imprisonment, and a fine of 10,000 francs—($2,000.) The sentence was carried into effect without any tumult.

The Belgian question is anew discussing.

Another coercing Proclamation, No. 3. by the Lord Lieutenant of Ireland, suppressing the National Trade's Political Union, appears in the London papers.

The Budget for the year ending April, 1834, was brought forward in the British House of Commons on the 19th. The receipts of the year are estimated at 46,494,128*l.*, and the expenditures at 44,922,219*l.* Of the expenditure, 30,300,000*l.* is for interest, &c., on the national debt. The Chancellor of the Exchequer recommends a reduction in the salaries of various officers, and a reduction of duties on the following articles:

1. Tiles—whole duty,	£37,000
2. Marine insurance—estimated diminution,	100,000
3. Advertisements—ditto,	75,000
4. Assessed taxes—reduction of house and window duty on shops,	244,000
5. Cotton—reduction of additional duty imposed in 1831,	300,000
6. Soap—half present duty,	593,000
	£1,349,000

The present duty on advertisements is 3s. 6d., which it is proposed to reduce to 2s. 6d. for the first insertion, 1s. 6d. for the second, and 1s. for the third. The duty on marine insurance it is proposed to reduce about one half.

It is stated in a French paper, that the French Navy Department intend to substitute, in the Government ships, *iron wire* ropes for the usual cordage in the rigging; and that this change will effect an annual saving to the amount of 300 or 400,000 francs.

Emancipation of Slaves in the West Indies.—Mr. Stanley, the newly appointed Secretary for the Colonies, in an address to his constituents on his re-election to the House of Commons from the Northern Division of Lancashire, after taking office, held the following language—which from his official station, will be looked to with much interest:—

But there was one question connected with the colonial system, one of such paramount importance—that he could not avoid reverting to it. If he felt upon a late occasion that, as a Minister of the Crown, it was impossible he could enter distinctly into the views of Government upon the question of slavery, that impossibility was now stronger and more urgent when he was himself the Minister upon whom the task would devolve of proposing to Parliament, in a very short space of time, the measures which his Majesty's Government had in contemplation on this most critical and all-important subject. There was no question which involved so many interests of such magnitude—no question in which those whose interests were affected were in a state of such great fear and difficulty. And on the other hand there was no question in which the interests of humanity, the enthusiasm of religious feeling, and all the generous and manly feelings of Englishmen were more earnestly and anxiously embarked for the purpose of bringing it to a speedy and satisfactory conclusion. (Loud cheers.) Between these fears on the one hand, and these trembling interests on the other—these alarms on the score of property, and these fears of men who have been long in a state of difficulty, and who, therefore, dread any thing that may add to the pressure under which they suffer, and who have such an alarm at any attempt to arrange this great question; between all these numerous difficulties it will be admitted that it was hard for Government to steer a satisfactory course. But he thought that notwithstanding these difficulties, by applying themselves esrnestly to the consideration of this question, with an anxious desire to do justice, and to promote the interests of humanity, he would soon be enabled to propose a measure to Parliament which would be, in the words of his Noble Friend, the Chancellor of the Exchequer, safe and satisfactory. (Loud and continued cheering. He said safe and satisfactory; and he would add, that in his opinion no measure could be safe and satisfactory which was not founded upon principles of equity and justice—which did not carry with it something of a decisive and positive character, which would be acceptable and lasting, and which would enable him to say that it would not be a matter of probability, but of *certainty* to the people of England, that in a short time, sooner or

later, they would see a termination given to the disgrace of negro slavery. (Loud cheers.) In so speaking, he only expressed what had been the object so long and so fondly cherished by the people of these countries—what Parliament had been pledged to accomplish by resolutions for many years; although he was free to say that he did not think these resolutions had been carried into effect so rapidly, and, he would add also, so safely as they might have been, had determined measures been earlier resolved upon and adopted. While the Government, therefore, was bound to look with vigilant care to the interests of parties deeply concerned, they were also called upon to be most anxious in their desire to accomplish the earnest wishes and feelings of the people of this country—feelings which were not more reconcilable to the interests of England than to the dictates of humanity. (Great cheering.)

LONDON, April 18.—*American Stocks.*—Our advices are to the 18th, at which period United States Bank Stock had risen to £23 5s. which is an advance of five shillings from the previous dates by the Britannia. The rate with Exchange at 9 per cent. is about 112¾.

Ohio 5 per Cent.	1850	
—— 6 per Cent.	1850	114
Louisiana State Loan		
" " "	1844	105 105½
" " "	1847	
" " "	1850	
" " "	1852	
Louisiana Barings	1833	98½
" "	1838	
" "	1843	
Philad. City 5 per Cent.	1846	
Mississippi 6 per Cent.	1841	108
" "	1846	
" "	1851	
" "	1856	
U. S. Bank Shares	£23 a £23 5s.	

Dividends from 1st January.

VERY LATE FROM BERMUDA.—By the schooner Brilliant, Capt. Bronson, we have received Bermuda papers of the 21st inst, only seven days from that Island. They state that reports had reached there that an insurrection had broken out amongst the Negros in Demarara.

A Portuguese Slaver with 230 slaves had been cast away at Jamaica. Slaves all safe ashore under the protection of government.

A letter from the interior of Jamaica, dated 19 April, says the weather had been dreadful, the crop will not be half an average one. Negro grounds burnt up—not a spear of grass.

[*From the Salem Gazette of Tuesday.*]

CAPTURE OF MOCHA.—We have been favored with the following extract of a letter from the captain of the ship Restitution, of this port, to John Forrester, Esq. his owner:

"MOCHA, JAN. 20, 1833.—A Turkish army, under Belmas, after taking Judda and the other ports on the Red Sea, attacked Mocha on the 19th November, and after a bombardment of 15 days the place surrendered. The Bashaw has treated me very kindly, ever since he has been here, and tried to forward my business as much as possible. He is about raising the duty on all foreign ships to seven per cent. the same as the Arabs pay, which will be of much consequence to the American trade. The whole seacoast is in possession of the Bashaw Belmas, from Judda to Adin; but the country is in a very unsettled state, and it is reported that the king of Sannah is raising a large force to endeavor to retake his possessions. Coffee is scarce and high."

SUMMARY.

TREATY WITH RUSSIA.—The Globe of Saturday contains the treaty at length, concluded in December last with Russia. The treaty contains thirteen original articles, and one separate one. From the Baltimore American we take the following synopsis of their provisions:

The first article establishes a reciprocal liberty of commerce, navigation and trade—extending to the inhabitants of each State sojourning or trading in the territories of the other, the same security and protection enjoyed by natives, on condition of obedience to the laws.

The second article places the vessels of both countries in the same port on an equality as to tonnage duties. In regard to light-house duties, pilotage, custom house fees, port charges, and all other fees and charges of every description and for every purpose, they are to be placed on the footing of the most favoraed nations, with whom there are not specific treaties on the subject now in force establishing a complete reciprocity.

The third article abolishes discriminating duties on importations, and stipulates that no greater charge of any kind whatsoever shall be levied on merchandize, &c. imported in the vessels of one country than on the other. By the next article it is explained that these stipulations in both cases, apply as well to arrivals in either country, from ports foreign to both, as to direct voyages.

The same reciprocal stipulations for abolishing discriminating duties are by the fifth article extended to exports from both countries.

The sixth and seventh articles provide that no higher duties shall be paid on importations or exportations of the produce or manufactures of either country to or from the other, than are paid on like articles from or to any other foreign country. None of these stipulations relate to coastwise navigation:—that is expressely excepted and reserved to both nations.

By the eighth and 9th articles the liberty is reserved to each country to appoint consuls, vice consuls, agents, &c. with the privileges of the same officers of the most favored nations,—they being liable, if engaged in commerce, to the laws and usages established for native merchants. They may act, too, without the interference of the local authorities, except when the public peace is endangered, or assistance is required to carry their decision into effect. The parties to controversies before them are not thereby restrained in their judicial remedies at home, for acts done under this authority. Consuls, &c. may require the aid of the local authorities for the arrest, &c. of deserters. Demand, in such case, must be accompanied by written evidence of the claim upon the deserter, and the exhibition of proper official documents. Deserters may be placed by the consuls, &c. in the public prisons, at the cost of those claiming them, until delivered to the claimant, or sent home by another vessel. *Four months* without being sent home, is the limitation of this confinement, after which the prisoner, unless detained for crimes, shall be unconditionally discharged, and not subject to arrest again for the same cause.

The tenth article grants to alien residents in both countries the right of disposing of personal estate by will—their alien representatives to inherit and take possession personally or by deputy, without any other charges, duties or obstructions than are imposed on native heirs;—the same laws of intestacy and administration to apply in the absence of the alien heir. The *lex loci* and domestic courts are to decide the rule of descent and apportionment. In cases of *real* estate, an alien heir shall be allowed a reasonable time to sell and withdraw the proceeds, without paying any extra charges or dues. It is provided that this article does not derogate from the existing Russian laws against emigration.

By the eleventh article it is agreed, that if either party shall, hereafter, grant to any other nation, any particular favor in navigation or commerce, it shall, immediately, become common to the other party, freely, where it is freely granted to such other nation, or on yielding the same compensation, when the grant is conditional.

The closing articles extend the force of the treaty to Poland, and fix its duration to the year 1839, provided one year's notice of intention to abolish shall have been given at that date, or until one year after such previous notice shall have been given thereafter.

The separate article for the purpose of removing all ambiguity and subjects of discussion from their commercial relations, explains that the existing civil regulations between Russia and Sweden, Russia and Prussia, the Grand Dutchy of Finland and Poland,—which are now in force, but which "are in no manner connected with the existing regulations for foreign commerce in general,"—are not to be affected by this treaty.

THE BALLOON ASCENSION of Mr. Durant, on Wednesday last, was very striking and successful, tho' the enjoyment of the sight was rapid indeed. The balloon, in a few seconds after it sprang from the earth, was hidden in the clouds, which were low and dense, and nothing more was seen of the aerial traveller. The wind being from the southward and eastward, it was perceived that the balloon would be necessarily driven over into Jersey, or up the North River; and hence less anxiety was felt for the unseen vessel and its daring navigator, than if the wind had been seaward.

We have just had a visit from Mr. Durant, who reports that he landed safely and without accident in an open field, in the manor of Fordham, in Westchester county, on the farm of W. R. Morris, in about an hour and a quarter from the time of his departure from Castle Garden.

His rise, he says, was very rapid, but he soon passed through the stratum of clouds in which the balloon was so immediately lost to the spectators below, and then found himself in a clear region of sunshine, with a boundless ocean of fog beneath him.—The balloon continued to rise with great rapidity, till, as Mr. D. estimates, he had attained the height of about 16 or 17,000 feet, (three miles). His whole attention, however, being required to the means requisite to arrest the upward progress of his rapid bark, he could not ascertain by his barometer the precise height. When in the clear region, a northerly breeze wafted him towards the ocean, and just as he descended and touched the upper surface of the clouds again, he distinctly heard the roaring of the surf.—After entering the clouds a southeaster drove him back, and he continued gradually lowering himself to the earth, till in about 35 minutes from the time when he heard the ocean roar, he landed—nothing loath we may suppose—on terra firma, in Westchester, about thirty miles, we may presume, in a straight line, from the sea. He was assisted in securing his balloon by two or three black men at work in the fields—and returned to town, himself and his ship of the air, unharmed.

THE GUARDIAN INSURANCE COMPANY.—We understand (says the Gazette) that nearly three times the amount of Stock in this new Company was subscribed for on Monday. The charter requires that the commissioners shall make an apportionment of the Stock among the subscribers.

We understand, (says the Commercial) that the Commissioners for supplying our city with water, have appointed Canvass White, Esq. and Professor D. B. Douglass, Professors of Civil Engineering in the University of New York, to make the requisite surveys and examinations.

We find the following statement in the Brooklyn (L. I.) Star:

COMMODORE CHAUNCEY.—We understand that Commodore Chauncey, who has had for some years the command of the Navy Yard attached to this village, has been appointed a Navy Commissioner, and that Commodore Ridgely will succeed him in command of the Yard.

It is but justice to Commodore Chauncey to say, that his uniform courtesy as a citizen of this village, and his zeal and activity in the duties of his station have given him a high place in the estimation of the people of Brooklyn. We trust that his successor will be able to supply his place in all the qualifications of an officer and gentleman.

BENJAMIN GORHAM was nominated on Monday a candidate for Congress from Boston. He will, we hope, no longer decline—for there have been already two unsuccessful attempts at an election. His name will at once bring out sufficient strength to elect him triumphantly.

In a Philadelphia paper, we find the following *on dits.*

"John Randolph's property, left by him to his heirs, is immense, probably amounting nearly to a *million of dollars*, in tobacco plantations on the Roanoke, negroes, race horses, dogs, bank stock, &c. It is all left to his half sister and two half brothers, whose names are Tucker. His plantation on the Roanoke is one of the finest in that country.

"John Randolph was born on the 2d June, 1773—he was, therefore, at the time of his death, 59 years, 11 months and 21 days old. His coffin bore the date of his birth day."

CHOLERA AT NEW ORLEANS.—The Price Current of the 11th May, instant, says—

"Much has been said and written on the subject of Cholera, &c., since our last report—as far as our information extends, we have learned nothing new on the subject; occasionally persons are attacked, and some die with what is called Cholera, but there does not appear to be any new causes of alarm, and generally, the attention of the community is not at all occupied with the subject."

Bishop Mc Ilvaine, before entering upon his duties in the diocess of Ohio, has made a tour into the eastern states, with a view of collecting funds to aid Kenyon College, of which institution he is ex-officio president. He has been eminently successful; all denominations of christians appear to encourage and reward his exertions, and on one occasion he received $200 from two Jews.—[U. S. Gazette.]

BUFFALO, MAY 22.—A detachment of recruits, about 90 in number, under the command of Captain Barnum, arrived here at sunset last evening from Fort Niagara, having marched from sunrise 26 miles to Tonawanta, where they embarked on board of canal boats. They are destined for the posts of Fort Howard, Fort Dearborn, and Fort Brady, and left this morning in the Sheldon Thompson.

The indictment against the Mayor and Aldermen of Boston, for having made a false return of votes at a recent election. was tried on Monday, and a verdict of *not guilty* was promptly rendered by the Jury.

THE NEW YORKER.—Mr. William T. Porter, the Editor of this new weekly, has, for reasons which must be satisfactory to those interested in it on his account, retired from the editorial conduct of that paper.

[*From the Boston Centinel of Friday.*]

PUBLIC SALE OF WOOL AT BOSTON.—The sale of Wool which took place yesterday, at Quincy Hall, brought together a very large company, consisting of manufacturers from this and the adjoining States, and most of the principal dealers, of other cities.—The Catalogue contained over 100,000 lbs. of fleece Wool of very desirable qualities; 70,000 lbs. Nos. 1 and 2, pulled; 15,000 lbs. imported Saxony; 40,000 lbs. Spanish sheep's and lamb's; 500 bales Buenos Ayres and Montevedio; 200 bales washed and unwashed Smyrna; besides several smaller parcels of coarse Foreign Wool. Notwithstanding, the sale was fully attended, and the Wool advertised, was of the most desirable kinds; there was but little spirit manifested, and only a very small portion of the Wool was disposed of, prices considerably below the expectations of owners. We notice the following as the principal sales which were made, viz: 12,000lbs. fleeces, from 1-2 to 3-4 blood Merino, 43 a 45ct; 3,000 lbs 3-4, to full blood Merinos 53ct; 10,000lbs selected full blood Merino and Saxony fleeces 62 1-2 ct; 3,400 lbs very good No. 2, pulled Lamb's at 41ct; 18,000 lbs No. 1, pulled, at 44 a 48ct; 2,500 lbs imported Saxony 80ct; 5,600 lbs do do 106 1-2ct; 4,500 do do 130ct; 15 bales Spanish Sheep's R. at 85 a 87ct; 5 bales do do R. R. inferior, 77 1-2ct; 5 bales Spanish Lamb's at 77ct; 20 do do at 80ct; 1 bale Saxony Lamb's 93ct; 10 bales unwashed Smyrna 18ct; 10 do do, very dirty 12ct; 10 bales washed Barbary Wool 26ct; 300 bales fair Buenos Ayres 9 a 11 1-2ct; 8 do do, very inferior, at 5 1-2ct; —10 bales Constantinople limed at 16ct; 27 bales Mohair 44 a 48ct. The low prices, in general, which were obtained, may be attributed mainly to the fact, that shearing is near at hand, at which it is expected there will be an unusually large clip.

Appointment by the President.

William Mills, of Maryland, to be Consular Commercial Agent of the United States at Aux Cayes, St. Domingo, in the place of Joshua Webb, resigned.

Great Pedestrian feat.—Last week, Lieut. Johnson, of the 66th Regt, British Army, undertook for a wager of £100, to walk from Fort George, U. C. to the Eagle Tavern, in this City, and return, a total distance of seventy-two miles, in *eighteen* hours; which feat was performed by him in *seventeen* hours, with apparent ease. including crossing the Niagara River from Waterloo to Black Rock. The day was very hot and sultry, and the roads were much broken up by the previous heavy rains.—[Buffalo Patriot of 21st.]

Emigrants.—The Rev. Mr. Plummer, from Virginia, in addressing the American Home Missionary Society at its anniversary last week, remarked incidentally that during the last few years twenty thousand Swiss and Belgian emigrants had settled upon lands in Virginia and Maryland, which had been supposed to be worn and almost worthless, but which, under their cultivation had been made as productive as the good lands of the West. In consequence of this, lands had risen in value and industry had received a new impulse.

CHEROKEE, (Geo.) MAY 4.—*A Battle.*—On Sunday, 27th April last, a battle was fought near Scudder's, in Forsyth county, between a party of Indians and a party of Whites, consisting of 30 on each side. Their weapons of warfare consisted of fists, sticks and stones. There were no lives lost, but many a black eye and broken bone was the result of the conflict. Mr. Luke Robinson, from whom we obtained this intelligence, was present at the scene, and described it as being very terrific. We regret that Mr. Robinson was in such a great hurry, that we had not sufficient time to inquire into the particulars. The victory was claimed by the whites—and we presume the quarrel originated in a dispute about the gold mines of that place.—[C. Intel.]

Shipwreck.—We are indebted to Mr. Alden Spooner of Brooklyn for the following intelligence, which he received from the stage driver. The British ship James Henry Cuming from Liverpool, came ashore at Patchoque, south side of Long Island, on Tuesday at 3 P. M. in a fog. She has 149 passengers, and a cargo of slate and salt. A boat coming ashore was upset and two ladies drowned; the remainder of the crew and passengers got safe ashore.—[D. Adv.]

Another Suicide.—We learn from the papers of Westmoreland County, that on the morning of the 13th, Gen. John H. Wise, in a fit of insanity, terminated his life by strangling himself with the aid of his suspenders, in a room in the jail of that county. He had been in a deranged state of mind for some time previous, from an unknown cause, and was confined in the jail, at his own particular request—having reflection, by times, sufficient to deprecate the commission, if at liberty, at some unguarded moment, of a rash act.—[Phila. Gaz.]

The death of one of the Swans, in the Fair Mount fore-bay, we learn, was caused by the bird's swallowing a darning needle. The body has been preserved, but it is more than probable that the male will pine itself to death, for the loss of its companion. It is very likely it swallowed the needle encased in an apple core, thrown to it by some heartless villain.—[Philadelphia paper.]

The United States Gazette furnishes the following characteristic anecdote of a Sailor, who visited the Blind Fair, lately held in Boston:

The accomplished Mrs O. was attracting all eyes to her table, when a sailor bore down towards her, with strong symptoms of becoming a purchaser of some of the rich articles before her. He drew from his pocket a ten dollar note, and after looking steadfastly upon the lady, he laid the money on the table, and was about to withdraw—"Will you not take some article for your money," said Mrs. O. to him. The honest fellow turned again towards her, and *looked*—then with an expressive hitch, he sheered off, saying "no, *I've had my money's worth.*"

Encounter with a Whale.—The Middletown Gazette furnishes the following case of remarkable presence of mind of the master of a whale ship, when in a situation of the most imminent peril:—

Captain Chester, of the whaling ship Ann Maria, of this place, on her late voyage round the East Cape, met with the following adventure. One of his boats having fastened to a whale, as is customary, a second boat, in which was Captain Chester, approached and drove a second dart into the monster. In his rage and agony, the whale rushed with great rapidity through the water, when the rope attached to the harpoon caught Captain C. round his leg, above the ancle, and drew him overboard. At this critical moment he seized a knife, sticking in the gunwhale of the boat, and thus armed, was drawn under water.—The rope soon made a turn round his body. In this situation, moving rapidly down, he first cut that part of the rope around his body, then cut the rope fastened to his leg. Being thus relieved, he rose to the top of the water and raised his hand, grasping the knife. Some distance from the boat he was discovered by the crew, who hastened to his rescue, and took him on board, almost exhausted. He was drawn down about thirty fathoms. The Captain is now well and preparing for another voyage, nothing daunted by his adventure.

[*From the Albany Daily Advertiser.*]

MRS. BRADSTREET'S SUITS.—At the United States Circuit Court for the Northern District of New York, Judge Conkling presiding, now in session in this city, came on one of the suits of Mrs. Bradstreet for the recovery of lands in Utica and vicinity. The first and only suit yet tried, was against ——— Broadhead.

The case commenced on Wednesday the 15th.

Counsel for tenant, Samuel Beardsley and Abraham Van Vechten.

For the demandant, J. V. N. Yates, D. D. Barnard, and David B. Ogden.

After the counsel had finished their arguments, the cause was committed to the jury at about 3 o'clock on Tuesday afternoon, the 21st.

At the opening of the court at nine o'clock on Wednesday (yesterday) morning, the jury came in, and Charles R. Webster, as spokesman, said, the jury could not agree, and there was not the least probability they could, and asked that they should be discharged.

Whereupon Judge Conkling observed that it was in the discretion of the court to discharge the jury, yet that under the circumstances of this case, it was not proper to dismiss them unless the parties would consent.

The jury then again retired, and after an hour, returned and repeated that they could not agree.

The jury were then discharged.

We understand the jury were ten for Mrs. Bradstreet and six against.

VISITERS TO WEST POINT.—The Globe of yesterday furnishes the following enlarged list of gentlemen invited to attend the examination of the Cadets of the United States Military Academy, in June, 1833:

MASSACHUSETTS....	James Russell, Esq.
	Rev. J. Leland.
RHODE ISLAND.....	Gov. James Fenner.
NEW YORK.....	Washington Irving, Esq.
	Gen. Erastus Root,
	Perley Keys, Esq.
	Gen. Morgan Lewis,
	Gov. J. C. Yates,
	Gen. Stephen Van Rensselaer.
NEW JERSEY.....	Gov. M. Dickerson,
	G. D. Watt, Esq.
PENNSYLVANIA.....	Col. E. Banks,
	Hon. J. R. Burden,
	Hon. T. H. Crawford.
DELAWARE.....	James Rogers, Esq.
	Geo. Read, Esq.
MARYLAND.....	Upton S. Heath, Esq.
	J. S. Skinner, Esq.
VIRGINIA.....	Hon. W. S. Archer,
	Major R. Pollard,
	Col. F. B. Povall.
SOUTH CAROLINA...	Hon. William Drayton,
	Hon. J. R. Poinsett.
GEORGIA.....	Hon. J. Forsyth.
TENNESSEE.....	Rev. Dr. Cha's Coffin.
KENTUCKY.....	J Haskin, Esq.
	Dr. Jno. A. Tomlinson,
	Warden Pope, Esq.
OHIO.....	Thomas R. Ross, Esq.
MICHIGAN.....	John Norvell.
U. S. ARMY.....	Gen. J. R. Fenwick,
	Col. James Bankhead.

[*From the Boston Centinel of 25th May.*]

MR. BUCKINGHAM.—We regret to learn, that Mr. Edwin Buckingham, junior Editor of the Courier, died on the 18th inst. on board of the brig Mermaid, on her passage from Smyrna to this port, aged 24.—Mr. Buckingham was a young man of superior talents and intelligence, a ready writer, an accurate reporter, and for several years past, he has been advantageously known in this community, as co-Editor with his father, in conducting the Courier. His constitution has been feeble for about two years past, and, with a view of restoring his health, he embarked last October for Smyrna. On his arrival out, however, it was found that no benefit had been derived by the voyage, or change of scene, and he soon determined to embark in the Mermaid, towards home. On the approach of the vessel, the half-mast flag was observed, the melancholy signal of having lost an officer or passenger, and it proved to be in consequence of the death of Mr. Buckingham. His loss will be deeply lamented, not only in the immediate circle of his family, but by a large circle of personal friends and acquaintances, by whom he was known and appreciated. His funeral services were performed on the ocean, and his remains were committed to the fathomless deep.

NEW LONDON, MAY 22.—*Shipwreck.*—The ship Ruth and Mary, B. Chester, master, belonging to Williams & Barnes, which left this port on Saturday last on a whaling voyage, at 6 o'clock in the evening, struck on a rock at the south-west point of Block Island, where she still remains. The sails, rigging, anchors, and a part of the provisions and other outfits, will be saved; but the ship will be wholly lost.

Musk in Cholera.—"Among others matters resorted to by the faculty to stay the progress of this terrible disease, one has been published of so singular a character, that we do not hesitate to extract the statement into our columns.—It is contained in a letter from Mr. Richard Laming, of No. 48 Finsbury Square, a district in which the ravages of the plague have been very great. Mr. Laming says:—

"I have lately employed musk in several cases of Cholera with a success so uniform and decisive, as to make its introduction desirable, without loss of time, to the notice of the whole profession, &c.

The salutary influence of the first dose of musk will be found to become manifest by greatly mitigating, in a very few minutes, and in many cases, by effectually removing the cramps, the purging and the vomiting. My plan has been to give at once fifteen grains, rubbed into a draught with a lump of sugar and a wine glass full of cold water, and I am justified in reporting that this first step, if taken promptly, will scarcely ever fail to arrest the progress of the disease, and leave the patient to easy and ordinary convalescence, &c. So evident is the action of musk in cholera, that the practitioner will experience no difficulty in determining whether he need repeat its exhibition, or whether, having subdued the immediate cause of the disease by the first dose, he should direct his attention to the removal of its consequences by the ordinary means." [New Monthly Magazine for 1833.]

Mrs. Royall says, "Waiting to get things fixed before getting married is like waiting till we are

ready to die. 'Tis a chance if we ever get ready in either case."

Widening of William Street.—After long and patient hearing, investigation and rehearing, the Commissioners on the widening of William street from Pine to Wall have brought their labor to a satisfactory close. A slice is to be cut from the Bank Coffee House and the Bank of New York, five feet wide on Pine street and eight and a half feet on Wall. For this those two estates receive as follows:

Bank of New York, . . .	$35,139 30
Bank Coffee House, . . .	6,836 10
	$41,975 40

This sum is assessed upon the estates fronting on William street, from Ston to John, including the corners on the north side of John; those in Wall from the Phœnix Bank on one side, and Merchants' Bank on the other, to Hanover street. On the estates in Pine, from Nassau to Pearl, and upon the ten or twelve lots on each side of Cedar above and below William.—[Journal of Commerce.]

PHILADELPHIA, MAY 25.—The Washington Globe of Wednesday informs us, that on Tuesday, the 21st, the Chevalier Ankerloo, Chargé d'Affaires of his Majesty the King of Sweden and Norway, took leave of the President, and Mr. M'Lane, Acting Secretary of State, preparatory to his immediate return to Sweden, on a tempoary leave of absence from his Sovereign; and on the same occasion, he presented the Chevalier Lorich, Consul General of Sweden and Norway, as Chargé d'Affaires ad interim, in his place.

Robert B. Randolph, the assailant of the President, has, it is stated in the Philadelphia papers, sailed from that port for Liverpool.

The Richmond Enquirer states, without expressing any doubt, though not without just indignation at, a rumor that this individual had dined with a volunteer cavalry corps of Richmond, and been specially toasted!

NASHVILLE, MAY 13.—*Union Bank of the State of Tennessee.*—We learn with pleasure, from an authentic source, that Gen. Gibbs, President of the Union Bank, has disposed of the State Bonds to that institution at 5 per cent. advance, reserving the interest for the first six months, making a net profit to the bank of $37,500. He has also made an arrangement for an interest account with the Bank of Maryland, which will be highly favorable to the Union Bank, and will greatly facilitate the transaction of its business. These arrangements will place the institution in funds to a large amount, and will doubtless enable it to extend effectual and extensive relief to the community.—[Banner.]

THE GREAT FREE STATE OF THE WEST.

[*From the Scioto Gazette of May* 15.]

The State of Ohio has, it appears, contracted a debt for canal purposes, nearly to the amount of five millions of dollars. However, the credit of the State seems well able to maintain itself under the burthen of this debt. Ohio canal stock is twenty-nine per cent. above par., and it is stated by good authority, "that the commissioners of the canal fund have very recently disposed of 100,000 dollars of additional 6 per cent. stock, at the rate of 124 dollars cash for 100 dollars; making the whole amount received 124,000 dollars. And, as the gross amount of tolls received during the last year, when a good portion of the principal canal was not completed, exceeded 111,000 dollars—it may be predicted with safety, not only, that her credit will increase, but that, without requiring much longer the aid of taxes, the tolls will of themselves, besides paying the entire interest of the debt, begin the foundation of a sinking fund. Were it not for the interest to be paid on the canal debt, which in all probability will be more than paid by the tolls, the taxes would be uncommonly light. The government of the State is as cheap a one, in all its parts, as could be devised.—Both houses of assembly include but 108 members. The highest salary in the State is only 1200 dollars, and there are very few even as much.

Since 1825 the taxes have been high, compared with what they were before that time; chiefly in consequence of the canal debt. They are now about nine mills on the dollar; but there is little doubt but that they will soon be reduced.

The following is a statement from a late message of the Governor. It shows how much the taxes will be diminished when the canals shall be able to support themselves.

"The total amount of interest due on the canal debt, for the year 1832, is about	$285,000
The nett amount received from tolls the same year, - - - - - -	$104,302
The proceeds of public lands granted by Congress for canal purposes, for the same year, - - - - - -	58,103
Which, together, make - - - -	$162,405
Leaving to be defrayed by taxes, -	$122,595

This sum, taking the valuation of 1831 for the standard, amounts to nearly two mills upon the dollar on the taxable property of the State; which is about *two ninths* of the entire public burthen, soon to be removed.

[*From the Ohio Atlas.*]

What a change has taken place in the business on the Lake within a few years! Then, Walk-in-the-Water walked alone on the dancing waves of Erie. Now, see the list of beautiful boats, which find constant employment between Buffalo and Detroit.

Steamboat Enterprize,	Capt. Fox.
" Sheldon Thompson,	" Patterson.
" William Penn,	" Wright.
" Superior,	" Pease,
" Ohio,	" Titus.
" Niagara,	" Standard.
" Henry Clay,	" Norton.
" William Peacock,	" Wilkins.
" Pennsylvania,	" Fleeharty.
" Uncle Sam,	" Stiles.
" New York,	" Miles.

The Enterprize, Peacock, Niagara, and Wm. Penn, constitute the evening line between Cleveland and Buffalo, leaving each port every evening at 9 o'clock. The other boats form the morning line between Buffalo and Detroit, stopping at Erie and the ports west. Cleveland will have two boats daily to and from Buffalo, and one to and from Detroit. Besides these, the George Washington, Capt. Walker, will be out in June. The Washington measures over 600 tons, is about 200 feet in length, and will be propelled by two low pressure engines of 80 horse power each.—A new boat is on the stocks at Black Rock, not yet christened. The Michigan is a new boat expected out in June, from Detroit. This is a large boat, and is intended to be second to none on the Lake for speed and convenience.

The Philadelphia Commercial Herald, referring to the brilliant Aurora Borealis recently seen in that city, says—

We remember, in 1827, that precisely such a stream of light appeared. We were on the Fox River of Lake Michigan, and were ascending that river with a war party, composed of United States troops and Indians. The Indians numbered about one hundred. Immediately on the appearance of this light, (not the Aurora Borealis, for they were accustomed to that, but an emanation from it, such as we saw on Friday night last,) the Indians made a halt. They interpreted it into a sign of anger in the Great Spirit: and as indicating his disapprobation of the business they were going on. It was in vain that we represented our views of this light.

They answered "*It lies across our path, and we cannot pass over it, it is above,*" meaning it was placed there by the Great Spirit. Had this stream of light happened to be in the direction of our march, it would have been interpreted differently.

Fortunately one of the Indians espied a rattlesnake. The appearance of a rattlesnake, in an emergency of the sort, is considered an omen for good. They believed the snake to have been sent by their friends from the land of souls. After much pow-wowing over the reptile, and sprinkling a present of tobacco over his head, which was designed as a token of friendship, the Indian who had discovered him, and whose property he therefore was, ran his finger and thumb up his back, and catching him fast by the neck, raised him from the ground, gave him a crack, as if he held a whip in his hand—thus dislocating the vertebræ of the back. Then with a stick the work of his destruction was completed. The Indian was careful to send back, by the snake, certain messages to his friends in the land of souls, and many thanks for their having sent him to them in their emergency.

The snake was soon skinned, and cut up into inch pieces—each warrior taking a bit for his medicine bag, whilst the snake's skin was made to ornament the person of his discoverer. Its head was tied to a lock of the Indian's hair, the rattles trailing upon the ground, a foot at least behind his feet who wore this badge of hope and of triumph.

The rattle snake had served only to diminish, not clear away their doubts. The Indians moved ahead with reluctance. It was of the utmost importance that all this superstition should be got rid of, somehow—as we knew not the moment when we should have use in fight for the services of all concerned.

It so happened that shortly after another Indian espied a bear in a trap. This broke the spell of their fears. Such luck was immediately resolved into a most encouraging circumstance, and as plainly demonstrating that their friends, from the land of souls, were in favor of their going ahead, and of the cause they had engaged in. The bear was talked to. He was told, over and over again, how grateful it was to meet him—what troubles they were in—how kind their friends were to send him. Then getting his rifle ready, the Indian having first discovered him, said to the bear, "*Bruen*—it's not the Indian but the white man. The Indian loves Bruen. The white man makes him die. When you go back, Bruen, tell all this, and don't forget to thank our friends for sending you." Then taking aim, he fired. The bear fell with a growl—and was soon skinned, cut up, boiled, and eaten.

We then went on without further difficulty, until the object of our march was accomplished.

[*From the Boston Mercantile Advertiser.*]

The Clarke House.—This ancient mansion which is now being razed to the ground, and the panellings of which were sold at auction this morning, is the same sometimes called the Frankland House, (Sir Henry F. having since been its owner) and is situate in Garden Court street, North square, next door to the large old building that was the residence of Gov. Hutchinson, and which has a curious old balcony over the front door. The Clarke House (minutely described by Cooper in his novel of Lionel Lincoln) was built more than a century ago, by Mr. William Clarke, a merchant of great wealth, who is intered on Copp's Hill.

The following inscription, says the Atlas, is still visible on his tombstone.

Here lies the Mortal Part
of
WILLIAM CLARK, ESQ.
An Eminent Merchant of this Town and An Honorable Counsellor for the Province Who Distinguished Himself, as A faithful and generous Trader;

Loyal to his Prince Yet always Zealous for the Freedom of his Country; A Despiser of Sorry Persons and little Actions; An Enemy to Priestcraft and Enthusiasm Ready to relieve and help the Wretched. A Lover of good Men of Various Denominations And a Reverent Worshiper of the DEITY.

In the library of the old house is a closet lined with wood, and at the back of one of the shelves is a large bird, very well painted. The mantel-piece in this room is beautifully carved, in imitation of flowers and fruit, and is in perfect preservation. Over the mantel-piece is a curious old picture, representing a boy and girl of a century ago. They are said to be two children named Ellis, who were on a visit to the Clarke family. The girl is seated on a bed or couch, and has a loose white night gown, ruffled round the neck. The boy is approaching to present her with a red apple, and is drest in a blue coat trimmed with gold lace, and a red silk scarf thrown over his shoulders; his legs are covered with long silk stockings, and a sort of buskins laced up with gold cord; at his wrists are deep cuffs of white lace. The children evidently belonged to a family of the upper class, though it is said that a descendant of one of them has been a tenant of the alms-house within the two years past.

In the principal room of the Clarke House (the parlor on the right hand of the front door), the walls are wainscotted all over, and on every pannel is a painting in oil representing different landscapes, handsomely bordered, and decorated at the top with armorial bearings.

The floor of this room is tessellated, being composed, it is said, of fifty-two different sorts of wood, cut into small pieces: and arranged in various but regular figures, so as to resemble handsome patchwork. In the centre of the floor are the arms of the Clarke family, represented in the same manner by different pieces of wood. This wss probably the most expensively finished room in Boston.

The panellings went this morning for $49. 57 in all. The picture of the old house itself sold for $3.. 25; a landscape for the same; view of the Tuilleries (a beautiful thing) for $3. 50; seat of Sir Henry Frankland for $5. 75; landscape on the parlor-door for $6. 50. The figures are remarkably perfect, and the colors very lively, though not varnished over, we understand, for 20 years past.

[For the American.]

AN APOLOGY FOR A PORTRAIT

O had I the pencil of Titian or Guido,
How quickly my canvas those features should wear!
But the colors, bright Bertha, in which I'd paint thee, do
Fade away, like thy smiles, while I'm fixing them there.

Yet failing to paint thee, I cannot but ponder
How, were mine but one string from the lyre of Tom Moore,
When he sings of the Houris through Heaven that wander,
Or the Peris that dance by the coral-paved shore—

I would tell ther, that never did mortal set eyes on
Charms brilliant as those to-night breathing in thee,
Since shaming each star in the blushing horizon,
The grace-girdled goddess rose fresh from the sea. H.

MARRIAGES.

Tuesday evening, by Rev. Dr. Berrian, Mr. Lester West, (of the firm of West & Co.) to Miss Emeline, daughter of William Merrill, Esq. Also the same evening, by the Rev. Dr. Berrian, Mr. Ludlum S. Chittenden, to Miss Harriet, daughter of William Merrill, Esq.

Tuesday evening, by the Rev. Smyth Pyne, of Middletown, Ct. Charles W. Ogden, to Amelia, youngest daughter of the late *Nathaniel Shaler, Esq.* of Middletown, Conn.

On Thursday, the 23d inst., by the Rev. Mr. Taylor, William Gerardus Post, of this city, to Hannah Maria, youngest daughter of Henry Traphagen, Esq of Pavonia, N. J.

On Sunday evening, 19th instant, by the Rev. Dr. Philips, H. Allen, M. D. of Loudon County, Virginia, to Miss Maria Kirka, of this city.

On Thursday evening last, by the Rev. Dr. Hawks, Mr. George Gibson, of Philadelphia, to Maria Farquhar, youngest daughter of *Wm.* H. Jephson. Esq.

On Tuesday evening, the 21st instant, in Brooklyn, by the Rev. B. C. Cutler, Mr. George Lee, to Miss Arabel McCluney.

In Philadelphia, by the Right Rev. Bishop White, on Tuesday evening, 28th May, A. G. Jaudon, Esqr. to Miss Lucy Ann, daughter of Commodore William Bainbridge, of that city.

At Richmond, Va., on the 22d May, by the Right Rev. Bishop Moore, John Biddle Chapman, Esq. of Philadelphia, to Mary Gabriella Randolph, adopted daughter of Dr. John Brockenbrough, of Virginia.

DEATHS.

Friday evening, May 24, Mrs. Rachel Dunlap, widow of the late James Dunlap.

Monday morning last, at 7 o'clock, Catharine, wife of Thomas Palmerton, aged 44 years.

On Tuesday morning, of pulmonary consumption, Frances Ann Canfield, the wife of Palmer Canfield, and only daughter of Dr. Felix Pascalis, in the 30th year of her age.

On Tuesday, 28th instant, after a lingering illness, William H. son of Thomas D. and Eliza Howe, aged 18 months

After a protracted illness, on Wednesday morning, ¼ before 4 o'clock, Mr. Wm. H. M. Fanshaw, late of the Theological Seminary at Princeton, in the tranquil and triumphant exercise of faith in Christ.

At Abingdon, Va. on the 20th inst. after a lingering illness, William McKee, (of the firm of W. McKee & Co.) of this city.

In Westminster, Ms. 6th inst. Mrs. Margaret Palmer, aged 91, relict of the late Mr. Thomas Palmer of Newton, Ms.

On Tuesday, the 2d April, at the residence of her father-in law, Thomas Dunbar, of Blackrock, Elizabeth, the wife of John S. Dunbar, and second daughter of the late William Handy, M. D., of New York. Scarcely eleven months have passed since her marriage in her native city, and her parting from her family and early friends, to whom she had been ever the object of deserved admiration and love. It is not here that her obituary may be written, and her loss fully appreciated; but among those who witnessed the development of her rare intellectual endowments; her varied accomplishments, and the endearing gentleness and kindness of her heart, they will not be found wanting in the now melancholy task of doing justice to the merits of her who never made an enemy, but bore her transcendent faculties so meekly that they were at all times felt and acknowledged without envy. The present feeble notice is all that it is expedient to address to those amongst whom her too brief residence, and her truly feminine and therefore retiring demeanour, had rendered her yet a stranger. Such, however, as it is, he who pens it is but too conscious of its truth, as well as too deeply affected by the sorrows of others, to feel able to enlarge it, except merely to add—that he must have been spared the pain, even of this tribute to surpassing worth, if the intense affections and care of the individual to whom she had intrusted all her happiness at this side of the grave, and the ardent petitions to heaven of many a heart besides, could have saved her.—[Cork (Ireland) paper.]

Report of Deaths—Week ending Saturday, May 25.

Between the ages of

90 and 100— 0	50 and 60— 4	10 and 20— 3	
80 and 90— 1	40 and 50— 5	5 and 10— 3	
70 and 80— 4	30 and 40—14	2 and 5— 4	
60 and 70— 4	20 and 30—14	1 and 2— 7	

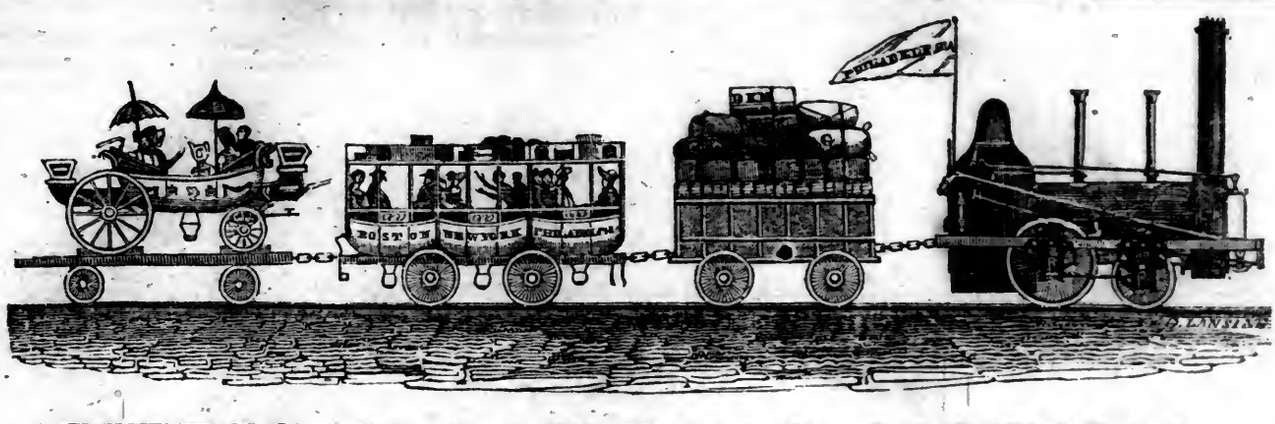
Of and under one year, 30.

Total, 93—32 men, 13 women, 28 boys, 20 girls.

Diseases.

Apoplexy	1	Insanity	1
Burned or scalded	1	Intemperance	2
Casualty	2	Marasmas	3
Childbed	1	Old age	2
Colic	2	Peripneumony	8
Consumption	20	Pneumonia typhodes	1
Convulsions	11	Stillborn	6
Dropsy	1	Suicide	1
Dropsy in the chest	1	Syphilis	2
Dropsy in the head	6	Teething	1
Drowned	6	Unknown	3
Dyspepsia	1	Whooping cough	3
Hives or croup	2	Worms	1
Inflammation of bowels	4		

ABM. D. STEPHENS, City Inspector.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JUNE 8, 1833. [VOLUME II.—No. 22.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 8, 1833.

To Correspondents.—B. F. P. is informed that his "queries" will be attended to, when received, according to his wishes.

We are truly obliged to J. W. for his good opinion of the Journal, and trust that he will not only "*occasionally*," but regularly see it hereafter *as a subscriber*. We take no little credit to ourself for our disposition to gratify or oblige our correspondents, yet we cannot, indeed, find leisure to give J. W. a written description of the various plans invented to save friction in cars and locomotives when passing curves on Railroads—that he may be able to ascertain whether others have made use of the same mode which he has invented. We think J. W. would do well to obtain the Railroad Journal from its commencement, as in it he will find descriptions of several already published, and also of new inventions as they came out, from which he will probably be able to determine as to the originality of his plan. We should be gratified to be informed of his plan, and especially so, if we were permitted to publish it, as our great object is to furnish the community with new and useful improvements. We should not, however, make it public, until permitted by the proprietor.

The *terms* of the Journal are $3 per annum, or $6 50 for the first volume, bound, and the current volume in sheets.

We are gratified to learn that the stock for the only remaining link, from Oxford, Pa. to the Maryland line, of a continuous railroad from Washington to New-York, has been taken; and that there is now a fair prospect of our enjoying the advantages and pleasures of such a communication, as will be seen by an article in this number of the Journal, copied from the Philadelphia Commercial Herald.

Norwich and Worcester Railroad.—The Books for the Norwich and Worcester Railroad were opened on the 29th ult. and the stock taken readily. It is the intention, we understand, of the company to commence the surveys at an early day.

Railroad Stock.—Subscription books will be opened, as will be seen by advertisements of the commissioners in another column, for the Port Kent and Keesville Railroad Stock, on the 25, 26, and 27 days of June next, at Forsaith's Hotel in this place.—[Keesville Argus.]

Saratoga Railroad.—The number of passengers who passed over the Saratoga and Schenectady Railroad during the month of May was 2153. This is from four to six times more travel than has ever occurred before in the month of May between Albany and this place.

[*From the Albany Argus.*]

Canal Loans.—The proposals which were opened on Saturday by the Commissioners of the Canal Fund, for the loan of $100,000 of 5 per cent. stock for the Chenango canal, redeemable after 1845; and $25,738 for the Chemung Canal, redeemable in 1850, exhibited the following offers, to wit:

For the Chenango Loan—Prime, Ward, King & Co. New-York, $115 51, for each $100 of stock.

John Townsend and H. Barstow, Albany, $113 for each $100 of stock.

For the Chemung Loan—Prime, Ward, King & Co. New York, $117 61 for each $100 of stock.

John Townsend and H. Barstow, Albany, $115 50 for each $100 of stock.

Both loans, amounting together to $125,738, were given to Prime, Ward, King, & Co. of New-York. The aggregate premium on the two loans amounts to $20,016. The premium paid upon this stock is greater, it is believed, than has ever before been paid on stock which had only 12 to 17 years to run. The loan made in 1830, for the construction of the Chemung Canal, amounting to $150,000, redeemable also in 1850, and which runs 20 years, was taken at $110 38 for $100 of stock, except $20,000, on which a premium of 11 per cent. was paid.

To the above may be added, the loan advertised for by the Ithaca and Owego Railroad Company, which we understand has been taken up by capitalists in this city. This road, the merits of which are not generally understood, is represented as being one third completed, and all under contract; and it is not only the connecting link between our waters and those of Pennsylvania and Maryland, but no great line of communication can be established through the southern tier of counties without its becoming an integral part of the chain. "The report just published," says an intelligent correspondent, "and which is to be had at Carvill's, and the principal bookstores, is an able and satisfactory document, that every one conversant with Railroads must appreciate highly. The stock has risen from 83 to 91, and deserves to stand higher, as the clear revenue of the road (see Report, p. 7) will be $71,125, after deducting all expenses, upon a capital of $300,000."

On Saturday last, Elisha Tibbetts, Esq. of New York, was elected a Director of the Philadelphia and Trenton Railroad Company.

The Camden and Amboy Railroad Company are doing a heavy business. About seven hundred passengers travel in their different lines daily, and the number is continually on the increase.

The Superior Court of Delaware has been some days occupied with a suit brought by Mr. John Randel, an Engineer, against the Chesapeake and Delaware Canal Co. for breaches of the articles of agreement, formerly made with him, to his damage, as he alleges, $300,000.

The North Holland canal is 32 feet deep, 120 feet wide, and extends from the point of the Y. nearest Amsterdam as far as the Helder, a distance of 16 leagues. No steamboats are allowed to ply upon it; but when a ship of war or other large vessel has occasion to pass it, it is towed by horses, to the number perhaps of twenty on either side, and lest it should not be obedient to the helm, ropes are also attached to the ship's quarters, which are held by men on the towing paths, to keep the vessel steadily in the centre, where the water is deepest. The locks are fifty feet wide and 220 feet in length; they are four in number—two ascending and two descending.

The following communication should have appeared in our last.

To the Editor of the American Railroad Journal:

Sir,—I am rejoiced at the manner in which you have received the communication of "S. Jr." in your *single-handed* (mechanically speaking) Journal of the 25th inst. Partly myself no doubt, and partly your compositor, at fault, we have, between us, altered the meaning of some portions of that communication. Second column, third line from top, for "*house*" read *home*. Same column, sixth line from bottom, read in addition to that line, *sooner than by the canal*. Third column, seventh line from top, for "*finebriæ*" read *fimbriæ*. Same column, for "whole *moment* of this great national, &c." read, whole *amount*. And a little further on, for "one or two more *public spirited*, &c." read, one or two more *enterprizing*, &c. And for "away with government patronage; it *is* very, &c." read, it *may be* very, &c. With respect, G. Jr.

New-York, May 26th.

[*For the American Railroad Journal.*]

LOWELL, May 24, 1833.

MR. EDITOR,—In Mr. Bulkley's reply to my remarks on his Guard Rail, he asserts that my statements are at variance with Mr Sullivan's, that my statements are inconsistent, and that if we were to read each other's communications, which he quotes, we should discover that we were both wrong. I have read the passage alluded to, without discovering that there was the least error in my representations. I am not responsible for Mr. Sullivan's assertions; but I have found none of that inconsistency of his statements with my own, which Mr. Bulkley thinks, or endeavors to make it appear there is. Mr. Bulkley, in the first part of his reply to me, said he would show that my statements are inconsistent with each other; this he has not done. I now call on him to redeem his pledge, by quoting the passages which are at variance, and this without omitting one or more words in a sentence, so as to pervert the sense, as he inadvertently did in attempting to make it appear that I said the wrought iron bars would be so closely bound that they could not slip in the cast iron, though I stated nothing like it. After asserting that, at low temperatures, malleable iron expands or contracts more by an equal change of temperature than cast iron, I wrote as follows; "If it be so at high temperatures, and the wrought iron bar be so constructed that it cannot slip in the cast iron, the wrought iron bar, when the rail is cool, will be strained longitudinally," &c. I did not hint that by the cast iron shrinking the wrought iron would be pinched, nor did I say whether it was an easy matter to construct the wrought iron so that it would not slip in the cast iron. Mr. Bulkley attempts to make it appear that the wrought iron bar cannot be strained longitudinally, as I shewed it might be. To do this, he supposes that cast and wrought iron expand or contract equally by equal changes of temperature, contrary to the well known fact. By assuming that the properties of iron are essentially different from what they are, he may make it appear that the Guard Rail is better than the rails in common use. Perhaps Mr. Bulkley has built his reasoning on the assertion of some person who was not acquainted with the subject; therefore, for Mr. Bulkley's information, I will quote a few passages from the best authors. Mr. Smeaton, the father of our profession, states the contraction of malleable iron by lowering the temperature from 212 to 32 degrees, to be .001258 of its length, as determined by his own experiments. General Roy states the contraction of cast iron for the same change of temperature, to be .0011094 of its length. Tredgold, in the second edition of his Treatise on Warming and Ventilating, states the contraction of cast iron by cooling from 212 to 32 degrees, to be .00111 of its length; and the contraction of malleable iron for the same change of temperature, .001258. If Mr. Bulkley wants more evidence before he can be convinced of this fact, he can find it by consulting Cooper's edition of Tompson's Chemistry, vol. 1. pages 73 and 74; or, Tredgold's Treatise on Cast Iron; or the Edinburgh Encyclopædia, in the article "Expansion, where the results of many experimenters are given. Mr. Bulkley further remarks that, "he [U. A. B.] seems to have overlooked the fact that a *heated* wrought iron rod may not only be strained longitudinally, without nearly or quite tearing it asunder, but may be *drawn to slender shreds* in the form of wire without tearing it asunder." I do not know what reason Mr. Bulkley had to suppose that I had overlooked this fact; there was no need of my mentioning it; but I can tell him why it will not do to depend on iron possessing this property, in practice. The strain on the wrought iron bar, when in the condition above supposed, increases continually while it is cooling, till it becomes quite cold, in which state some iron will not bear stretching without cracking. No practical method has yet been discovered by which it can be determined whether the bars will bear this straining or not. If a bar be subjected to a force to try its quality, this very force may so weaken it that another less force, when applied for a little while, will break it.

In my first communication on this subject, I endeavored to represent the truth fairly, without the least false coloring; but Mr. Bulkley says that my communication and Mr. Sullivan's are professedly both on the same side of the question. I hope I shall be excused for being on *one side* of the question, as I cannot see how that more than one side can by any fair means be made out.

Mr. Bulkley seems to think, that in my mentioning that rails had been formed by combining malleable and cast iron, before he invented it, that I referred exclusively to Mr. Hawks' invention. I did not refer exclusively to his invention; he is not the only person who invented it before Mr. Bulkley, nor is he the only person who patented it before Mr. Bulkley. Mr. B.'s cast and malleable iron rail is in some respects superior to some which have been tried, and in other respects inferior. I do not think his edition of the cast and malleable iron rail is doomed to a longer life than any former edition of it; especially, as the chief arguments which were at first urged in support of it are now known to every intelligent engineer to be groundless.

In my former communication on this subject, I stated that there was a great difference in the different varieties both of cast and malleable iron, in their tendency to oxydate. A person might suppose that rails may be made of that kind of cast iron which is not very liable to oxydate; but to this there seems to be an objection: the combination of carbon with iron is the chief, though not the only cause of the great varieties. The hardness of iron is at its maximum when it contains about $\frac{1}{60}$ of its weight of carbon; in this state it is fit for very few purposes, and quite unfit for rails. When it contains this, or a rather larger portion of carbon, it is not very liable to oxydate; as the portion of carbon is increased the iron becomes rougher and softer, and generally more liable to rust. Iron may, in some degree, be defended from rusting, by having in combination a small quantity of some other substance. It is now fully proved that malleable iron oxydating is no great objection to its use on railroads.

Mr. Bulkley stated that by the combination of metals in forming the Guard Rail, perhaps four-fold more of that description of strength necessary in the construction of safe and permanent rails, could be produced than from either kind of metal, if used separately, of equal weight. This I demonstrated to be impossible; yet Mr. Bulkley says he thinks it is possible. If he cannot understand the demonstration, he must blame the subject, not me, for it is expressed as clearly and intelligibly as the nature of the subject will admit; or, at least, it is expressed so that every person versed in mechanics can understand it. He says, "*wrought iron* rails, as appears by *publications in England*, do so far yield to compression as to take a *set curve* when over-strained, even when placed on foundations only three feet apart." The explanation of this is as follows: When malleable iron was first used for rails, it was not known *exactly* how large the rails should be to bear the insistent loads; to ascertain this, rails were made of various sizes; some were made so light that they bent, which solved the problem; so that it is now known what size they should be to support a load of a given weight, knowing the distance between the supports. In some instances, heavier loads have been transported over the roads than the rails were designed to bear, which injured them.

In my former communication on this subject I quoted a passage from Wood's Treatise on Railroads, in proof that there is no exfoliation of the upper surface of malleable iron rails, produced by the carriage wheels. To which Mr. Bulkley says, "If U. A. B. will again refer to Wood's Treatise, he will find that *Mr. Wood* is not the author of the above stated remark." I knew it was a quotation from Stephenson, but it is sanctioned by Mr. Wood. The reasons of my preferring this passage were that the sentiments which I wished to convey were clearly expressed in it, and that it was an assertion of G. Stephenson, one of the most eminent engineers of the day, and vouched for by Mr. Wood, the most eminent writer on railroads that ever lived. Mr. Bulkley has not succeeded very well in trying to make it appear that the sentiments in the passage from Stephenson are in opposition to Wood's views. Mr. Wood, immediately after his quotation from Stephenson, says, "Practice seems to have established the fact since the above was written, that there is no waste or destruction from oxydation or exfoliation, and that the wear is less than in cast iron subjected to the same action." I have examined a malleable iron railroad which has been subjected to heavy loads, and been the longest in use of any in this country; there were very few specks where any exfoliation had taken place, and that where the rails were very defective when new.

Mr. Bulkley, in speaking of the liability of malleable iron to oxydation, refers to opinions which had been given before it had been used long enough on railroads, or sufficient observations made to determine its liability to decay, and which have since been renounced. Indeed, Mr. Bulkley can quote many passages from eminent ancient authors in proof that "Nature abhors a vacuum," and it would become him about as much as some of his quotations. Or, if he does not know that some of the principles which he advocates have been refuted, he must be behind the age, in this matter.

In my former communication on this subject I said, "Sufficient experiments and observations have not yet been made to determine exactly how much faster cast iron is worn away by the action of the wheels on the rails than wrought iron; but it seems that cast iron wears off about five times as fast as wrought iron." To which Mr. Bulkley replied, "A man who would pen a sentence of the above description for public inspection, *might* excuse himself by saying he was unacquainted with the nature of metals." I have no occasion to plead ignorance on this point, as I have wrought malleable and cast iron with my own hands for years. I have made some experiments and observations on metals, and know a little of the experiments of others on this subject. The opinion which so much offended Mr. Bulkley, is supported by the most intelligent engineers of the day. Mr. Wood, in his work above quoted, pages 177, 178, and 179, advances opinions which agree very exactly with mine on this subject. He says that sufficient experiments have not been made on rails to ascertain the relative wear of the two kinds of iron, but he gives an account of experiments which show how much faster cast iron wears than malleable iron, when used for the rims of railroad cars, and states that the relative wear of these two kinds of metal, when used for rails, must be very near the same. The results of these experiments he gives as "making the wear at least as five to one in favor of wrought iron." Mr. Bulkley speaks of cast iron being made very hard by casting it on a *chill*. Every person who is acquainted with the subject knows better than to attempt to chill cast rails for a common railroad, the brittleness of cast iron

is its greatest defect as used for rails; and by casting it on a chill, provided the chill increases its hardness, as some iron is not much hardened by this process, its brittleness is increased. If the chill be so formed as to touch the whole surface of the rail, the rail will be very brittle; if the chill touch only one side of the rail, the rail will be certain to crook in cooling, and very likely to crack.

URIAH A. BOYDEN.

[*For the American Railroad Journal.*]

NEW-YORK, May, 1833.

MR. EDITOR,—I perceive in your Journal of the 7th May, a third communication from Mr. Sullivan, on the subject of the "Guard Rail," in which, particularly in his last, he indulges in such abstruse remarks, and such unfair allusions, in relation to the subject, that I shall feel obliged for your indulgence in permitting in your columns a few remarks in reply.

His (from the nature of the case) uncalled for remarks, so much bordering on arrogancy, contained in the concluding paragraph of his communication, would preclude my making any reply, were it not for misstatements contained in *other* parts of his communication, which ought not to remain unexplained.

When adverting to that part of my explanation which alludes to the strength of the "Guard Rail" being by combination of the *principle* of securing an *arch* by abutments, he stated "that an arc is a *part* of a *circle*," and added, "that an arch is an arc sustained by abutments, in architecture, and is strong only to resist pressure, and *pressure* (he states) is not *tension*, and a straight line is not a curve." And he further stated, that "if that gentleman, (meaning myself,) *misrepresented the principle of his improvement*, by *calling* it an arch, instead of comparing it to an arch, it was (he adds) an *error* that does not affect the *experimental strength* of his method."

Now, in order to show direct perversion in the above statement, I will quote the *express words originally stated by me*, as contained in your Journal of April 6th, as follows, viz.: "The Guard Rail is constructed on an entirely new principle, being by combination of two kinds of metal, namely, wrought iron and cast iron, *so applied* that each rail *combines* within itself the *principle* of an *arch*, (that is, the principle by which an arch is sustained,) consequently they can be made of any required strength." And when alluding to cracks in the cast iron part of "Guard Rails," I stated that "the wrought iron rod, being rivetted at each end, secures the segments of cast iron, on the same *principle* as an arch composed of segments is secured by its abutments."

I have never *called* it an arch; I well knew it was *not* in the form of an arch; I alluded, as above, solely to *principle*, and *not* to *form*: his object for thus misrepresenting, is best known to himself.

If the *principle* by which an *arch* for *pressure* is *sustained* were, in the computation of men, narrowed down to the limits which Mr. S. seems to consider it, it would be necessary to discover some *new term* or *new principle* by which to convey our *ideas* of *resistance* to *pressure*.

Suppose, for example, a *straight cog* of any given length, say, for instance, ten feet long, its *ends*, only, resting on sleepers, and *weights* were applied upon its *centre*—although, as Mr. S. says, "a straight line is not a curve"—I would ask upon what *principle* the straight *cog* sustains the weight so applied? and I will answer, that it is on no *other* principle than the principle of sustaining the *arch*. The *fibres* at the *upper edge* being, by the weight applied upon it, made subject to *compression*, and the fibres in the *lower edge* subject to *tension*, which, of course, is as the *action* of pressure upon an *arch*, and, consequently, is on the same *principle*; the union of fibres being connected, particle by particle, form internal fastenings, combining the sustaining *principle*, without exteriorly applied "abutments." And although a cog as described has no "curve," and does not present to the eye the *appearance* of an arch, yet those *parts* of it, only, which come within a limited *circle*, and within limited lines, produce effect in resisting pressure. If parts of such *cog* were *carved out*, so as to give it nearly the appearance of the capital letter D, thus ⊐, it might be made to present the *appearance* of the *arch*, but would neither improve its strength or change the *principle* on which it resists pressure.

An arc, or arch, of iron or stone, may be reared as for a *bridge*, presenting, of course, the *appearance*, *principle*, and *strength* of an arch; and for *convenience in use*, it may be *filled in*, upon the *upper surface*, so as to form a *horizontal line*; and may be *filled in*, in the curve *below*, so as to form a parallel line with the upper surface. It still combines the *principle* and strength of an arch, although it presents to the eye "*straight lines*," and *not* the *appearance* of an arch.

Mr. S. further says. "I (that is, himself,) could not see the good policy, propriety, or occasion for *running down*, in order to enhance his, the art of Railroad making in England and in this country;" and adds, "It would be a *painful discovery to many stockholders*, were it matter of *fact* that *timber railways* will not last over *five years*."

I will submit to the readers of your Journal the justness, or injustice, of the above quoted sentence, and quote the words I originally used when adverting to the *rapid decay* of timber laid near the surface of the earth, namely: "*Wood rails*, containing *iron plates*, have, in this country, been observed so far to *decay* as to require *renewing* the fifth year after being laid down." And subsequently, I stated that the observation was not *my own*, but was derived from a *Director* in a *Railroad Company*, and that I would name the company to any individual who felt a sufficient interest in the subject to further an inquiry as to *causes* of such *rapid decay*. In that instance, however, the discovery *was* "*a painful one to stockholders*;" for, instead of dividing the *whole* earnings as dividends, a *portion* was required to be re-invested in *renewing* the wooden rails, besides necessary *delays* in effecting it.

How long the different materials, used in different situations in the construction of railroads, will last, time and experience will determine: and, with reference to wrought iron, there is no doubt but that it will last longer in continued use, than if suffered to remain exposed unused, and will probably last longer in *dry* than in *damp* situations; and as to cast iron, it seems to be entirely of a different nature, in reference to corrosion. I have before alluded to *cast iron bars* in this city, which were placed where they *now* lie, before the Revolution in this country, probably so placed about sixty years since; the under surface of which is embedded in stone, and are in an exposed situation, and do not appear any more affected by corrosion than if they had not been but a few days or weeks in use; even the scragged corners, usual in castings, remain as they originally were. Whereas, I have in my possession *bars of wrought iron*, which, at the works of an iron founder in this city, were accidentally placed and suffered to remain in contact with earth about four months, and are incrusted with and considerably indented by rust—both of which I will exhibit to any person wishing an examination. Such facts are valuable, when estimating the importance of permanent materials. And as to the first *cost* of railroads, adverted to by Mr. S., it does not rest *entirely* on the *cheapness* of the *rail* itself; it greatly depends on the *number* of foundations, or sleepers. In most cases, *wrought* iron rails, and *wooden* rails, as now used, are supported by sleepers, say *three* feet apart, making 1760 double foundations to the mile; whereas the "Guard Rail" may be used with less than 600 to the mile; and when these "Guard Rails" shall be manufactured as cheap as they *can* be in this country, it is presumed, taking into consideration the *saving* in foundations, that such rails may be applied for two-thirds, or three-fourths, of the capital now required for applying wrought iron or wooden rails. I am, respectfully, yours, &c.

R. BULKLEY.

OXFORD RAILROAD.—We proceed to fulfil a promise made some days ago, says the Philadelphia Commercial Herald, to furnish a more particular account of this valuable improvement. Its name, derived from an obscure village in Chester county, does not convey an idea of its principal objects, or of the great advantages and facilities it holds out to the public. We must therefore state in the outset, that it is a main link in a complete chain of Railroad communication between Philadelphia and Baltimore—upon which, and which alone, all the winter travel and transportation between those Cities must pass, and the mails at the same season be conveyed. Thus far it can have neither competitor nor rival, while it will fill up a void, heretofore the source of immense difficulty, vexation, and even hazard of life and property.

A cursory examination of a map of the country between Philadelphia and the Susquehanna will show that any railroad between these points must be expensive and difficult, because such a line must cross at right angles an infinite number of water courses, and of course be laid over a most irregular and undulating country.

An examination of the country itself will exhibit still further and greater obstacles, which nature has interposed to the construction of such a Railroad. Obstacles sufficient to deter any private enterprize from the undertaking.—Hence it is that among all the Railroad projects in which the last six years have been so fruitful, we find but one embracing this object, and that one has been virtually abandoned from a conviction of its impracticability. One condition essential to the success of such a project is, that it must strike the Susquehanna above tide water, and where it may be crossed by a bridge, and yet not so high up as greatly to increase the distance between the cities.

It follows, that no project can be successful, unless the natural obstacles referred to be removed, and unless it contemplate crossing the Susquehanna at a point not greatly varying from the direct line of communication. To both these conditions the Oxford Railroad perfectly conforms—and hence the certainty that it will be executed, and when made, be profitable as well to the stockholders as to the public.

Our readers are aware that the State of Pennsylvania has commenced, and will complete this year, a railroad from Broad street in Philadelphia to Columbia on the Susquehanna. At a point on this Railroad, 45 miles west of Philadelphia, the Oxford Railroad begins, and pursues a direct course towards Port Deposit, on the Susquehanna, where a bridge is already built across the river, which bridge can be used for the purposes of the Railroad. At the boundary between Pennsylvania and Maryland, the chartered privileges of the Company cease, of course, and another Company, already incorporated by the State of Maryland, and with its stock subscribed, takes up the line and carries it to Baltimore.

The 45 miles of the State Railroad west of Philadelphia, overcomes all the great obstacles to which we have referred, at an expense which

individual enterprise would not venture to incur. The remaining distance to the Susquehanna, at Port Deposit, is remarkable for the facility it presents, and for the decrease of every thing which usually create expense. The line is located all the way on a dividing ridge between the waters of the Octorara and other streams running to the Chesapeake, so that not a single bridge or culvert is necessary.

From Port Deposit to Baltimore it is understood that a most favorable location has been obtained, presenting no difficulties of serious magnitude. The distance from Philadelphia to Baltimore, by the route thus indicated, is 118 miles, or somewhat less than the present route by steamboat and railroad; namely—

From Philadelphia by the State Railroad to the commencement of the Oxford Railroad, - - -	45½	miles
Length of the Oxford Railroad, ending at the State line, - -	21	do.
From the State line to Port Deposit,	10¼	do.
Port Deposit to Baltimore, -	41¼	do.
	118	miles.

To complete such a communication only 72½ miles of railroad are required to be made by the united enterprise of Pennsylvania and Maryland. Viewing it as a mere line between Philadelphia and Baltimore, and extending the amount of travel and business by what exists at present, no doubt could arise as to the value of the project, and its profit to the stockholders. How much will this value and profit be increased when other improvements, already begun, are completed, when (as will be the case within two or three years) a continued line of railroad shall have been formed from Boston to Washington City. It is hazarding little to assert that the travel to the seat of Government during the next session of Congress must increase seven-fold, whenever a safe conveyance is provided. At present no man visits Washington unless upon the most urgent business, or with so strong an appetite for its amusements as to overcome the apprehensions justly entertained of a winter journey.

The capital of the Oxford Railroad Company is $200,000, divided into shares of $50 each, all of which, and more, were subscribed at the opening of the books last week. This capital is deemed sufficient to make the whole road, it being, in the estimation of all who have examined it, the cheapest location in the country; the profile of the line, as proposed by the engineer, is a favorable one, admitting advantageous use of either locomotive or horse power.

Besides the advantages which the Oxford Railroad will possess as a link of a great chain of inland communication, it will command a local trade in itself sufficient to justify the whole expenditure. The region through which it passes manufactures iron and wood to a very considerable extent, besides transmitting a large amount of agricultural produce to the Philadelphia market. That region, naturally fertile, has become in some degree exhausted for want of lime, which at present can only be procured by expensive carriage from the Chester Valley. The railroad is the contrivance to obviate that difficulty. Its north-eastern termination, the point where it joins the State Railroad, is in the inexhaustible limestone formation of the Great Valley. From that valley by the railroad, a quantity of limestone equal to the supply of 250 square miles of land, now suffering for the want of it, will annually be carried, and will yield a revenue equal to the interest of the whole cost of the road. The miraculous effect of this fertilizing agent we well know. In a year or two after its use, the produce sent to this market by the railroad will be vastly increased, and thus a double profit accrue from the limestone trade.

Our limits do not permit us to carry these views far into detail. We have only designed to suggest the points, leaving others to draw the conclusions which may legitimately arise. That the Oxford Railroad will prove a great convenience to the public at large, and a blessing to the country through which it is located, and that it will furnish a safe, profitable, and permanent investment for the capital employed in its construction, seems to us to be established beyond a question.

We would invite attention to the excellent address published below, of the Board of Managers of The New York Society for the Promotion of Knowledge and Industry. The objects of this association are proclaimed with sufficient clearness in the address, but we may be allowed to urge upon our readers the strong claims of this society upon every citizen who has at heart the well being of the community of which he is a member.

Address of the Board of Managers of the New-York Society for the Promotion of Knowledge and Industry.

Fellow Citizens,—The formation of a society which is intended to effect an important improvement in the condition of the community, and which must necessarily depend upon public opinion for its success, calls for a public explanation of its principles and objects; and of the means by which those objects are intended to be effected.

The increased and increasing extent of pauperism in our city, presents a subject for the most serious consideration. This is what we should reasonably expect from the overcrowded population, and amidst the decrepid political establishments of Europe; but it stands in unnatural contrast with our unequalled prosperity, and with the general health, vigor, and freshness of our political institutions. The question how far this evil results from our adoption, or too close imitation, of a foreign system of poor laws, presents a problem of which we shall not now attempt the solution, but upon which the future labors of this society, we trust, will throw clear and sufficient light.

However this may be, it is certain that no public provision for the poor which has not especial reference to a removal of the causes of pauperism can fail to increase its amount, and it is equally certain that no such provision can embrace all the objects of private benevolence, or supercede its efforts. After the laws shall have done their best, an immense work will remain to be accomplished. This, it will be admitted, must be chiefly effected by moral means, and by measures that are preventive, rather than such as are remedial.

It is manifest that individual efforts are wholly incompetent to effect the object in view.

The general design of the society, therefore, is to improve the intellectual, moral, and physical condition of the poor. Its primary and specific objects will be to extend the advantages of education to the children of the indigent—to discourage their employment in hawking, peddling, street-begging, and pilfering—to establish the necessary schools for the instruction of adults—to abolish indiscriminate alms-giving—to visit the poor at their habitations—to give them counsel—to aid them in obtaining employment—to inspire them with self-respect—to inculcate habits of economy, industry, and temperance—and whenever it shall be absolutely necessary, to provide through the aid of private individuals, and of the public authorities, relief for their necessities.

It is impossible to know where the care of such an association is most wanted, without a personal acquaintance with all who are its appropriate objects. It is intended that this care shall assume the character of a paternal guardianship. It is designed to establish a general and friendly intercourse with the poor, which shall secure a thorough knowledge of their actual condition, and enable us to apply the best means for its improvement. It is by such an intercourse only, that we can assure them of our sympathy, bring them under its moral influence, and multiply among them the proper means and inducements to depend upon their own exertions for the comforts of life. It is only by the knowledge which will result from such an intercourse, and which will embrace every section of the city, that we can hope to minister relief, when necessary, with sound discrimination, and without which it would be a curse rather than a blessing.

It is a distinguishing feature of this society that it is intended, not only to reach every family and every individual who may need its aid, but that instead of being limited to a particular description of necessities, it shall embrace the want of knowledge, of instruction, of advice, of employment, and of the necessaries of life. In short, it is intended that the poor shall look to the society for their advisers, their protectors and their benefactors, under all the trials to which they may be exposed.

The Board feel convinced that a narrower restriction of the labors of the society would greatly diminish their influence and usefulness.

An important provision in the plan of the society, and of its constitution, is that by which it is declared that no person shall be relieved without the bounds of the district to which he belongs, nor without the knowledge of the visitors of that district. It will be perceived at once that if the society does not fail from the inadequacy of its numbers, that this will afford a more effective check than ever was devised by any contrivance of police or charity to street-begging, with all its accompaniments of fraud, and its inhuman demoralization of children.

The constitution of the society also forbids, and this we regard as an object of primary importance, that any pecuniary aid shall be granted to persons of intemperate habits, except in cases of dangerous illness.

The limits which we have presented to ourselves on this occasion will not permit us to enter much into detail in regard to the objects already stated, or the means proposed for effecting them. It is proper, however, to refer to one or two particulars.

No essential and durable reform in society can ever be anticipated, the foundations of which are not laid in a provision for the rising generation.

It is a well established fact that there are from ten to thirteen thousand children in our city within the proper ages for instruction, who do not attend school

A liberal provision has been made by the public authorities to remedy this evil, and the trustees of the Public School Society have devoted and are devoting their attention to this subject with the most praise-worthy zeal and fidelity. They have recently, with great care and labor, extended their plan of instruction, and adapted it to the increased means which have been placed in their hands. There is every reason to believe that this labor will receive an abundant recompense in an increased attendance upon the schools, as well as in the improvement of their means of instruction. But it is confidently believed, that the power of this society to discourage vagrancy in children, and the influence which it will bring to bear upon parents, will afford a more effectual remedy than can be otherwise provided to this most discouraging and alarming evil.

Another very important department for the labors of the society will be found in the establishment of schools for adults, to the extent and in the manner in which experience shall demonstrate their practicability and usefulness.

The means proposed to effect all the desirable objects abovementioned are the following:

It is intended that this society shall embrace all those enlightened and benevolent individuals who can appreciate these designs, and are willing to promote them. Each Ward of the city is to be under the supervision of its own officers, and to be divided into small districts, placed under the special care of suitable persons, appointed by the Ward Associations for that purpose, and that by this division of labor, which may be extended indefinitely, the duty of each visitor shall be of easy performance.

The whole society is to be under the management of a Board of Managers, consisting of

five individuals chosen from each Ward, and to be elected annually by the Ward Associations.

The general plan of the Society is now before the public. An effort will shortly be made to ascertain what support it can hope to receive from an intelligent community.

The citizens of each Ward will soon be requested to become members of the society, (and its constitution is herewith submitted to them,) and to form themselves into Ward Associations.

If our labors shall be successful, they will probably result in a general reform of our system of providing for the poor—they can hardly fail in any event to produce an immense melioration of their condition.

The foundations of the Society are laid in the broadest and most liberal principles, and an appeal is now most earnestly and confidently made for the countenance and support of men of every sect, of every party, and of those who belong to *none*.

By order of the Board,

GIDEON LEE, President,
ISAAC PIERCE, Secretary.

BOARD OF MANAGERS.

First Ward—John Y. Cebra, David Clarkson, Oliver Cobb, John J. Labah, J. J. Rosevelt, Jun.

Second Ward—Walter Bowne, William Van Wyck, Benjamin Demilt, Silas Brown, Saul Alley.

Third Ward—James Monroe, Ralph Olmsted, Robert Sedgwick, Thomas Herttell, William H. Aspinwall.

Fourth Ward—Chas. G. Ferris, Isaac Pierce, George S. Mann, Linus W. Stevens, Joseph N. Lord.

Fifth Ward—Anthony Lamb, David Banks, John R. Murray, George F. White, James Campbell.

Sixth Ward—John T. Irving, J. R. Rhinelander, Daniel E. Tylee, Henry Durell, Shivers Parker.

Seventh Ward—James R. Whiting, Zebedee Ring, Perez Jones, Timothy Hedges, Samuel Akerly.

Eighth Ward—Hendrick Booraem, James Lynch, Fred. A. Tallmadge, Francis D. Allen, Redwood Fisher.

Ninth Ward—Henry Meigs, James N. Wells, Robert Halliday, Charles Oakley, Silas M. Stilwell.

Tenth Ward—Stephen Allen, Peter S. Titus, Eliphalet Wheeler, M. M. Quackenboss, Morris De Camp.

Eleventh Ward—Samuel C. Ellis, Henry P. Robertson, Fyler Dibblee, Lewis Willcocks, Peter Stuyvesant.

Twelfth Ward—Charles H. Hall, Peter Cooper, George B. Thorp, David Cargill, Isaac L. Varian.

Thirteenth Ward—James Palmer, Jacob Westervelt, E. D. Comstock, Isaac D. Merrit, Nathan Roberts.

Fourteenth Ward—Joseph Curtis, Charles Dusenbury, Philip W. Engs, Austen Baldwin, John L. Moffitt.

Fifteenth Ward—James B. Murray, Samuel Cowdrey, Samuel Ward, Jun., Benjamin Birdsall, Abraham Mason.

CONSTITUTION.

PREAMBLE.

WE, whose names are hereunto annexed, believing that the well-being of society depends upon industry, intelligence and virtue; that ignorance and idleness are the principal sources of pauperism and crime; and that these evils may be greatly diminished by the benevolent and well-directed efforts of an extensive association of our citizens, do hereby form ourselves into a Society, to be called THE NEW YORK SOCIETY FOR THE PROMOTION OF KNOWLEDGE AND INDUSTRY, and do make and ordain the following

CONSTITUTION.

Article I. The objects of this Society shall be,

1st. The diffusion and extension of useful knowledge and common education.

2d. The encouragement of industry, and the elevation of the moral condition of the indigent; and also, but only so far as may be compatible with these objects, the relief of their necessities.

Article II. No religious or political discussions shall be allowed in the Society; no political or sectarian publications shall be distributed by it; and no preference shall be given by its members, as such, on account of religious or political distinctions.

Article III. The management of the affairs of this Society shall be vested in a Board of Managers, composed of five members from each Ward, who shall have the control of the funds of the Society; and who may make any regulations or by-laws concerning the same, not inconsirtent with this constitution. Nine members shall constitute a quorum for the transaclion of business.

Article IV.—SEC. 1 The members of this Society shall meet in their respective wards, on the last Wednesday of May, in each year, to choose delegates—five to be chosen from each ward; and which delegates, when chosen, shall constitute the Board of Managers of the Society.

SEC. 2. The Board of Managers shall choose their own officers, and the President of the Board shall be President of the Society.

Article V.—SEC. 1. The members of the Society belonging to the different wards, shall constitute Ward Associations of the Society.

SEC. 2. The Ward Associations shall meet as often as they may think necessary, and at such other times as may be recommended by the Board of Managers.

SEC. 3. The Ward Associations shall, severally, choose annually a President and two Vice Presidents, a Secretary and Treasurer.

SEC. 4. It shall be the duty of the Secretaries to keep minutes of all the proceedings.

SEC. 5. The Treasurers of the Ward Associations shall pay the moneys in their hands monthly, (after making provision for their necessary expenses,) to the treasurer of the Board of Managers.

SEC. 6. The Ward Associations shall cause their respective wards to be completely districted, and shall assign to each district some one or more individuals, who shall be called the Ward Visiters of the Society.

SEC. 7. The Ward Visitors of each district shall make a record of the names of all such persons as may be directed by the Board of Managers.

SEC. 8. Copies of the Records kept as aforesaid, or of such parts thereof as the Board of Managers may direct, shall be furnished by the Ward Visiters to the Ward Associations, and by the Ward Associations to the Board of Managers, as shall be required by them.

SEC. 9. It shall be the duty of the Ward Visiters, to aid in procuring relief for the sick from the Public Dispensary, or otherwise—to procure to be sent to school, as far as practicable, such children as do not attend school, and may be received there—and also to get into the free schools for adults, whenever such schools shall be provided, such persons as ought to be taught there—to encourage industry, by procuring employment for those unemployed—to inculcate, as far as possible, a sense of moral duty and a feeling of self-respect—and to obtain from individuals and the public authorities, such necessary relief as may be furnished, without encouraging idleness or vice. They shall keep and render to the Ward Associations, accounts of all moneys and donations received and distributed by them, and shall pay over, when required by said Associations, any balances in their hands.

SEC. 10. No person belonging to any district shall receive any relief without the bounds thereof, nor without the knowledge of the visiters of that district.

SEC. 11. No person of intemperate habits shall receive any pecuniary relief through the medium of the Society, except in cases of dangerous illness.

Article VI.—Every person who shall subscribe this constitution, and pay one dollar or more into the treasury, annually, shall be a member of this Society; and every person who shall pay ten dollars, or upwards, at any one payment, shall be a life member thereof.

Article VII.—The Mayor, and members of the Common Council, shall be ex-officio members of the Board of Managers.

Article VIII.—No alteration shall be made in this constitution, except concurred in by two thirds of the Ward Associations.

CANALS.—The annexed account of an interesting experiment, with reference to accelerating the movement of boats on canals, will be found worthy the attention of those who take a direct interest in the concerns of Internal Improvement. In canals, as used in this country, speed may perhaps be of less consequence than regularity in transmission of freight, though, certain it is, that in almost all transactions time is money:

Accelerated Movement upon Canals.—On Saturday afternoon a trial was made upon the Paddington Canal, of the new canal-boat. The object of the trial was to show that a boat built in a different form, and constructed of other materials than the ordinary canal-boat, might, by using superior horses, be drawn along the water at the rate of ten miles or more in an hour, instead of two miles an hour, the pace of the boats now in use. The day was remarkably fine. The portion of the canal more particularly appropriated to the experiment was from the third to the seventh mile from Paddington. The boat was constructed of sheet-iron, rivetted hot. It was 70 feet long, by 5½ feet wide, and painted green and white. The boat was provided with an awning made of white twilled cotton cloth, which had been rendered semi-transparent with oil. The awning was so set up that the top was extended over light wooden arches, which rested upon a thin upright frame of rod iron; and the sides, in the form of curtains, were made to slide at pleasure upon paralleled rods placed at the upper and lower ends of the curtains. The rudder was of a single sheet of iron, of about a yard in length, and it was moved by a tiller made of about two yards of stout rod iron. Two steady hunting horses, each mounted by a lad, and the two harnessed to a towing rope of about 150 feet in length, constituted the moving power. The number of persons on board the boat was 48, including the crew, the gentlemen making the experiment, some of the principal members of the Grand Junction Company, and the visiters, amongst whom were Mr. Telford, Mr. Babbage, Captain Basil Hall, Mr. Hellyer, and Mr. Gill; a lady also made one of the party on this interesting occasion. Certain distances were measured on the canal bank, and marks set up at the ends of them. At each of these places also, a man was stationed with a guaged rod in his hand, which he so held, as that, upon the boat's passing, he might instantly read off the height of the wave caused by the disturbance of the water. When all things were ready on the shore, and the party had embarked, the boat was put in motion. The speed from one station to another, taken by seconds' watches, showed, for some time, a progress at the rate of thirteen miles an hour. The horses, however, soon began to tire, and the speed fell to eleven, and ultimately, in returning for the third time, to ten and a quarter miles in the hour.

The experiment, as far as it goes was attended with complete success. The motion is the easiest imaginable. The boat glides along the water so smoothly and noiselessly, that its progress is all but imperceptible to those on board whose attention is not extended to external objects. A relay of horses will be required at the end of every four or five miles. The banks of the canal will have to be edged for nine or ten inches above the ordinary level of the water with hard materials, and the towing-path to be slightly sloped outwards. Improvements, no doubt, will also be made to facilitate the passing of locks, and in the mode of attaching the horses to the boat, so that the animals may exert their power upon the boat disembarrassed of the awkwardness of the direction in which, under the present form of towing, they are made to put forth their strength.—[London Albion.]

Babbage on the Economy of Manufactures.

[Continued from page 345.]

OF THE IDENTITY OF THE WORK WHEN IT IS OF THE SAME KIND, AND ITS ACCURACY WHEN OF DIFFERENT KINDS.

56. Nothing is more remarkable, and yet less unexpected, than the perfect identity of things manufactured by the same tool. If the top of a circular box is to be made to fit over the lower part, it may be done in the lathe by gradually advancing the tool of the sliding-rest; the proper degree of tightness between the box and its lid being found by trial. After this adjustment, if a thousand boxes are made, no additional care is required; the tool is always carried up to the stop, and each box will be equally adapted to every lid. The same identity pervades all the arts of printing; the impressions from the same block, or the same copper-plate, have a similarity which no labor could produce by hand. The minutest traces are transferred to all the impressions, and no omission can arise from the inattention or unskilfulness of the operator. The steel punch, with which the card-wadding for a fowling-piece is cut, if it once perform its office with accuracy, constantly reproduces the same exact circle.

57. The accuracy with which machinery executes its work is, perhaps, one of its most important advantages; it may, however, be contended, that a considerable portion of this advantage may be resolved into saving of time, for it generally happens, that any improvement in tools increases the quantity of work done in a given time. Without tools, that is, by the mere efforts of the human hand, there are, undoubtedly, multitudes of things which it would be impossible to make. Add to the human hand the rudest cutting instrument, and its powers are enlarged; the fabrication of many things then becomes easy, and that of others possible with great labor. Add the saw to the knife or the hatchet, and other works become possible, and a new course of difficult operations is brought into view, whilst many of the former are rendered easy. This observation is applicable even to the most perfect tools or machines. It would be *possible* for a very skilful workman, with files and polishing substances, to form a cylinder out of a piece of steel; but the time which this would require would be so considerable, and the number of failures would probably be so great, that for all practical purposes such a mode of producing a steel cylinder might be said to be impossible. The same process, by the aid of the lathe and the sliding-rest, is the every-day employment of hundreds of workmen.

58. Of all the operations of mechanical art, that of turning is the most perfect. If two surfaces are worked against each other, whatever may have been their figure at the commencement, there exists a tendency in them both to become portions of spheres. Either of them may become convex, and the other concave, with various degrees of curvature. A plane surface is the line of separation between convexity and concavity, and is most difficult to hit; and it is more easy to make a good circle than to produce a straight line. A similar difficulty takes place in figuring specula for telescopes; the parabola is the surface which separates the hyperbolic from the elliptic figure, and is the most difficult to form. If a spindle, not cylindrical at its end, is pressed into a hole not circular, and if the spindle be kept constantly turning, there is a tendency in these two bodies so situated to become conical, or to have circular sections. If a triangular pointed piece of iron be worked round in a circular hole, the edges will gradually wear, and it will become conical. These facts, if they do not explain, at least illustrate the principles on which the excellence of work formed in the lathe depends.

OF COPYING.

59. The two last sources of excellence in the work produced by machinery depend on a principle which pervades a very large portion of all manufactures, and is one upon which the cheapness of the articles produced seems greatly to depend. The principle alluded to is that of COPYING, taken in its most extensive sense. Almost unlimited pains are, in some instances, bestowed on the original, from which a series of copies is to be produced; and the larger the number of these copies, the more care and pains can the manufacturer afford to lavish upon the original. It may thus happen, that the instrument or tool actually producing the work shall cost five or even ten thousand times the price of each individual specimen of its power.

As the system of copying is of so much importance, and of such extensive use in the arts, it will be convenient to classify a considerable number of those processes in which it is employed. The following enumeration is not offered as a complete list; and the explanations are restricted to the shortest possible detail which is consistent with a due regard to making the subject intelligible. Operations of copying are effected under the following circumstances:

By printing from cavities.	By stamping.
By printing from surface	By punching.
By casting.	With elongation.
By moulding.	With altered dimensions.

OF PRINTING FROM CAVITIES.

60. The art of printing, in all its numerous departments, is essentially an art of copying. Under its two great divisions, printing from hollow lines, as in copper-plate, and printing from surface, as in block printing, are comprised numerous arts.

61. *Copper-plate Printing.*—In this instance the copies are made by transferring to paper, by means of pressure, a thick ink, from the hollows and lines cut in the copper. An artist will sometimes exhaust the labor of one or two years upon engraving a plate, which will not, in some cases, furnish above five hundred copies in a state of perfection.

62. *Engraving on Steel.*—This is an art in most respects similar to engraving on copper, except that the number of copies is far less limited. A bank note engraved as a copper-plate will not give above three thousand impressions without a sensible deterioration. Two impressions of a bank note engraved on steel were examined by one of our most eminent artists,* who found it difficult to pronounce with any confidence which was the earliest impression. One of these was a proof from amongst the first thousand, the other was taken after between seventy and eighty thousand had been printed off.

63. *Music Printing.*—Music is usually printed from pewter-plates, on which the characters have been impressed by steel punches. The metal being much softer than copper is liable to scratches, which detain a small portion of the ink. This is the reason of the dirty appearance of printed music. A new process has recently been invented by Mr. Cowper, by which this inconvenience will be avoided. The improved method, which gives sharpness to the characters, is still an art of copying; but it is effected by surface-printing, nearly in the same manner as calico-printing, from blocks, to be described hereafter, (70.) The method of printing music from pewter-plates, although by far the most frequently made use of, is not the only one employed, for music is occasionally printed from stone. Sometimes also it is printed with moveable type; and occasionally the musical characters are printed on the paper, and the lines printed afterwards. Specimens of both these latter modes of music printing may be seen in the splendid collection of impressions from the types of the press of Bodoni at Parma: but notwithstanding the great care bestowed on the execution of that work, the perpetual interruption of continuity in the lines, arising from the use of moveable type, when the characters and lines are printed at the same time, is apparent.

64. *Calico-Printing from Cylinders.*—Many of the patterns on printed calicoes are copies by printing from copper cylinders about four or five inches in diameter, on which the desired pattern has been previously engraved. One portion of the cylinders is exposed to the ink, whilst an elastic scraper of stuffed leather, by being pressed forcibly against another part removes all superfluous ink from the surface previously to its reaching the cloth. A piece of calico twenty-eight yards in length rolls through this press, and is printed in four or five minutes.

65. *Printing from perforated Sheets of Metal, or Stencilling.*—Very thin brass is sometimes perforated in the form of letters, usually those of a name; this is placed on any substance which it is required to mark, and a brush dipped in paint is passed over the brass. Those parts which are cut away admit the paint, and thus a copy of the name appears on the substance below. This method, which affords rather a coarse copy, is sometimes used for paper with which rooms are covered, and more especially for the borders. If a portion is required to match an old pattern, this is, perhaps, the most economical way of producing it.

66. The beautiful red cotton handkerchiefs dyed at Glasgow have their pattern given to them by a process similar to this, except that, instead of *printing* from a pattern, the reverse operation—that of *discharging* a part of the color from a cloth already dyed—is performed. A number of handkerchiefs are pressed with very great force between two plates of metal, which are similarly perforated with round or lozenge-shaped holes, according to the intended pattern. The upper plate of metal is surrounded by a rim, and a fluid which has the property of discharging the red dye is poured upon that plate. This liquid passes through the holes in the metal, and also through the calico: but, owing to the great pressure opposite all the parts of the plates not cut away, it does not spread itself beyond the pattern. After this the handkerchiefs are washed, and the pattern of each is a copy of the perforated metal plate used in the process.

OF PRINTING FROM SURFACE.

This second department, of printing from surface, is of more frequent application in the arts than that which has just been considered.

67. *Printing from wooden Blocks.*— A block of box wood is in this instance the substance out of which the pattern is formed: the design being sketched upon it, the workman cuts away with sharp tools every part except the lines to be represented in the impression. This is exactly the reverse of the process of engraving on copper, in which every line to be represented is cut away. The ink, instead of filling the cavities cut in the wood, is spread upon the surface which remains, and is thence transferred to the paper.

68. *Printing from moveable Types.*—This is the most important in its influence, of all the arts of copying. It possesses a singular peculiarity in the immense subdivision of the parts that form the pattern. After that pattern has furnished thousands of copies, the same individual elements may be arranged again and again in other forms, and thus supply multitudes of originals, from each of which thousands of their copied impressions may flow.

69. *Printing from Stereotype.*—This mode of producing copies is very similar to the preceding; but as the original pattern is incapable of change, it is only applied to cases where an extraordinary number of copies are demanded, or where the work consists of figures, and it is of great importance to insure accuracy. Alterations may be made in it from time to time; and thus mathematical tables may, by the gradual extirpation of error, at last become perfect. This mode of producing copies possesses, in common with that by moveable types, the advantage of being capable of use in conjunction with wood cuts, a union frequently of considerable importance, and which is not so readily accomplished with engravings on copper.

70. *Calico-Printing from Blocks.*—This is a mode of copying, by surface-printing, from the ends of small pieces of copper wire, of various forms, fixed into a block of wood. They are all of one uniform height, about the eighth part

* The late Mr. Lowry.

of an inch above the surface of the wood, and are arranged by the maker into any required pattern. If the block be placed upon a piece of fine woollen cloth, on which ink of any color has been uniformly spread, the projecting copper wires receive a portion, which they give up when applied to the calico to be printed. By the former method of printing on calico, only one color could be used; but by this plan, after the flower of a rose, for example, has been printed with one set of blocks, the leaves may be printed of another color by a different set.

71. *Printing Oil-Cloth.*—After the canvass, which forms the basis of oil-cloth, has been covered with paint of one uniform tint, the remainder of the processes which it passes through is a series of copyings by surface-printing, from patterns formed upon wooden blocks very similar to those employed by the calico printer. Each color requires a distinct set of blocks, and thus those oil-cloths with the greatest variety of colors are most expensive.

There are several other varieties of printing which we shall briefly notice as arts of copying; which, although not strictly surface-printing, yet are more allied to it than to that from copper plates.

72. *Letter Copying.*—In one of the modes of performing this process, a sheet of very thin paper is damped, and placed upon the writing to be copied. The two papers are then passed through a rolling press, and a portion of the ink from one paper is transferred to the other. The writing is of course reversed by this process; but the paper to which it is transferred being thin, it is visible on the other side, in an uninverted position. Another common mode of copying letters is by placing a sheet of paper, covered on both sides with a substance prepared from lamp-black, between a sheet of thin paper and the paper on which the letter to be despatched is to be written. If the upper or thin sheet be written upon with any hard pointed substance, the words written with this style will be impressed from the black paper upon both those adjoining it. The translucency of the upper sheet, which is retained by the writer, is in this instance necessary to render legible the writing which is on the back of the paper. Both these arts are very limited in their extent, two or three being the utmost number of repetitions they allow.

73. *Printing on China.*—This is an art of copying which is carried to a very great extent. As the surfaces to which the impression is to be conveyed are often curved, and sometimes even fluted, the ink, or paint, is first transferred from the copper to some flexible substance, such as paper, or an elastic compound of glue and treacle. It is almost immediately conveyed from this to the unbaked biscuit, to which it more readily adheres.

74. *Lithographic Printing.*—This is another mode of producing copies in almost unlimited number. The original which supplies the copies is a drawing made on a stone of a slightly porous nature; the ink employed for tracing it is made of such greasy materials that when water is poured over the stone it shall not wet the lines of the drawing. When a roller covered with printing-ink, which is of an oily nature, is passed over the stone previously wetted, the water prevents this ink from adhering to the uncovered portions; whilst the ink used in the drawing is of such a nature that the printing-ink adheres to it. In this state, if a sheet of paper be placed upon the stone, and then passed under a press, the printing-ink will be transferred to the paper, leaving the ink used in the drawing still adhering to the stone.

75. There is one application of lithographic printing which does not appear to have received sufficient attention, and perhaps farther experiments are necessary to bring it to perfection. It is the reprinting of works which have just arrived from other countries. A few years ago one of the Paris newspapers was reprinted at Brussels as soon as it arrived, by means of lithography. Whilst the ink is yet fresh this may easily be accomplished: it is only necessary to place one copy of the newspaper on a lithographic stone; and by means of great pressure applied to it in a rolling press, a sufficient quantity of the printing-ink will be transferred to the stone. By similar means, the other side of the newspaper may be copied on another stone, and these stones will then furnish impressions in the usual way. If printing from stone could be reduced to the same price per thousand as that from moveable types, this process might be adopted with great advantage for the supply of works for the use of distant countries possessing the same language: for a single copy of the work might be printed off with *transfer ink*, which is better adapted to this purpose; and thus an English work, for example, might be published in America from stone, whilst the original, printed from moveable types, made its appearance on the same day in England.

It is much to be wished that such a method were applicable to the reprinting of fac-similes of old and scarce books. This, however, would require the sacrifice of two copies, since a leaf must be destroyed for each page. Such a method of reproducing a small impression of an old work is peculiarly applicable to mathematical tables, the setting up of which in type is always expensive, and liable to error; but how long ink will retain its power of being transferred to stone from paper on which it has been printed, must be determined by experiment. The destruction of the greasy or oily portion of the ink in the character of old books seems to present the greatest impediment: if one constituent only of the ink were removed by time, it might perhaps be hoped that chemical means would ultimately be discovered for restoring it: but if this be unsuccessful, an attempt might be made to discover some substance having a strong affinity for the carbon of the ink which remains on the paper, and very little for the paper itself.*

76. *Register Printing.*—It is sometimes thought necessary to print from a wooden block, or stereotype plate, the same pattern reversed upon the opposite side of the paper. The effect of this, which is technically called *Register Printing*, is to make it appear as if the ink had penetrated through the paper, and rendered the pattern visible on the other side. If the subject chosen contains many fine lines, it seems at first sight extremely difficult to effect so exact a super-position of the two patterns, on opposite sides of the same piece of paper, that it shall be impossible to detect the slightest deviation; yet the process is extremely simple. The block which gives the impression is always accurately brought down to the same place by means of a hinge; this spot is covered by a piece of thin leather stretched over it; the block is now inked, and being brought down to its place, gives an impression of the pattern to the leather; it is then turned back; and being inked a second time, the paper intended to be printed is placed upon the leather, when the block again descending, the upper surface of the paper is printed from the block, and its under surface takes up the impression from the leather. It is evident that the perfection of this mode of printing depends in a great measure on finding some soft substance like leather, which will take as much ink as it ought from the block, and which will give it up most completely to paper. Impressions thus obtained are usually fainter on the lower side; and in order in some measure to remedy this defect, rather more ink is put on the block at the first than at the second impression.

OF COPYING BY CASTING.

77. The art of casting, by pouring substances in a fluid state into a mould which retains them until they become solid, is essentially an art of copying; the thing produced resembling entirely, as to shape, the pattern from which it was formed.

78. *Of Casting Iron and other Metals.*—Patterns of wood or metal made from drawings are the originals from which the moulds for casting are made: so that, in fact, the casting itself is a copy of the mould, and the mould is a copy of the pattern. In castings of iron and metals for the coarser purposes, and, if they are afterwards to be worked, even for the finer machines, the exact resemblance amongst the things produced, which takes place in many of the arts to which we have alluded, is not effected in the first instance, nor is this necessary. As the metals shrink in cooling, the pattern is made larger than the intended copy; and in extricating it from the sand in which it is moulded, some little difference will occur in the size of the cavity which it leaves. In smaller works, where accuracy is more requisite, and where few or no after operations are to be performed, a mould of metal is employed which has been formed with considerable care. Thus, in casting bullets, which ought to be perfectly spherical and smooth, an iron instrument is used in which a cavity has been cut and carefully ground: and in order to obviate the contraction in cooling, a *jet* is left which may supply the deficiency of metal arising from that cause, and which is afterwards cut off. The leaden toys for children are cast in brass moulds, which open, and in which have been graved or delineated the figures intended to be produced.

79. A very beautiful mode of representing small branches of the most delicate vegetable productions in bronze has been employed by Mr. Chantrey. A small strip of a fir-tree, a branch of holly, a curled leaf of broccoli, or any other vegetable production, is suspended by one end in a small cylinder of paper which is placed for support within a similarly formed tin case: the finest river silt, carefully separated from all the coarser particles, and mixed with water so as to have the consistency of cream, is poured into the paper cylinder by small portions at a time, carefully shaking the plant a little after each addition, in order that its leaves may be covered, and that no bubbles of air may be left. The plant and its mould are now allowed to dry, and the yielding nature of the paper allows the loamy coating to shrink from the outside. When this is dry it is surrounded by a coarser substance: and, finally, we have the twig with all its leaves imbedded in a perfect mould. This mould is carefully dried, and then gradually heated to a red heat. At the ends of some of the cases crucibles, wires have been left to afford air-holes by their removal, and in this state of strong ignition a stream of air is directed into the hole formed by the end of the branch. The consequence is, that the wood and leaves which had been turned into charcoal by the fire, are now converted into carbonic acid by the current of air; and after some time the whole of the solid matter of which the plant consisted is completely removed, leaving a hollow mould, bearing on its interior all the minutest traces of its late vegetable occupant. When this process is completed, the mould, being still kept at nearly a red heat, receives the fluid metal, which, by its weight, either drives the very small quantity of air, which at that high temperature remains behind, out through the air-holes, or compresses it into the pores of the very porous substance of which the mould is formed.

80. *Casting in Plaster.*—This is a mode of copying applied to a variety of purposes: to produce accurate representations of the human form—of statues—or of rare fossils—to which latter purpose it has lately been applied with great advantage. In all casting, the first process is to make the mould: and plaster is the substance which is almost always employed for the purpose. The property which it possesses of remaining for a short time in a state of fluidity, renders it admirably adapted to this object, and adhesion, even to an original of plaster, is effectually prevented by oiling the surface on which it is poured. The mould formed round the subject which is copied, removed in separate pieces and then re-united, is that in which the copy is cast. This process gives

* I possess a lithographic reprint of one page of a table, which appears from the form of the type, to have been several years old.

additional utility and value to the finest works of art. The students of the Academy at Venice are thus enabled to admire the sculptured figures of Egina, preserved in the gallery at Munich; as well as the marbles of the Parthenon, the pride of our own Museum. Casts in plaster of the Elgin marbles adorn many of the academies of the Continent, and the liberal employment of such presents affords us an inexpensive and permanent source of popularity.

81. *Casting in Wax.*—This mode of copying, aided by proper coloring, offers the most successful imitations of many objects of natural history, and gives an air of reality to them which might deceive even the most instructed. Numerous figures of remarkable persons, having the face and hands formed in wax, have been exhibited at various times; and the resemblances have in some instances been most striking. But whoever would see the art of copying in wax carried to the highest perfection, should examine the beautiful collection of fruit at the house of the Horticultural Society; the model of the magnificent flower of the new genus Rafflesia; the waxen models of the internal parts of the human body, which adorn the anatomical gallery of the Jardin des Plantes at Paris, and the Museum at Florence—or the collection of morbid anatomy, at the University of Bologna. The art of imitation by wax does not usually afford the multitude of copies which flow from many similar operations. This number is checked by the subsequent stages of the process, which, ceasing to have the character of copying by a tool or pattern, become consequently more expensive. In each individual production, form alone is given by casting; the coloring must be the work of the pencil, guided by the skill of the artist.

OF COPYING BY MOULDING.

82. This method of producing multitudes of individuals having an exact resemblance in external shape, is adopted very widely in the arts. The substances employed are, either naturally or by artificial preparation, in a soft or plastic state; they are then compressed by mechanical force, sometimes assisted by heat, into a mould of the required form.

83. *Of Bricks and Tiles.*—An oblong box of wood fitting upon a bottom fixed to the brickmaker's bench, is the mould from which every brick is formed. A portion of the plastic mixture of which the bricks consist is made ready by less skilful hands; the workman first sprinkles a little sand into the mould, and then throws the clay into it with some force, at the same time rapidly working it with his fingers, so as to make it completely close up to the corners. He next scrapes off, with a wetted stick, the superfluous clay, and shakes the new-formed brick dexterously out of its mould upon a piece of board, on which it is removed by another workman to the place appointed for drying it. A very skilful moulder has, occasionally, in a long summer's day, delivered from ten to eleven thousand bricks; but a fair average day's work is from five to six thousand. Tiles of various kinds and forms are made of finer materials, but by the same system of moulding. Amongst the ruins of the city of Gour, the ancient capital of Bengal, are found bricks having projecting ornaments in high relief: these appear to have been formed in a mould, and subsequently glazed with a colored glaze. In Germany, also, brickwork has been executed with various ornaments. The cornice of the church of St. Stefano, at Berlin, is made of large blocks of brick moulded into the form required by the architect.

84. *Of Embossed China.*—Many of the forms given to those beautiful specimens of earthenware, which constitute the equipage of our breakfast and our dinner tables, are not capable of being executed in the lathe of the potter. The embossed ornaments on the edges of the plates, their polygonal shape, the fluted surface of many of the vases, would all be difficult and costly of execution by the hand; but they become easy and uniform in all their parts when made by pressing the soft material, out of which they are formed, into a hard mould. The care and skill bestowed on the preparation of that mould are repaid by the multitude it produces. In many of the works of the china manufactory, one part only of the article is moulded—the upper surface of the plate, for example—whilst the under side is figured by the lathe. In some instances the handle, or only a few ornaments, are moulded, and the body of the work is turned.

85. *Glass Seals.*—The process of engraving upon gems is one requiring considerable time and skill. The seals thus produced can, therefore, never become common. Imitations, however, have been made of various degrees of resemblance. The color which is given to glass is, perhaps, the most successful part of the imitation. A small cylindrical rod of colored glass is heated in the flame of a blow-pipe, until the extremity becomes soft. The operator then pinches it between the ends of a pair of nippers, which are formed of brass, and on one side of which has been carved in relief the device intended for the seal. When care has been taken in heating the glass properly, and when the mould has been well finished, the seals thus produced are not bad imitations. By this system of copying they are so multiplied, that at Birmingham the more ordinary kinds are to be purchased at three-pence a dozen.

86. *Square Glass Bottles.*—The round forms which are usually given to vessels of glass are readily produced by the expansion of the air with which they are blown. It is, however, necessary in many cases to make bottles of a square form, and each capable of holding exactly the same quantity of fluid. It is also frequently desirable to have imprinted on them the name of the maker of the medicine or other liquid they are destined to contain. A mould of iron, or of copper, is provided, of the intended size, on the inside of which are engraved the names required. This mould, which is used in a hot state, opens into two parts, to allow the insertion of the round unfinished bottle, which is placed in it in a very soft state, before it is removed from the end of the iron tube with which it was blown. The mould is now closed, and by blowing strongly into the bottle the glass is forced against its sides.

87. *Wooden Snuff-Boxes.*—Snuff-boxes ornamented with devices, in imitation of carved work or of rose engine-turning, are sold at a price which proves that they are only imitations. The wood, or horn, out of which they are formed, is softened by long boiling in water, and whilst in this state it is forced in moulds of iron, or steel, on which are cut the requisite patterns, where it remains exposed to great pressure until it is dry.

88. *Horn Knife-Handles and Umbrella-Handles.*—The property which horn possesses of becoming soft by the action of water and heat, fits it for many useful purposes. It is pressed into moulds, and becomes embossed with figures in relief, adapted to the nature and use of the objects to which it is to be applied. If curved, it may be straightened; or if straight, it may be bent into any form which ornament or utility may require; and by the use of the mould these forms may be multiplied in endless variety. The commoner sorts of knives, the crooked handles for umbrellas, and a multitude of other articles to which horn is applied, attest the cheapness which the art of copying gives to the things formed of this material.

89. *Moulding Tortoise-Shell.*—The same principle is applied to things formed out of the shell of the turtle, or the land tortoise. From the greatly superior price of the raw material, this principle of copying is, however, more rarely employed upon it; and the few carvings which are demanded are usually performed by hand.

90. *Tobacco Pipe-Making.*—This simple art is almost entirely one of copying. The moulds are formed of iron, in two parts, each embracing one-half of the stem; the line of junction of these parts may generally be observed running lengthwise from one end of the pipe to the other. The hole passing to the bowl is formed by thrusting a long wire through the clay whilst it is enclosed in the mould. Some of the moulds have figures, or names, sunk in the inside. This gives a corresponding figure in relief upon the finished pipe.

91. *Embossing upon Calico.*—Calicoes of one color, but embossed all over with various raised patterns, although not much worn in this country, are in great demand in several foreign markets. This appearance is produced by passing them through a pair of rollers, on one of which is figured in intaglio the pattern to be transferred to the calico. The substance of the cloth is pressed very forcibly into the cavities thus formed, and preserves its figured appearance after considerable use.

92. *Embossing upon Leather.*—This art of copying from patterns previously engraved on steel rollers is, in most respects, similar to the preceding. The leather is forced into the cavities, and that part which is not opposite to any cavity is powerfully condensed between the rollers.

93. *Swaging.*—This is an art of copying practised by the smith. In order to fashion his iron and steel into the form demanded by his customers, he has small blocks of steel into which are sunk cavities of various shapes; these are called *swages*, and are generally in pairs. Thus, if he wants a round bolt, terminating in a cylindrical head of larger diameter, and having one or more projecting rims, he uses a corresponding *swaging-tool;* and having heated the end of his iron rod, and thickened it by a process which is technically called *upsetting*, he places its head upon one of the parts of the *swage;* and while an assistant holds the other part on the top of the hot iron, he strikes it several times with his hammer, occasionally turning the head one quarter round. The heated and softened iron is thus forced by the blows to assume the form of the mould into which it is impressed.

94. *Engraving by Pressure.*—This is one of the most beautiful instances of the art of copying, carried to an almost unlimited extent; and the delicacy with which it can be executed, and the precision with which the finest traces of the graving tool can be transferred from steel to copper, or even from hard steel to soft steel, is most unexpected. We are indebted to Mr. Perkins for most of the contrivances which have brought this art at once almost to perfection. An engraving is first made upon soft steel, which is hardened by a peculiar process, without in the least injuring its delicacy. A cylinder of soft steel, pressed with great force against the hardened steel engraving, is now made to roll slowly backward and forward over it, thus receiving the design, but in relief. This is in its turn hardened without injury; and if it be slowly rolled to and fro with strong pressure on successive plates of copper, it will imprint on a thousand of them a perfect facsimile of the original steel engraving from which it resulted. Thus the number of copies producible from the same design is multiplied a thousand-fold. But even this is very far short of the limits to which this process may be extended. The hardened steel-roller, bearing the design upon it in relief, may be employed to make a few of its first impressions upon plates of *soft steel*, and these being hardened become the representatives of the original engraving, and may in their turn be made the parents of other rollers, each generating copper-plates like their prototype. The possible extent to which fac-similes of one original engraving may thus be multiplied almost confounds the imagination, and appears to be for all practical purposes unlimited. There are two principles which peculiarly fit this art for rendering the forgery of bank notes (to prevent which it was proposed by Mr. Perkins) a matter of great difficulty. The first is the perfect identity of every impression with every other, so that any variation in the minutest line would at once cause detection. The other principle is, that the plates, from which all the impressions are derived, may be formed by the united labors of artists most eminent in their several depart-

ments; and as only one original of each design is necessary, the expense, even of the most elaborate engraving, will be trifling, compared with the multitude of copies produced from it.

95. It must, however, be admitted that the principle of copying itself furnishes an expedient for imitating any engraving or printed pattern, however complicated; and that it presents a difficulty which none of the schemes devised for the prevention of forgery appear to have yet effectually met. In attempting to imitate the most perfect bank note, the first process would be to place it with the printed side downwards, upon a stone or other substance, on which, by passing it through a rolling press, it might be firmly fixed. The next object would be to discover some solvent which should dissolve the paper, but neither affect the printing-ink nor injure the stone or substance on which it is impressed. Water does not seem to do this effectually, and perhaps weak alkaline or acid solutions would be tried. If, however, this could be fully accomplished, and if the stone or other substance used had those properties which enable us to print from it, then innumerable fac-similes of the note might be made, and the imitation would be complete. Porcelain biscuit, which has recently been used with a black lead pencil for memorandum books, seems, in some measure, adapted for such trials, since its porosity may be diminished to any extent by diminishing the dilution of the glazing applied to it.

96. *Gold and Silver Moulding.*—Many of the mouldings used by jewellers consist of thin slips of metal, which have received their form by passing between steel rollers, on which the pattern is embossed or engraved; thus taking a succession of copies of the devices intended.

97. *Ornamental Papers.*—Sheets of paper colored or covered with gold or silver leaf, and embossed with various patterns, are used for covering books, and for many ornamental purposes. The figures upon these are produced by the same process, that of passing the sheets of paper between engraved rollers.

OF COPYING BY STAMPING.

This mode of copying is extensively employed in the arts. It is generally executed by means of large presses worked with a screw and heavy fly-wheel. The materials on which the copies are impressed are most frequently metals, and the process is sometimes executed when they are hot, and in one case when the metal is in a state between solidity and fluidity.

98. *Coins and Medals.*—The whole of the coins which circulate as money are produced by this mode of copying. The screw-presses are either worked by manual labor, by water, or by steam power. The mint which was sent a few years since to Calcutta was capable of coining 200,000 pieces a day. Medals, which usually have their figures in higher relief than coins, are produced by similar means; but a single blow is rarely sufficient to bring them to perfection, and the compression of the metal which arises from the first blow renders it too hard to receive many subsequent blows without injury to the die. It is, therefore, after being struck, removed to a furnace, in which it is carefully heated red-hot and annealed, after which operation it is again placed between the dies; and receives additional blows. For large medals, and those on which the figures are very prominent, these processes must be repeated many times. One of the largest medals hitherto struck underwent them nearly a hundred times before it was completed.

99. *Ornaments for Military Accoutrements, and Furniture.*—These are usually made of brass, and are stamped up out of solid or sheet brass by placing it between dies, and allowing a heavy weight to drop upon the upper die from a height of from five to fifteen feet.

100. *Buttons and Nail Heads.*—Buttons embossed with crests or other devices are produced by the same means; and some of those which are plain receive their hemispherical form from the dies in which they are struck. The heads of several kinds of nails which are portions of spheres, or polyhedrons, are also formed by these means.

101. *Of a Process for Copying, called in France Clichee.*—This curious method of copying by stamping is applied to medals, and in some cases to forming stereotype plates. There exists a range of temperature previous to the melting point, of several of the alloys of lead, tin, and antimony, in which the compound is neither solid, nor yet fluid. In this kind of pastry state it is placed in a box under a die, which descends upon it with considerable force. The blow drives the metal into the finest lines of the die, and the coldness of the latter immediately solidifies the whole mass. A quantity of the half melted metal is driven about by the blow in all directions, and is retained by the sides of the box in which the process is carried on. The work thus produced is admirable for its sharpness, but has not the finished form of a piece just leaving the coining-press; the sides are ragged, and it must be trimmed, and its thickness equalized in the lathe.

OF COPYING BY PUNCHING.

102. This mode of copying consists in driving, either by a blow or by pressure, a steel punch through the substance to be cut. In some cases the object is to make repeated copies of the same aperture, and the substance separated from the plate is rejected; in other cases it is the small pieces cut out which are the objects of the workman's labor.

103. *Punching Iron Plate for Boilers.*—The steel punch used for this purpose is from three-eighths to three-quarters of an inch in diameter, and drives out from a plate of iron a circular disk from one-fourth to five-eighths of an inch thick.

104. *Punching Tinned Iron.*—The ornamental patterns of open work, which decorate the tinned and japanned wares in general use, are rarely punched by the workman who makes them. In London, the art of punching out these patterns in screw-presses is carried on as a separate trade; and large quantities of sheet tin are perforated for cullenders, wine-strainers, borders of waiters, and other similar purposes. The perfection and regularity to which the art has been carried are remarkable. Sheets of copper, too, are punched with small holes about the hundredth of an inch in diameter, in such multitudes that more of the sheet of metal is removed than remains behind; and plates of tin have been perforated with above three thousand holes in each square inch.

105. The inlaid plates of brass and rosewood called *buhl work*, which ornament our furniture, are formed by punching; but in this instance, both the parts cut out and those which remain are in many cases employed. In the remaining illustrations of the art of copying by punching, the part used is that which is punched out.

106. *Cards for Guns.*—The substitution of a circular disk of thin card instead of paper, for retaining in its place the charge of a fowling-piece, is attended with considerable advantage. It would, however, be of little avail, unless an easy method was contrived of producing an unlimited number of cards, each exactly fitting the bore of the barrel. The small steel tool used for this purpose cuts out innumerable circles similar to its cutting end, each of which precisely fills the barrel for which it was designed.

107. *Ornaments of Gilt Paper.*—The golden stars, leaves, and other devices, sold in shops for the purpose of ornamenting articles made of paper and paste-board, and other fancy works, are cut by punches of various forms, out of sheets of gilt paper.

108. *Steel Chains.*—The chain used in connecting the main-spring and fusee in watches and clocks is composed of small pieces of sheet steel. It is of great importance that each of these pieces should be of exactly the same size. The links are of two sorts; one of them consisting of a single oblong piece of steel with two holes in it, and the other formed by connecting two of the same pieces of steel, placed parallel to each other, at a short distance, by two rivets. These two kinds of links occur alternately; and the single piece, which forms one of them, has each end placed between the ends of the adjacent double pieces, with which it is connected by the rivets passing through all three. If the double pieces had the holes for the rivets placed at unequal distances, the chain would not be straight, and would, consequently, be unfit for its purpose.

COPYING WITH ELONGATION.

109. In this species of copying there exists but little resemblance between the copy and the original. It is the cross section of the thing produced, which is similar to the tool through which it passes. When the substances to be operated upon are hard, they frequently pass in succession thro' several holes, and it is in some cases necessary to anneal them at intervals.

110. *Wire drawing.*—The metal to be converted into wire is made of a cylindrical form, and drawn forcibly through circular holes in plates of steel: at each passage it becomes smaller; and when finished, its section at any point is a precise copy of the last hole through which it passed. Upon the larger kinds of wire, fine lines may frequently be traced, running longitudinally; these arise from a slight imperfection in the holes of the draw-plates. For many purposes of the arts, wire, the section of which is square or half round, is required: the same method of making it is pursued, except that the holes through which it is drawn are in such cases themselves square, or half round, or of whatever other form the wire is required to be. A species of wire is made, the section of which resembles a star with from six to twelve rays; this is called pinion wire, and is used by the clock-makers. They file away all the rays from a short piece, except from about half an inch near one end: this becomes a pinion for a clock; and the leaves or teeth, having passed through the *draw-plate*, are already burnished and finished.

111. *Tube drawing.*—The art of forming tubes of uniform diameter is nearly similar in its mode of execution to wire drawing. After the sheet-brass has been bent round and soldered so as to form a hollow cylinder, if the outside diameter is that which is required to be uniform, it is drawn through a succession of holes as in wire drawing. If the inside diameter is to be uniform, a succession of steel cylinders, called *triblets*, are drawn through the brass tube. In making tubes for telescopes, it is necessary that both the inside and outside should be uniform. A steel *triblet* is passed into the tube, which is then drawn through a succession of holes, until the outside diameter is reduced to the required size. The metal of which the tube is formed is condensed between the holes, and the steel cylinder within it; and when the latter is withdrawn the internal surface appears polished. The brass tube is considerably extended by this process, sometimes even to double its first length.

112. Leaden pipes for the conveyance of water were formerly made by casting; but it has been found that they can be made both cheaper and better by drawing them through holes in the manner of wire. A cylinder of lead, of five or six inches in diameter, and about two feet long, is cast with a small hole through its axis, and an iron *triblet* of fifteen feet in length is forced into the hole. It is then drawn through a series of holes, until the lead has extended from one end to the other of the *triblet*, and is of the proper thickness in proportion to the size of the pipe.

MANURE PROPER FOR HOP CULTURE.—As to the manure most proper for the hop culture, good stable dung is much used, and is preferred to the manure made by beasts, as the latter encourages ants on strong ground. Woollen rags are the best for forcing a luxuriant vine, and if used with judgment, are excellent for clayey grounds; but they are apt to make the hop small, if too many are used. Malt, culm, and dove manure are excellent, and one complete dressing with lime is serviceable for strong ground.

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LITERARY NOTICES.

LETTERS OF EULER ON NATURAL PHILOSOPHY; edited by David Brewster, LL. D.; constituting vols. LV and LVI of HARPERS' *Family Library*.—The publishers have done well in imbodying in their Library this well approved work of Euler. Written originally for the instruction of a female, the Princess *Anhalt Dessau*, niece of the King of Prussia, in whose capital Euler was then established, these letters are specially adapted to convey in a manner as popular and as little abstruse and technical as the subjects will admit, knowledge of great utility to all, but of rare acquisition by many, and especially by females. Having previously done much for the amusement and literary tastes of the ladies, the Harpers now present them a work from which they may derive, without too severe or irksome application, just and accurate views, founded on profound scientific researches, of the nature and effects of the various objects and influences comprized under the general head of Natural Philosophy.

In recommending this work, however, to the ladies, let it not be inferred that the other sex should not consider it as not equally addressed to them. It is worthy the study of the acutest intellects, and will satisfy the most inquiring and far reaching minds. *Dr. Brewster*, who edited the English edition, whence this is taken, has by notes brought up the scientific facts and information to the present state of knowledge—these letters having been written about the middle of the last century. There are, also, some additional notes, by the gentleman, Prof. Griscom, under whose care this American edition was prepared for the press.

MEMOIRS OF HORTENSE BEAUHARNOIS, Ex-Queen of Holland—1 vol.; Philadelphia: KEY & BIDDLE.—Another memoir connected with the times and family of the inexhaustible Napoleon. We know not that it is authenticated, but yet it seems to be so, and is ascribed to Count de la Garde, who had become known to the charming and accomplished Hortense by some little musical pieces he had composed, and who made her a visit, while a proscribed exile, residing at Augsburg. An ill-assorted union, and incompatibility of tastes between her husband, Louis Bonaparte and herself, gave rise to rumors unfavorable to the reputation of Hortense; but the grace and charm of her manners, and the goodness of her heart assured to her constant and fast friends. This memoir is that of a warm admirer, and one who writes with poetical inspiration, and possibly poetical license. There are added many interesting notes and illustrations of particular scenes and incidents, taken from contemporaneous memoirs.

THE MERCANTILE CHARACTER, AND ITS INFLUENCE ON OUR POLITICAL INSTITUTIONS, a Lecture delivered before the Mercantile Library Association, by SAM'L A. FOOT: New York: JONATHAN LEAVITT.—A very pretty little volume, though not so accurately printed as it should be, ushers forth this useful and practical lecture. We must however say that the design of this address is superior to its execution—the style is not elegant—and the illustrations are somewhat too trite. The influence of commerce upon liberty in general, and upon our political institutions in particular, is a spirit-stirring theme, and one that should have been treated with more care and comprehensiveness than is done in the discourse before us: yet so far as it goes, it is useful, and certainly well intentioned.

NEW YORK SPORTING MAGAZINE, No. III. New-York, by C. R. COLDEN.—This number comes out in the nick of time to meet the view of the sporting world that has been assembled from far and near, for the Races of the week on the Union Course. Nor will it lose favor by examination: it has some really sporting articles. The particulars of Osbadelston's great performance of 200 miles in 8 hours and 39 minutes, are given at length, with a colored plate (nothing remarkable) of the scene and the horseman. There is also a very useful plate of "the proportions of a horse," with letters and figures indicating the different points and names. We give an extract from this number, concerning Marie Antoinette, at a boar-hunt:

Appearance of the late Queen of France, (Marie Antoinette,) at a Boar Hunt.

It was in the forest of St. Germain en Laye, that I first saw Marie Antoinette d'Autriche. This splendid sovereign was indeed an imperial model of female beauty; rich and royal were her charms, despotic and commanding her lovely form and imposing figure. If a man had but one drop of chivalrous blood in his veins, it would swell into his heart and mantle at the sight of this great and unfortunate woman. She at once struck, captivated and interested you. Her stately demeanor was all the queen—her soft large blue eye was all the woman. Respect was inspired by the former, zealous devotion was enkindled by the latter, with a kind of feeling as if a man would wish to have peril to brave for such a princess, and arduous enterprize to undertake for the reward of her smile.

If Agamemnon ever deserved the title of *Anax Andron*, (the King of Men,) or Ney merited the *nom de guerre* of *un brave parmi les braves*, Marie Antoinette, of Austria, was entitled to the epithet of the Queen of Women, and *une belle parmi les belles*.

My reader must pardon me for this long digression from the subject of sporting; a true sportsman is always a man of gallantry; and he who boldly risks his neck at a desperate fence, or a blind leap, will be very likely to brave every danger for the lady of his love, and to stick at nothing in following the blind god's chase in pursuit of beauty. To such a one his flame may fairly address the words of the Italian Bard, '*Deh? non seguir damna fugace*,' etc.

> 'Follow a nobler chace, and spare the deer,
> Hunted by cruelty, run down by fear;
> I am thy captive, Sylvia, follow me—
> Already ta'en and bound by love to thee.'

But to the boar hunt. The field was numerous and brilliant. The hounds and whole turn-out belonged to the present Charles X., ex-king of France, then second brother to Louis XVI. It was what was called *l'equipage de Monseigneur le Comte d'Artois*—carriages, horses, *et cetera*. By the way, there were then in France a number of what was termed *voitures de chasse*, hunting carriages, very fancifully constructed, resembling our caravans, and having sometimes a stag's head and fore quarters in front; over which a coachman, all gold or silver lace, and his hair highly dressed, used to take his seat, driving either four-in-hand, the horses all too far from their work, the leaders with very long traces, seldom tight, (for these dressy coachmen did not know now to keep *the tits up to their traces*,) or with four horses, the leaders having a postillion with cocked hat and jack boots. Sometimes, also, the *voitures de chasse* had three horses abreast: and once I saw one with four, which was very like the engravings of the Roman cars. The nobility mostly went to cover in close carriages, the horses being led, as those of the royal hunt of Louis XVI. were; each led-horse being covered with a rich cloth, corresponding with the livery of the owner, and with the family arms, or cipher and coronet, at each corner. The Count d'Artois' was dark green, with splendid gold lace; the livery being that color and crimson, laced richly with gold. It had a fine effect in the field, although an unsporting appearance, being more military-looking than any thing else. The Prince of Condé's trappings were buff and crimson velvet, with silk embroidery of the latter color, in portroiture of the knights in leathern doublets with the crimaon favors.

The Queen of France wore the uniform of the hunt, with a profusion of gold lace, and as great a profusion of fine white ostrich feathers in her riding-hat. She was in one of these *voitures de chasse*, drawn by eight fine English bay horses, driven by a giant of a charioteer, of most uncoachman-like appearance—a desperate driver, but a bad whip. The animals went at a furious rate, and her most Christian majesty had much the appearance of a sovereign of ancient times, making a triumphant entry into some conquered state.

THE WONDROUS TALE OF ALROY; by the Author of 'Vivian Grey.' 2 vols. Harpers.—This wild and extravagantly written story, like everything from the pen of young D'Israeli, displays a mind gifted with extraordinary though irregular powers. There is the same insight into character and happiness in touching off peculiar scenes, with more than all the strange rhapsody that distinguishes his other writings, and makes them read occasionally like the productions of a madman. The story of Alroy, at least that part of it upon which the chief interest of the novel turns, is nothing remarkably new in its way. The herd, like Mark Antony, merely giving up the world for a woman, and being betrayed by the syren for whom he sacrifices fame and character. But we must not destroy the reader's interest by revealing the plot, which the following extracts will show is made a vehicle for passages of poetic beauty.

How vividly is the engrossing passion, in which the senses of the fated Hebrew chieftain are steeped, portrayed in the following description of a twilight interview with his mistress:

Sunset sounded from the minarets. They arose and wandered together in the surrounding paradise. The sky was tinted with a pale violet flush, a single star floating by the side of the white moon, that beamed with a dim lustre, soft and shapely as a pearl.

"Beautiful!" exclaimed the pensive Schirene, as she gazed upon the star. "Oh! my Alroy, why cannot we ever live alone, and ever in a paradise!"

"I am wearied of empire," replied Alroy with a smile, "let us fly!"

"Is there no island with all that can make life charming, and yet impervious to man? How little do we require! Ah! if these gardens, instead of being surrounded by hateful Bagdad, were only encompassed by some beautiful ocean!"

"My heart, we live in a paradise, and are seldom disturbed, thanks to Honain!"

"But the very consciousness that there are any other persons existing but ourselves is to me painful. *Every one who even thinks of you seems to rob me of a part of your being.*"

Not less naturally is described the repining of an ardent mind for the want of opportunities:—

And even now a vivid flash darts through the darkness of my mind—methinks, methinks—Ah! worst of woes to dream of glory in despair. No, no, I live and die a most ignoble thing; beauty and love, and fame and mighty deeds, the smile of women and the gaze of men, and the ennobling consciousness of worth, and all the fiery course of the creative passions—these are not for me.

Portrait of a war-horse:—

Short time I ween that stately steed had parted from his desert home; his haughty crest, his eye of fire, the glory of his snorting nostril, betokened well his conscious pride and pure nobility of race. His color was like the sable night shining with a thousand stars, and he pawed the ground with his delicate hoof, like an eagle flapping its wing.

His course over the desert:—

Speed, fleetly speed, thou courser bold, and track the desert's trackless way. Beneath thee is the boundless earth, above thee is the boundless heaven, an iron soil and brazen sky. Speed, swiftly speed, thou courser bold, and track the desert's trackless way!

Ah! dost thou deem these salty plains lead to thy Yemen's happy groves, and dost thou scent, on the hot breeze, the spicy breath of Araby? A sweet delusion, noble steed, for this briny wilderness leads not to the happy groves of Yemen, and the breath thou scentest on the coming breeze is not the spicy breath of Araby.

The attributes of night:—

Night brings rest; night brings solace; rest to the weary; solace to the sad. And to the desperate night brings despair. The moon has sunk too early rest; but a thousand stars are in the sky. The mighty mountains rise severe in the clear and silent air. In the forest all is still. The tired wind no longer roams, but has lightly dropped on its leafy couch, and sleeps like man. Silent all but the fountain's drip.

An island of the desert:

Soon sprang up a grove of graceful palm trees, with tall thin stems, and bending feathery crowns, languid and beautiful. Around the verdant sod gleamed like an emerald: silver streams, flowing from a babbling parent spring, wound their white forms within the bright green turf. From the grove arose the softening song of doves, and showers of gay and sparkling butterflies, borne on their tinted

wings of shifting light, danced without danger in the liquid air. A fair and fresh Oasis!

A lover's rhapsody:—

Schirene? Schirene! here in this solitude I pour to thee the passion long stored up—the passion of my life, no common life, a life full of deep feeling and creative thought. O! beautiful, oh, more than beautiful, for thou to me art as a dream unbroken—why art thou not mine, why lose a moment in our glorious lives, and baulk our destiny of half its bliss?

Beautiful illustration of an Eastern superstition:—

When the sun set, the Sabbath was to commence. The undulating horizon rendered it difficult to ascertain the precise moment of his fall. The crimson orb sunk behind the purple mountains, the sky was flushed with a rich and rosy glow. Then might be perceived the zealots, proud in their Talmudical lore, holding a skein of white silk in their hands, and announcing the approach of the Sabbath by their observation of its shifting tints. While the skein was yet golden, the forge of the armorer still sounded, the fire of the cook still blazed, still the cavalry led their steeds to the river, and still the busy footmen braced up their tents and hammered at their palisades. The skein of silk became rosy, the armorer worked with renewed energy, the cook puffed with increased zeal, the horsemen scampered from the river, the footmen cast an anxious glance at the fading twilight.

The skein of silk became blue; a dim, dull, sepulchral, leaden tinge fell over its purity. The hum of gnats arose, the bat flew in circling whirls over the tents, horns sounded from all quarters, the sun had set, the Sabbath had commenced. The forge was mute, the fire extinguished, the prances of the horses and the bustle of the men in a moment ceased. A deep, a sudden, and all pervading stillness dropped over that mighty host. It was night; the sacred lamp of the Sabbath sparkled in every tent of the camp, which vied in silence and brilliancy with the mute and glowing heavens

Popping the question.—"Oh beautiful, oh! more than beautiful! for thou to me art like a dream unbroken," exclaimed the young leader of Israel, "let me, let me breathe my adoration. I offer thee not empire; I offer thee not wealth; I offer thee not all the boundless gratification of magnificent fancy—these may be thine, but all these thou hast proved; but if the passionate affections of a spirit, which ne'er has yielded to the power of woman, or the might of man—if the deep devotion of the soul of Alroy be deemed an offering meet for the shrine of thy surpassing loveliness, I worship thee, Schirene, I worship thee, I worship thee!

"Since I first gazed upon thee, since thy beauty first rose upon my presence like a star bright with my destiny, in the still sanctuary of my secret love, thy idol has ever rested. Then, then, I was a thing whose very touch thy creed might count a contumely. I have avenged the insults of long centuries in the best blood of Asia; I have returned, in glory and in pride, to claim my ancient sceptre; but sweeter far than vengeance, sweeter far than the quick gathering of my sacred tribes, the rush of triumph and the blaze of empire, is this brief moment of adoring love, wherein I pour the passion of my life!

Infatuation.—He thought of all her love, and all her loveliness; he called to mind all the marvellous story of their united fortunes. He felt that for her, and her alone, he cared to live; *that without her quick sympathy, even success seemed unendurable.* His judgment fluctuated in an eddy of passion and reason. Passion conquered. He dismissed from his intelligence all cognizance of good and evil; he determined, under all circumstances, to cling ever to her; he tore from his mind all memory of the late disclosure.

The fluctuations of genius.—An awful thing it is—the failing energies of a master-mind. He who places implicit confidence in his genius, will find himself some day utterly defeated and deserted. 'Tis bitter! Every paltry hind seems but to breathe to mock you. Slow, indeed, is such a mind to credit that the never-failing resource can at last be wanting. But so it is. Like a dried-up fountain, the perennial flow and bright fertility have ceasd, and ceased for ever. Then comes the madness of retrospection.

Power of the mind over the frame.—'Tis not in palaces, or in the battle field alone, the heroic soul can conquer and command. Scenes like these are the great proof of a superior soul. While we live, our body is a temple where our genius pours forth its godlike inspiration, and while the alter is not overthrown, the deity may still work marvels.

WACOUSTA, OR THE PROPHECY, A TALE OF THE CANADAS; by the author of Ecarté. 2 vols. Philadelphia: *Key & Biddle.*—We cannot better do justice to the scene and story of this work, than by adopting the language of one who writes on the very spot, upon which, seventy years ago, the spirit-stirring incidents commemorated in Wacousta had their being and action. A writer in the Detroit Journal, who, from observing communications from his pen not infrequently in that paper, we apprehend to be Mr. Schoolcraft, speaks of Wacousta as follows:

The author has evinced a thorough acquaintance with our scenery and localities: and even the ravines and hills of which he speaks may have been found, without a violent stretch of the imagination, when the ground was clothed in its wild forest dress—since, even now, their miniature likeness exists.

The story, as our readers have already been informed, is founded upon the circumstance of the siege of the British fortress by Pontiac: and the principal action of the plot turns upon the attempt of that chief to get possession of the works by surprise. The author has availed himself of most of the historical facts connected with the siege: he has also blended with these the ball-playing *ruse* by which the capture of Mackinac was effected. With these he has woven a variety of incidents as episodes, which, together with the whole dramatis personæ—with the exception of Pontiac himself and the Indian woman who informed Major Gladwin of Pontiac's design,—appear to be entirely the work of the author's imagination. Pontiac, by the by, is made to perform too tame and insignificant a part; and, if his bold spirit could be supposed to review the work, the author would fare badly.

The story opens with the sudden appearance in the garrison of a mysterious intruder, who had made his entrance into the quarters of Col. De Haldimar, the commanding officer, and menaced him in the very centre of his force: and what gives a high degree of interest to the work in its commencement is—that, although the strictest discipline had been preserved—as well as the most vigilant guard—this mysterious being should have made both his ingress and egress "past watch and ward," without its having been seen by any of the garrison except the Colonel. This same individual is made to perform a principal part throughout the work; and for deeds of daring courage, incredible strength and agility, and all the other qualities which distinguish a savage hero, exceeds the famous Hawk-Eye of our own Cooper.—Wacousta, for that is his Indian name,—it appears in *denoument*—had been, with Col. De Haldimar, subalterns in the same regiment in their younger days; and had been dishonorably supplanted by his friend in the affections of a young lady to whom he had been ardently attached; and, through the instrumentality of the same false friend,—who was no other than the Colonel himself—he was disgraced and dismissed from the army. He swore vengeance against his countrymen, and joined the Scotch in the rebellion of '45. He afterwards joined the French in Canada, and was in the battle with Montcalm under the walls of Quebec; and afterwards joined the Indians. During all this time he was meditating schemes of revenge against De Haldimar and his family. The Pontiac war was eagerly seized upon by him as likely to afford opportunity to gratify his long cherished hatred. The family of Col. De Haldimar consisted of two sons and a daughter. The eldest son, next to Wacousta himself, is a principal actor. He had thrice been a prisoner in the hands of the vindictive enemy of his family: and it was on the occasion of his leaving the garrison at night to hold a conference with an Indian woman, who communicated the treacherous designs of the Indians to get into the Fort under pretence of holding a council, that Wacousta found means to effect his entrance. Young De Haldimar had saved the life of this woman; and gratitude had grown into a warm and devoted attachment, so disinterested and sincere that—though she knew that the affections of De Haldimar were placed upon a lady of his own color and country—it did not cool the ardor of her devotion. She proved his guardian angel and protector in the most hazardous trials, and finally his preserver from the prophetic doom which in the end overtook every other member of his family.

The cruel fate of Holloway and his wife, and that of the beautiful Clara de Haldimar and her brother, as well as the generous Valletort, strikes us as a defect in the work. That the innocent should suffer with the guilty seems to us a violation of poetical justice—the more so, as such a catastrophe appears altogether gratuitous and unnecessary 'save to fulfil an augury,' which, itself, was uncalled for.

The vindictive and cruel Wacousta, after a variety of narrow escapes, finally received his death from one of his savages compeers, the brother of Ouca-nasta—the Indian woman before referred to,—but not until he had consummated his fatal revenge. The style and language of the work are excellent, the characters introduced well sustained, and a high and often thrilling interests is preserved through.

FOREIGN INTELLIGENCE.

LATE FROM ENGLAND.—The packet ship *New York*, Capt. Hoxie, from Liverpool, brings us our London files to the 30th April inclusive, and Liverpool papers of 1st May; and to Capt. Hoxie we are also indebted for papers from both places of the latest dates.

The English parliamentary proceedings are the most immediately interesting matters. During the week ending on Saturday, the 27th of April, the House of Commons had made several important decisions. 1st, on Monday, 22d, Mr. Attwood's motion for an inquiry into the distress of the country, and especially as to how far that distress was connected with the operation of the monetary system, was three nights debated, and Mr. Attwood's motion, which was opposed by Ministers, was rejected, 331 to 139. Lord Althorp then put his original motion, which was carried by 304 to 49. It was as follows:

"That any alteration of the monetary system of the country which would have the effect of lowering the standard of value, would be highly inexpedient."

On Thursday the *vote by ballot* was the subject of a long debate. Lord Althorp, though an open advocate of the ballot out of the House, yet opposed Mr. Grote's motion that "in all future elections the vote be taken by ballot"—and it was consequently rejected, 211 to 105. For a reformed Parliament this is a strange decision.

The French Government are preparing a large naval force at Toulon, to be in readiness to go to sea upon the arrival of the English squadron, which was expected soon to arrive there. Orders had been transmitted to the storekeepers to provide a quantity of materials for their service.

The session of the French Chambers was closed on Thursday by the King in person. His speech on the occasion is among the extracts. The new session commences in the course of the second day.

M. Lionne, Editor of the Tribune, who was thought to have escaped to England, has been arrested and sent to prison.

The Carlist Journals assert that the Duchess de Berri is extremely ill. Her devout partisans deny her pregnancy, and maintain that she is afflicted with some singular complaint, which can only be cured by miraculous power; and a lady of rank in Paris, has accordingly transmitted a part of the gown of Notre Dame de Liesse, for the Duchess to kiss. A radical cure is expected shortly to be effected.

Some disturbances have broken out at Badajoz, of which the Royalist volunteers were the authors. The regular troops proceeded to put down the insurgents, who took refuge in the Cathedral, and were defending themselves with desperation when the last accounts arrived.

The interior of Spain generally was tranquil; and the Queen, it was supposed, had already begun to regain her influence over the mind of her imbecile husband.

Don Miguel has dismissed the commander of the Portuguese battery who fired into the French schr. Alcyon, while in the Douro, and has consented to pay the whole amount of the damage incurred by her owner.

The Sultan has consented to treat with the Viceroy of Egypt, upon the basis of the propositions transmitted by him to his son Ibrahim. The French Envoy appears to be acting the part of a mediator between them. All active proceedings are therefore suspended for the present.

The French Chamber of Deputies have voted 50,000 francs, for the purchase of the MSS. and works of the late M. Champollion: and a pension of 3,000 francs to his widow.

Captain Onslow, of his Majesty's ship Clio, has taken possession of the Falkland Islands, on behalf of the British Government. There has, says the London Spectator, been a dispute long pending between the United States and the Buenos Ayres Government, as to which of them possessed the right to occupy these Islands. Captain Onslow has rendered all future altercation on the subject unnecessary."

The Spectator is a little too fast, we imagine.—Captain Onslow may only have transferred the dispute.

There has been much discussion and contrariety of opinion in the British journals respecting the expediency of an Income Tax. The Edinburgh Review declares against this scheme, and the London Morning Chronicle says—

"We cannot be very far wrong in laying it down as certain, that an Income Tax, in the proper sense of the word, would lead to all manner of frauds and evasions—would open a door to all manner of tyranny, while it would yield little; that a Property Tax, beyond a moderate per centage, say 10 per cent, would not be borne—that a graduated Property Tax, rising with the incomes, would be confiscation, and that all the ingenuity of man could not, in this country, raise by a Property Tax one half of the revenue now required to meet the public expenditure. The idea, therefore, however agreeable, must, like many other Utopian schemes, be abandoned as utterly impracticable; and we think the Public are much indebted to the Edinburgh Reviewer for the able manner in which he has exposed the popular fallacies on the subject."

Foreign Chit-Chat.—A private letter from one of his friends abroad, mentions that our countryman Newton is employed in painting a cabinet picture of the Somerset Exhibition. The subject is Abelard receiving a letter from Eloisa. He is in the picturesque Italian scholastic costume of that day, in his study. A table, with learned tomes, and an antique high-backed chair, form the accessories. It is said to be very beautiful, and that he is every day making alterations and improvements. "His charming wife, who is a great favorite with every body, takes a great interest in his occupation, and cheers his labors by her company. They are living very happily."

The great Theatres in London seem to have a hard tug for existence. Captain Polhill, it is said, retires from the lease of Drury-lane at the end of this season, with a loss amounting at present to 25,000*l*. His mother is just dead, leaving him 80,000*l*., and an injunction or earnest recommendation to abandon theatrical speculations.

The *Dauphinois*, of Grenoble, states, that the quantity of snow which fell on the 12th, 13th, 15th, and 16th March on the mountains of l'Oisans, was so great that it occasioned many avalanches, several of which were attended with disastrous consequences. One of them fell over the village of Rivier, on the 16th, at six o'clock in the morning. Three houses were destroyed. An infant, torn from the arms of its mother, who escaped unhurt, was horribly mutilated: the father, another child, and most of the inhabitants of these houses perished. The number of victims is eleven. A number of cows and sheep were likewise carried away, and the whole village is left in a state of great distress.

His Majesty's steamer Rhadamanthus, sailed from Plymouth for the West Indies, on the 21st April.—Depots of coals for her use, have been placed at one of the Western Islands, and at Bermuda.

The Influenza.—This complaint which has prevailed so extensively in London, has found its way into the country, and several cases have occurred in Leeds, attended with the usual symptoms of headache, cough and fever. A letter from Mr. Baker, the surgeon, urges upon the inhabitants the necessity of certain precautionary measures, under the idea that this influenza may be the precursor of other and more alarming disorders, and in this view of the subject he is supported by experience; for in 1580 the influenza preceded the plague; in 1658 it was followed by a fatal epidemic fever; in 1743, by the plague; in 1762, by a violent dysentery; in 1813, by opthalmia and dysentery; and in 1831, by the cholera. Without wishing to excite any unnecessary alarm, we join most heartily in recommending all proper measures to effect the removal of nuisances which contaminate the air, and of themselves engender disease.—[Leeds Mercury.]

Tithes.—On Thursday last (18th inst.), our very active Chief Officer of Police, Captain Gun, accompanied by a party of his men, and a strong military escort, consisting of 50 infantry and 20 cavalry, commanded by Captain Browne,. proceeded to the parishes of Kilmurray and Kilsheelan, in this district to levy some Government decrees for tithes. Captain Gun succeeded by stratagem in arresting five defaulters, one of whom only paid the amount due by him the following day. The remainder were lodged in the county gaol. On seeing the police and military approaching, the well-drilled peasantry retreated to their houses, barricaded their doors, and, in fact, laughed at the party through their windows. —[Colonial Advertiser.]

A novel and interesting political incident is related in the N. Y. Daily Advertiser of yesterday morning, derived from recent papers from New Granada (Colombia.) We have announced, says that paper, Mr. Joaquin Mosquera's election to the Vice Presidency. On the 15th of April a letter from him was laid before both houses of Congress, dated at San Jose, April 2d, declining the office, on the ground that he considers himself more fitted to discharge the duties of a more retired station, and that he had dedicated the remainder of his life "to the education and instruction of the young and the common people: the only secure basis of our political principles and national prosperity." His request, although pressed with urgency, and with that sincerity of character for which he is conspicuous, was unavailing. "This refusal," says the government gazette, being laid before congress for their consideration, a long silence ensued; and when the President put the question, "will you receive this refusal of Mr. Joaquin Mosquera to be Vice President of the Republic?" all the members except five voted in the negative. The meeting then adjourned."

SUMMARY.

Appointment by the President.—Romulus M. Saunders, of North Carolina, to be a Commissioner under the law to carry into effect the Convention with France, in the place of Thomas H. Williams, resigned.

Naval.—Capt. Ballard, of the Navy, left this city yesterday, for Norfolk, to bring round the Delaware 74, to this port, which may be expected here in about three weeks. After receiving on board the Hon. Edward Livingston, appointed Minister to France, she will proceed to Europe, and having landed him at such port as may be designated, (we hear it rumored that he will disembark at Naples, and proceed to Paris by land,) will pursue her course to the Mediterranean, and become the flag ship of Commodore Patterson. The Brandywine frigate will be withdrawn from the Mediterranean squadron, or rather, it is presumed, is withdrawn already, and may be expected very shortly at this port, where her crew, or so many of them as have fulfilled their term of enlistment, will be paid off and discharged.—[Journal of Commerce.]

The Ship Henry Ewbank—whose calamities and the relief of them are referred to in the annexed extract from the log-book of the British barque Hope, Wm. Lister, master, from Liverpool to New York—has arrived safely at Boston. Captain Lister communicates this extract, to whom, with his crew, too much praise cannot be given for their perseverance, and particularly for altering the position of his ship at so perilous a moment, to, as he supposed, relieve his brother seamen in distress:

"April 1st commenced with heavy gales, and heavy snow and sleet. At 2 P. M. took in the fore-top-sail and hove the ship to—sea running tremendous high. At 7 A. M., saw a ship to leeward, with ensign half mast, supposed in distress—consulted with officers and crew as to assisting her, and concluded to wear ship; sea running tremendous high, passed close under her lee and hailed her: received no answer. All her sails furled but main spencer and part of the foresail—supposed from some cause crew must be below—held another council, and concluded to stay by her till morning—determined to assist her. April 2d, heavy gales and heavy sea. At 8 A. M. three men volunteered with Capt. Lister to board her—hoisted out our boat. At half past 9, boarded her—ship proved to be the Henry Ewbank, of and from Charleston, cotton and rice loaded, rudder gone, no boats on deck, top-gallant mast struck, one anchor and chain on deck, and not a soul on board of her, and 8 feet water in her hold—found no chests or clothes of any kind on board. Took from her some bread, and a few pieces salt beef. At 12 A. M. returned on board the Hope: 8 P. M. less wind and less sea—determined to return to the ship. Went on board, with twelve hands, and commenced pumping her out: worked all night, and found we gained on her much. On the 3d, the captain and carpenter commenced making a temporary rudder. On the 4th, 7 A. M. finished the rudder, and shipped it—found the ship to steer well, and pumped out 6 feet water—did not appear to leak any. 5th, left the mate, three seamen, carpenter and 6 passengers on board: gave them three cheers and left them—midnight, heavy gales—8 A. M. no sign of the ship."

The Scotch Piper.—This individual, of whom so much has been said in the papers both of this country and of Europe, is thus noticed in the Portsmouth, N. H. Journal:

"He arrived in this town on Thursday afternoon, and immediately commenced his peregrinations and piping about our streets. His height is over six feet—he is well built—has a large nose—small eyes—wears glasses, has rather a sandy complexion, and makes a very commanding appearance. His name is Stewart. He has been an officer in the British Army—served under Sir John Moore and the Duke of Wellington, and sold his commission after the battle of Waterloo. His opponent is Count Bender, a French nobleman, educated in Scotland at the same school with the piper, and between whom a great friendship subsisted. In 1825 they met in London, when a dispute arose relative to the hospitality of different nations. Both parties, in order to settle the question, agreed to travel in disguise—the one as a fiddler in France, Belgium and Italy, and the other (the piper) in Great Britain, Ireland and America. They commenced their line of march in July 1828.

The Piper is evidently a gentleman of extensive information, easy in his manners—a Scotchman by birth—his age about fifty. He received a severe hurt from the upsetting of a stage coach in Ireland a few years since, which confined him for over a year, and in consequence of which he is now lame. He has travelled through the Canadas, and on the first day of May he commenced his tour of the United States at Eastport, Maine. He asks no one for money; but when any is presented to him he touches his cap in token of thankfulness, and passes on without making any pause in the music of his Bag-pipe, which yields very sweet, melodious tones.

Yesterday afternoon the *incognito* made his second appearance in our streets—his pipe being pitched so as to give out the most captivating strains. He was followed by hundreds of boys, whom he would not allow to approach within a yard of his person. What amount he collected we know not.

He has taken a private room at the Portsmouth Hotel. He has been visited by some gentlemen. They found him engaged in making records in his journal. He appears to be very cautious of the company to which he gives audience; and considerable formality, such as sending up your name, occupation, &c. is requisite, in order to gain admittance. He is very polite and intelligent,—speaks highly of the Americans, and says they might be the happiest people in the world.

He will perform by particular request, at Franklin Hall, this afternoon, at 4 o'clock. *Ladies* are especially invited to attend.

The Knickerbacker, or New York Magazine, for this month, is just published, and for sale by Peabody & Co. Broadway.

The American Magazine for June, is just published and may be had of Peter Hill, 94; M. Bancroft, 389, and the Carvills, 108, Broadway.

The Protestant Episcopal Pulpit for May, is just published, and is for sale by John Moore, 94 Broadway. This number gives a Sermon by the Rev. W. D. Cairns, rector of St. James Church, Wilmington, N. C. entitled "Paul before Felix."

DESTRUCTIVE FIRE AT ALBANY.—From the Albany Evening Journal of yesterday, we learn that a fire broke out in that city on Tuesday night, which raged with great violence, and in despite of the great and well directed efforts of the Firemen, destroyed several valuable buildings.

[*From the Newark Daily Advertiser.*]

Mr. Moore, our late Minister to Colombia, arrived at New York on Monday, in the brig Elizabeth from Carthagena. It is mentioned that he met his successor, Mr. McAfee, at the latter place. Mr. Picket was left by Mr. Moore at Bogota, Chargé during the interval. A number of the citizens of Bogota addressed a complimentary letter to Mr. Moore, before his departure. He took leave of President Santander on the 15th April, in a short speech, expressing his gratitude for the kind attentions he had received during a residence of three years, in his public and private relations. He congratulated the President on the present condition and future prospects of Colombia. "No country on earth, (said he,) more abounds in the elements of national wealth and greatness, and no people more deserve to be free, prosperous and happy, than the people of New Granada; and on returning to my country, I shall not fail to declare these truths to my government and fellow citizens. I have particular instructions from the President of the United States, to say, that he sincerely desires to strengthen and extend the relations which now happily exist between the two governments, and to secure to the people of the two republics, the benefits which they produce." The President politely reciprocated these proper and complimentary remarks.

We learn, says the National Gazette of yesterday, that the Rev. Dr. Delancy had tendered, his resignation as Provost of the University of Pennsylvania, to the Trustees of that intsitution. It remains for them to decide on that tender.

The Montpelier (Vermont) Watchman of 3d inst. says—"We regret to learn that the Hon. Richard Skinner died at his residence, in Manchester, on the 23d ult. His death was occasioned, says the Rutland Herald, by injuries received by being thrown from a wagon a few weeks since."

The Buffalo Republican says, "the Hon. Daniel Webster and family arrived at this place yesterday. He intends to proceed westward, but not as has been erroneously stated, with a view to fulfil a professional engagement at Cincinnati, We are assured that Mr. Webster's only object is to gratify a strong desire he has long entertained to visit the "great west."

We learn from the Eastern Democrat, that a few days since, a fight took place between the miners at Mauch Chunk, and some of the people at Mahoney Valley, in which three of the miners were shot, and three or four of the Germans severely injured.

The London Quarterly, in reviewing Mrs. Sheridan's new novel of "Aims and Ends," remarks, that "the novelist shows her observation and sense, in reversing the usual order of things, and making the loves of her gentlemen stronger than those of her ladies. The serious passions of men are to those of women as their physical frames."

Military Movement.—Company G. 1st Regiment U. S. Artillery, under command of Major Kirby, embarked from Old Point yesterday morning, in the schooners Susan, Brooks, and Commerce, Davis, for Beaufort (N. C.) to relieve Company H. of the same Regiment under command of Capt. Griswold. They will proceed through the Canal—Capt. G.'s Company will return to Fortress Monroe.—[Norfolk Beacon, 1st inst.]

From the Cape de Verds.—By the brig Selina & Jane, which arrived at Salem on Saturday, accounts have been received from the Cape de Verds Islands to the 4th of May. The famine still continues, particularly in the Islands of St. Antonio and St. Nicholas, where numbers are daily perishing. Many had been preserved from death by the supplies of provisions sent from this country.—[Boston Pat. 4th inst.]

Launch.—A splendid ship called the *Ann M'Kim*, was to have been launched from the yard of Messrs. Kennard & Williamson, in Baltimore, yesterday afternoon. She is 143 feet long—said to be the greatest length of any merchant ship in the United States. She is built in a superior manner, of the best materials, her fastenings being entirely of copper, and will cost, when fitted for sea, about $50,000: the bill for copper used in her construction, exceeded $9,000.—She was launched with her lower mast stepped and rigged, and her topmast on end. The A. M. was built under the immediate superintendence of Capt. James Curtis, and is owned by the Hon. Isaac M'Kim.—[Jour. of Com.]

CINCINNATI, MAY 27.—There have been a few cases of cholera in this city, but it appears to have almost entirely left us; indeed we do not know of a single case at present—and it is gratifying to learn that it is rapidly subsiding in the towns; on the plantations and on board the boats, both in the upper and lower country, it appears to be going as fast as it came.

The Boston Transcript of Saturday evening says—the Bunker Hill Monument is rising fast. Besides a donation of $5000 previously mentioned, five subscriptions of $1000 each, and one of $2000, and several of $500 had been made on that day. The committee had not yet commenced their labors, and found themselves anticipated. The Charleston Bridge gives one half its tolls for the month of June to the fund of the monument.

The corner stone of the Public House at Rockaway, was laid at 1 o'clock on Saturday last. It is expected that this edifice, when completed, will be more splendid and commodious than any building of the kind in the United States. Most of the subscribers, to the number of about one hundred gentlemen, were present at the ceremony. The Gazettes of Saturday, coins, &c. were introduced into a cavity of the corner stone. The Hon. John A. King delivered an able and appropriate Address on the occasion. This Hotel is to be 200 feet in front, and will be finished before the next season of Sea-Shore recreation; and what is most honorable to the gentlemen who furnish the capital to build it, they are to have no exclusive privileges, but it is to be thrown open to all who patronize it. This is as it should be. Success to the enterprize.—[Gazette.]

Freshets.—The Richmond papers give lamentable accounts of the loss sustained by the late freshets—it is supposed 300,000 bushels of grain have been destroyed.

MOBILE, MAY 18.—We have been requested by the Board of Health to state that since the month of March last, there have occurred five cases of Cholera, two of which proved fatal; the others recovered. In every other respect we are happy to say that our statement is sustained by that body. The city is entirely healthy, and there is not, and has not been, the slightest indication of an epidemic this season.

ERIE, (Penn.) MAY 23.—*Death by Somnambulism.*—On the evening of the 1st ult. a short time after the steamboat Niagara had left this place on her passage up the lake, one of her passengers, named Samuel Jeffers, who was sleeping on the upper deck, rose in his sleep and deliberately walked off the side of the boat. Efforts were immediately made to regain his body, but without success. The deceased was a resident of Sangerfield, Oneida county, New York.

DETROIT, MAY 29.—The emigration this week has averaged 200 per day; the last six steamboats having left Buffalo with 2080 passengers, and landed 1200 at this port. The Sheldon Thompson brought, besides her 300, two companies of United States troops.—Several sloops and schooners have arrived, bringing more or less.

[*From the National Intelligencer.*]

BANK OF THE UNITED STATES.—It appears from a statement of the Exchange Transactions of the Bank of the United States and its offices of Discount and Deposite for the year 1832, which we find remarked upon in Niles's Register, that values to the extraordinary amount of $241,714,612, were *exchanged* by the Institution in the course of last year, at the very low average rate of one eleventh of one per cent, or *ninety cents* on every thousand dollars of the whole sum. Indeed, $120,000,000 of this vast amount were exchanged without any charge at all, and the average premium of exchange on the remaining $120,000,000, was less than one fifth of one per cent. And for this *eleventh of one per cent.* the goodness of the money was rendered certain, the safety of the mails insured, and a large amount in postage saved. For it is the practice of the Bank to give drafts payable at one day's sight, which are always paid on presentation, when offered by persons to whom they belong, and which can scarcely be received by any person wrongfully without detection.

State Banks, however correctly managed, cannot carry on these exchanges but at a much higher rate of premium, for reasons that will appear manifest to every person who is at all acquainted with the nature of exchanges. Would it not, then, be more than unwise—would it not be reckless folly, to throw away the great advantages thus derived from the Bank of the United States, by suffering its charter to expire?

The authors of Pelham and Vivian Grey, whose earlier writings bore so strong a resemblance as to be attributed to the same pen, seem, in our back country phrase, to have "hitched teams" with the intention of dragging the car of public favor entirely by themselves. Mr. Bulwer endorses Mr. D'Israeli's paper in his Magazine, and Mr. D'Israeli accommodates Mr. Bulwer in his prefaces. There is certainly nothing surprizing in the fact of two men of genius and similar pursuits thus coming before their readers as the backers of each other; but it does not the less become all good citizens of the republic of literature to see that it take no harm from such a formidable coalition. The works of these writers are disseminated wider in this country than those of any other author, unless it be Scott; and their influence upon public taste, we apprehend, is nearly as active as was that even of Byron's writings, when a few years since it was the fashion of all young gentlemen, who had read Childe Harold or the Corsair, to wear their collars down and swear in good round rhyme that they were heart broken. The Byronic school, except in remote towns and villages like Communipaw or Macchilimackinac, has sometime since become obsolete; and the Pelhamic, which succeeded it so furiously, one would have thought too to have had its day, were it not for this threatened combination on the part of its founders to sustain their extravagance as the just standard of taste and the criterion of originality. The fancy and wit, the research and occasional truth and vigor of thought, with the wonderful power of expression of either of these writers, constitute merit enough, were these qualities unmixed with others, to give them a place as enviable as permanent among the brightest worthies of English literature; and even blended as are these undoubted characteristics of their writings with so much that is false in taste and dangerous in morals, did either of them stand by himself upon the merit of a single work; had either of them, for instance, died after the publication of the first writings by which they became known; how unanimous would have been the verdict which pronounced them among the most extraordinary productions in the range of English literature. But now, when each successive work is marked by more extravagance than its predecessor, when the efforts at originality are so strained that we can often see "the contortions of the sybil" without feeling "her inspiration;" and when those errors in composition which we were ready to overlook from the excitement to which we believed they owed their birth, are held up to us as part of a system—as the distinguishing features of a new style of writing, which is to supersede entirely those which we have long regarded as models: when, in short, in the prevailing confusion of taste and unsound state of criticism, any two or more favorites of the public, not content with reaping the richest fruits from that love of the strange and new, which, having helped to create, now in its turn sustains and fosters them, would erect themselves into a school, and talk about models and standards of writing—even their admirers feel an irresistible propensity to turn shortly about and tell them how nearly—were they tried by the same ordeal to which Goldsmith and Addison, McKenzie and Irving (vide Gifford in the Quarterly) have been subjected—the cold blight of time, or the scorching breath of criticism, might wither their laurels.

But, like a musician who is cut off from his air when he has barely got through the symphony, we are compelled, by our limits, to bring these observations to a close just as they were growing into shape beneath our hands. Yet he who in wandering thro' a picture gallery, after being dazzled and bewildered by the bold lights and meretricious coloring of some popular painting which collects a crowd at the entrance, has observed the quiet feeling of satisfaction with which he comes to dwell at last upon the calm simplicity and mellow beauty of some ancient master, which, though neglected by the multitude, has kindled the eye of taste with delight for centuries, will more readily receive this simple illustration of our subject than any extended view in which we might indulge.

Died in this city, on Saturday evening, 1st June, OLIVER WOLCOTT, in the seventy-fourth year of his age. The name of Oliver Wolcott, signed, by the father of him whose death we now commemorate, to the Declaration of Independence, is associated in our historical annals with nought but illustrious deeds. The signer of the Declaration of Independence, and who was afterwards made a Brigadier General on the field of battle at Saratoga—and subsequently to the peace was long Governor of Connecticut—had in him who has now gone to join the heroic band of the revolution, a worthy son. While yet a boy, he marched as a volunteer in the hastily mustered forces that repelled the British marauders, who, during the revolutionary war, attacked Danbury in Connecticut, and burnt Norwalk. His mother, with Spartan heroism, buckled on his knapsack and placed the musket in his hands. His whole subsequtent life proved that the virtues and patriotism of such parents were not degenerate in him. Educated for the bar, he had hardly entered upon his career when the discerning eye of Washington selected him for Comptroller of the Treasury; in which office he remained till Alex. Hamilton retired from the post of Secretary of the Treasury, when the same unerring judgment promoted the Comptroller to the head of the Department and made him Secretary. This office Mr. Wolcott filled with unquestioned ability and integrity during the residue of Gen. Washington's administration, and the whole term of that of John Adams. He was one of the Circuit Judges appointed by Mr. Adams under the Judiciary act passed at the close of his administration, but which, ere it had well gone into effect, was repealed under Mr. Jefferson. Thus thrown out of public life, at the early age of forty, Mr. Wolcott removed to this city in 1800, and commenced business as a merchant. He was soon at the head of a flourishing house in the China trade, and was President of the Merchant's Bank, and subsequently of the Bank of America. On the breaking out of the war with Great Britain in 1812, he closed his mercantile concerns, and, under the full conviction that the war was both just and politic, gave the whole support of his name, and means, and talents, to the administration—differing therein from the political friends with whom he had always before acted.

After the close of the war Mr. Wolcott returned to his native village of Litchfield in Connecticut, occupying himself in the quiet cultivation of a farm, and the society of his books. He was soon called by the voice of his fellow citizens to preside over the State—as his father for many years had done before—and for ten successive elections he was chosen Governor of Connecticut.

At the close of this period he removed to this city, to be in the vicinity of his children, who were settled here; and living in great retirement and privacy, he has here breathed his last.

The character of Mr. Wolcott was strongly marked. Stern, inflexible and devoted, in all that duty, honor and patriotism enjoined, he was in private life of the utmost gentleness, kindness and simplicity. With strong original powers, which the stirring events of the revolutionary days in which he was born early developed, he had acquired a habit of self-reliance, which little fitted him for that sort of political co-operation which results from expediency, rather than right. He aimed at the right always, and at all events, according to his best convictions; and if any questioned his judgment, none could impeach his honesty and sincerity.

> Justum et tenacem propositi virum
> Non civium ardor prava jubentium,
> Non vultus instantis tyranni
> Mente quatit solida . . . .

[*From the National Gazette.*]

ORIGINAL LETTER.

GEORGETOWN, Dec. 2, 1811.

My Dear Sir: Your letter of the 22d has lain on my table several days, during which time I actually have not had as much leisure as would suffice to thank you for it: for to write in *the House* I now find impossible—often catching myself in the act of committing to paper the words that are floating around me, instead of those which should convey my meaning.

I perceive that Dr. Smith's "Essay on the variety of Complexion in the Human Species" has been treated in the American Review. I wish the Reviewer could have been acquainted with a circumstance which proves how much greater was the reverend author's anxiety for his Hypothesis (no uncommon case) than for his facts. My brother (Theodorick) and myself are "the two young gentlemen" referred to in page 19 of the "Strictures on Lord Kaims" in the first edition; Philad. 1787. Dr. S. there states, correctly enough, "there is *at present* in the College of New Jersey," &c.; we came to Princeton about the last of that year, entered College, after some months past in the grammar school, and finally left it in December of the same year. In the late edition (p. 332,) he says "there resided in the College of New Jersey, in the years seventeen hundred and eighty-*five*, *six*, and seven," &c. Why this *variety* in the *complexion* of the essay I am at a loss to tell. But this is not all. He called us into his library and interrogated us about our Indian descent—we knew nothing more than that we derived it through our grand-mother, whom it suited *him* to make the *daughter* of Pocahontas, in order that we might be in defiance of *time* and *fact* in the *fourth* descent from her. He gave us, about that time, a copy of his essay, which now lies before me, with my marginal notes. I cannot think of Princeton (where my ardor for learning was first damped) with any sort of patience.

Anno 1613—Pocahontas, *alias* "Matoaks, or Matoaha," baptized in the Christian faith by the name of "*Rebecca*, daughter to the mighty Prince Powhatan, Emperor of Attanoughkamonck, *alias* Virginia," became the "wife of the worshipful Mr. John Rolfe."—[Granger's Biog: History of Eng: vol. 2d, p. 57—Stith. Beverley, &c.]

She died at Gravesend, in 1617, leaving an only son Thomas, whose only daughter,

Jane, married in 1675 Robert Bolling, of the family of Bolling, of Bolling Hall, near Bradford, in the West Riding of York. (MSS. in my possession: old family record,)—This Robert Bolling emigrated to Virginia in 1660, (married Jane Rolfe as above in 1675,) lived at Kippax, in the county of Prince George, and is there interred. He died in 1709, July 17th. By this marriage he had one son *John*, whose eldest son John, a great Merchant and Indian Trader, settled at Cobb's, in the county of Chesterfield, on the Appomatox. He married Mary, daughter of Richard Kennon, Esq. of Conjurer's neck, by whom he had John, born Jan. 20, 1700, died at Cobb's, April 20, 1729.

Jane, (my grandmother) born 1703, married to Richard Randolph of Carle, fourth son of William Randolph of Turkey Island (a gentleman of Yorkshire) whose youngest son John, born in 1742, married in 1769 Frances, daughter of Theodorick Bland, of Cawsons (of the family of Bland of Kippax Park, near Ferry bridge in the west riding of York). John R. died at Matoax in 1775. Theodorick Bland and John Randolph, sons of this marriage, are the "two young gentlemen" referred to in Mr. Smith's Essay.

1. Pocahontas. 2. Thomas Rolfe. 3. Jane Bolling. 4. John Bolling the elder. 5. John Bolling the younger. 6. Jane Randolph. 7. John Randolph of Roanoke the elder. 8. John Randolph of Roanoke the younger: making just *seven* descents from Pochahontas, instead of "*four*." The other children of John Bolling and Mary Kennor, his wife were—

Elizabeth, born 1709, married Dr. Wm. Gay.
Mary, married John Fleming, born in 1711.
Anne, married James Murray, born in 1718.

Burke also falsifies the account of the descendants of Pochahontas. He makes Jane Bolling (my grandr mother) marry a Bolling. This mistake was intentional with Burke, for he had the Bolling MSS. before him.

William Randolph, of Yorkshire, settled at Turkey Island in Virginia, and married Mary, daughter of Henry and Catharine Isham. Their sons were—1. William of Turkey Island, from whom descended *Beverley* (died without issue)—*Peter* of Chalsworth, father of the late Beverley and of Mrs. Fitzhugh of Chatham, who, thereupon, sold Turkey Island to my uncle Ryland—and *William* of Wilton—(grandfather of the present Wilton)—Mrs. *Chiswell* and Mrs. *Price*. 2. Thomas of Tuckahoe (great grandfather of Thomas Mann, Mr. Jefferson's son-in-law). 3. Isham of Dungenness, who had *William* of Bristol—*Thomas* of Dungenness—*Jane*, married Peter Jefferson and bore him Thomas, the late President, &c.—*Anne* married James Pleasants (father of my colleague)—*Sukey*, married Carter Harrison of Clifton. 4. Richard of Carles, married Jane Bolling and had *Mary* (Cary)—*Richard*, married Anne Meade—*Jane* (*Walker*) *Brett*—*Ryland* of Turkey Island—*Elizabeth*, married Richard Kidder Meade—*John* of Roanoke. 4. Sir John (Kn't) father of *Peyton*, President of Congress, and of John (Edmund's father), Atty. General of the Colony.—6. Henry. 7. Edward, who married Miss Grover, a Kentish heiress. Their daughters were—8. Mary, married William Stith, by whom she had President Stith, the Historian, &c. 9. Elisabeth (Bland) my great grandmother, maternally, who bore Richard of Jordan's Point, N. C., in 1775—*Theodorick* of Cawsons, who married Frances Bolling, a lineal descendant by a second wife (*Anne Stith*) of that Robert Bolling, who married Jane Rolfe, in 1675. From this second marriage descend the Bollings of Bolling-Brook (Petersburgh) and of Boll-Hill.

From Sir John, (Kn't) 5th son of William, descend in the female line my colleague Hugh Nelson (whose father married a grand daughter of Sir John, who was also Attorney General and Speaker of the House of Burgesses) and numerous branches of Burwells, Grymes, &c.

You can find the places on the map. Kippax was afterwards called by my maternal uncle Theodorick Bland (a member of the old Congress and of the first House of Representatives of the United States) Parmingdale; it is about three miles from Cawson's.

Adieu. JOHN R. of Roanoke.

[*From the Globe of Saturday.*]

THE SAC AND FOX HOSTAGES.—We understand, that a report having been received from Gen. Clark, the Superintendent of Indian Affairs at St. Louis, in which he expresses the opinion that the Sac prisoners may be restored to their friends without affecting the interests or safety of our citizens, and that their release would be peculiarly gratifying to the friendly Chiefs; and Ke-o-kuk and his associates themselves having solicited their discharge from confinement, and pledged themselves for their good conduct, preparations have been made for their return to their homes.

We learn, that they will be conducted through the principal cities, with a view to exhibit to them the extent of the population and of the country, its wealth, resources, and means of defence, and to impress them with a conviction of its strength and power, which will be productive of lasting good consequences. They will probably leave Fortress Monroe early in the next week, proceed as far east as Boston, thence to Albany, Buffalo and Detroit. Their subsequent route will then be determined by the officer having them in charge.

Col. WM. MCREE, Surveyor General of the Public Lands in Missouri and Illinois, and of distinguished renown for his gallantry and skill as an officer in the war of 1812, died recently of Cholera at St. Louis.

Among its millions of victims, we doubt whether this Asiatic plague has struck to the earth a more highly endowed being than Col. MCREE. Unused to, and indeed despising, the ways of the world, impracticable though not overbearing, there yet dwelt within his bosom as ardent love of country, as entire a devotion to her service, as much genius, courage, and instruction, as can well fall to the lot of any single individual.

It is long years since we met, and on this earth we are never to meet more—but we could not let the notice of such a death pass, without the sincere, however inadequate, tribute to his worth, of one who knew it well.

The Board of Health, of Cincinnati, on the 23d of May state, that since the middle of April, there have been 26 deaths by cholera, one half of which happened within the preceding week. Occasional cases of cholera, they remark, have occurred almost every month, since last fall. At Memphis, Tennessee, three of the citizens had died in the week preceding the 15th. The Mississippi had risen 3 to 4 feet, but was on the decline, and not far from low water mark. The rise is said to be from the Missouri. Steamboats pass frequently, and which inform the Cholera is raging below, to an alarming extent. The Cholera had disappeared from the borders of St. Louis.

[*Form the Philadelphia National Gazette.*]

There are two letters at the Post Office with the following superscriptions:

To Michael Barry from Castleyan
Pennsylvania
working at the Canal with a horse &c.
America.

The other—

To Miss Ann Cumings
at her Aunt Smith's
in Jersy.

Extract of a letter from Mr. Audubon, dated EASTPORT, May 20th.

"After scouring the country all round, but one subject for my pencil have I found, and that drawing we have made. Should it rain to-morrow, I shall make another drawing of the "Winter Wrens."—These sweet creatures are singing from the top of every prostrate moss covered log in the Woods.—The name of our vessel is the Ripley, our commander's Emery, a person who has been in the *Egg** business for the markets of Halifax and St. Johns for five years in succession. On the first of June, we sail for Labrador, wind and weather permitting."—[Gaz.]

* It is not perhaps generally known, that the

Eggs of the water fowl, which frequent certain spots on the Coast of Labrador and the Islands of those Seas, are to be procured in such immense quantities, that vessels are loaded with them for the above markets, and that they are even brought to Boston.

The Moon.—The substance of the Moon is more known to us than that of the brighter luminary. Its volume is forty-nine times smaller than the volume of the earth. There is ground for supposing that all is solid at its surface, for it appears, in powerful telescopes, as an arid mass, on which some thought they could perceive the effects and even the explosions of volcanoes. There are mountains on the surface of the moon, which rise to nearly the height of three miles, and it has been inferred that it has deep cavities, like the basins of our seas. Caspian lakes have been supposed in it. But it either has no atmosphere, or it is of such extreme rarity, as to exceed the nearest vacuum we can produce by our best constructed air-pumps, so that no terrestrial animal could breathe alive on its surface. If then it be inhabited, it is not by beings who have bodies like either men or any of our animated race. The lunar population must be of a far more aerial nature than our present selves, or our most delicate fellow creatures. Only sylphs, spirits, or angels, suit such an ethereal medium.—It has a great number of invariable spots, that prove that the moon always presents to us the same hemisphere, and revolves on its axis in a period equal to that of its revolution round the earth. Its dark and bright parts have given rise to the idea, that it has seas, islands, and continents, but it is doubted whether it has any water at all; and it has been supposed, that if it had any ocean, the superior attraction of the earth, especially in conjunction with the sun, would draw the aqueous fluid into a deluge over a large part of its surface. The light of the moon is 300,000 times more feeble than that of the sun.—From this inferiority, the lunar rays, when collected in the most powerful mirrors, produce no sensible effect on the thermometer. Indeed, they appear to have a cold producing agency, according to the experience of practical men, though philosophers have not yet ascertained the fact by direct experiments.—That they have a peculiar and salutary influence on the animal frame, appears to have been actually experienced by some of our countrymen. Other nations declare the same. Its peculiar effects have been so often observed in mental derangement, that this malady has been named lunacy from them; and medical men experienced in such cases, have assured me that in many, there is a visible excitement at the changes of this luminary. Atmospherical changes have also been asserted. We learn from Plutarch, that the ancients believed the moon to produce many singular results, that are enumerated by him. Hence, however beautiful and interesting the moonlight scenery of both heaven and earth is felt to be by all, it will always be wise to recollect that the night is our natural and appointed season for repose.—[Turner's Sacred History.]

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, June 3, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.	Remarks.
May 28	6 a. m.	59	30·03	ENE	moderate	ENE	rainy—rain scud fr ENE	Average temperature of the past week, 61°.26.
	10	60	30 09	..	..	..	..	Arithmetical mean of the thermometer for the month, 62°.6.
	2 p. m.	61	30·10	NE	..	SW × W slow / ENE	..	Maximum height of the barometer, 30.37 in.—Minimum, 29.72—Range, 0.65.
	6	62	30·11	ENE	light	.. / ..	altern'tely fair & cloudy	The observations of surface winds for May give the following results: From the North-Eastern quarter of the compass, including N. 41¼—from SE. including E. 55½—from SW. including S. 32—and from NW. including W. 13.
	10	62	30·10	..	..	.. / ..	cloudy	
" 29	6 a. m.	59	30·05	..	..	..	.. —clenr	
	10	62	30·02	E—ESE	moderate		cloudy & foggy	
	2 p. m.	65	29·92	SE	..	..	.. balloon	
	6	60	29·85	..	..	..	.. ascension	
	10	50	29·77	..	..		rainy—rain	
" 30	6 a. m.	57	29·79	NW	mod. fr'h	NW	fair, with light scuds fr	The observations of the highest observed clouds, or currents, result as follows: From the North-East'n quarter, 3—from the South-Eastern, 3—from the South-Western, 77¼—and from the North-Western, 28¼.
	10	63	29·85	WNW	fresh	WNW	.. [NW	
	2 p. m.	67	29·88	WNW—W	..	SW by W / WNW	..	
	6	66	29·89	W—WSW	light	SW by W	.. —clear	
	10	60	29·92	WSW	..		clear	
" 31	6 a. m.	56	30·02	..	..	SW by W	fair	
	10	64	30·05	SW	moderate	..	..	
	2 p. m.	72	30·05	SSW—SSE	..	..	..	
	6	67	30·03	S	..	..	..	
	10	62	30·04	..	..	SW by W / W	..	
June 1	6 a. m.	62	30·10	SW	..	WSW	..	
	10	68	30·13	WSW	..	..	..	
	2 p. m.	75	30·10	SSW—S	..	..	..	
	6	69	30·10	S—SSE	light	..	..	
	10	66	30·09	S	..	..	cloudy	
" 2	6 a. m.	58	30·08	SW	..	..	.. —thund'r & rain	In 6 minutes after leaving the earth he was above the clouds, *the heat had increased*, and he had clear sunshine, with a most magnificent prospect. On reaching the adjudged height of 16,000 feet, the cold became intense and he prepared to descend. On approaching the earth the noise of surf was heard, (probably from Hurlgate and its vicinity, where the tide of flood was running in its full strength,) the singing of birds was soon heard, and he landed about three quarters
	10	66	30·02	SSE	moderate	WSW / SSE	.. fair, with a swift [scuds fr SSE	
	2 p. m.	76	29·90	..	..	WSW	..	
	6	70	29·80	..	..	..	.. —thund'r & rain	
	10	70	29·78	S	..	..	.. —fair	
" 3	6 a. m.	67	29·76	WSW—W	..	WSW / W	fair wind scuds fr W	
	10	72	29·79	W	fresh	..	.. .. ..	
	2 p. m	80	29·80	NNW	..	..	.. .. ..	
	6	66	29·91	..	..	NNW	.. .. ..	
	10	53	29 .08	..	moderate	..	.. .. fr NNW	

past 6 o'clock in Westchester county, eleven miles from the City Hall, three from the Hudson river, and eight from the East river or Sound, which spot bears nearly *north-east* from the place of ascension. It will appear from our record that on the previous day as well as at other recent periods, the upper current of stratum or clouds was observed moving nearly from west-south-west. It was this current which chiefly influenced the course of the balloon; and this ascension serves to strengthen the view which the writer has long entertained, viz. that during the cold winds and rains of our climate, particularly of the spring months, the warm and genial current of south-westerly winds, from the lower latitudes and the Gulf of Mexico, continues to move in its accustomed circuit without interruption, and forming, above the surface winds, a super-incumbent stratum of no great elevation.

POETRY.

The following beautiful lines were found in the pocket of a clergyman, who was instantly killed by a fall from his horse, at Bath, England.

What dost thou, oh! wandering dove,
From thy home on the rock's riven breast?
'Tis fair, but the falcon is wheeling above;
Oh! fly to thy sheltering nest:
To thy nest, wandering dove, to thy nest.

Frail bark, on that bright summer sea,
That the breezes now curl but in sport,
Spread cheerly thy sail, for though pleasant it be,
Ne'er linger till safe in the port:
To the port, little barque, to the port.

Tired roe that the hunter dost flee,
While his arrow's e'en now on the wing,
In yon deep green recess there's a fountain for thee;
Go, rest by that clear secret spring;
To the spring, panting roe, to the spring.

My spirit still hovering half blest,
Midst shallows so fleeting and dim;
Ah! knowest though THY Rock, and THY haven of rest,
And THY pure spring of joy?
Then to HIM, fluttering spirit, to HIM!

[*From the Boston Centinel and Palladium.*]

Think not that I love thee as once I loved,
In the hours of my early devotion,
That the dreams my spirit so fondly proved
Lived on with their deeper emotion,
Youth's cherished visions, so pure and bright,
From my bosom have silently parted,
Like a meteor that flashing across the night,
From the face of the earth has departed.

And I can meet thee with placid brow,
With a look like thine own, unaltered:
Thou wilt read no grief in my accents now,
Which had once in thy presence faltered.
Thy lip will smile, and thy cheek be fair,
Thy voice be as sweet as ever,
But to me that forehead and cheek can wear
Their earlier look—oh never.

I loved thee then—as boyhood can love,
The spells which around it hover.
Of the one bright form which alone can move,
Till its earliest dreams are over.
I hardly deemed thee a thing of earth,
But a star, o'er my pathway beaming—
Forgot, in each moment of wilder mirth,
Reserved for each holier dreaming.

Yet hast thou worshipped at fashion's shrine
With a heart for her pleasures yearning;
And the artless feelings which once were thine,
Have perished before their burning.
The soul which I fancied too pure a thing,
Too costly for man to win it,
Hath lost that gentle, untroubled spring
Which existed so quietly in it.

And still doth memory turn to thee,
And the beauty that dwelt around thee;
Its brightness and innocence guarded me
From the fancies that might have bound me.
I may not, I cannot, as thou dost, hate,
Though my spirit be sad and lonely—
For the sweetest hours which have blended my fate,
I have owed to thy presence only.

MARRIAGES.

On the evening of the 4th instant, by the Mayor, FRANKLIN DE COST, of the firm of Fish & De Cost, to CAROLINE JENKINS, daughter of Silvanus F. Jenkins, (deceased,) all of this city.

Last evening, by the Rev. Dr. Anthon, JOSEPH L. FRAME, to JOANNA, daughter of JAMES HEARD—all of this city.

Monday morning, 3d of June, by the Rev. Cyrus Mason, Mr. CHARLES L. RHODES, of the firm of Pomeroy & Ball, to Miss CATHARINE E. MASON, daughter of the late Major General J. Mason.

On Thursday, 30th of May, by the Rev. Dr. McElroy, Mr. D. MONTESQUIEU HOOKS, of Norfolkboro', Virginia, to Miss JULIA CARPENTER, of this city.

Last evening, Tuesday, by the Rev. Wm. Ware, RAY BOYNTON, of the firm of Boynton & Brookes, to ANNA, daughter of Joshua Brookes, Esq.

Last evening, (Wednesday,) by the Rev. Dr. McMurray, Mr. RICHARD W. REDFIELD, to Miss FRANCES ANN, second daughter of Samuel W. Lowerre, Esq. all of this city.

On Monday evening, (in the first Baptist Church,) by the Rev. Wm. Parkinson, Mr. CHARLES A. BAUDOUINE, to Miss ANN P. daughter of Mr. Charles Postley, all of this city.

At Albany, on Tuesday evening, May 28, Cornelius Ten Broeck, Esq. to Georgianna, daughter of the late Geo. Pearson.

On Sunday evening last, May 26, Mr. William H. Gibson, to Mrs. Maria Day.

In Albany, on the 25th May, Mr Crawford Livingston, of Hudson, to Miss Caroline C. Chapman.

In New Lebanon, N. Y. Mr. Phineas Cone, merchant, of Hoosic, to Miss Eliza, daughter of Luther Bartlett, Esq. of Williamstown.

In Salisbury, Herkimer Co. on the 6th May, by the Rev. Evan Evans, Rev. Phineas Camp, of Whitestown, to Mrs. Annah S. Adams, of the former place.

In Washington, on Tuesday morning last, by the Rev. Edward Smith, Mr. Leonard Grimes, to Miss Octavia Colston.

On the 23d ult. by the Rev. Mr. Blodgett, Mr. Job Reed, to Miss Amy Bolles, all of Utica.

At Thesford, Vt. on the 6th May, Mr. T. M. Kelley, of Cleveland, O. to Miss Lucy A. Latham, of the former place.

On Thursday evening last, by the Rev. Russel Bigelow, Mr. James Smith, of Springfield, Ohio, to Miss Ann Rosser, of Columbus.

At Norwich, on 22d May, Hon. Jabez W. Huntington, to Miss Sally Ann Huntington, daughter of Joseph Huntington, Esq. of Norwich.

At Hartford, Mr. Henry Sheldon, to Miss Lucinda, daughter of J. Olcott—Mr. Joseph Howard, of Philadelphia, to Miss Jane, daughter of Mr. James H. Wells—Mr. James R. Belden, of Hartford, to Miss Julia Pitkin, of East-Hartford—Mr. Edwin R. Gilbert, of Wallingford, to Miss Ann S. Langdon.

In Springfield, (Mass.) May 19th, Mr. Phillip Attleton, to Miss Sarah Blackman.

In Chesterfield, May 9, Mr. Samuel Carley, of Northampton, to Miss Electa Todd.

In Boston, May 18, Rev. Henry Lyman, of Northampton, to Miss Eliza Pond, of Boston.

In Brunswick, Me., May 9, Rev. Samuel Munson, of New Sharon, Me., to Miss Abby W Johnson, B.

In Northampton, May 21, Fordyce M. Hubbard, Esq. to Miss Martha H., eldest daughter of the Hon. Isaac C. Bates; on the 26th, Mr. Jonathan Brewster, Jr., to Miss Clarissa, daughter o the late Mr. Elijah Allen.

At Utica, on the 29th of May, by the Rev. Mr. Dorr, CHARLES PINCKNEY KIRKLAND, Esq., to Miss MARY WALKER KIP, daughter of the late James S. Kip, Esq.

DEATHS.

Last evening, of a lingering illness, EDWARD A. FAGAN.

On Monday evening, June 3d, in her 25th age, Mrs. ANN, wife of John HART, and sister of John Layden.

This morning, June 3, WM. PITT MASON, son of John Mason, Esq. in the 20th year of his age.

On Saturday last, after a protracted illness, DANIEL G. F. FANSHAW, in the 21st year of his age.

Yesterday afternoon, after a lingering and painful illness, MARY HANNAH, daughter of the late Theodore Fowler, aged 12 years.

This morning, Mrs. CONSTANT BOYD, in the 73d year of her age.

On Friday afternoon of consumption, HANNAH F., wife of Wm. P. Lander, in the 29th year of her age.

In Springfield, (Mass.) May 19, Elizabeth P., aged 17 months, daughter of Mr. David A. Bush.

In Northampton, May 14, Mrs. Mary Smith, aged 30, relict of Mr. Perez Smith.

In Westhampton, May 12, Mr. John Baker, aged 54.

In Hatfield, a few weeks since, Mr. Chester Cowls, aged about 55.

In Woodstock, Va. May 14, Mr. Homer S. Parsons, aged 26, a native of Middle Granville, Mass

In Huntsburg, Ohio, May 11, Lewis Hunt, Esq. aged 49.

At his residence in St. Luke's Parish, S.C. on the 1st of May, Captain John Graham, in the 50th year of his age.

In Northampton, 13th May, Gen. Charles Hooker, Register of Deeds, for the county of Berkshire.

On Tuesday afternoon, of consumption, Diana, wife of Wm M'Clure, in the 25th year of her age.

In Watervliet, on the 20th May, Mrs. Catharine Bronk, wife of the Rev. Robert Bronk.

In Pomfield, Monroe, Co., on the 16th May, Mr. William Owen, a soldier of the Revolution, aged 70. He enlisted in the American army at the age of 17, and was in most of the battles which were fought during the war. Buried with military honors.

At Hartford, Mrs. Cornelia B. Dodd, aged 42, wife of the Hon. James Dodd—Mrs. Mary Imlay, 81, relict of late William Imlay, Esq.—Mr. James Webster, 32, formerly of Gray, Maine. Geo. W. Goodrich, 27, formerly of Rocky-Hill.

At Wethersfield, on the 14th May, Rev. Joseph Emerson, aged 56 years—Mrs. Rhoda wife of Deacon Ebenezer Stillman, 54—Captain James Illin, Jr. aged 25 years.

In Columbus, Ohio, on Wednesday, May 22d, Mrs. Huldah Cutler, formerly of West Brookfield, Mass. aged 67.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MAY 25.

Between the ages of

90 and 100— 0	50 and 60— 5	10 and 20— 6
80 and 90— 0	40 and 50— 5	5 and 10— 4
70 and 80— 0	30 and 40—15	2 and 5— 4
60 and 70— 4	20 and 30— 7	1 and 2— 7

Of and under one year, 20.

Total, 56—19 men, 17 women, 20 boys, 20 girls.

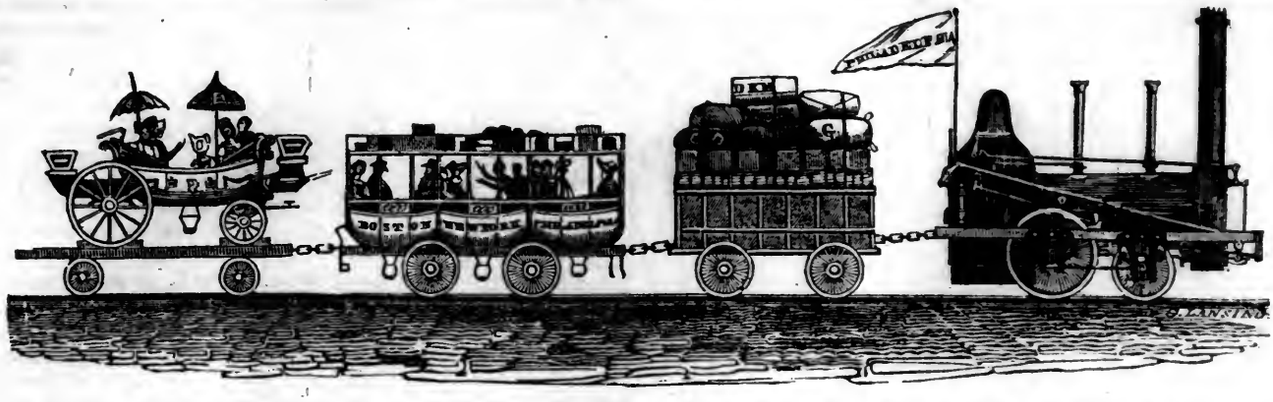
Diseases.

Abscess	1	Inflammation of liver	1
Apoplexy	4	Inflammation of stomach	1
Consumption	17	Intemperance	1
Convulsions	7	Marasmus	3
Dropsy in the head	7	Measles	1
Drowned	3	Mortification	2
Erysipelas	2	Palsy	1
Fever, inflammatory	1	Peripneumony	7
Hives or croup	2	Pneumonia typhodes	1
Hysteria	1	Stillborn	2
Jaundice	2	Teething	1
Inflammation of bowels	5	Whooping cough	2
Inflammation of brain	1		

ABM. D. STEPHENS, City Inspector.

PRICES OF RAILROAD STOCKS.

New-York and Harlaem	asked 97 —	offered 96
New-York and Albany	— —	—
Canajoharie and Catskill	— —	—
Mohawk and Hudson	142 —	142
Do. (Branch)	— —	—
Ithaca and Owego	— —	—
Saratoga and Schenectady	127 —	127
Fort Edward and Saratoga	— —	—
Boston and Worcester	— —	—
Boston and Providence	114½—	114½
N.York, Providence, and Boston	105 —	sales
Paterson and Hudson	100 —	97½
N. J. Railroad & Transp. Line	— —	—
Morris Canal	109½—	107½
Delaware and Hudson Canal	— —	—



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JUNE 15, 1833. [VOLUME II.—No. 24.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 15, 1833.

☞ It is much to be desired that correspondents, who favor us with their views upon new inventions, should avoid every thing like personalities. We are desirous of eliciting free discussions, and equally desirous that they should be free from asperity.

New-York and Erie Railroad.—We are much gratified to learn that the books are soon to be opened (10th of July) for subscriptions to the stock of the New-York and Erie Railroad. We have now before us the plan, and shall publish it in our next, which its friends propose to submit to the consideration of the public, for carrying into effect this important work. It has the sanction of many of our most respectable citizens, as well as of some of our most experienced engineers; and cannot, therefore, we hope, fail to meet with friends who will give it that support which the importance of the work demands.

We understand that the stock for the Brooklyn and Jamaica Railroad has been taken, and that operations are to be commenced immediately.

We have been politely furnished with the Engineer's Report, and a Circular to the Stockholders, of the New-Jersey Railroad and Transportation Company, showing the condition and prospects of that work, which we were desirous to lay before the public this week, but are obliged to defer it until next week, to make room for other matter previously in type.

The following shows the result of the annual election for officers :

At the Annual Election of Directors of the New-Jersey Railroad and Transportation Company, held at Newark on the 4th instant, the following gentlemen were elected, with great unanimity : Gen. John S. Darcy, A. W. Kinney, A. W. Corey, and Z. Drake, of Newark; William W. Woolsey, and A. Dey, of New-York; Thomas Salter, of Elizabeth-town; George P. Molleson, of New-Brunswick; and William R. Allen, of Burlington.

At a subsequent meeting of the Board, Gen. J. S. Darcy was unanimously elected President; A. W. Corey, Treasurer; and John P. Jackson, Secretary.

We extract from the April number of the "London Repertory of Inventions," specifications of two patents recently obtained there, which we think will be useful to those who are concerned in constructing railways in this country, as well as iron founders, and in fact, to all who are in any way interested in the progress of internal improvements. If they are important (and we think they are), it will be a matter of gratification to us to elicit from some of our numerous subscribers their opinion as to the utility of them. From directors, and others engaged in constructing railways, we especially invite communications—no matter what view of the matter they take, our columns are open for their opinions, confident that by discussion the real value of the invention will be arrived at.

James Wright vs. The Baltimore and Ohio Railroad Company.—The trial of this interesting case has at length closed. The suit was brought for an alleged invasion of a patent, obtained by the plaintiff in September, 1829, for the discovery of a new principle in railway cars, whereby curves of any radius may be traversed with equal facility as straight roads. It was specified, essentially, as a combination of conical wheels with vibratory axles. It was proved that in July, 1829, Ross Winans, then in England, constructed a car with conical wheels, and axles to run in his patented friction wheel, an *incidental* property of which last named wheel is a vibration of the axle within the periphery thereof. That after experimenting with said car on the Liverpool and Manchester Railway, it was sent to the United States, where it arrived in the fall of 1829, and was used for several weeks on the Baltimore and Ohio Railway, when it was finally thrown aside—neither it nor any other car of the same construction being used thereafter. Though this car appears to have possessed the properties specified in the patent of the plaintiff, (a combination of cone wheel with vibrating axle,) it does not appear that the vibration of the axle was declared and maintained as a *principle* of the machine, in the view of the inventor or of the user.

In May, 1830, the Baltimore and Ohio Railroad Company put upon their road a car, the invention of which they claimed for their chief engineer, as a new and important achievement; the car proving eminently successful, the Company from that time constructed their cars on its plan. Hereupon the plaintiff brought his suit.

After a laborious investigation of the case for 25 days, during which the learned counsel on both sides evinced great zeal, ingenuity, and ability, the case was committed to the Jury, who, this day, at 10 o'clock, rendered a sealed verdict, which, being opened by the Court, was found to be for plaintiff—damages $2,100.

This morning, on motion of the plaintiff's counsel, the Court entered judgment for $6,300, being triple damages, according to the patent law. We understand the defendants have appealed on the case.—[Balt. paper.]

Philadelphia, June 7.

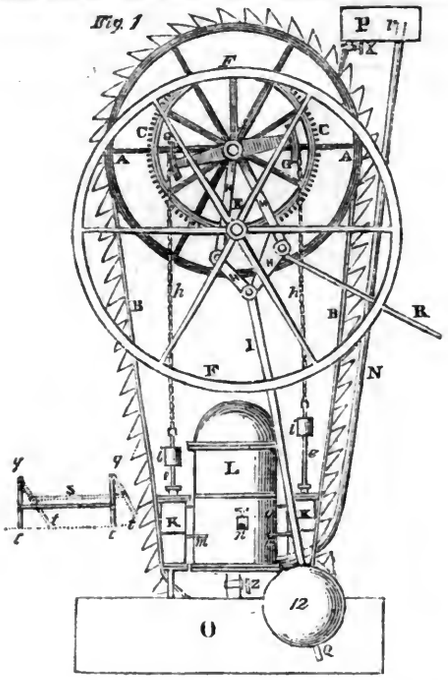
The Locomotive Engine, called the Pennsylvania, invented and patented by Colonel S. H. Long, of the United States Army, has been fairly tried and approved on the Germantown Railroad.

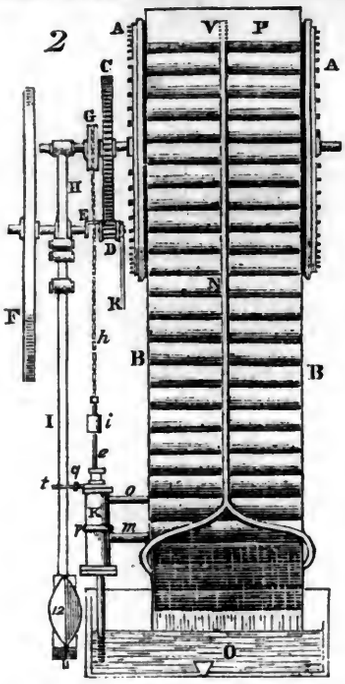
Recent experiments have shown that the Engine is fit to draw thirty-two tons, easily, on a level road, at the speed of fifteen miles an hour.

The whole weight of the engine is four tons and a half; the boilers evaporate two hundred gallons in an hour, in which time they require the consumption of something less than two bushels of anthracite coal, the only fuel used.

The wheels are made of wood, each with an iron tire of three parallel concentric circular bands, cheap in price, but very substantial, strong, lasting, and efficient.

Col. Long has employed himself, for some time past, on experiments for the application of the heat produced by Anthracite coal to the production of steam for locomotive engines; and has succeeded in a degree above the most sanguine expectations with which he started. With his arrangement of the furnace and the flue, anthracite may be used, for raising steam, more advantageously than the best pine wood. It sends forth no sparks to burn or alarm passengers careful of their dresses; and emits no disagreeable or pernicious vapor; and it enables the director to travel without the encumbrance of a tender, as the fuel and the water are both carried on the engine.—[Daily Chron.]





Pierre Nicholas Hainsselin's Machine or Motive Power for giving Motion to Machinery of different descriptions, to be called "Hainsselin's Motive Power." [From the Repertory of Arts, &c. for March.]

No. 1 represents a front view of the machine, and No. 2 a side view; similar letters of reference are used to denote similar parts in each view. A A is a large drum; B B, an endless series of reservoirs, or (as they would be called on a water-wheel) buckets, each fastened by a hinge joint to the other, so as to form an endless chain passing over the drum; C C is a cogged wheel, working into the pinion D, and E is an eccentric, more particularly explained hereafter; F F is a fly-wheel; G G is a balance beam, carrying the segment of a circle at each end; H H H H is what I call an escapement for I, which is a pendulum, and I 2 is the weight of the pendulum; K K are two pumps; L is the main cylinder of the machine; M, an air pump; N, a pipe through which the water which works the engine is raised; O is a reservoir to receive the water from the descending buckets, and P a reservoir to receive the water from the pipe N.

When it is required to make one of the said machines, the following details must be observed: Suppose, for instance, it is required to make one on my plan, equal in power to a steam engine of which the expansive force is equal to a resistance of 1,000 lbs. in a second. It will be seen that air and water are the two principal agents in my machine. Water, it is known, weighs from 60 to 62 lbs. the cubic foot, and it requires 32 cubic feet of air to balance one cubic foot of water; and I have found by various experiments, that my machine employs about three-fourths of its power to produce its own action. From these premises it results, that, in order to have a machine on my plan equal to 1,000 lbs. per second, there must be 4,000 lbs. of water in the descending buckets, and 200 cubic feet of air condensed in the cylinder L, by means of the air pump M, which is worked by hand by a lever handle.

The drawing represents 64 buckets, fastened together by hinge-joints, in such a manner as to form an endless chain of buckets, their motion being so contrived that they descend full at one side of the drum, and rise empty at the other side; the drum being about 3 feet 6 inches in diameter, 25 of these buckets can retain water at the same time, and in order that the united weight of their contents may be 4,000 lbs. it is necessary that each of the 64 buckets shall be of a size (whatever be their form) conveniently to hold 160 lbs. of water.

In order to supply the 25 descending buckets with the required quantity of water, the two pumps K K are placed a little above the lower reservoir O; the rods of these pumps plumb with the extremities of the balance beam G G, by which they are worked.

The capacity of each of these pumps should be such, that each stroke of the piston should raise a column of water to the upper reservoir P, sufficient for the supply of one bucket, that is to say, 100 lbs. These pumps, which may be called hydropneumatic, are nearly like ordinary lift-pumps, the only difference being that the pump chamber is divided into two parts by the division *p*, the upper part being furnished with the piston of a force pump; the same rod, *e*, works both the piston of the upper part of the pump chamber, and the valve of the lower part of the chamber. The pump rods *e e* are fixed to a chain *h h*, which is attached to the segments on the ends of the balance beam G G, and thereby made to work the pump rods, while the balance weights *i i*, below the extremities of these chains, keep them at a proper degree of tension, and keep the beam on a just balance. The strong cast iron cylinder L must be capable of resisting the force of the condensed air which it is intended to contain, say at least 240 lbs. The interior of this cylinder is furnished with a division, by which an upper and lower chamber is formed, the lower is intended to receive the water which the pumps K K feed it with, by means of the pipes *m m*, at every stroke of their pistons; and in this chamber the water frees itself from the air which may have been pumped in with it, and which is suffered from time to time to escape at the cock *n*, when a quantity has collected sufficient in any way to retard the action of the machine. It is from this lower chamber that the water is supplied to the upper reservoir P.

The upper chamber of the cylinder L is destined to receive the air which is to be forced into, and thus condensed in it, by means of the small air pump. It will be seen that two pipes *o o* communicated with the upper chamber of the cylinder L and the upper chamber of the two pumps K K: these pipes are to let in the condensed air upon the tops of the piston, to cause the downward movement of their alternate action; *q q* are two valves, each furnished with a lever *t t*, which levers are connected by a pointed cross-bar S, as shown in plan in the margin of the drawing No. 1. As the two arms or levers *t t* of this contrivance project beyond the vertical line of the pendulum I, they are acted upon alternately by the vibration of the pendulum, thus alternately opening and shutting the valves *q q*. The lower reservoir O may be of any convenient capacity, but the upper reservoir P should at least be able to contain as much water as 25 of the buckets can hold, and the ascending pipe N, through which the water is raised from the lower chamber of the cylinder L, to the upper reservoir P, should be of such a diameter as to contain exactly the quantity of water required to fill three of the buckets.

The cock X is to regulate the descent of the water from the reservoir P into the buckets, which should be just equal to what is pumped up by each pump at each stroke of the piston. An air cock is attached to the top of the upper chamber of the cylinder L, and is to let a portion of the condensed air escape when its too great density causes the engine to work at too rapid a rate.

Z is a cock for emptying the lower chamber of the cylinder L, when necessary for repairs or otherwise, and a similar cock or valve should be made to the lower reservoir O, in case, at any time, it should be required to empty it.

As it is necessary that each bucket as it empties itself should be replaced by a full one, the pinion D should be so regulated with reference to the toothed wheel *c* (which is fixed on the same axis as the drum A) that at every half revolution of the fly-wheel F, (which gears in with the pinion D, and is on the same axis with the eccentric E,) one of the buckets shall present itself in turn under the cock X to be filled.

The pendulum I is fixed on the same axis as the balance beam G G, and the object of the eccentric fixed on the axis of the fly-wheel is to act upon that part of the pendulum which I call the escapement, at *r*, thus propelling the pendulum to one side, while, as soon as the eccentric turns away from *r*, and it thus escapes from the action of the eccentric for a time, its own weight brings it back to be acted upon by the eccentric again, thus keeping up the vibration of the pendulum. The jointed bars at H H H H, which I have called the escapement, form a part of the rod I. This rod is furnished with the weight I 2, which may be raised or lowered on the rod I, by turning it to the right or reft on the thread of the screw Q, to regulate the motion of the pendulum, and this motion may be further regulated by the segment bar and adjusting screw K, which expands or contracts the jointed bars H H H H of the escapement at pleasure, and thus allows an increased or diminished action of the eccentric on the part *r* of the escapement.

R is a lever to throw the pinion D in and out of gear with the fly-wheel F, in order to stop the machine, or put it in action when required, and it may be well here to describe that this is effected by means of a small arm,

which, when in gear, protrudes through a hole in the flange; O O of the pinion is drawn away from this arm, the fly-wheel and all upon its axis stops, and the pinion turns harmlessly with the toothed wheel.

Having now described the various parts of my said invention, and their several uses, I will proceed to describe the mode of putting the machine in operation. First, put a sufficient quantity of water in the reservoir P to fill 25 of the buckets, and about the same quantity in the reservoir O; then open the cock, X, of the upper reservoir, and by means of the lever R, throw the fly-wheel out of gear with the pinion D. By continuing to press lightly on this lever, R, it will cause the flange, *o o*, to rub against the wheel *c*, which it must, by means of the friction thus caused, be allowed to turn slowly, so as to give time to the 25 buckets to fill themselves. The moment the whole of the 25 buckets are full, the pinion must be smartly thrown into gear with the fly-wheel F, and by means of the lever *a* of the air pump M, the upper chamber of the cylinder L must be charged with air. It will be known when it is full by the sudden resistance the air will make when that is the case. The two foregoing operations will only be necessary when the machine is put in motion for the first time, or when afterwards, for any purpose, it may have been emptied of its air and water.

The machine is now ready to act, and it will only be necessary to give the first impulse to the pendulum, which, being done, the weight of the water in the 25 full buckets will cause the drum to rotate, as also the toothed wheel *c*; this will act upon the pinion D, which it worked into, and will cause the eccentric E, and the fly-wheel F, which are fixed upon the same axis, to revolve, the fly-wheel being so arranged as to make just half a revolution during each vibration of the pendulum.

The eccentric E, which is fixed upon the axis as the fly-wheel, will always act upon the pendulum, and secure to it its vibrating motion while the length of the strike will be easily determined by opening or shutting the escapement H, which is performed by turning the screw either to the right or left, as the case may be.

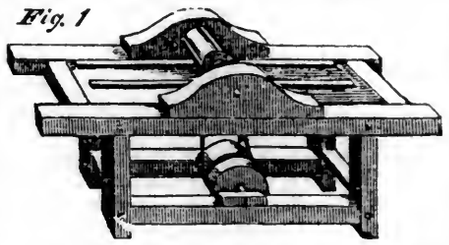
By raising or lowering the weight, I, 2, so as to make the vibration of the pendulum correspond with the speed of the fly-wheel. This weight, I, 2, should be of such a weight that when vibrating by its own weight, only, it will have the power to give full three strokes to the pumps K K. This pendulum, which is fixed on the same axis as the balance beam G G, will give an alternate movement up and down to each arm and segment of the beam, and these segments being connected with the rods *e e*, of the pumps K K, by means of the chains *h h*, their motion will work the pumps, and raise the water from the lower reservoir O to the upper P, through the lower chamber, of the cylinder L, and the ascending pipe N, whence it will flow again through the cock X, to fill in succession the 64 buckets of the machine.

The pendulum I, in its passage from * to *, strikes alternately the arms of the lever *t t*, which opens and shuts the valves *q q*, in order alternately to let escape and confine the air in the upper chamber of the cylinder L. The portion of the air which the alternate motion of the valves *q q* allows to pass into the upper chamber of the pumps K K expands, and acting with all its force on the upper side of the piston *d*, forces it down to the small openings *p p*, cut in the chamber for that purpose, and, escaping there, relieves the piston of the pressure, while the balance weights, *i i*, keep the chain, *h h*, stretched out, and the balance beam G G in equilibrio. —In order to preserve the density of the air in the upper chamber of the cylinder L, the operator must occasionally pump the chamber full of air, by means of the pump M; if this be done every five or six minutes, it will prevent the necessity of spending two hours when the machine first starts to charge the chamber.

Now, whereas it is evident that the power of the machine hereinbefore described may be applied to any of the ordinary purposes for which the power of steam-engines are now used, I claim it as my invention, &c., &c.

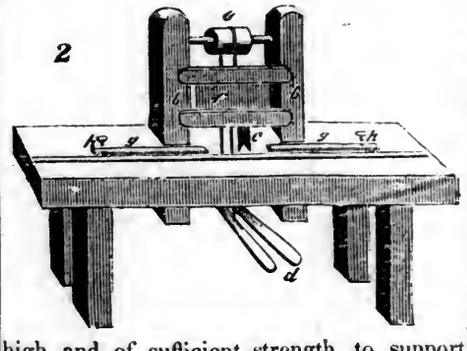
Description of Tichenor's Patent Machinery for making Window Sash, Pannel Doors, Window Blinds, and Pannel Work generally. Communicated by the Proprietors, for the American Mechanics' Magazine.

Fig. 1



For making window sash, &c. the plank is sawed up into proper lengths and widths by the use of circular saws, which are set on proper frames, for that purpose, the operation and construction of which are too generally known to need description.

The planing is done on a wooden frame, fig. 1, made of timbers four by five inches square, six feet long, two feet wide, and three feet high; on the top of this frame, which is a smooth surface, made so by plank laid level with the top of the plates, stands a circular cylinder, X, with cast steel knives or cutters, under which the stuff is passed to be planed while the cutters are in rapid motion. This cylinder may be raised or lowered at pleasure, to cut the thickness of the stuff to be planed. The small morticing is done in a small frame, fig. 2, two and a half feet



high, and of sufficient strength to support two upright standards or posts, *b*, in which grooves are made for a slide to move; in the slide are two chisels, *c*, set for making the small mortice after boring. This is done by two treadles or levers, *d*, which are moved by the foot, one to press it down, and the other to raise it up, by means of a cord, *e*, passing over a pulley, which is attached to the slide, *f*, containing the chisels. The stuff to be morticed is kept in its place by the gages, *g g*, which are fastened by screws, *h h*.

3

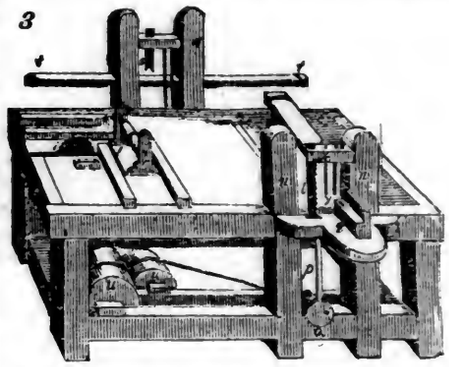


Fig. 3 represents a wooden frame of timber four inches by five inches square, eight feet long, six feet wide, and three feet high, to the top of the plates, with girts a sufficient height from the bottom to hang the drum-cranks, &c. on the frame. The following kind of work is done: the stuff, being planed, is taken to a small circular saw, *i*, set in motion on one end of the frame, and cut to an exact length by the aid of a wood slide gage, which can be set to any length, and can be screwed by set screws or keys. The next operation is tenoning: a small frame or gate, *k*, similar to a common saw gate, is fixed on the side of the large frame: in the top of the small frame are set two chisels, *y*, of sufficient length for tenoning small stuff; there are two saws, *l*, hung in the same gate or frame, for tenoning larger stuff for doors, &c. one of which can be used for dove-tailing, with proper gages. In the same gate or frame is hung an instrument, called a coper, *m*, which is constructed of a flat piece of steel, secured on just far enough forward to serve as a gage for cutting the coping sufficient deep to form a correct fit to the moulding of the sash. The gate, or small frame, is hung within two perpendicular posts, *n n*, screwed on the side of the main frame, on which posts are fastened two bars of round iron, polished, and fitted for the gate to slide on; immediately under this gate, and on the lower girts of the main frame, hangs an eccentric wheel, *o*, to which a pitman, *p*, is attached, which connects with the gate or frame in which the saws, chisels and coper, hang, and when put in quick motion by a strap or gearing is a very expeditious mode of making tenons, &c. This is done by passing the stuff along by the wooden gage, *q*, under the chisels, *y*, or up to the saws, *l*, as fast as they cut clear; a screw gage is fixed to regulate the length of the tenons; when large tenons are made by the saws, the shoulders are cut by a small circular saw, *i*, hung for that purpose at one end of the main frame, over which the stuff is passed by a wooden gage, so as to gage it just deep enough, and moveable at pleasure.

The boring is done by a spoon-bill bit fitted in a small arbor, *r*, set in motion at either side of the main frame, and is kept in its place by slide gages. The morticing is done on the opposite side of the main frame from the tenoning, by chisels, *s*, set in a similar frame and driven by a crank; the chisels are set transversely or crosswise, in order to leave a relish as in a mortice made by hand; one or more holes are bored to start from. The stuff is kept true to its place by slides or gages. The morticing is completed by passing the stuff along under the chisels, the same as in tenoning; a gage, *t*, is hung out at each end to govern the exact length of the

mortice. One of these machines has been in successful operation for upwards of six months at Ithaca, Tompkins county. One man and two boys make, on an average, twelve hundred lights, seven by nine and eight by ten window sash, per week with ease, making the cost of the labor, allowing liberal wages to the hands employed, less than one cent per light.

The proprietors, Messrs. W. & J. Woodward, of Ithaca, will give any information on the subject, and offer to sell rights for large or small districts of country. These machines are about to be erected in the following counties: Courtlandt, Tioga, Steuben, Cayuga, Oneida, Jefferson, Genesee, and Orleans.

Improved Rotary Steam Engine. By PHILO. To the Editor of the American Mechanics' Magazine.

LANCASTER, Pa. May 14, 1833.

SIR,—The "Improved Rotary Steam Engine," of which drawings and a description are given in the third number of the American Mechanics' Magazine, is not the invention of "Mr. Mollery, of Oswego," to whom it is credited in that Journal, but of Phineas Davis, of York, in this state. An engine precisely similar in principle, and differing very little in construction, was made by Mr. Davis, and used as the moving power of the Steam Clover Mill, which was burnt in the borough of York thirteen or fourteen years ago. The inventor, in connection with other gentlemen, was subsequently engaged in constructing an engine on the same principle and plan, at the foundry of Rush and Muhlenburg, in Philadelphia. That engine was intended to be applied to propelling a boat in the Delaware; the enterprise however failed—from some cause which is not distinctly remembered. There are many persons at York who would, from the drawings of Mr. Mollery's engine, at once recognise the identity of the machines. Two of Mr. M.'s engines, "of such dimensions that a man might easily carry one in each hand," are stated to propel a small vessel "of the size of a common canal boat," at the rate of "ten miles an hour," one engine being applied to each wheel. We will not question the correctness of this statement, but do not perceive, from the drawings or description, any such variation, in the construction adopted by the New-Yorker, as seems sufficient to account for a more successful application, by him, of the principle to steamboat navigation, than was accomplished by the original inventor. I am, sir, yours, &c.

PHILO.

Patent granted to Daniel and George Horton, Iron Masters, Leys Iron Works, Stafford co. England, for an improved Puddling Furnace, for the better production of manufactured iron, in the process of obtaining it from the pig.

These gentlemen have found that pig iron, having undergone the action of the refining furnace, requires a degree of heat for its re-fusion, in the process of puddling, so great that the materials of which this latter furnace is composed are very speedily destroyed or rendered useless. They conceive that the refining furnace may be altogether dispensed with; and they suggest a process whereby the puddling may be conducted on a more economical and efficient plan.

Their improvement is extremely simple in its principle. It is the excessive heat which destroys the furnace; therefore, their object is to disperse and carry off as much as possible of this heat from the furnace, without in the least lowering the temperature to which the iron must be submitted in the operation of puddling. Where it is possible to expose the whole external surface of the puddling furnace to the action of the atmosphere, its sides may be composed of plates of iron, fitly prepared, and the stream of atmospheric air will carry off a sufficient quantity of the heat to prevent the consumption of the material of the furnace.

Wherever such exposure is impossible, the patentees would surround their furnace with a series of pipes, so constructed as to serve as bridges for the furnace; and these pipes should be made to circulate rapidly a strong force of water, perpetually supplied, and regularly carried off as it becomes heated. Of course, other means might be suggested; any good conductor of heat may be applied to the surface of the furnace, and the superfluous caloric may be carried off by radiation or otherwise.

They commence their process by throwing on to the bars of the furnace a quantity of the slag, ore, or scoria of the smelting furnace, and when that is in a state of fusion they throw in the pig iron, without its having undergone the usual operation of refining. When it is melted, the heat is increased until the iron boils; and the puddler works it until the slag or earthy matter is all carried away, and the iron remains pure: it is then ready for the forge hammers, or other proofs of its malleability. The patentees claim as their invention, only, the carrying off some portion of the heat from the exterior of the furnace itself, and that by means of atmospheric exposure, or aqueductory pipes.

Patent granted to Geo. Jones & Co., of Wolverhampton, Stafford co., England, for an improvement in making malleable iron.

This patent carries much further the simplifying process than that granted to the Messrs. Hortons. The practical men who have united in securing its advantages to themselves, have seen, like Messrs. Hortons, the uselessness of the refining furnace, but they purpose to carry the metal, in its first fusion, at once from the smelting furnace to the puddling furnace. They have no pigs at all: pig iron is a waste of time and material.

There is no occasion, they say, to use fuel to heat over again the iron after it has cooled in the form of pigs. They would have it retain the heat of the smelting furnace, and thence they would carry it by hand, in ladles, or in pails, or by any other utensil adapted to the purpose, at once to the puddling furnace.

If the accidents of place would permit, they could, of course, prefer the obvious plan of carrying the smelted metal by a pipe, or channel, or drain, from the one furnace to the other, and this they would claim as a part of their invention. Now, it so happens, that this system has, to our certain knowledge, been acted on for upwards of twenty years, and that in more places than one. However, *publication alone* insures private right. It is remarkable that two patents should have been granted on succeeding days for purposes acting so exactly on each other; their combination would be a yet greater improvement. In both cases the refining is dispensed with. If portability be no object, and local circumstances are favorable, these plans will effect a great saving of time and money.

ECONOMY.—"A slight knowledge of human nature will show," says Mr. Colquhoun, "that when a man gets on a little in the world he is desirous of getting on a little further." Such is the growth of provident habits that it has been said, if a journeyman lays by the first five shillings his fortune is made. Mr. William Hall, who has bestowed great attention on the state of the laboring poor, declares he never knew an instance of one who had saved money coming to the parish. And he adds, moreover, "those individuals who save money are better workmen: if they do not the work better, they behave better and are more respectable; and I would sooner have in my trade a hundred men who save money, than two hundred who would spend every shilling they get. In proportion as individuals save a little money their morals are much better; they husband that little, and there is a superior tone given to their morals, and they behave better for knowing they have a little stake in society." It is scarcely necessary to remark, that habits of thoughtfulness and frugality are *at all times* of immense importance.—[Wilderspin's Early Discipline.]

Two hundred and thirty boats passed the town of Paterson, (N. J.) in the *Morris Canal*, from the 20th of May, the 1st instant. The advantages of this canal, it is said are now becoming known.

At a recent session of the Circuit Court in Sussex County, (N. J.,) G. Bartlett recovered $1500 of the Morris Canal Co. for damages sustained in consequence of his forge and mills being interrupted in their supply of water during the time the canal was making.

The New Locomotive.—The new eight-wheeled Locomotive Engine *Barnwell*, received by the line ship *Sutton*, was set up and placed upon the Railroad in the short period of *three days*. She was put in operation yesterday afternoon, and we feel pleased to say, from the partial trial made, was found to exceed the most sanguine expectations. She appeared to perform much better than any engine which has yet been in operation—the steam was raised to 50 lbs. in 27 minutes, in consequence of the superiority of her draught, and the smoke was thrown off freely, and in a manner to cause much less inconvenience to passengers than has been heretofore experienced.—[Charleston Courier.]

STEAM OMNIBUS.—Monday afternoon, an omnibus worked by steam, on a new and ingenious principle, was tried on the Paddington road. The inventor is Mr. Walter Hancock, of Stradford-le-Bow, who has obtained a patent for his very useful discovery. The machine altogether does not exceed the space which an ordinary omnibus with horses attached would occupy, and the appearance is peculiarly neat. The body is capable of accommodating fourteen persons, the engine dividing that from the furnace in the rear. The passengers experience no inconvenience from heat, and coke being the fuel employed, there is no annoyance by smoke. The engine works on a crank, not on the axle, and the propelling power is applied to the wheels by means of iron chains. The chief recommendation, that which timid persons will consider most, is that there can be no possibility of explosion. The propelling power is equal to from 15 to 20 miles an hour, but even when the steam is raised to its very highest pressure there is no risk, the water being deposited in several iron pipes, or what are termed chamber boilers, with a valve to carry off the superfluous steam. The guide, who sits in front,, has complete control of the vehicle, and can arrest its progress instantaneously. It left the Patent Steam Coach Company's yard, in Charles-street, City-road, at four o'clock, with a full complement of passengers, chiefly ladies, guided in this instance by Mr. Hancock, the patentee. At first it proceeded at a pace of about six miles an hour; but having cleared the crowd, who assembled in large numbers to witness the exhibition, the velocity was increased to the rate of ten miles an hour. It is intended to ply regularly from Paddington to the Bank —[London Globe.]

To the Editor of the American Railroad Journal:

Sir,—Whether my remarks on the *Guard Rail* were "uncalled for" will be a question settled in the mind of every reader of your Journal, by the views he may entertain of the intention of an inventor when he announces his improvement. If he places his specification before the public, and leaves its merits to the *principle*, every one forms his own opinion from it; but, if not content with this, he claims that it is for *certain reasons* superior to all other metho 's, and these *reasons* are believed not to be sound, every one is called upon, by the interest he has in the common prosperity, to show why the merits of the invention in question ought rather to be asserted on other and more tenable grounds.

Thus, when Mr. Bulkley gave as a *reason* why the Guard Rail should be preferred to timber, that the latter "bruised" under the iron,—having long since published the remedy for this accident, it was my *duty* to mention it.

Again, when he claims for his cast iron rail that wrought iron *exfoliates*, to remind him that, though such effect was *feared*, it had been found, *on experience*,—not to occur to any great extent, was *fair*.

When he claims for his combination, that it is strong, "on the same principle as an arch," though he disclaims "*calling*" it an arch, I must ask pardon for my dullness in not being able to make the nice distinction he does.

If, then, I have "misrepresented" his invention, it was not surely intentional; and if I now perceived that I had, it would be admitted frankly, and due reparation made.

But, sir, the journals of science in England carry on such investigations as these without asperity and personality. No man is there accused of *arrogance* for expressing his opinions any more than inventors are for setting up the *offspring of their brains* above all comparison. Your Journal will lose something of its usefulness, if the temper of such discussions compel your correspondents to assume fictitious signatures. Few will undertake, under their own, to help on the great cause of American competition with England, in the arts that sustain a nation, unless it can be done without offending. If Mr. Bulkley's invention is sound, he may have in this inquiry taken some useful hints—to guard his Guard Rail at its weakest points,—and have been more benefitted than injured; but I forbear to be again exposed to the imputation of arrogancy, in this intimation. In taking leave of the subject, permit me to invite *his informant* to state the circumstances under which such premature or early decay of timber rails took place—the kind of wood—the breadth of iron—the weight of load—manner of fastening—embedding—support, &c.

For, it is very interesting to the interior of this State how railroads may be made without absorbing so much capital as to be inferior property and fall below par. Unless we can, from the beginning, keep the stock up *justly*, there will be hesitation in embarking in these works.

Thus believing, must be my apology for occupying so much space in your valuable pages on this subject. J. L. Sullivan.

To the Editor of the American Railroad Journal:

Sir,—In my communication on the subject of the "Guard Rail," in the last number of your Journal, I perceive in the *seventh paragraph* the word *log* printed *cog*, in four different lines; please to have the goodness to have it noticed in the next number of your Journal. And in the next succeeding number of your Journal, I propose, with permission, to take proper notice of the communication of Uriah A. Boyden, which appeared in the last number of your Journal.

Respectfully, yours, R. Bulkley.
New-York, June 12, 1833.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, June 10, 1833, inclusive.

Communicated for the American Railroad Journal and Advocate of Internal Improvements.

Date.	Hours.	Thermometr	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
June 4	6 a. m.	50	30·15	N by W	moderate	W by S	fair
	10	61	30·20	NNW—NNE			
	2 p. m.	66	30·20	N—NNW	light	W by S	
" 5	6 a. m.	57	30·25	SSW	moderate	W by N	
	10	72	30·25	SW		WSW	light scuds fr SW
	2 p. m.	76	30·21	S		WSW	
	6	68	30·15	SSW		W by N	
" 6	6 a. m.	67	30·09	SSW	light	WSW	cloudy
	10	65	30·06	SSE		WSW	rain
	2 p. m.	67	30·01	S		W by S	
	6	64	29·99	S by E		W by S	cloudy
" 7	6 a. m.	62	29·95	NNE	moderate	W by S	rain
	10	61	29·85	NNE		W	—fair
	2 p. m.	64	29·88	ENE—E		W	cloudy
	6	66	29·81	E		W	little or no rain on the Hudson above the Highlands.
" 8	6 a. m.	64	29·80	NNE	moderate	WNW	
	10	66	29·81	ENE			fair
	2 p. m.	68	29·80	SSE			hazy and foggy
	6	65	29·85		light		
" 9	6 a. m.	62	29·77			W by S	fair
	10	58	29·63	WSW-WNW	moderate	W by S	
	2 p. m.	65	29·78		fr'l—str'g	NW	
	6	63	29·80	NW			
" 10	6 a. m.	58	29·92	NNW	fr'l—mod.	NW	clear
	10	65	29·92		light	WNW	fair
	2 p. m.	66	29·65	NW			
	6	64	29·69				
" 11	6 a. m.	59	29·72	W—WSW		NW	
	10	53	29·72			WSW	fair
	2 p. m.	65	29·74	sw by w	moderate	WNW	
	6	72	29·63	WSW			cloudy
	10	68	29·63	WNW			
	2 p. m.	58	29·68	NNW			

Average temperature of the week, 64°.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the months of March and April, 1833—(*Lat.* 31.10 *N.*, *Lon.* 91.59 *W. nearly.*)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date. 1833.	Thermometer. Morn.	Noon.	Night.	Wind.	Weather, Remarks, &c.
March 1	39	36	32	N—severe	cloudy—rain and spits of snow (the first this winter)
" 2	28	42	38	..	clear—calm evening—ice—martin birds appeared
" 3	30	50	49	calm	.. all day
" 4	39	62	60	SE—light	cloudy—calm evening
" 5	52	60	62	calm	.. —rain all day
" 6	58	59	56	N	.. —rain in the morning—evening clear and calm
" 7	46	58	52	calm	.. —rain all day
" 8	48	59	58	N—severe	clear all day
" 9	40	66	63	calm	.. ..
" 10	47	70	66	S—light	.. ..
" 11	56	70	67	S—severe	cloudy all day
" 12	62	71	64	S	.. .. —calm and rain all night
" 13	60	58	56	calm	.. —rain in the morning
" 14	56	62	61	..	.. —rain all day
" 15	59	58	53	..	.. — .. .. and night remarkably heavy
" 16	58	62	62	..	foggy morning—rain and thunder severe all day and night
" 17	63	64	64	..	cloudy—rain and thunder all day and night, severe and heavy
" 18	65	66	64	S—severe	gales — .. .. ..
" 19	68	73	72	calm	.. —rain—light showers in the evening—wind S and light
" 20	60	70	74	W	cloudy—evening clear and calm
" 21	51	68	59	calm	clear all day and night—planted corn, beans, &c.
" 22	47	73	64	..	.. .. ..
" 23	56	68	62	..	.. — rain in the evening—wind NW and high all night
" 24	54	72	66	NW	.. — calm evening
" 25	54	71	65	calm	cloudy morning—clear day
" 26	54	74	64	..	clear—rain at night
" 27	60	71	65	..	cloudy—rain and thunder at night from NW, high
" 28	56	52	49	NW	.. —wind high all day and night
" 29	41	59	56	N—light	clear — .. .. .. —gathered turnip and mustard seed
" 30	40	61	58	E—light	.. —light white frost
" 31	42	66	67	NE—light	.. all day and night—Red River at a stand
April 1	58	63	64	SE—strong	cloudy—rain & thunder afternoon & night—gathered mustard & turnip seed
" 2	62	76	70	calm	foggy morning—clear day
" 3	55	80	71	..	clear—planted sweet potatoes, two acres
" 4	60	72	64	NE—light	.. all day—Red River rising
" 5	58	74	62	..	.. .. [severe till 12, midnight
" 6	60	66	62	SE—light	cloudy—light thunder showers all day—calm at night—rain and thunder
" 7	60	73	66	W	clear
" 8	54	76	63	calm	..
" 9	56	78	67	..	..
" 10	60	74	70	..	cloudy evening—wind S
" 11	68	75	69	S	.. all day
" 12	61	80	66	..	clear—cloudy night
" 13	58	72	62	NE	.. —evening, wind N, and heavy thunder and rain, and at night
" 14	56	58	60	NE—strong	cloudy—calm late in evening and night
" 15	57	66	61	NE—light	.. morning—evening light showers and calm
" 16	58	70	64	W—light	cloudy—evening light showers and calm—peas ripe
" 17	57	72	61	NW—light	clear
" 18	52	76	67	N—light	.. —calm and cloudy night
" 19	58	74	68	E—light	cloudy—calm—clear evening and night
" 20	66	78	71	calm	.. morning— .. .. ..
" 21	65	82	77	..	clear
" 22	70	84	74	..	.. ..
" 23	64	85	72	..	.. —at 5 p. m. shower and very heavy thunder
" 24	64	82	78	..	.. ..
" 25	65	82	74	..	.. ..
" 26	65	83	76	SE—light	cloudy morning—clear—calm day
" 27	66	81	73	SE—high	clear [then calm and cloudy
" 28	72	65	63	SE—severe	cloudy—at 12, noon, a severe gale and rain from W, continued until 4 p. m.—
" 29	65	80	74	calm	.. —even'g & night, heavy thunder showers—new potatoes fit for use
" 30	70	80	76	SE—light	clear—evening, wind high—sweet potatoes come up

Note.—Red River rose in March 2 ft. 10 in.; and in April it had risen 4 inches, which is within 3¼ inches of extreme high water of 1828. *** The thermometer is exposed in a large gallery, opening to the east.

Babbage on the Economy of Manufactures.

[Continued from page 361.]

113. *Iron rolling.*—When cylinders of iron of greater thickness than wire are required, they are formed by passing wrought iron between rollers, each of which has sunk in it a semi-cylindrical groove; and as such rollers rarely touch accurately, a longitudinal line will usually be observed in iron so manufactured. Bar iron is thus shaped into all the various forms of round, square, half-round, oval, &c., in which it occurs in commerce. A particular species of moulding is thus made, which resembles in its section that part of the frame of a window which separates two adjacent panes of glass. Being much stronger than wood, it can be considerably reduced in thickness, and consequently offers less obstruction to the light: it is much used for sky-lights.

114. It is sometimes required that the iron thus produced shall not be of uniform thickness throughout. This is the case in rolling iron for railroads, for which purpose greater depth is required towards the middle of the rail, which is at the greatest distance from the supports. This is accomplished by cutting the groove in the rollers deeper at those parts where additional strength is required, so that the hollow which surrounds the roller would, if it could be unwound, be a mould of the shape the iron is intended to fit.

115. *Vermicelli.*—The various forms into which this paste is made are given by forcing it through holes in tin plate. It passes through them, and appears on the other side in long strings. The cook and the confectioner make use of the same method; the former in preparing butter and ornamental pastry for the table, the latter in forming the cylindrical lozenges of various composition.

OF COPYING WITH ALTERED DIMENSIONS.

116. *Of the Pentagraph.*—This mode of copying is chiefly used for drawings or maps: the instrument is simple; and, although usually employed in reducing, is capable of enlarging the size of the copy produced. An automaton figure, which drew profiles of its visiters, and which was exhibited in London a short time since, was regulated by a mechanism on this principle. A small aperture in the wall, opposite the seat in which the person is placed whose profile is taken, conceals a camera lucida. If an assistant moves a point, connected by a pentagraph with the hand of the automaton, over the outline of the head, a corresponding profile is traced by the figure.

117. *By turning.*—The art of turning might perhaps itself be classed amongst the arts of copying. A steel axis, called a *mandril*, having a pulley attached to the middle of it, is supported at one end either by a conical point, or by a cylindrical collar, and at the other end by another *collar*, through which it passes. The extremity which projects beyond this last *collar* is formed into a screw, by which various instruments, called *chucks*, are attached to it. These *chucks* are intended to hold the various materials to be submitted to the operation of turning, and have a great variety of forms. The *mandril* is made to revolve by a strap which passes over the pulley that is attached to it, and likewise over a larger wheel moved either by the foot, or by its connection with steam or water power. All work which is executed on a *mandril* partakes in some measure of the irregularites of that *mandril;* and the perfect circularity of section which ought to exist at every part can only be insured by an equal accuracy in the *mandril* and its *collar*.

118. *Rose Engine-turning.*—This elegant art depends in a great measure on copying. The *rosettes*, or circular plates of metal, having various indentations on the faces or edges which are placed on the mandril, oblige the cutting tool to trace out the same pattern on the work, and the distance of the cutting tool from the centre being usually less than the radius of the *rosette*, causes the copy to be much diminished.

119. *Copying Dies.*—A lathe has been long known in France, and recently been used at the English mint, for copying dies. A blunt point is carried by a very slow spiral movement successively over every part of the die to be copied, and is pressed by a weight into all the cavities; while a cutting point connected with it by the machine traverses the face of a piece of soft steel, in which it cuts on the same, or on a diminished scale, the device on the original die. The degree of excellence of the copy increases in proportion as it is smaller than the original. The die of a crown-piece will furnish by copy a very tolerable die for a sixpence. But the chief use to be expected from this lathe is to prepare all the coarser parts, and leave only the finer and more expressive lines for the skill and genius of the artist.

120. An instrument not very dissimilar in principle to this was proposed for the purpose of making shoe lasts. A pattern last of a shoe for the right foot was placed in one part of the apparatus, and when the machine was moved, two pieces of wood, placed in another part which had been previously adjusted by screws, were cut into lasts greater or less than the original, as was desired; and although the pattern was for the right foot, one of the lasts was for the left, an effect which was produced by merely interposing between the two pieces to be cut into lasts a wheel which reversed the motion.

121. *Engine for copying Busts.*—Many years since, the late Mr. Watt amused himself with constructing an engine to produce copies of busts or statues, either of the same size as the original, or in a diminished proportion. The substances on which he operated were various, and some of the results were shown to his friends, but the mechanism by which they were made has never been described. More recently, Mr. Hawkins, who had also contrived several years ago a similar machine, has placed it in the hands of an artist, who has made copies in ivory of a variety of busts. The art of multiplying in *different sizes* the figures of the sculptor, aided by that of rendering their acquisition cheap through the art of casting, promises to give additional value to his productions, and to diffuse more widely the pleasure arising from their possession.

122. *Screw-cutting.*—When this operation is performed in the lathe by means of a screw upon the *mandril*, it is essentially an art of copying, but it is only the number of threads in a given length which is copied; the *form* of the thread and length, as well as the diameter of the screw to be cut, are entirely independent of those from which the copy is made. There is another method of cutting screws in a lathe by means of one pattern screw, which, being connected by wheels with the *mandril*, guides the cutting point. In this process, unless the time of revolution of the *mandril* is the same as that of the screw which guides the cutting point, the number of threads in a given length will be different. If the *mandril* move quicker than the cutting-point, the screw which is produced will be finer than the original; if it move slower, the copy will be more coarse than the original. The screw thus generated may be finer or coarser—it may be larger or smaller in diameter—it may have the same or a greater number of threads than that from which it is copied; yet all the defects which exist in the original will be accurately transmitted under the modified circumstances to every individual generated from it.

123. *Printing from Copper-Plates with altered Dimensions.*—Some very singular specimens of an art of copying, not yet made public, were brought from Paris a few years since. A watch-maker in that city, of the name of Gonord, had contrived a method by which he could take from the same copper-plate impressions of different sizes, either larger or smaller than the original design. Having procured four impressions of a parrot, surrounded by a circle, executed in this manner, I showed them to the late Mr. Lowry, an artist equally distinguished by his skill, and for the many mechanical contrivances with which he enriched his art. The relative dimensions of the several impressions were 5·5, 6·3, 8·4, 15·0, so that the largest was nearly three times the linear size of the smallest; and Mr. Lowry assured me, that he was unable to detect any lines in one which had not corresponding lines in the others. There appeared to be a difference in the quantity of ink, but none in the traces of the engraving; and, from the general appearance, it was conjectured that the largest but one was the original impression from the copper-plate. The processes by which this singular operation was executed have not been published; but two conjectures were formed at the time which merit notice. It was supposed that the artist was in possession of some method of transferring the ink from the lines of the copper-plate to the surface of some fluid, and of re-transferring the impression from the fluid to paper. If this could be accomplished, the print would be exactly the same size as the copper from which it was derived; but if the fluid were contained in a vessel having the form of an inverted cone, with a small aperture at the bottom, the liquid might be lowered or raised in the vessel by gradual abstraction or addition through the apex of the cone; in this case, the surface to which the printing-ink adhered would diminish or enlarge, and in this altered state the impression might be re-transferred to paper. It must be admitted, that this conjectural explanation is liable to very considerable difficulties; for although the converse operation of taking an impression from a liquid surface has a parallel in the art of marbling paper, the possibility of transferring the ink from the copper to the fluid requires to be proved. Another and more plausible explanation is founded on the elastic nature of the compound of glue and treacle, a substance already in use in transferring engravings to earthenware. It is conjectured, that an impression from the copper-plate is taken upon a large sheet of this composition; that this sheet is then stretched in both directions, and that the ink thus expanded is transferred to paper. If the copy is required to be smaller than the original, the elastic substance must first be stretched, and then receive the impression from the copper-plate: on removing the tension it will contract, and thus reduce the size of the design. It is possible that one transfer may not in all cases suffice; as the extensibility of the composition of glue and treacle, although considerable, is still limited. Perhaps sheets of India rubber of uniform texture and thickness may be found to answer better than this composition; or possibly the ink might be transferred from the copper-plate to the surface of a bottle of this gum, which bottle might, after being expanded by forcing air into it, give up the enlarged impression to paper. As it would require considerable time to produce impressions in this manner, and there might arise some difficulty in making them all of precisely the same size, the process might be rendered more certain and expeditious by performing that part of the operation which depends on the enlargement or diminution of the design only once; and, instead of printing from the soft substance, transferring the design from it to stone: thus a considerable portion of the work would be reduced to an art already well known, that of lithography. This idea receives some confirmation from the fact, that in another set of specimens, consisting of a map of St. Petersburg, of several sizes, a very short line, evidently an accidental defect, occurs in all the impressions of one particular size, but not in any of a different size.

124. *Machine to produce Engravings from Medals.*—An instrument was contrived a long time ago, and is described in the *Manuel de Tourneur*, by which copper-plate engravings are produced from medals and other objects in relief. The medal and the copper are fixed on two sliding plates at right angles to each other, so connected that when the plate on which the medal is fixed is raised vertically by a screw, the slide holding the copper-plate is advanced by an equal quantity in the horizontal direction. The medal is fixed on the vertical slide with its face opposite the copper-plate, and a little above it.

A bar, terminating at one end in a tracing-point, and at the other by a short arm, at right angles to the bar, and holding a diamond-point, is placed horizontally above the copper, so that the tracing-point shall touch the medal to which the bar is perpendicular, and the diamond-point shall touch the copper-plate to which the arm is perpendicular.

Under this arrangement, if the bar is moved always parallel to itself, and consequently to the copper, while the tracing-point is kept in contact with the medal, then if the tracing-point pass over a flat part of the medal, the diamond-point will draw a straight line of equal length upon the copper; but, if the tracing-point pass over any projecting part of the medal, the deviation from the straight line by the diamond-point will be exactly equal to the elevation of the corresponding point of the medal above the rest of the surface. Thus, by the transit of this tracing-point over any segment of the medal, the diamond will draw upon the copper a section of the medal through that plane.

A screw is attached to the apparatus, so that if the medal be raised a very small quantity by the screw, the copper-plate will be advanced by the same quantity, and thus a new line of section may be drawn: and, by continuing this process, the series of sectional lines on the copper produce the representation of the medal on a plane; the outside and the form of the figure arising from the sinuosities of the lines, and from their greater or less proximity. The effect of this kind of engraving is very striking; and in some specimens gives a high degree of apparent relief. It has been practised on plate glass, and is then additionally curious from the circumstance of the fine lines traced by the diamond being invisible, except in certain lights.

From this description it will be seen that the engraving on the copper must be distorted; that is to say, that the apparent projection on the copper will not be the same as that which arises from a perpendicular projection of each point of the medal upon a plane parallel to itself. Consequently, the position of the prominent parts will be more altered than that of the less elevated; and the greater the relief of the medal the more distorted will be its engraved representation. Mr. John Bate, son of Mr. Bate, of the Poultry, has contrived an improved machine, for which he has taken a patent, in which this source of distortion is remedied.

The inconvenience which arises from too high a relief in the medal, or in the bust, might be remedied by some mechanical contrivance, by which the deviation of the diamond-point from the right line, (which it would describe when the tracing-point traverses a plane,) is made proportional—not to the elevation of the corresponding point above the plane of the medal, but above some other parallel plane removed to a fit distance behind it. Thus busts and statues might be reduced to any required degree of relief.

125. The machine just described naturally suggests other views which seem to deserve consideration, and, perhaps, some experiment. If a medal were placed under the tracing-point of a pentagraph, an engraving tool substituted for the pencil, and a copper-plate in the place of the paper; and if, by some mechanism, the tracing-point, which slides in a vertical plane as it is carried over the different elevations of the medal, could increase or diminish the depth of the engraved line proportionally to the actual height of the corresponding point on the medal, then an engraving would be produced, free at least from any distortion, although it might be liable to objections of a different kind. If, by any similar contrivance, instead of lines, we could make on each point of the copper a dot, varying in size or depth with the altitude of the corresponding point of the medal above its plane, then a new species of engraving would be produced; and the variety of these might again be increased, by causing the graving point to describe a very small circle of a diameter, varying with the height of the point on the medal above a given plane, or by making the graving-tool consist of three equi-distant points, whose distance increased or diminished according to some determinate law, dependant on the elevation of the point represented above the plane of the medal. It would, perhaps, be difficult to imagine the effects of some of these kinds of engravings; but they would all possess, in common, the property of being projections, by parallel lines, on the objects represented, and the intensity of the shade of the ink would either vary according to some function of the distance of the point represented from some given plane, or it would be a little modified by the distances from the same plane of a few of the immediate contiguous points.

126. *Lace made by Caterpillars.*—A most extraordinary species of manufacture, which is in a slight degree connected with copying, has been contrived by an officer of engineers, residing at Munich. It consists of lace, and veils, with open patterns in them, made entirely by caterpillars. The following is the mode of proceeding adopted:—Having made a paste of the leaves of the plant, on which the species of caterpillar he employs feeds, he spreads it thinly over a stone, or other flat substance, of the required size. He then, with a camel-hair pencil dipped in olive oil, draws the pattern he wishes the insects to leave open. This stone is then placed in an inclined position, and a considerable number of the caterpillars are placed at the bottom. A peculiar species is chosen, which spins a strong web; and the animals commence at the bottom, eating and spinning their way up to the top, carefully avoiding every part touched by the oil, but devouring every other part of the paste. The extreme lightness of these veils, combined with some strength, is truly surprising. One of them, measuring twenty-six and a half inches by seventeen inches, weighed only 1·51 grains, a degree of lightness which will appear more strongly by contrast with other fabrics. One square yard of the substance of which these veils are made, weighs four grains and one third, whilst one square yard of silk gauze weighs one hundred and thirty-seven grains, and one square yard of the finest patent net weighs two hundred and sixty-two grains and a half. The ladies' colored muslin dresses, mentioned in the table subjoined, cost ten shillings per dress, and each weighs six ounces; the cotton from which they are made weighing nearly six and two-ninths ounces avoirdupois weight.

Weight of one square yard of each of the following articles*:

Description of Goods.	Value per yard nens.		Weight finished of one sq. yd.	Weight of cott'n used in making one sq. yd.
	s.	d.	Troy grs.	Troy grs.
Caterpillar Veils,	-	-	4½	-
Silk Gauze ¾ wide,	1	0	137	-
Finest Patent Net,	-	-	262½	-
Fine Cambric Muslin,	-	-	551	-
6-4ths Jaconet Muslin,	2	0	613	670
Ladies' colored Muslin Dresses,	3	0	788	875
6-4ths Cambric,	1	2	972	1069
9-8ths Calico,	0	9	988	1085
1-2 yard Nankeen,	0	8	2240	2432

127. This enumeration, which is far from complete, of the arts in which copying is the foundation, may be terminated with an example which has long been under the eye of the reader; although few, perhaps, are aware of the number of repeated copyings of which these pages are the subject.

1. They are copies, by printing, from stereotype plates.

2. These stereotype plates are copied by casting the plaster in a liquid state upon the moveable types set up by the compositor.

[It is here that the union of the intellectual and the mechanical department takes place. The mysteries, however, of an author's copying form no part of our inquiry, although it may be fairly remarked that, in numerous instances, the mental far eclipses the mechanical copyist.]

4. These moveable types, the obedient messengers of the most opposite thoughts, the most conflicting theories, are themselves copies by casting from moulds of copper called *matrices*.

5. The lower part of these *matrices*, bearing the impressions of the letter or character intended, are copies, by punching, from steel punches on which the same character exists in relief.

6. These steel punches are not themselves entirely exempted from the great principle of art. Many of the cavities which exist in them, such as those in the middle of the punches for the letters *a, b, d, e, g*, &c., are produced from other steel punches, in which these parts are in relief.

We have thus traced through six successive stages of copying the mechanical art of printing from stereotype plates; the principle of copying contributing in this, as in every other department of manufacture, to the uniformity and the cheapness of the work produced.

* Some of these weights and measures are calculated from a statement in the Report of the Committee of the House of Commons on Printed Cotton Goods, and the widths of the pieces there given are presumed to be the real widths, not those by which they are called in the retail shops.

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Management of a Dunghill. By Robert Somerville, Esq. of Haddington, Scotland.

A friend has put into our hands the following essay on the important subject of collecting and manufacturing manure. It will be perceived that the plan of having the manure in hollows, recommended by distinguished agriculturists, among whom is J. Buel, Esq. is not approved. We are fully of the opinion, that manure remaining for any considerable time trodden down in excess of wet, is very destructive to its nutricious properties.—[Ed.]

The dung of quadrupeds is the most common, the most useful, though not perhaps the best managed, of any manure that is at present grown. Previously to entering upon the way of using it, we trust a few observations upon the present defective mode of treating it, together with some account of its properties, the means of collecting, preserving, and subjecting it to the process of fermentation, and of increasing its quantity, will be thought of service.

Mode of Management at Present.—When any considerable quantity, either of stable dung or mixture of animal and vegetable substances, is collected together under certain circumstances of heat, air, and moisture, they begin to ferment, and exhibit all the different phenomena of fermentation in a great or less degree, till the process is finished. If we then examine the mass, we find that the vegetables, of which it was originally composed, are decomposed and reduced to their first principles, and are again in a situation to afford food for new plants; by this means a perpetual succession is kept up, and the decay or death of any of these, which, at first view, we might be led to consider as a misfortune, serves for their reproduction.

This point settled, it will readily be admitted, that the more completely such substances are subjected to the process of fermentation, the greater and more beneficial their effects will be upon the soil. It is, therefore, an object of the first importance with every person concerned in the cultivation of the earth, to manage their manures in such a way that they might be completely fermented; and to have their dunghills so situated and constructed as to promote fermentation, and preserve the useful particles contained in the dung, both while the process is going on, and after it is finished.

A careful attention to these points will not only improve the quality, but, as we shall afterwards see, increase the quantity of manure in an astonishing degree.

When fermentation has taken place for some time, in a heap of manure consisting either of

animal or vegetable substances, or a mixture of both, the first alteration that is observed is a change of color, and a sensible diminution of its bulk; as the process advances, the bulk continues to diminish, till the fermentation entirely ceases. The diminution is owing to the solid parts of the mass being brought more closely together. The fixed air and volatile alkali escape in the form of vapor, and the moisture falls to the bottom, where it either remains, if the dunghill is situated in a hollow, and has a bottom capable of retaining moisture, or runs off, if it is situated upon a declivity. When this moisture is collected and carefully analyzed, it is found impregnated with the salts contained in the dung, and if spread upon the soil in that state, it will contribute to fertilize the land.

In collecting and preparing dung in this manner, little attention has hitherto been paid either to the site of the dunghill, the encouragement of fermentation, or the preservation of the salts after the fermentation is finished; accordingly we observe the greatest part of dunghills either situated in hollows, and surrounded with water, which, by chilling the mass, very effectually prevents fermentation—or upon declivities, where they are totally exhausted of every drop of moisture. In these cases, the dung is thrown out carelessly: horses, cattle, hogs, and poultry, are allowed to trample upon and spread it, and even carts and waggons are driven over it.

By this treatment it is pressed into a mass too heavy and compact for the air to penetrate through a great part of it; the sides of the dunghill are scattered about, loses its moisture, and is either blown away by the winds, or returns to a state little better than dry straw; and, when the season arrives for laying it upon the land, the whole is taken out, without considering whether it is fermented or not.

Defects of this Management.—To a person who has paid any attention to the subject, the defects of this management must appear in a very striking point of view. The middle of such a dunghill from being hard pressed will be long in fermenting, and even in the end be very imperfectly fermented; and the sides, from being so scattered about and dried, will not be fermented at all. We need hardly observe that the consequences of this management will be a scanty crop, and disappointment to the farmer: this is the ordinary effect, where dung is laid even upon a plain surface.

Bad Effects of Dunghills being placed in a Hollow.—When the dunghill is situated in a hollow, and has a bottom capable of retaining moisture, the consequences are equally bad, if not worse. The whole of the rain that falls immediately from the clouds, together with the water from the roofs of the surrounding houses, and the natural moisture of the dunghill itself, lodge there and chill it, so as to prevent fermentation. It is certain that stable dungs in such situations will have the appearance of being fermented, but upon examination it will be found only decayed, and, from its being steeped so long in water, the greatest part of the salts will be extracted, and what remains, if carefully analyzed, will be found to contain scarce any other principle but vegetable earth.

Loss attending Dunghills being situated upon a Declivity, or Gravelly Bottom.—Where a dunghill is situated upon a declivity, or has a gravelly bottom, the loss is equally great as in the two former cases, as the whole of the natural moisture that is pressed out during fermentation, and which is strongly impregnated with the salts of the dung, either runs off or sinks into the earth; nor is this the only loss that is sustained—every shower that falls, by passing through the mass, carries off an additional quantity of the salts, till, by repeated washings, the dunghill is left in nearly the same situation as tea leaves, after a strong infusion has been drawn from them. Finally, by throwing it out in the careless manner already described, taking no pains to lay it up regularly, and allowing cattle, &c. to tread upon, and carts to pass over it, fermentation is long in taking place; even then it is partial and incomplete, and in place of producing good manure, abounding with rich, well prepared substances, it will for the most part be found to consist of articles only half fermented, which, from their parts not being properly separated, are very ill calculated to promote vegetation. Dung is the most likely to be best where the dunghill is upon level ground, and at some distance from the offices.

Having mentioned the present mode of collecting and preparing stable dung, and stated the slothful and defective manner in which it is generally done, we shall now proceed to offer some directions as to the methods of promoting fermentation, and preserving the salts after the process is finished; and lastly, of increasing the quantity of that valuable article.

To promote Fermentation in Stable Dung.—To promote fermentation in stable dung, two things are essentially necessary, namely, Air, and Moisture: without these, no fermentation will take place; and unless they are in due proportion, the process will be incomplete.

It is a circumstance well known to persons who are accustomed to prepare dung for hotbeds, that by laying it lightly together in heaps, and watering it gently, fermentation is immediately brought on. It is also known, that in the after stages of this business, hot-bed dung is as completely fermented in the space of fourteen or sixteen days, as that in a farm-yard generally is in six or eight months.

Every farmer ought, therefore, to institute this practice as nearly as the nature of his situation will admit; and in place of having his dunghill in the stable-yard, allowing carts, cattle, hogs, poultry, &c. to trample upon and disturb it, he should place it in some distinct situation, convenient for his offices, the urine from which should run into receptacles, from which it might be thrown, without the trouble of carriage, into the dung, where it would be of the utmost use in promoting fermentation.

When it is driven to the dunghill, the cart or waggon in which it is carried should not be driven over the dung as is commonly practiced; because as we formerly observed, the feet of the horses and the weight of the c rriage will press it so hard, that the air will be in a great measure excluded, and by that means fermentation prevented.

If we inquire either of the farmer or his servant what is gained by this exertion, he will only be able to say that the load is laid upon the top of the heap—a labor which a man could readily perform to much better purpose in a few minutes; the whole cart load ought to be laid down by the side of the dunghill, and afterwards thrown lightly upon it with a fork—the trouble of doing which would be trifling, and the advantage immense.

If dung laid up in this way contains a sufficient proportion of moisture, it will immediately begin to ferment, and the process will be soon and completely finished. Particular attention ought therefore to be paid to this circumstance; and if at any time the dung is laid up dry, it should be immediately watered. In summer this will frequently be found necessary, especially during dry weather; and as most farms possess a sufficient command of water, it can very easily be done.

Where this method is had recourse to, the dung will be completely fermented in the space of six or seven weeks at the utmost, and in general will be found of one half more value than that which is made in the careless and slovenly manner we have described.

Situation and Construction of Dunghills.—The importance of good manures to all agricultural operations is such, that we should naturally have expected to find every thing relating to it made a primary object with farmers. On the contrary, no part of the rural economy has been less the subject of inquiry: the situation and construction of dunghills in particular, though highly deserving of notice, have for the most part been considered as a matter of indifference.

As was formerly mentioned, a hollow is improper for the site of a dunghill, from the circumstance of its lodging water, and preventing fermentation: a declivity is equally bad, as it serves to drain and carry off the moisture saturated with the richest salts of the dung: a gravelly bottom is worse than either of those, as the moisture sinks down into the earth, and is irrecoverably lost.

Proper Situation for a Dunghill.—The situation best calculated for the site of a dunghill is that which is nearest to a level, with a bottom capable of retaining moisture, and, if possible, covered with a shade. The whole should be inclosed with a wall of at least four or five feet in height, with an open space at one end for carting away the dung. If the bottom is not clay, it should be laid with, and paved above, either with broad flags or the common paving stones used for streets. The American farmer may find it convenient to lay a floor of thick plank. At the end opposite where the opening is left, a reservoir should be dug, which might either be lined with clay, and built round with stone, or fitted with a wooden cistern made water tight, into which a pump should be put for drawing off the moisture daily.

This reservoir should be situated at the most depending part of the dunghill, with an opening in the wall immediately opposite to it. The pavement should have a number of channels of at least five or six inches deep, and the same width, all tending towards the opening: these channels should be well paved, and filled with brushwood before the dung is laid down; by which means they will be kept open, and the moisture find a ready passage to the reservoir. For better explaining the idea, we refer the reader to the annexed plan of a dunghill, with the proposed channel and reservoir. Every dunghill should be so situated as to have its longest sides run from east to west, surrounded by a wall, and covered with a roof. The wall on the south side of the dunghill should be of such a height, as to prevent entirely the sun's rays from touching the dung; on the other three sides, however, there is no necessity for its being so high: six feet from the ground will be quite sufficient, and the roof can be supported by pillars as in the figure.

The expense of a roof, which need only be thatched, will soon be compensated, not only by the superior quality of the dung, but by the conveniences which it will afford, as it may easily be converted either into a pigeon house, a poultry house, or a store for the smaller husbandry utensils.

Fig. 1.

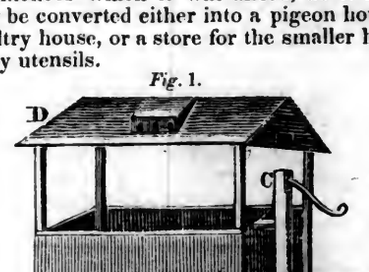


Fig 2

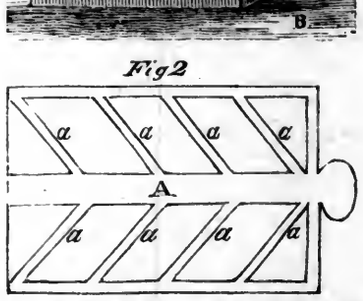


Fig. 1 represents an elevation of the building for the reception of dung; B, the reservoir; C, the pump; D, the roof.

Fig. 2 represents the ground plan: A the main chain channel leading to the reservoir; *a a a a*, the side channels terminating in the main one, A.

Advantages attending Dunghills constructed in this way.—The advantages attending this

sort of dunghill will appear at first sight. The wall, by confining the dung, will keep it from being scattered about and lost, and will also preserve the sides of the dunghill from being dried and rendered useless by the action of the air. The shade will keep it from being chilled or deprived of its salts, by the rain passing through it; the wall will also prevent the moisture from escaping at the sides, and conduct it to the bottom. The pavement will prevent it from sinking into the earth; and the channels will conduct it to the reservoir; from whence it can be drawn by a pump into a barrel placed into a cart, and either spread immediately upon the field or mixed with other substances into a compost, or thrown upon the dunghill itself, it being the best of all ferments.

To increase the Quantity of Manure.—The quantity of manure may be increased by laying a layer of earth, leaves of trees, or any other suitable substance, on the bottom: and similar layers may be laid throughout the dunghill—the moisture passing through them, the same being returned from the reservoir, will completely saturate them; the entire will undergo a fermentation, and produce a vast quantity of manure; a quantity which can be so increased that the farm may be kept in a state of constant and profitable productiveness. The building should be, if possible, so placed that the urine from the stable, cow-house, &c. would pass by a channel into the reservoir.

Suggestions relative to Farmers' Work for June.
By the Editor.

This is the month in which the farmer should look about, and see what nature is doing for him. If indications imply that the boughs of fruit trees are soon to be bent towards the ground with the weight of the growing fruit, he will look into his cellar and see that none of his barrels and hogsheads become destroyed for the want of a little attention. If the timely showers and genial warmth of the sun have made the meadows to wave with the green grass, then he will sharpen his scythes and engage in season the sturdy, the industrious, and the *temperate* arm to swing them. If the grain is of a healthy green, even, and free from the destroying insects, he will prepare his mows, his cradles, and make other preparations. It is not sufficient to manure and prepare the ground well, to sow carefully, and to cultivate diligently, but the reaping must be done in season, and the crop well secured. Every preparation, therefore, should be made in time.

Pasturing.—Pasture grounds should be divided, not only for the superior and additional food that is afforded grazing stock, but because it enables them to obtain the requisite quantity in a much less time, thus enabling them to avoid long exposures to storms, to burning heat, and to the tortures of flies. Cattle and horses, like the human race, require time for repose and sleep.

Shade.—Pasture will go further and stock will thrive faster when there is a good shade of easy access. They are not only refreshed, but the digestive organs would, we should suppose, perform their functions more naturally when the body was free from the pain inflicted by flies, as well as that arising from the intense rays of the sun.

Hay Making.—The object in curing hay is to keep it from fermenting when in the stack or mow, and to preserve as much as possible its sweetness and its juices. Some farmers disapprove of spreading the hay, but recommend it to remain to dry a little in the swarth, and then not to spread it, but simply to turn it over. Others advise to scatter it about immediately, and rake and get it into the barn before the leaves are so dry as to crumble. The latter, we think, is the correct way when the weather is very fine. Both of the above practices imply that the grass should not be left to become sun burnt, dry and hard. In case the hay is not perfectly as dry as it should be, mix with it, when mowed away, last year's hay or straw. Under all circumstances sprinkle from four to eight quarts of salt to a ton of hay. This is considered to increase its value at least one half, and even four times, say those who speak from experience. By the use of salt, hay may, as a general rule, not run half the risk of being injured.

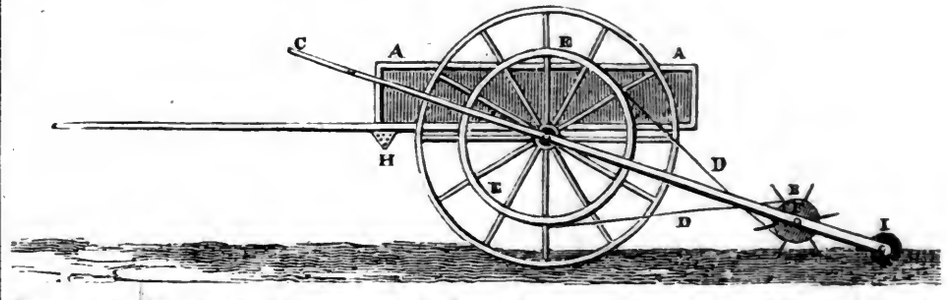
Washing and Shearing Sheep.—If sheep can be washed immediately after a storm, it can be done better, and there will be a greater probability of having uninterrupted drying without dust until the wool is fit for shearing. The coarse soiled wool about the thighs and docks should have been cut off a few weeks previous, to have kept the wool cleaner, and the udders of the ewes from becoming sore. Care should be taken in driving, and catching, and handling them, particularly if they are full and fat. If they are fed on good pasture they should remain in the pen or yard sometime, to alleviate the suffering arising from their confined situation. Mortification often takes place from bruises in fat sheep. Instances have occurred in which valuable sheep have died in the operation of shearing, from being fleshy and full, and from suffocation. When turned out into the fields, there should be shade to protect them from the burning heat of the sun, and from storms. Many of our best breeders of sheep advise water to be accessible at all times.

Corn.—Some farmers disapprove of the use of the plough in tilling corn on the ordinary soil for this crop, because it breaks and exposes its roots to the sun. They recommend as a substitute the cultivator, or, as some farmers call it, the plough-harrow, which does not ridge the ground. Cutting out the very feeble plants, and thinning those hills that have in too many shoots, are recommended by good farmers.

Caterpillars.—These should be carefully watched and destroyed on their first appearance, as well as later in the season. Some shoot them, others, with a long pole, having tow or rags around the end wet with spirits of turpentine, swab them off.

Land Ditching.—One of the cheapest and most effectual modes of draining is to dig a ditch of convenient breadth, and to a depth of one and a half to two or three feet. First fill in with brush of hemlock, cedar, or other that is more convenient, with the ends all one way, and to the depth of more than half a foot, after being pressed or pounded down, and then fill up with the earth.

To protect Cucumbers.—A writer in the Genesee Farmer gives an instance of applying with complete success cotton over the hills of cucumbers, to prevent insects from eating off the cotyledonous leaves.



Machine for Harrowing, Sowing, and Rolling. By James D. Woodside. To the Editor of the New-York Farmer, and American Gardener's Magazine.

Sir,—I have recently invented and tested what judges esteem a valuable improvement in the harrow. It consists of a revolving cylinder, containing 45 feet, which is revolved by a power obtained from the wheels of a cart, to which it is with ease attached and detached. In addition to the harrow, there is a convenience for sowing the grain in front of the cart, by supplying a hopper, from which it is conveyed into a sieve, so constructed as to distribute it from wheel to wheel. The cylinder harrow in the rear of the cart effectually covers the grain. Attached to this is another cylinder used as a roller. From the above it will be perceived that I can of a truth affirm, that I can sit in the front of my cart, under a canvas covering, sow the grain, harrow and roll it in, without exposure to the sun, leaving the ground without any impression of the horses' feet, my own feet, or the cart wheels.

You will perceive by the crossing of the band, that the cylinder has a counter motion to that of the cart wheels, making 12 revolutions while the wheels of the cart make one.

References.—AA, the cart; B, cylinder; C, shaft on one side, with a power to elevate or depress the cylinder; D D, chain-band; E E, the V groove-wheel; F, do. do. on the end of the cylinder; H, the end of the sieve; I, the roller. The hopper is inside the front of the cart, and not seen.

Highly competent judges have approved of the machine, and I think the advantages great. I am advised by Mr. Van Kleek, of your State, who has witnessed its operations, to exhibit it at Albany, before Mr. Van Rensselaer, and other patrons of agriculture in that vicinity. This I shall do as soon as I conveniently can.

It is my determination to dispose of only a half or fourth of a right to a state, until it shall recommend itself to the public. Although the invention has been patented by me nearly a year, yet I have not heretofore brought it into any notice, having been determined to perfect it as far as possible before exhibiting it.

Your very obedient servant,
James D. Woodside.

Washington City, D. C., May 9, 1833.

Remarks.—We think very favorably of the above, and hope farmers will show a prompt disposition to favor the inventor, who, we understand, devised the plan and superintended the work of placing the colossal statue of Washington on the summit of the Monument in Baltimore.—[Ed.]

NEW-YORK AMERICAN.

JUNE 8, 10, 11, 12, 13, 14—1833.

LITERARY NOTICES.

Rob Roy—The Black Dwarf—Old Mortality—and The Heart of Mid Lothian: being Nos. IV. V. and VI. of *Connor & Cooke's* cheap edition of the complete works of Scott, have appeared. These, with the previous numbers issued, constitute a volume. The whole will be comprised in six volumes. We repeat what we have said before, in reference to this edition of the immortal works of Scott, that it is a public benefaction, which—unlike most benefits conferred on the public—may, we hope, amply requite its projectors.

Peter Parley's Tales about Ancient Rome—with some Account of Modern Italy.—N. Y. *Peter Hill.*—Peter Parley is, we fear, a sad poacher: taking other men's property—that consisting in words and ideas, frequently in the exact order and connexion of the original proprietor—without permission or acknowledgment. Yet he makes amusing little compends, and dresses them out in a way certainly calculated to arrest the attention of those for whom he publishes—boys and girls, of from ten to twelve or thirteen years of age. The little volume now before us, treats with comprehensive brevity the chief incidents of Roman history—and has the usual number of wood cuts, to rouse flagging curiosity.

Lempriere's Classical Dictionary, edited by Lorenzo Da Ponte and John D. Ogilby. W. E. Dean, and Collins & Hannay.—Still another edition of this useful work, from the enterprizing Mr. Dean. This makes the eighth American edition, and, if we mistake not, is the second that has been issued by Mr. Dean within a year or two. Like most of the works from the same establishment, it is well printed, and neatly and compactly got up.

Discourses and Addresses on Subjects of American History, Arts and Literature; by Gulian C. Verplanck: N. York, J. & J. Harper.—We imagine that there are few persons of taste and just habits of thinking, who will not rise from the perusal of these discourses equally instructed, entertained and delighted. The pure unaffected English style in which they are written, the variety of learned and critical observation they embrace, and the refined and elevated sentiments they breathe, commend the collection at once to the cultivated and contemplative reader. There is nothing in making up these weekly notices, consisting as they generally do of a mere account of the republication in this country of foreign works, which gratifies us more than having an opportunity of dwelling occasionally upon some production of one of our own countrymen, which is a real addition to the slender stock of American literature. We find ourselves insensibly approaching it with an interest which no foreign production can inspire, and we become aware of a feeling of responsibility attaching to our office here far livelier than the republication of an often criticised European work can call forth: of responsibility to the author, because he who, in a country where original literature, in its higher branches, is so indifferently 'paid,' thus exercises his talents for the improvement of his countrymen, makes them his debtors in all that deference and attention which should wait upon his generous efforts; and of responsibility to our readers, because, as those works which originate among ourselves do, and ought to, exercise a greater influence upon the taste and opinions of those for whom they were more particularly written, than foreign books, the recommendation of them from a source of whatever weight, is at once enhanced in importance. It is therefore,—while we never knowingly let slip an opportunity of showing the due value to be attached to many works which, coming from the American press, are marked by all that miserable imitation of the worst English models, which alike in writing, in manners, and in thinking, prevails too much among us, and whose pages, in fact, bear no more the impress of American feeling and genius, than if written in Piccadilly,—we turn with eagerness and delight, to authors, not to mention the names which our own city this moment supplies—who, like Flint, have arrested the bold but fading features of our frontier life and scenery, and transferred them to the canvas in colors which, while they are wholly of his own mixing, are true to nature, and can never fade; or who, like Channing, have spoken to the learned of Europe in a language which, though resembling theirs, is charged with thoughts, and rife with feeling, that could only have sprung and been cherished in an American bosom. Let those who think the avowal illiberal, remember that it was their *nationality* which first gave to the writings of Irving and Cooper, the popularity which they enjoy abroad.—Now, the main merit of Mr. Verplanck's book, in our eyes, is, that it could only have been written by an American, born and educated upon the soil with which the associations it commemorates are chiefly connected. The style, as we have before observed, is one of pure English—simple but elegant and nervous, while highly polished. The thoughts those only of a republican American—scholar-like and consequently liberal, but still strictly and originally national. And to enlightened Europeans, who, when they study our character in our books, wish not to see themselves reflected as if in a mirror on the page before them, with their own image dimmed and distorted, presented as the original of another,—the general views and train of thinking in these discourses, will afford equal pleasure and instruction. The long passage we have selected for extract is chosen, however, rather for the mass of information embraced in it, than for any peculiar spirit in which it is written; and we therefore refer our readers to the book itself for the best illustrations of the comments we have made upon it. But we cannot take leave of the volume here without venturing to express our regret—and we do it with the most sincere deference to the distinguished author—that one so gifted by nature, and so fitted by education, to render inestimable service to his country, and immortalize his own name by bringing his disciplined and manly taste as a critic, and his rich mental resources as a writer, to her young and rising literature, should allow the doubtful distinctions and unsatisfactory rewards of political life to lead him away from those pursuits in which his usefulness would be instantly felt and its glory endure forever. You can drum up a politician that will speak on his legs for ten hours at every corner; but you may range the country over in vain for the assemblage of qualities requisite to produce a book like that before us. The routine of ordinary politics is, to a mind like that of its author's, what the mill is to a blood horse: nor is there any cause why talents of a high and peculiar order should be drawn from their natural sphere of usefulness into the stormy arena of public life. In a commonwealth, whose political machinery is so simple as is that of ours, (it would go by itself would people only let it alone,) a good citizen has but little more to do in times of peace and prosperity than to keep an eye upon its motions, and see that they do not become impeded or embarrassed; and this duty may be performed by persons of ordinary intelligence. It requires the creative mind of a Fulton or a Stevens to put together and set in motion the wonderful machines with which their names are identified; but the fabric once created, it may be kept in repair by the humblest hand, provided it be trust-worthy. He who, in disseminating knowledge of the great engine of Government among the people, increases the number of those who have a wary and single eye to its operations, is far more usefully employed in a private station, than he whose legislative ingenuity adds to the number of its wheels in a public one. Nor when a real call for public services is made, is the latter less at hand to answer than the former. Should ever (which Heaven in mercy to mankind forfend)—should ever clouds like those which lately darkened our horizon, really burst in storm upon the country, the talents equal to extraordinary occasions, whoever may be their possessors, will be found out any where and at once assert their place. Station, in political convulsions, confers more danger than power; and common natures, whom fortune, accident, or their own aptitude for climbing, when unmolested, elevates to office, sink at once into their native insignificence. The men of our Revolution sprung Minerva-like, ready armed, from the bruised head of The People; while they who were wont to strut before their noses in all the pomp of office and power, were withered by the blast which nursed those iron souls. And so, did ever our country call again, would thousands, with heads to direct, hands to do, and hearts to dare, like the bristling clansmen of Scott's Highland hero, starting from the humble heath and "shingle gray," leap from obscurity at that trumpet-note; while many a feeble nature now arrayed in adventitious strength, propped up by circumstance, or shielded by fortune from collision with those of sterner mould, would quail beneath the terrible sound, and, like churchyard spirits at the crowing of the cock, shrink like "guilty things" away.

We receive this brief collection of Discourses, not as part payment of the great literary debt which Mr. Verplanck owes his country, but as an earnest, that whatever he may consider due to his political friends, he begins to be aware of his accountability to the reading public, and will at some time liquidate the long outstanding demands against him. *

We have no cause to blush for any part of our original descent, and least of all for our Dutch Ancestry. The colony of New Amsterdam was founded by Holland, at a time when that nation had just sprung into political existence, after a long, bloody, and most glorious struggle against civil and religious tyranny, during which all the energies of patriotism, courage, and talents, had been suddenly and splendidly developed.

> And shall we not proclaim,
> That blood of honest fame
> Which no tyranny could tame.
> By its chains?*

After having beaten down and broken for ever the colossal power of the Spanish monarchy, the Dutch republic continued, for nearly a century, to hold the balance of European politics with a strong and steady hand; and when the rest of the continent crouched under the menaces, and the English court was bought by the gold, of France. she stood alone and undaunted defending the liberties of the world with a perseverance and self-devotion never surpassed by any nation. During the same period she had served the cause of freedom and reason, in another and much more striking manner, by breaking down the old aristocratic contempt for the mercantile character; and her merchants, while they amazed the world by an exhibition of the wonderful effects of capital and credit, directed by sagacity and enterprize, and operating on a vaster scale than had ever before been seen, shamed the poor prejudices of the age out of countenance by a high minded and punctilious honesty, before which, the more lax commercial morality of our own times and country should stand rebuked.

It was about this same remarkable period of her history that Holland produced many of the most illustrious men of modern Europe. There are no greater names in politics and arms, than Barneveldt and Dewitt, than Tromp and De Ruyter, than Prince Maurice and the Williams of Orange—none more conspicuous in letters and philosophy than those of Erasmus, Grotius, and Boerhaave. In physical and mathematical science, with the single exception of the discoveries of Newton and Galileo, more had been done in Holland than in any other nation of Europe. It was there that were invented the most important and useful instruments of Natural Philosophy; the telescope, by Jansen; the microscope and the thermometer, by Drebell; the micrometer, and the pendulum, in its application to clocks, and as a standard of measure, by Huyghens; and the Leyden Phial, by Cuneus and Muschenbroek. It was there that an

arch of the meridian was for the first time accurately measured. The Medical School of Leyden, in the time of Boerhaave and his immediate successors, was what that of Edinburgh has since become. In ancient literature, the scholars of Holland effected all that learning and industry could accomplish, and prepared the way for that very ingenious and philosophical investigation of the principles of language which has since been so successfully cultivated in the Dutch Universities, by Schultens, Hemerstuis, Valckenear, and Hoogeven. Her Jurists were the expounders of public and of civil law to the continent, whilst the theologians of the whole Protestant world entered into the controversies of the Dutch divines, and had ranked themselves, on either side, under the banners of Gomar or Arminius.

Nor were the talents of the nation exclusively dedicated to the severer muses. Their vernacular literature is much richer than is commonly supposed; but the narrow limits of a language which was in its extent little more than a provincial dialect, forced most of the scholars of Holland to seek for fame through the medium of the other cultivated languages of Europe, and of the Latin. Some of the most valuable contributions to French literature are from the pens of Dutch authors: and the most perfect specimens of modern latinity, both in prose and verse are to be found in their works. Among these is to be numbered a history of their own revolution, deservedly esteemed one of the most perfect specimens of modern historical composition, and rivalling the elegance, acuteness, and condensation of Tacitus.

Besides attaining to distinguished excellence in other walks of art and taste, Holland could boast of having formed a numerous and original school of painters, who, for absolute verity of representation, and powerful delineation of ordinary nature and common life, are entitled to the same rank in the imitative arts, that Le Sage and Smollett occupy in literature. More than this—it had given birth to Rembrandt, who, by carrying to their full extent the power of light and shade, and the magic of coloring, produced, at will, the most beautiful and the most sublime effects, and is, on that account, deservedly enrolled among those great masters who have augmented the power of human skill, and multiplied the means of intellectual pleasure; who have raised painting from imitation into poetry, from a mechanic art to a learned and liberal profession.

In their internal administration the United Provinces anticipated, and in the same spirit surpassed, the wisdom and equality of our own institutions. The traveller saw with admiration the land that was but yesterday rescued from the ocean by human industry, now filled with busy and crowded cities, and beautiful in the placid richness of high cultivation; no sign of misery or of oppression anywhere met his eye, and in all that he beheld of private comfort or of public magnificence, he was forced to acknowledge the work of liberty.

This sketch of the early glories of the Dutch republic is but slight and imperfect, and yet even this must fill us with astonishment, when we reflect that such were the exploits and attainments of a people occupying a territory not equal in extent to Maryland, and much inferior to it in natural advantages; and whose whole population did not exceed the present census of the State of New York.

These remarks ought to have been wholly unnecessary in this place; but I know not whence it is, that we in this country have imbibed much of the English habit of arrogance and injustice towards the Dutch character.

English writers have long been accustomed to describe the peculiar manners and customs of Holland with a broad and clumsy exaggerstion. This is a little injudicious in them, because most of their wit, if wit it may be called, recoils back upon their own country, and strikingly resembles the flippant ridicule which their own more lively neighbors have lavished upon the hard drinking, the oaths, the gross amusements, the dingy coffee houses, the boxing matches, the beer, and the coal smoke of the awkward and melancholy Islanders. Their old maritime contests and commercial rivalry may serve to excuse this misrepresentation in Englishmen, but for us there is no apology.

The subject is not a pleasing one, and I do not wish to dwell upon it; yet I cannot refrain from observing two most notable instances of this spirit among English writers. Dryden and the other dramatists and occasional poets of Charles II.'s reign are full of sarcasms upon Dutch cowardice; and yet, strange as it may seem, most of these sarcasms were given to the English public about the very time that London was trembling at the sound of De Ruyter's cannon on the Thames, and but a few years after the time when Tromp, after defeating Admiral Blake, the Nelson of that day, triumphantly swept the commerce of England from the narrow seas. The other instance is of later date. Almost within our own memory, a learned English judge, (Sir James Marriott,) in a formal and labored opinion, took occasion to sneer at the treatise of Huberus, *De conflictu Legum*, which has settled the law of the greater part of the civilized world on the often litigated points of the *Lex loci contractûs*, as "the dull work of a Dutch school master, written in the worst Latin, and printed on the worst paper he had ever seen."

It is more "in sorrow than in anger" that I feel myself compelled to add to these gross instances of national injustice, an early work of a writer of our own, who is justly considered one of the brightest ornaments of American literature. I allude to the burlesque history of New York, in which it is painful to see a mind, as admirable for exquisite perception of the beautiful, as it is for its quick sense of the ridiculous, wasting the riches of its fancy on an ungrateful theme, and its exuberant humor in a coarse caricature.

This writer has not yet fulfilled all the promise he has given to his country. It is his duty, because it is in his power, to brush away the pretenders who may at any time infest her society, her science, or her politics: or if he aspires, as I trust that he does, to strains of a higher mood, the deeds of his countrymen, and the undescribed beauties of his native land afford him many a rich subject, and he may deck the altar of his country's glory with the garlands of his taste and fancy.*

How dangerous a gift is the power of ridicule! It is potent to unmask the pretender and to brand the hypocrite; yet how often has it dissipated those gay illusions which beguile the rough path of life—how often has it chilled the glow of genius and invention—how often, as its dread presence, have the honest boasts of patriotism, the warm expression of piety, the generous purpose of beneficence, faltered on the lips and died away in the heart!

This colony was very early separated from its mother country, and grew up into wealth and importance under the influence of English laws and education During the forty years for which it remained under the Dutch government it was to insignificant too attract much of the attention or of the talents of Holland, then engaged in struggling for existence, against the ambition of France and the jealousy of England. But the last Dutch governor, Petrus Stuyvesant, who was the governor-general of the Dutch American possessions, was no common man. He had served with reputation in the wars of the United Provinces; and in the history of his administration in this country, he appears as a resolute and intrepid veteran, and a vigilant, sagacious politician.

From 1674, when this province was finally ceded by treaty to Great Britain, until 1780, when the United Provinces arrayed themselves in our aid in the war of Independence, New York had little direct communication with Holland, The only intercourse then kept up, was by occasional emigrations, and by a regular succession of clergy educated in the Dutch universities, to whom New York was doubtless indebted for most of the little learning which was thinly scattered over it during its colonial government. But as soon as America assumed her rank among the nations of the earth, our former ties of friendship and affinity were renewed. From the first dawn of the revolution, popular feeling in the United Netherlands began to run strongly in our favor; and although various circumstances for some time delayed their formal recognition of our independence, we looked thither from the first for the sinews of war.

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* To those who judge of W. Irving's powers solely from his satirical and ludicrous compositions, this may seem an exaggerated compliment. But he has given some samples, too few and too short I confess, of what he is able to effect on these topics in his graver and purer style.

[The above note was written and first published about fourteen years ago. It is retained in the present edition because I feel proud that my judgement of the graver talent of the author of Knickerbocker has been confirmed again and again, and above all by the Life of Columbus.]

Crayon Sketches, by an Amateur. 2 vols. 12mo. *Conner & Cooke.*—This is a collection of Essays, grave and gay, displaying great versatility of talent, and mental powers of no common order. The serious passages are frequently fraught with just and beautiful sentiment—the unaffected offspring of an earnest and practical mind—while the lighter ones are often enlivened by sterling humor and racy satire. The writer, if we mistake not, is a self educated man, whose ingenuity and ability, while yet unknown as a person of most original literary attainments was once complimented by a distinguished individual for having ably reviewed a popular work, from the knowledge he had gleaned from it while "setting up" the MS. in a compositor's office. The following extracts from the work before us, will show that the opinion of his talents was not unadvisedly uttered:

The streets of London and the advantages possessed by the country poor over the same class in the city:

The afflictions which poverty brings with it in the country are as nothing to the infinity of evils in which it enmeshes those who are cooped up in cities. In the country, though the beds of the poor be hard, and their food coarse, and their raiment ragged, they have at least the fresh air of heaven to blow upon them, and they enjoy the changes and delights which the ever-varying seasons brings around, in common with the wealthiest. The odor of the flower is as grateful to their sense—the warble of the bird as pleasant to their ear—and the velvet turf as soft and elastic to their tread as to that of the man of many acres. With only the cost of a little care, liberal nature clusters the briery rose about their lowly windows, and twines the graceful woodbine around their humble doors; and not unfrequently in the prime of summer, the mean clay walls of their cottages are completely buried from the view beneath a mass of vegetative beauty and fragrance.

Travelling mentally and bodily:

I was a great traveler when a boy, though not in the body; in imagination I had circumnavigated the globe. A book of voyages and travels was to me better than a holiday, and I devoured the pages of Wallis, Cartwright, Byron, and other navigators, with an appetite that now seems to me to have been really preternatural. How I used to trudge away, not unwillingly to school, if I had only Robinson Crusoe (which was then a most veritable and authentic document) smuggled away in my satchel, amidst grammars, dictionaries, and other necessary and disagreeable productions. Then Cook's Voyages!—What an ocean of pleasure to me were his ocean wanderings! How did they divide, or rather completely abstract my faculties from subtraction, multiplication, or division (short or long)! I was sailing far away, in the good ship Endeavor, over the illimitable Pacific,—what were vulgar fractions to me? I coasted through the Friendly Islands and took no heed of decimals; and, as far at least as I was concerned, arithmetical progression became stationary. I might be ostensibly in practice; but my practice was to go on indulging in stolen sweets "from morn till noon, from noon till dewy eve," until the awful hour of retribution arrived, and I was called upon to exhibit the sum total of my day's industry. This generally consisted of one or more questions "cabbaged" or stolen from some of my precursors in those difficulties. Sometimes they passed muster; but oh! the opaque darkness—the cheerless, hopeless, mental blindness in which I found myself enveloped, whenever my worthy teacher requested me to "show how I came by the answer." How I came by it in one sense—how improperly and feloniously I came by it, I knew full well: but as for establishing any legitimate claim to the product, as for showing by any given process how the answer could be correctly deduced from the premises, it was only a waste of his time and mine to request such a thing. Then, poor left hand, came thy trial—"not for thine own demerits but for mine," fell blows from supple cane or leathern thong right heavily on thee! Many a blush and bruise La Perouse and Captain Cook cost thee—ill used member—unfortunate extremity.

But I was incorrigible. Blows and admonitions were equally unavoidable. I did not see or feel the moral justice of either one or the other; they were to me things of course—necessities, not judicious punishments; inevitable consequences, which must be endured and could not be avoided, and the next day I was again amongst my old friends and Islanders, tattooing warriors, roasting dogs and marveling how such "strange flesh" would eat when cooked, or performing any other equally curious or ingenious operations. When not reading I was dreaming. From the hubbub of the school I could transport myself in a twinkling to some fair Otaheitan isle—some speck of verdure that "lit the ocean with a smile," where summer, and gentle gales, and beauteous flowers, and odoriferous spices were perpetual; and

there, where "feathery cocoas fring'd the bay," would I lay myself down and watch the breaking of the waves upon the sparkling shore, until the tumbling of a slate or book, or the harsh growl of the master, startled me from my day-dream and brought me to a sense of things more immediate and material.—But I possessed in a high degree the happy faculty of abstraction—a faculty that can transplant you in an instant from the dullest scenes and company to the brightest and gayest—and in a few moments I was again "all abroad"—listening to the roar of Niagara—scrambling over the blue mountains of Jamaica—lolling in the orange groves of the Indies, until, after years of wandering I would fancy myself returning to anxious friends and old companions.

"When the flower was in the bud, and the leaf upon the tree,
With the lark to sing me hame to my ain countree."

What was the petty pain of a few blows (I never felt the disgrace) to such visions of delight? Nothing. And so I continued—a boy inured to stripes, and utterly destitute of all marks or orders of merit—the tail of my class—the superlative degree of comparison for idleness and inability. No "specimen," of my proficiency in the art of chirography was ever exhibited before company in the parlor of my parents; nor

"When friends were met, and goblets crown'd,"

was I ever called upon, like other boys, to exemplify the beauties of the British Poets by my juvenile powers of recitation.

It will be observed by those not already familiar with these essays through the New-York Mirror, where they originally appeared, that there is something singularly fresh and felicitous in the style of this author; and it must be allowed, that it is long since a new work indicating greater promise on the part of its writer in future efforts, has come from the New-York press. These volumes are edited by Theodore S. Fay, Esq. a friend of the writer, and dedicated to Washington Irving.

We are compelled to close our Review to-day leaving several books, which came to hand at too late an hour to do them justice, unnoticed. They shall all be, however, duly attended to in their turn.

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THE RECEPTION OF THE PRESIDENT in this city, by the civil authorities, with the attending throng to witness the spectacle, was exceedingly brilliant and animated. The whole town seemed emptied into the Battery and upon the adjacent wharves, the rigging of the vessels at the latter points being alive with human beings, while the Bay was crowded with small craft. About 4 o'clock, the steamboat North America, which was gaily decorated with flags for the occasion, landed the President and suite, with the public authorities, who had gone down to Amboy to receive him, at Castle Garden, amid the discharge of artillery, and the acclamations of the multitude—the two Dutch ships in the stream very handsomely uniting in the salute from the Battery. After receiving an address from the Mayor in the saloon of the Castle, the procession formed and proceeded to cross the bridge, when those immediately around the President's person had a most narrow escape from destruction. The particulars are thus given in the D. Advertiser:

Just after the President had crossed the bridge which connects the garden with the Battery, being filled at the moment with the Procession, it gave way, and carriing with it the two Ticket-offices standing on each side, fell into the water below. General Jackson, mounted, had that moment cleared the bridge, and was but 15 or 20 feet from it when the accident occurred. Among those who fell with the bridge, were Gov. Cass, Major Donelson, Colonel Earl, and Judge Hoffman, Alderman Monroe, Messrs. Bloodgood and Benjamin Swan, of this city; none of the above were materially injured, nor have we yet heard of any serious injury, except, that to one young man who appeared to have his arm broken. The end of the bridge resting on the battery wall gave way, and fell down into the shallow water, resting on the loose stones below. The procession was thus cut off, leaving only about twenty persons behind Gen. Jackson. A large number of people were upon the bridge at the moment, and were thrown in a mass into the shallow water. How it happened that no lives were lost, and no more injuries incurred, it is very difficult to imagine. We have heard of several remarkable escapes. When the bridge fell, two of our informants had a full view of the scene at the moment of the accident. The ticket boxes seemed to be torn or crushed in, and the people who crowded their tops, as well as those within, were precipitated into the river. One of the keepers had the singular presence of mind, on hearing the crashing of timber, to seize his money drawer, which he saved, although he fell with the mass, got wet, and was involved with the crowd in the common danger. One gentleman was saved from no less imminent danger. He had taken his stand at the gate way, to see the procession pass, and was leaning against one of the gate posts when the bridge fell. The gate, which is of iron, and must be of great weight, falling over, carried him with it into the water, bruising his shoulder slightly, but doing him no further injury.—He was sensible of nothing further until he found himself middle deep in water. The bridge, we are informed, had been thought insecure some time since, when posts were placed under it to support it; but these it appears were not sufficient to bear the weight of so great a crowd.

To this unpleasant occurrence we are grieved to add one of a more shocking character, which occurred on board a cutter in the harbor, while firing a salute. One of the hands neglecting to swab out his piece after its discharge, threw a cartridge into the foul gun, which immediately went off, tearing away both his hands, and depriving him of the sight of one of his eyes. The poor fellow, who paid so dearly for his carelessness, had been practised by his commander, to whom not the slightest blame accrues, for two hours at the gun that very morning. He was carried at once below, and subsequently removed to the hospital, while the salute from the cutter was regularly gone through with. A collection, amounting to several hundred dollars, was made on board the North America, immediately after the accident occurred, and the amount presented to the unfortunate seaman.

The windows were thronged as the President, who rode uncovered bowing to the spectators, passed up Broadway. He was plainly dressed, and though very aged in appearance, did not look out of health: while we could not help observing, that his easy seat on the saddle would be worthy of imitation by some of our city equestrians. On reaching the City Hall the troops, who, we ought to add—(with the exception of one or two companies who, on the march through the streets, appeared more occupied in looking up at the windows, than dressing with eyes ahead)—presented an unusually fine and military appearance, were reviewed by the President; who, about sunset, repaired to the American Hotel, and took possession of the very handsomely furnished apartments provided for the ocaasion. The day, which was remarkably fine and very cool for the season, passed off, we believe, without anything further to inspire regret, except the accidents we have mentioned; and the only disappointment in the assembled multitude seemed to be, that *Black Hawk* and his friends did not form part of the cortege.

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STEAM PACKET DAVID BROWN.—By the arrival of the David Brown, Captain Penoyer, we have Charleston papers of the evening of the 8th instant, and by the *swift* mail to the morning of the 4th; Savannah, New-Orleans, and other dates are also received by this Packet several days in anticipation of the mails.

The Buffalo Journal says that Mr. D. Whitney, an enterprising Western Pioneer, is erecting a Shot Tower on the Wisconsin River, near the Galena Lead Mines, which will be in operation in August.

The produce of the Great Falls Manufacturing Company at Somersworth, N. H., the six days ending the 31st ult. was 140,000 yds. Cotton Shirting, 30 to 38 inches wide, of yarns Nos. 26, 33 and 40; and 3,300 yds. Broadcloth entirely finished. The capacity of the Woollen establishment, exclusive of Carpetings, is 600 yds. Broadcloths per day.

The Poughkeepsie Whaling Company have purchased a *third* ship, which is to be immediately fitted up for a voyage to the south seas.

FOREIGN INTELLIGENCE.

Latest from Mexico.—The New Orleans Bee has received Tampico papers to the 6th May. They bring the intelligence that *Santa Anna had voluntarily resigned the Presidency*, to which he had been raised by the grateful voice of the people. He had also devoted the $2000, given him by the State of Yucatan, to the purposes of education. A project of a law to abolish all obstacles to the liberty of the press is now before the Mexican Congress. Another law has been submitted to the Legislature at Vera Cruz, to prevent the ecclesiastical corporation from increasing their wealth by testamentary donation. The abolition of tithes is also spoken of.—[Journal of Commerce.]

TWELVE DAYS LATER FROM EUROPE.—A Postscript in part of last night's edition gave the chief news brought by the packet ship York, Capt. Nye, from London, which is in several respects of an important character. The last previous accounts, it may be recollected, advised us of a defeat of the British Ministry in the House of Commons, on the proposition to reduce the malt duty, the House voting for the reduction in opposition to the Ministry by a majority of 10. The House has since rescinded its vote, and the apprehended change of Ministry will hardly, therefore, occur.

From *Portugal*, the intelligence is somewhat brighter for the friends of Pedro. The accounts from Oporto are to the 1st of May. It is stated that supplies in provisions, ammunitions, and reinforcements in troops were daily arriving. On the 19th April, a vessel arrived from Bologne with 320 Frenchmen, and other troops were hourly expected. Desertion is said to be rapidly thinning the ranks of Miguel and much stress is laid on insurrection at Figuerra in favor of his brother.

The *Dutch question* remains in the same perplexed condition as stated in our last accounts.—It seems generally believed that the King of Holland has the countenance and support of Russia, and it is even said that 25,000 Russian troops are advancing to give him such aid as he may require.

From France, there is no news of moment. The king had received addresses on the occasion of his birth-day from the Diplomatic Body, the two Chambers, and other public bodies. A letter from Paris says—"The supplies will be quickly voted by the Chambers. The prorogation will instantly ensue, and then—strong measures, to which the reflecting portion of the nation continue to look with much anxiety."

FOUR DAYS LATER FROM LONDON.—By the packet ship North America, Capt. Macy, we have received our regular files of English papers to the 15th ult. inclusive. The violent proceedings of a public meeting, which was likewise attended with bloodshed, caused much excitement in London, where the new abolition bill of the British ministry is still the prevailing theme of interest.

In Paris they have a new theme for discussion in the birth of a daughter to the Duchess de Berri.—Thus, says a Paris letter writer:

The object of the legitimatists, in repeatedly affirming that she was in a dying state owing to confinement, has failed. They sought by that means to obtain her enlargement and expulsion from France before the period of her *accouchement*, because a declaration of the truth would have been rendered inevitable on that occasion if it took place in France. It will be necessary for her to say who the father of the child is; if she decline mentioning any, the child must, by the laws of France, be recorded a bastard; if she shows it to be the fruit of a legitimate union, she forfeits her title as guardian to Henry V., and thenceforward her influence over and connexion with the party of the pretender entirely cease. Your correspondent has already apprised you of a scheme formed to preserve the fame of the captive Duchess. That scheme has been imagined by her nearest relatives, and if persisted in, will be acted upon forthwith. You will find the statement of it reproduced in most of the Paris papers, on the authority of your correspondents, and to have excited no small degree of curiosity here on the present occasion. Some of the papers do not give an accurate interpretation to

your correspondent's allusion to the 40,000*l.* claimed by Prince Ruffo. That there may not be any further misunderstanding, it may as well be stated at once that the bargain with the Neapolitan Prince was proposed to him after the *grossese* of the Duchess had become manifest, and that he has consented to figure as the legitimate father by means of a sum of money which has been at last fixed at 1,000,000 of francs. The King of Naples, brother of the Duchess de Berri, has taken an activh part in the negotiation. He has consented to pay a part of the money. The other near relatives are to make up the remainder. If the marriage of the Duchess with this Prince is stated in the *acte de naissance* and the *extraite baptistaire*, a date will, of course, be assigned to it, which will make it appear that there is nothing questionable in the legitimacy of the childs birth. Whichever way the matter is ultimately arranged, a blow has been given to the political career of the Duchess de Berri which will prove more fatal to it than the walls of Blaye.

The object for which the French Government prolonged the captivity, and the French Royalist demanded the liberation, of the Duchess of Berry has been at last accomplished. Her Royial Highness has given to the family of the Bourbons a female Vendean, to remind them of her romantic exploits and adventures in La Vandée, during the summer and autumn of last year, when attempting to regain the crown for her son Henry V. The Carlists at Paris seem extremely ungrateful for this happy present, and deny its authentic history with the greatest intrepidity imaginable.

The French papers of Sunday announce the discovery of an extensive conspiracy against the Sardinian Government in the districts of Savoy or Piedmont, and state that arrests had taken place, in consequence, both at Turin and at Genoa. The same accounts ascribe the movement to French political agents from Grenoble and other parts of the French frontiers.

The Commandant of Blaye to M. the President of the Council—Dated May 10.

Madame the Duchess of Berry was safely delivered of a daughter this morning, at half past 3 o'clock. The pains of travail lasted 20 minutes.

M. Dubois, as well as myself, was a witness of the accouchement. The other witnesses arrived afterwards. The verification will be made in the manner agreed upon between the Duchess and me. She will herself present the infant, and declare that it belongs to her.

The mother and infant are well; only the little girl is somewhat feeble. The Duchess is full of maternal affection. She declares that she will not have a nurse.

At the moment of signing the declaration, Deneux added, 'I have delivered Madame the Duchess of Berry, *the lawful wife* of Count *Hector* Luchesi Palli, Prince of Campo Franco, Gentleman of the Chamber of the King of the Two Sicilies.'

MISCELLANY.

John Randolph, of Roanoke, was too remarkable a man while living, not to be an object, now that he has so recently disappeared from the scene, of great and general curiosity and interest. We consider ourselves fortunate, therefore, in being enabled by the kindness of a friend, who was also an intimate friend of Mr. Randolph, to minister in some degree to the gratification of this interest by a series of numbers, in which some of the peculiarities, the piquant sayings, the characteristic letters, and even the poetry, of Mr. Randolph, are embodied.

Of the authenticity and accuracy of these reminiscences and extracts, our readers may be fully persuaded; for the gentleman who communicates them for publication is known to us as of the strictest honor and truth—though, as the friends he often delights could, if we were at liberty to name him, attest, a noted *story teller:*

[For the N. Y. American.]

JOHN RANDOLPH, OF ROANOKE.

It is to be hoped, that some one of the late John Randolph's intimate friends, who possesses the necessary qualifications, will undertake to give his biography to the world. He has been too remarkable a character, and has filled too large a space in public estimation, to be passed over merely with a few newspaper sketches, which will soon be lost or forgotten. Such an ardent and devoted admirer of his native State, who always exercised his brightest talents in her defence, cannot surely long remain without a biographer in Virginia, which still abounds with distinguished men. In the mean time, those who can relate any characteristic anecdotes of Mr. Randolph, may be excused for indulging in such reminiscences.

It was my good fortune to cross the Atlantic with him the first time he went to England, and to pass some time with him in London; and I can unhesitatingly declare, that I never travelled with so entertaining a companion: nor have I ever met with his equal for diversity of knowledge. If my memory were as good as his was, I could write a very amusing book of his sayings and anecdotes, historical, biographical, political, classical, theological, &c., but as it is not, I can only venture to relate a few of the more striking circumstances which occurred whilst we were together.

The first time I ever saw Mr. Randolph was the morning on which we embarked in the packet ship Amity for Liverpool, March 16, 1822.

I was introduced to him by a mutual friend, who casually mentioned, at the moment, that I was an Irishman. Shortly afterwards, Mr. R. came up and addressed me as follows:—"I am very happy, Sir, "to meet with an Irishman, for I love your country, "and admire her sons—and daughters too, Sir. Miss "Edgeworth is my great favorite. I know her works "almost by heart. By the way, perhaps you can "solve a difficulty which has often puzzled me in the "geography of Ireland. Why is it, Sir, that in every "map of Ireland I have ever seen, the town of "Ballinasloe is placed on the *wrong* side of the river "Suck?"

I could not forbear laughing at the singularity of the question, whilst I replied—"As we are to be "fellow-passengers, Mr. Randolph, I may as well "confess my ignorance at once, by declaring that I "not only cannot answer your query, but I really was "not before aware that there was a river of that "name in Ireland, never having visited Ballinasloe:" and I then asked—"How came you to know the lo-"calities of Ireland so minutely?" "By books, "conversation, and the blessing of a memory which "never forgets anything," he replied. In fact, we were not two days together, before I discovered that he was intimately acquainted with every part of England, Ireland, and Scotland—not only as to cities and towns, but gentlemen's country seats; and he knew the history of every celebrated horse-race and of every race-horse in England. He was very fond of displaying his knowledge of the most minute facts on these points, and it was very agreeable to myself and the other passengers to listen to him.

Just before we sailed, the Washington papers were received announcing the defeat of the Bankrupt bill by a small majority. At the moment, I forgot that Randolph had been one of its most determined opponents, and I spoke with the feelings of a Merchant when I said to him—"Have you heard the very bad "news from Washington this morning?" "No "sir," replied he with eagerness, "what is it?"—"Why sir, I am sorry to tell you that the House of "Representatives have thrown out the Bankrupt bill "by a small majority." "*Sorry*, sir!" exclaimed he, and then taking off his hat and looking upwards he added most emphatically, "thank God for all His "mercies!" After a short pause he continued, "how "delighted I am to think that I helped to give that "hateful bill a *kick*—yes, Sir, this very day week I "spoke for three hours against it, and my friends, "who forced me to make the effort, were good "enough to say that I never had made a more suc-"cessful speech; it must have had *some* merit, Sir, "for I assure you that whilst I was speaking, *altho' "the Northern mail was announced, not a single "member left his seat to look for letters*, a circum-"stance which had not occurred before during the "Session!" I endeavored to combat his objections to a Bankrupt Bill subsequently, but of course without any success; he felt as a *Planter*, and was very jealous of the influence of *Merchants* as Legislators.

One of our company was an excellent chess player, and frequently challenged Randolph to a game, but for a long time he refused. "I have not played at "chess, Sir," said he, "for seventeen years, and "cannot recur to the last game I played but with un-"pleasant feelings, for it lost me a friend for ever. "You have heard, I dare say, of my intimacy with "Mr. Jefferson, but perhaps you don't know that "he took more pride in his skill at chess than in "any thing else—very few indeed, Sir, could beat "him, and he could not endure defeat. I was aware "of this, and had always declined playing with him, "because I *was* his match, until one unfortunate "evening, when he touched my Virginian pride in "so pointed a way I could no longer refuse, and we "sat down at the game. I soon cried 'check-mate,' "and he never forgave me afterwards!!"

Mr. Randolph had a large box full of books with him which he was taking to England to get bound. I asked him why he had not sent them to Philadelphia or New York for that purpose. "What Sir," said he, "patronize our Yankee task-masters who "have imposed such a duty upon foreign books! ne-"ver, Sir, never! I will neither wear what they "make, nor eat what they raise, so long as my purse "can get supplies from *old* England, and until I can "have my books properly bound *south* of 'Mason "and Dixon's line,' I shall employ John Bull!" One day at dinner the Captain said, "Mr. Randolph, will "you allow me to help you to some codfish?" "No, "Sir, it comes from New England," was his laconic reply. Whenever he praised any northern man, it was always with this limitation—"He is the clever-"est man I know, north of the Potomac!"

On Sundays he used to read for us a chapter in the Bible or part of the Church service, and once he made an extemporaneous prayer; and he never would permit any reflections to be cast upon religion without a very pointed rebuke. He told me that for many years he had been corrupted by the infidelity which prevailed amongst many of the leading politicians at Washington; but that in the year 1816, during a severe fit of illness, he had a remarkable vision, which completely dispelled the delusions under which he had surrendered his faith, and that since then he had been a firm believer in Christianity. He shewed me a letter which he wrote immediately after this illness addressed to a bosom friend in Virginia, in which he gave a circumstantial detail of his "conversion," as he always termed it, and he even gave the words which were uttered in his ears by his invisible monitor during the vision. "This letter," said he to me, "contains nothing but the truth, strange as it may "appear to you, and it would make me miserable to "doubt it!" Whilst conversing on this subject, he told me that the late Mr. Pinkney of Baltimore had assured him, just previous to his death, of his unshaken belief in the truths of Christianity. Of Mr. Jefferson, however, he gave a very different account, which I can *now* readily believe after having read his letters, although at the time (1822) I thought Randolph was too strongly prejudiced against him.

No. II.

Virginia was one of his favorite topics, and the enthusiasm with which he spoke of her was delightful. "But alas!" he used sometimes to say, "the days of "her glory are past. Old Virginia is no more. The "title of Virginia gentleman, which used, in my young "days, to be our boast, has almost become obsolete, "for which we have to thank the repeal of the good "old English laws of primogeniture. It was a great "mistake, Sir, made by our politicians to break down "our native aristocracy. It gave us an ascendancy "in the councils of the Nation, which we are now "fast losing—'the glory of Israel has departed.'"

His three greatest living favorites were Nathaniel Macon (whom he always called "Uncle Nat,") Judge Marshall and Mr. Tazewell; even when playing at whist, if any contest arose on the rules of the game, he used playfully to exclaim—"I'll leave it to Uncle Nat and Tazewell—their decisions are *law* with me."

In speaking of authors, I found that he was a great admirer of Milton, but he did not like Young, Thomson, Johnson, or Southey. His classification of modern poems was very curious. "Sir, I place first on "the list 'Tom Crib's memorial to Congress,' next "'The two-penny post bag,' and third, 'Childe Ha-"rolde's Pilgrimage;' but 'I can't go (a favorite expression) Moore's songs—they are too senti-"mental.'" In looking over his books one day, I discovered 'Fanny,' Mr. Halleck's very amusing satirical poem. "I am glad," said I, "that you do "not proscribe Yankee poetry as well as Yankee "codfish." "No sir," replied he, "I always ad-"mire talent, no matter where it comes from; and "I consider this little work as the best specimen of "American poetry that has yet been given to the "world. I shall take it to England with me and pre-"sent it to the lady whose talents and conversation I "shall most admire." When I afterwards met him in London, I recollected this conversation, and asked—"Well, Mr. Randolph, who got 'Fanny?'" "Your "countrywoman, Miss Edgworth—she has no com-"petitor in my estimation."

But, to return to our voyage—he proposed that we should read 'Fanny' together, to which I willingly consented, and here I must regret that I cannot do justice to his readings—but my memory is at fault.—whenever he came to any allusion in the poem, either personal or political, up went his spectacles and down went the book, and he introduced some anec-

dote to the point, or told some story of his first visit to New-York; and in this most entertaining way we took *three* mornings to get through "Fanny."—I wish I could embody the "context" which he gave to the "text" as we went along; all I can say, is, that it was worthy of the poem, and I am sure that Mr. Halleck would have been flattered to have had such an able commentator.

He showed me his note book, which was a strange medley about horses, slaves, epitaphs, pieces cut out of newspapers, receipts, congressional anecdotes, quotations, &c. &c. He also kept a regular diary, and could tell at whose house he dined every day in Washington—who the company were—and the leading topics of conversation. Pointing to a particular date he said, "Sir, I shall never forget a circumstance "that occurred at Mr. ——'s table. There was a "large company, and amongst them a hoary headed "debauchee, whose vices had brought him to the verge "of the grave—he had the audacity, Sir, to call in "question the existence of the Deity—presuming, I "suppose, that there were some kindred spirits pre-"sent. I happened to sit opposite to him, and was "so disgusted by his impiety, that I could not avoid "exclaiming—'I think, Sir, you might better have "'been silent on that subject—for, judging from *ap-*"'*pearances*, in a very short time *you* will have *oc-*"'*cular proof* of the power of that God, whose ex-"'istence you now question.' He turned pale with "anger, and trembled, but made no reply, and the "company soon afterwards broke up, but I never "again noticed him.—Perhaps I was wrong, Sir, in "correcting him, but you know I am 'hair trigger,' "I go off at 'half-cock'"!

When speaking of his younger days, he used to say that whatever mental advantages he possessed, were owing to the assiduous care of his mother—and he used to speak of her in the most glowing terms of filial affection, never using her name without the exclamation of "My Mother—God bless "her"!

He made us well acquainted with his favorite slave "Juba," whom he daily cited for some good quality or another. "He has not half the talents of "my man Juba, Sir," was a frequent expression, when discussing the merits of a politician whom he disliked.

His knowledge of the most important light houses, points of land, latitude and longitude of places, was very great, and astonished even our Captain, with whom he made several amusing bets on the subject, which, by the way, he always won. Two or three days before we made the land, we were sitting on deck, whilst the Captain was taking an observation at noon. "Pray," said Randolph, "what is our lat-"tude and longitude now?" The Captain told him. "How do we head by the compass?" This also was told him. "Now, Captain," continued he, "can "you tell me 'off the book,' what land we shall "first make if we continue on our present course?" "Why," replied the Captain, "if you show me the "chart, I'll tell you in a minute." "Oh no!" exclaimed Randolph, "you must go by head work—*I* "say we shall hit 'Sligo head,' and I'll back my "opinion by a pipe of wine or Schuydam gin,'" a favorite bet with him. "I wont bet any more," replied the Captain, "but I shall prove you to be wrong "by the chart, for I say we shall make the Mull of "Cantire." The chart was produced—the compass used—the line drawn, and—"By George, you're "*always* right," shouted the Captain, as the line touched Sligo Head—"I'll never contradict any as-"sertion of your's again, Mr. Randolph, upon any "point."

On the 5th April we made the land about 12 o'clock, but as the wind had varied after Randolph's prediction about "Sligo Head," we first saw the mountains of Donegall, which are farther north.—After we had gone some hundred and fifty miles along the coast, which is very barren to the eye, Randolph said to me, "Well sir, I now believe the "story told by Arthur Young, of a farmer who took "his son out walking a few miles distant from his "home in the County Meath—they passed a *tree*—"the boy stopped and asked 'Father what is *that*?" "never having seen one before! Here we have "been sailing by Ireland for a whole day, and I have "not laid eyes yet on a single tree!"

I assisted Randolph in assorting his papers, books, &c. a day or two before we reached Liverpool, and he insisted upon presenting me with several of them; but at length he became so very generous I positively refused to receive any more. I happened to mention that I had forgotten in the hurry of departure to procure "Waite's State Papers," which had recently been published by order of Congress, for my father, who was fond of all such American publications. "Sir," said Randolph instantly, "he shall have my copy." "By no means," replied I, "you have already been too liberal, and I positively refuse "to accept another book from you." "Pray, Sir," rejoined he, in a half-comic, half-serious way—"do you hold a power of attorney from your father "to take or reject all presents made to him?—if you "do, produce it—let us see the seal—if not, the "question admits of no argument. I do not give *you* "the books, as you don't deserve them—they are "your father's, Sir; and if you refuse to take them, "I shall find another carrier!" I had previously told him that my grandfather had been very kind to those Americans who visited Cork during the Revolutionary War, for which he had received the thanks of Congress, through General Washington, who had also sent him his miniature likeness in a gold ring, which the family felt very proud of.

After the conversation about the books, he sat down and wrote the following letter on his knee, addressed to my father:

"*Amity at Sea, April* 4, 1822,
"*Lat.* 54 30. *long.* 13 *E.*

"Sir: Having had the pleasure of an introduction to your son by Mr. ———, of New-York, on the morning of our embarkation for Liverpool, I have taken the liberty to order my bookseller at Washington to send to your address a copy of Waite's State Papers, printed by order of Congress.

"I am not too young to remember the capture of Burgoyne: and most of the subsequent events of our struggle for independence are also indelibly impressed upon my memory. As the countryman of Washington, (for *I* too am a Virginian!) I offer these records of the Government of which he was the founder, to the son of that man, who received, through him, the thanks of Congress for his humanity and kindness to our poor Americans, during those times.

"The enclosed Coat-of-arms, if pasted in the first volume, will be evidence unquestionable of your title.

"I am, sir, your father's obliged fellow creature, and your humble servant,

JOHN RANDOLPH, of Roanoke,
Charlotte county, Virginia."

I may here add, that the said books were forwarded from Washington to New York, and unfortunately put on board the packet ship Liverpool, which was lost in the ice on her *first* voyage, and every thing went down but the passengers and crew, who were saved in the long-boat. My father therefore only received the preceding letter, much to his disappointment.

JOHN JAY.—In noticing some weeks ago the life of this honest and eminent American, we alluded particularly, and with expressions of great admiration, to a correspondence between him and Mr. Van Schaack, of Kinderhook. We now make room for this correspondence, which—with the single remark that Mr. Jay and Mr. Van Schaack took opposite sides in the American revolution—explains itself.

We have italicised one passage as worthy of all admiration; and well would it be for the country, and for the honest fame of those who govern it, that modern statesmen could fashion their course by such principles.

We hope these letters will be generally read. We have read them over and over again, and would not willingly call that man friend whose heart does not swell within him, as his eye takes in the noble sentiments of these two congenial friends.

To John Jay.

LONDON, 11th AUGUST, 1782.
(*Rathbone place*) *No* 20, *Charlotte street.*

Dear Sir—Though I have taken up my pen to write to you, I own I hardly know what to say; embarrassed as I am by a consideration of the strange predicament we stand in to each other, compared with our connexion in early life. I write, therefore, without any precise object, trusting to what chance (if any thing it should) may produce from it. One thing, however, I must premise, which is, that I have no design of making this introductory to any improper request. Pride, or whatever it may be called, will restrain me from any application that might expose me to the mortification of a refusal; and I am not so weak as to *attempt* to prevail in any matter inconsistant with your *duty*, and *your* sense of it.—The impressions of my youth are not easily effaced; and the new scenes I have passed through have not altered my old notions of right and wrong. *Cælum non animum.* Whether what has passed has altered your opinion of me as a *man*, I own, is a question I could wish to have resolved. The artificial relations, introduced by a state of society, may vary, or be dissolved, by events and external circumstances;—but there are others, which nothing but deviation from moral rectitude can, I think, annihilate.

I congratulate you on the increase of your family, and sincerely wish you and Mrs. Jay, every domestic happiness. I am dear sir, Your most obedient servant.

PETER VAN SCHAACK.

To Peter Van Schaak.

PARIS, 17th SEPTEMBER, 1782.

Dear Sir—Dr. Franklin sent me, this morning, your letter of 11th August last: I thank you for it.—Aptitude to change in any thing, never made a part of my disposition, and I hope makes no part of my character. In the course of the present troubles I have adhered to certain fixed principles, and faithfully obeyed their dictates, without regarding the consequences of such conduct to my friends, my family or myself; all of whom, however dreadful the thought, I have ever been ready to sacrifice, if necessary, to the public objects in contest.

Believe me, my heart has nevertheless been, on more than one occasion, afflicted by the execution of what I thought, and still think, was my duty. I felt very sensibly for you and for others; but as society can regard only the political propriety of men's conduct, and not the moral propriety of their motives to it, I could only lament your unavoidably becoming classed with many whose morality was convenience, and whose politics changed with the aspect of public affairs.

My regard to you, as a good old friend, continued notwithstanding. God knows that inclination never had a share in any proceedings of mine against you; from such thorns no man could expect to gather grapes; and the only consolation that can grow in their unkindly shade is a consciousness of doing one's duty and the reflection that *as, on the one hand, I have uniformly preferred the public weal to my friends and connexions; so on the other, I have never been urged on by private resentment to injure a single individual.*

Your judgment, and consequently your conscience, differed from mine on a very important question; but though, as an independent American, I considered all who were not for us, and you among the rest, as against us; yet, be assured, that John Jay did not cease to be a friend to Peter Van Schaack.

No one can serve two masters: either Britain was right, and America wrong; or America was right, and Britain wrong. They who thought Britain right were bound to support her; and America had a just claim to the services of those who approved her cause. Hence it became our duty to take one side or the other; and no man is to be blamed for preferring the one which his reason recommended as the most just and virtuous.

Several of our countrymen, indeed left and took arms against us, not from any such principles but from the most dishonorable of human motives.—Their conduct has been of a piece with their inducements, for they have far outstripped savages in perfidy and cruelty. Against these men every American must set his face and steel his heart. There are others of them, though not many, who, I believe, opposed us because they thought they could not conscientiously go with us. To such of these as have behaved with humanity, I wish every species of prosperity that may consist with the good of my country.

You see how naturally I slide into the habit of writing as freely as *I used* to speak to you. Ah! my friend, if ever I see New-York again, I expect to meet with 'the shade of many a departed joy.' My heart bleeds to think of it.

How is your health? Where and how are your children? Whenever as a private friend, it may be in my power to do good to either, tell me. While I have a loaf, you and they may freely partake of it. Don't let this idea hurt you. If your circumstances are easy, I rejoice; if not, let me take off their rougher edges.

Mrs. Jay is obliged by your remembrance, and presents you her compliments. The health of us both is but delicate. Our little girl has been very ill, but is now well. My best wishes always attend you, and be assured, that notwithstanding any political changes, I remain, dear Peter,

Your affectionate friend and servant,

JOHN JAY.

To John Jay.

LONDON, OCT. 15, 1782.

Dear Sir: I will not attempt to describe my feelings upon the perusal of your very friendly letter. I consider it as a perfect picture, in which I can trace every well known feature of your character. Your unreserved commemoration of our old friendship, and assurance of its continuance: your kind inqui-

ries into the situation of me and my children; and generous offers with respect to both them and myself; and your pathetic allusion to the melancholy scenes you will meet on your return to New-York, melted my heart; and every idea of party distinction or political competition vanished in an instant.

The line you have drawn between your political character and your private friendship is so strongly marked, and will be so strictly attended to by me, that I hope our correspondence will not end here. Be assured, that were I arraigned at the bar, and you my judge, I should expect to stand or fall by the *merits of my cause.*

With respect to the great contest in which, unfortunately, I differed from others of my valuable friends as well as yourself, I can say with the most sacred regard to truth, I was actuated by no motive unfriendly to my country, nor by any consideration of a personal or private nature. Men's hearts are not always known even to themselves; but, believe me that I spared no pains in examining into all the secret recesses of mine. I can say, too, that my wishes were to have gone with you. The very appearance (and in my view of things it was appearance only) of taking part against my country distressed me to the extreme. Could it be for the welfare of great Britain that I could wish to sacrifice the welfare of my native ceuntry? My attachment to her (great indeed it was) was founded on her relation to America, and the happiness which I conceived America derived from it: nor did it appear to me, from anything that had happened, that the connexion was dissolved. Upon the whole, as even in a doubtful case, I would rather be the patient sufferer, than run the risk of being the active aggressor; and as I should rather be even a figure for the hand of scorn to point its slow and moving finger at than to destroy the peace of my own mind, I concluded, rather than to support a cause I could not approve, to bear every distress that might result from the part I took; and if America is happier for the revolution, I declare solemnly that I shall rejoice that the side I was on was the unsuccessful one.—You, my dear sir, will excuse my saying thus much on a subject so interesting to all that is dear to me in life. My heart warms whenever our country (I must call it my country) is the subject; and in my seperation from it, 'I have dragged at each remove a length ening chain.'

I am sorry that the health of you and Mrs. Jay should be but indifferent; and you have my cordial wish that you may both enjoy this individual blessing Perhaps it would sound *equivocally* were I to express a wish that you would not attend so much to *public business*, but remember what Horace says of a wise and good man: 'Ultra qnam satis est, *virtutem* si petat *ispam*.' Your horse, I hope is your only physician; and as to an apothecary, I hope you will not require even an ass. My health, which you kindly inquire after, was never better, saving the complaint in my sight, which, however, gives me no *pain:* The one eye is quite useless, and two years ago I got an attack upon the other; at that period indeed my friend, I wanted consolation; but bless God I found resources in my mind which very soon prepared me with resignation for the worst.

"As to my circumstances, my dear sir, they are quite easy; rendered so by the provision my good father-in-law made for my children: were they otherwise I know no man who could sooner induce me to invade my maxim against incurring pecuniary obligations than yourself, for between the professions and actions of my friend, John Jay, I never yet have known one instance of a variance. My spirits, too, are good; and I have a good circle of acquaintances, not only in town, but in the pleasant villages in its neighborhood, where I frequently walk ten or twelve miles before dinner. Upon the whole, I believe few persons enjoy more social and convivial hours than I do; and though I do not so often partake of the "feast of reason and the flow of soul,' as I did at New York, yet I ought rather to be thankful for my situation than to repine at my share of the public calamity, which has involved so many families in ruin.

My children (I acknowledge it gratefully) have been permitted to remain at Kinderhook; which, by-the-bye, is become the Athens of the county of Albany; Harry is represented to me as a lively boy, and has been examined and approved at Yale College: I hope the poor fellow will not be reproached with the *malignity* of his father; on my part, I assure you, I have often cautioned my friends to take care not to let him imbibe any political prejudices on account of any ill usage he might possibly suppose I had received. I would not let him come to England, because I mean he shall never leave America. If he has an American education, with a good share of the weighty bullion of American sense, I shall not regret his being unacquainted with the refinements of the Old World. Can you forgive me for dwelling so long on my private concerns?—Your kind inquiries convince me you can What a great theatre you are acting upon, and what a conspicuous part do you sustain! What a fund of information must you have collected; and, conscious of the rectitude of your measures, what must be your feelings upon the consummation! I have always considered you as one of the most formidable enemies of this country, but since what has happened, has happened, there is no man to whom I more cordially wish the glory of the achievement. My respectful compliments to Mrs. Jay; and believe me, dear sir, your affectionate friend and sincere well wisher,

PETER VAN SCHAACK.

THE COTTON TRADE.—In France, in 1831, the cotton spun was 74,000,000 lbs. besides the British yarn smuggled through Flanders. In Alsace power looms are increasing fast. Average wages of spinners, 5s. 8d.; hours of labor 12 to 14 hours. In Switzerland, in 1831, the cotton spun was 18,816,000 lbs. No. 40 costs 14 1-2d. when cotton is 8d. 3-5ths, wages, 4s. 5d.; wages in similar mills in Britain, 8s. 4d. In the Prussian and Rhenish Provinces, in 1830, the cotton spun was 7,000,000 lbs. Power looms have been profitably introduced. In Saxony cotton spinning is just commencing, and fast augmenting; in 1831 there was spun 1,200,000 lbs. of cotton; average wages, 3s. 6d. They spin as cheap as the British as high as No. 50 warp, and No. 80 weft. In Lombardy, in 1831, the cotton spun was 4,000,000 lbs. In Austria it is fast advancing; in 1831, 12,000,000 lbs.; average wages, 3s. 9d. In India the new mill, 12 miles above Calcutta, works every day, 91 hours in the week. The spinner managing one mule earns 1s. 9d.; his piecers (three in number) 9d. to 1s. each. No. 20 to No. 40. In the United States, in 1831, the cotton spun was 77,550,000 lbs.

Franklin's Familiar Letters.—Dr. Franklin says in 1767 of *French Rouging:*

"As soon as we left Abbeville, the swarthiness returned. I speak generally; for there are some fair women at Paris, who, I think, are not whitened by art. As to rouge, they don't pretend to imitate nature in laying it on. There is no gradual diminution of the colour, from the full bloom in the middle of the cheek to the faint tint near the sides, nor does it show itself differently in different faces. I have not had the honour of being at any lady's toilette to see how it is laid on, but I fancy I can tell you how it is or may be done. Cut a hole of three inches in diameter in a piece of paper; place it on the side of your face in such a manner as that the top of the hole may be just under the eye; then, with a brush dipped in the colour, paint face and paper together; so when the paper is taken off, there will remain a round patch of red exactly the form of the hole. This is the mode, from the actresses on the stage upwards through all ranks of ladies, to the princesses of the blood."

Sunday Amusements.—In an old magazine, printed about the year 1789, the writer, speaking of the persons whose habit it was to resort to the various tea-gardens near London, on a Sunday, calculates them to amount to 200,000. Of these, he considers that not one would go away without having spent half a crown, and consequently, the sum of £25,000 would have been spent in the course of the day: 25,000 multiplied by the number of Sundays in a year, gives, as the annual consumption of that day of rest, the immense sum of £1,000,000! The writer calculates the returning situation of these persons as follows:—Sober, 50,000; in high glee, 90,000; drunkish, 30,000; staggering tipsy, 10,000; muzzy, 15,000; dead drunk. 5000.—Total, 200,000.

Dr. Franklin on Orthography.—The following was written at Philadelphia, July 4, 1786:

"You need not be concetned, in writing to me, about your bad spelling; for, in my opinion, as our alphabet now stands, the bad spelling, or what is called so, is generally the best, as conforming to the sound of the letters and of the words. To give you an instance. A gentleman received a letter, in which were these words:—*Not finding Brown at hom, I delivered your meseg to his yf.* The gentleman finding it bad spelling, and therefore not very intelligible, called his lady to help him read it. Between them they picked out the meaning of all but the *yf*, which they could not understand. The lady proposed calling her chambermaid, because Betty, says she, has the best knack at reading bad spelling of any one I know. Betty came, and was surprized that neither Sir nor Madam could tell what *yf* was. "Why," says she, "*y f* spells *wife*, what else can it spell?" And, indeed, it is a much better, as well as shorter method of spelling *wife*, than *Doubleyou, i, ef, e,* which in reality spell *Doubleyifey.*

There is much rejoicing in town to-day, it being the anniversary of the Declaration of Independence, which we signed this day ten years, and thereby hazarded lives and fortunes. God was pleased to put a favorable end to the contest much sooner than we had reason to expect. His name be praised.

Adieu, B. FRANKLIN."

Iron Houses.—The new process for smelting iron by raw coal and hot air blast, is producing a great change in iron trade; and it is anticipated by good judges, that no long period will elapse before cast iron of the quality known as No. 1, will be manufactured at the cost of about 40s. or 45s. the ton. When this takes place generally, it must inevitably produce an effect which will pervade almost every condition of society. Rich and poor will, by degrees, find themselves inclosed in iron cages; and fir joists, and slate roofs, will become things to be alluded to as betokening something venerable from antiquity. The introduction of iron into building operations will, no doubt spread rapidly, as the price of cast iron falls; and, if unskilfully done at the outset, we may have a number of imperishable monuments of bad taste wherever we go. It is, therefore, of importance that good examples should be given in time, and that architects should be prepared for the change, so as not to leave the matter to the caprice or taste of the workmen of the founderies.—[Loudon's Encyclopædia of Architecture.]

[*From a Quebec paper.*]

NICE AND SKILFUL CALCULATION.—On Tuesday last, at 5 P. M. the operation of throwing down, by blasting with gunpowder, about 40 feet of the old French curtain in the works of the Citadel, was performed by the Royal Engineers, under the superintendence of Capt. Alderson, commanding in this District. It was intended that this portion of the old work, which it was requisite to remove to make a gateway with a casemated guard room, should be taken down; and it was intended to have done so with manual labor, but the frost was found to have penetrated so completely into the parapet, that this mode would have consumed more time than could be conveniently spared, and it was judged expedient to have recourse to mining. Three chambers were made in the parapet; that in the centre containing 90 lbs. of powder, and the two flank chambers 70 lbs. each. The saucisons were composed and placed so as to ignite the chambers at the same instant. The force of the powder exerted itself horizontally; not a single stone was thrown upwards; and the quantity of powder was so nicely judged, that the old work thrown down did not extend beyond the space required for the gate, &c. to be constructed, and was almost as completely loosened and reduced fit for removal, as if the work had been done with tools, and without shaking or injuring the new wall, or revetment, in the slightest degree, though the portion of the ancient work thrown down was separated from it by only a few inches.

POETRY.

[FOR THE N. Y. AMERICAN]

The following touching lines are from the pen of *Mrs. Florida White*, and were addressed to her father, Genl. Adair, of Kentucky, late Governor of that State, and at present a Member of Congress.

This gifted lady accompanies her husband, the honorable Jos. M. White, of Florida, on a voyage to Europe, for the benefit of her health. The best wishes and earnest prayers of a wide circle of friends accompany them.

1.

Farewell to thee, land of my birth!
Though I leave thee to wander afar,
Thou art dearer to me than the rest of the earth—
Aye! dear as my own natal star:
And though I should see thee not—even for years—
I shall think of thee always; and often in tears.

2.

Farewell to thee!—land of my sire!
Abode of the brave and the free,
If ever man cherish'd a patriot's fire
And worshipped his country—'twas *he:*
O how could I part from his lov'd—native shore,
If I fancied his arms would enfold me no more!

3.

Sweet *home* of my mother!—farewell!
As *His* I recalled thee with pride—
As *Hers* such fond thoughts on my memory swell
That utterance cloaks with their tide.
If the *thought* of *her* only thus thrills through my heart,
Could I see her once more—should I ever depart.

4.

Bright scenes of my childhood!—adieu!
Sweet haunts of my half open'd mind,!
And ye sports! Love and Youth, consecrated by you,
Oh! how shall I leave you behind?
To part thus from brothers—from sisters—from friends—
Is their ought upon earth that can make me amends?

New-York, 7th June, 1833.

PRICES OF RAILROAD STOCKS.

New-York and Harlaem .....asked	96¼—offered	95
New-York and Albany.....	— —	—
Canajoharie and Catskill	— —	—
Mohawk and Hudson.....} Do. (Branch).}	— —	—
Ithaca and Owego.....	—	
Saratoga and Schenectady	126¾—	126½
Fort Edward and Saratoga....	— —	—
Boston and Worcester	— —	—
Boston and Providence.....	118 —	118
N.York, Providence, and Boston	104¾—	104½
Paterson and Hudson.....	99 —	96
N. J. Railroad & Transp. Line..	91 —	91
Morris Canal	109½—	107¾
Delaware and Hudson Canal ..	— —	—

MARRIAGES.

On Tuesday morning, at St. John's Church, by the Rev. Dr. Berrian, FRANCIS BRINLEY, Jr. Esq. of Boston, to Miss SARAH OLCOTT PORTER, of this city.

On Tuesday morning last, by the Rev. Dr. Brownlee, Mr. JOHN FERGUSON, formerly of Baltimore, to Miss JENNET, daughter of Mr. John McNiesh, of this city.

On the 11th instant, by the Rev Dr. Hawks, D. S. JONES, Esq. to MARY, eldest daughter of the late Governor Clinton.

On Thursday morning, in Carmine street Church, by the Rev. B. Downer, Mr. Aaron W. Johnson, to Miss Mary Seally.

On Tuesday evening last, by the Rev. Hy. Chace, Mr. John B. Blair, to Miss Mary B. Mott, both of this city.

On the evening of Wednesday, 5th of June, at Prospect Hill, L.I. by the Rev. Dr. Broadhead, George Kellogg, M.D., to Miss Lydia Maria, daughter of John Van Antwerp.

On Thursday, the 6th inst., at Christ Church, Hudson, by the Rev. Mr. Andrews, JACOB A. HOWARD, merchant of this city, to JANE A., daughter of the late Wm. Norman, of the former place.

At Yonkers, on Monday, 3d inst. by Rev. Mr. Crosby, Sylvester R. Comstock, to Catherine Ann, daughter of the late Gerardus A. Cooper, M. D. of this city.

At Danbury, Con. on Tuesday, 4th inst., by Rev. Mr. Rood, Lucius H. Boughton, to Emily R., daughter of Daniel Comstock, M. D., all of that place.

At Utica, Charles P. Kirkland, to Mary Walker, daughter of the late James S. Kip.

At Albany, on Tuesday evening last, by the Rev. Albert Smedes, the Hon. Peter Gansevoort, to Miss Mary, daughter of the Hon Nathan Sanford.

At Albany, on Tuesday evening last, by the Rev. Dr. Ludlow, Mr. Philip Van Rensselaer Livingston, of Bath, Rensselaer co., to Miss Mary Hopkins, of Albany.

In Geneva, N.Y. on Thursday evening, the 30th ult. Mr. Joseph F. Bacon, of Irelandville, Steuben co., to Miss Matilda Cowles, of the former place.

In Owasco, on the 22d ul. Mr. William Howe Cuyler, of Palmyra, to Miss Eliza Akin, of the former place.

DEATHS.

On Monday last, after a lingering illness, ADELINE, wife of Henry Wm. Channing, Esq in the 23d year of her age.

This morning, JOHN BINGHAM, Esq., an old and very respectable inhabitant of this city, for many years a member of the Common Council.

This morning, MARY WARNE, infant daughter of Nathan& Ferris

Suddenly this morning, CATHERINE MYERS LEWIS, of London, wife of Alfred Lewis, aged 26 years.

On Monday morning, at his residence, Halletts Cove, L. I., Mr. OWEN WARDELL, of the firm of C. & O. Wardell.

On Saturday morning, Mr. JAMES J. THOMPSON, in the 23d year of his age.

Near Edwardsville, Illinois, 9th ult. of cholera, Rev. David Foster, a Minister of the Cumberland Presbyterian order, aged 53. At the time of his decease he was acting as Agent for the Am. Tract Society.

At Albany, on Friday morning, Mrs. Mary Brown, wife of the Rev. David Brown, of Lockport, and daughter of L. Crutteden, Esq. of the former place.

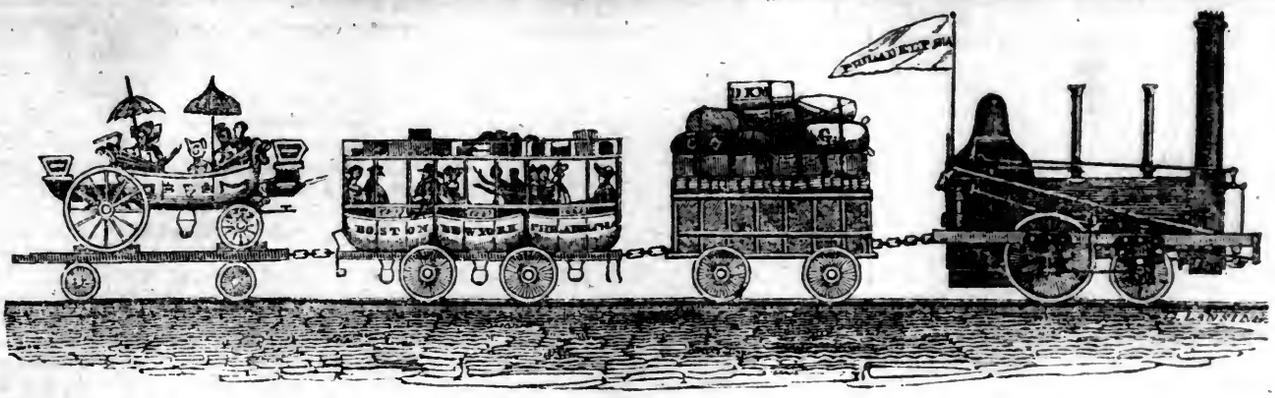
At New-Orleans, 21st ult. Dr. Lewis Heermann, Sr. Surgeon of the United Sta es Navy.

At Washington City, 5th inst. in his 62d year, Rev. John Chalmers.

At Boston, on Monday, David Tyler, Esq. aged 46, Vice Consul of his Catholic Majesty

At Northampton, Mass., May 29, Timothy E. Dwight, son of the late Josiah Dwight, aged 26.

At Milenburg, (Lou.) on the 17th ult. Rheda, aged 15 months, youngest daughter of Major John Mountfort, U. S. Artillery.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JUNE 22, 1833. [VOLUME II.—No. 25.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 22, 1833.

New-York and Erie Railroad.—On a subsequent page will be found a letter from Judge Wright, with other interesting facts, relative to this road, to which we would ask the attention of our readers. We shall again refer to it in our next, and give a map, showing the outlines of the country, with the route of the various great lines of communication from the Atlantic to the Ohio, by which the importance of this route, as well as of its early accomplishment, will readily be seen.

New-Jersey Railroad.—We invite the attention of the friends of Internal Improvement to the Circular addressed to the Stockholders of the New-Jersey Railroad and Transportation Company, a part of which is published in this number of our Journal, and will be concluded in the next. It presents a highly encouraging view of this important public work, and no person can peruse it without being forcibly impressed with the great advantages which it will confer on the whole section of country through which it passes, and on this city in particular. New-York has a deep interest in this railroad, and its speedy completion will not only unfold its numerous benefits, but insure, by its revenue, a rich return to its stockholders for the monies they have invested.

Utica and Schenectady Railroad.—The amount subscribed to the stock of this Company in New-York alone amounts to 5,286,000 dollars. The amount of subscriptions in Albany is $3,258,100—Utica not yet heard from. The whole amount required by the act of incorporation is two millions of dollars.

The last link in the chain of the Railroad from Albany to Fort George is about being completed by the construction of the Warren county Railroad, which extends from Glen's Falls to Lake George.

Great au Sable Railroad Stock.—If the Saratoga and Fort Edward railroad stock is worth 125 to 126 per cent. the above stock will be worth 140 to 150 per cent. In evidence of which the following statistical sketch is stated by the northern commissioners from correct data which can be relied on. The distance from Port Kent to Keeseville is 4 miles. Capital stock, $60,000.

Should the road cross the Great au Sable river at the high bridge, (one of the greatest natural curiosities in America, 40 feet wide and 200 feet deep, the sides perpendicular walls of rock,) and strike the lake at a bluff, thence south one-third of a mile to the wharves protected by a sea wall, it will not require any stationary engine.

The following amount was transported from and through Keeseville to Port Kent in 1832, viz.:

One million pieces boards and plank, equal to - - - -	10,000 tons.
Iron and nails - - - -	6,000 do.
Potash and other articles -	2,000 do.
From Port Kent to the interior, through Keeseville:	
Merchandize - - - - -	5,000 do.
Other articles - - - -	2,000 do.
Total	25,000 tons

and rapidly increasing.

With the exception of Burlington, more passengers embark at Port Kent than at any other point on Lake Champlain. Should the wharves and stores at that place become an appendage to the railroad, which is in contemplation, this stock will be among the most productive in America.

Another consideration highly interesting to the commerce of this city: it is well known that a railroad charter was granted last winter, with amendments, intended to proceed from Port Kent to Ogdensburgh, in the view of diverting from Canada and the Erie Canal a portion of the western commerce. The present road is considered as a mere entering wedge to effect that grand object. Troy must in course reap the first fruits of that commerce, and, if we are true to ourselves, hold it permanently.

It is hoped that capitalists will probe this subject to the bottom, previous to the opening of the books of subscription at the Eagle Tavern, South Market street, Albany, the 25th, 26th, and 27th instant.—[Daily Troy Post.]

Hancock's Steam Carriage.—The following letter of Mr. Hancock, showing the performances of his Steam Omnibus, is taken from Bell's Weekly Messenger, to the Editor of which it is addressed:

Stratford, May 3, 1833.

Sir,—More than six years have elapsed since I began my experiments on Steam Locomotion, and I have followed them with an ardor that did not admit of any diversion from the object, which I kept steadily in view.

During the past fortnight I have exhibited daily on the Paddington road a Steam Omnibus, the result of my experience; and having hitherto steered clear both of extravagant anticipations and exaggerated statements, I should be sorry now if any such should find their way into the public prints; and in order to prevent this, as far as I am able, I beg to hand you an account of each day's performance, if you think it is of sufficient interest to occupy a place in your columns.

Having furnished these data, and given to the public opportunities of witnessing the performance of this carriage in the streets and on the most crowded and hilly road in the immediate neighborhood of the metropolis, I trust that I have demonstrated to the most sceptical the practicability of applying steam economically to the purposes of inland transport.

	Miles.	Total time.	Delays.	Travelling time.
		min.	min.	min.
April 22—From City-road to Paddington, thence to London Wall, and back to City-road - - - - -	10	68	18	50
23—City-road to Paddington, and back	8½	71	9	62
24—Do. do. - - -		64	11½	53
25—From City-road to Paddington, and back to the middle of Pentonville-hill, where the pressure of the steam broke the piston of the off Engine - -				
26—Put in new piston, double the strength of the former. From City-road to Paddington, and back - -	8½	49	5½	44
27—Do. do. - - - -		50	5½	44½
29—Do. do. - - - -		51	5½	45½
30—Do. do. - - - -		51	6½	45
May 1—From City-road to Paddington, thence round Finsbury-square, and back to City-road - - - -	10	78	15	63
2—Do. do. - - - -		67	9	58
3—Do. do. - - - -		79	18	61

The average quantity of Coke used has been three bushels each journey. I am, Sir, your obedient servant, W. Hancock.

Circular to the Stockholders of the New-Jersey Railroad and Transportation Company, exhibiting the past operations, present situation, and future prospects of the Company. Prepared by order of the Board of Directors.

The undersigned were appointed a Committee by the Directors of the New-Jersey Railroad and Transportation Company, to prepare a Circular exhibiting to their stockholders the past operations, present situation, and future prospects of the Company.

In discharging the duty devolving upon them, they would state, that shortly after the subscription to the Capital Stock, the election of the Officers and the regular organization of the Company, in June last, the Board appointed Major Ephraim Beach, extensively known as a scientific and practical Engineer, to take the superintendance of this work. Under his direction, the ground between the cities of New-York and New-Brunswick was carefully examined, and a very advantageous location selected. It was found, from actual surveys, that the whole line might be brought to a grade not exceeding twenty-six feet per mile, at a reasonable expense.

The cost of grading a road for two tracks, and the laying down of a single track, from the Hudson river to Newark, a distance of near eight miles, with suitable turnouts, according to the estimate of the Engineer, was $290,865, inclusive of the bridges over the Passaic and Hackensack rivers. In this estimate was included the deep cut through Bergen ridge, and the embankment across the marshes. By a provisional arrangement with the Paterson Railroad Company, the road for both Companies, from the west side of Bergen ridge, through the deep cut, and across the heavy embankments on the east of the ridge, and to the Hudson river, is to be constructed under the charter of this Company, and to be the joint property of the two Companies: the Paterson Company paying two-fifths, and this Company three-fifths of the expense of construction; and each Company using the same, for the business done on the respective roads, without accounting to each other for the same; the road from the point of junction to the Hudson is to be kept in repair by the two Companies, each paying towards the same the proportion they respectively pay for the construction. This arrangement will reduce the expense of this Company $55,171, leaving only $236,693 as the cost of construction from the Hudson to Newark. From Newark to New-Brunswick the cost of grading the road for two tracks, and the laying down of a single track with passing places, was $259,518. No apprehension exists that the cost of any part of the work will exceed the estimates, the only doubt that has been entertained was in relation to the embankment on the marshes. It was feared that these embankments might sink beyond the calculations of the Engineer. Experience, however, has fully settled this point. A large portion of the heaviest embankment has been carried across the worst part of the Marsh on the whole line, that lying near Prior's Mill, and has become fixed and permanent, so that as accurate calculations may now be made of the embankments required across the marshes as elsewhere. There is a large quantity of cedar logs lying on the marshes, which are procured at a small expense, and used for the foundation of the road. It is thought that plank would not make so permanent a foundation, and would cost three times as much as the logs. The Board were so well satisfied with the estimated cost of constructing the road, compared with the business that would naturally and almost inevitably be done by the Company, that they resolved to prosecute their enterprize with the utmost vigor. They were met, however, at the outset, with the formidable claims of the complete monopoly which the United Passaic and Hackensack Bridge Company made of the right of constructing bridges across the two rivers just named. A negociation was immediately opened to procure from the Bridge Company their consent to construct bridges for the use of the Railroad, across the rivers. The Proprietors of the Bridges, apprehending that the Railroad Company would carry the passengers, and a considerable portion of the merchandize transported on waggons between Newark and New-York, refused to give their consent, upon any terms which this Company could accept. No alternative remained, but to enter upon expensive litigation, or purchase the stock of the Bridge Company. The latter course was resolved upon, and the purchase effected upon terms highly advantageous to this Company, as well as to the Bridge Stockholders. The capital stock of the Bridge Company was estimated at one hundred and fifty thousand dollars, equal to one hundred and fifty dollars per share. Upon this amount it had for a considerable time past divided to its stockholders about seven per cent. It also had a surplus fund, amounting to near thirty thousand dollars, which was constantly accumulating. By the terms of the purchase, the stockholders of the Bridge Company were to receive one hundred and fifty dollars a share for their stock, at the expiration of two years from the first of January last, or as soon as the Railroad should be completed from Jersey City to Newark—they receiving their dividends in the mean time; or they had the privilege of electing immediately to take Railroad stock at par, to be transferred at the same time, and to draw their dividends until the transfer should be made. A very large majority of the stockholders of the Bridge Company elected to take Railroad stock, and are identified in interest with this Company; so that in reality the Railroad Company have purchased, for one hundred and twenty thousand dollars, stock worth at least one hundred and fifty thousand dollars, together with all the right which the Bridge Company possessed, of passing the Passaic and Hackensack rivers by bridges, for sixty years to come; while by the exchange, the Bridge stockholders receive a stock which will pay them a much larger dividend for the moneys invested than they formerly received.

By the charter of this Company, the individual stockholders, and the State, which holds one half the stock of the Turnpike running from Hackensack river to Jersey City, have the privilege, at any time within two years from the passing of the charter, of subscribing to as much stock in the New-Jersey Railroad Company, at par, as the fair value of their stock was worth, at the time of passing the charter: the value to be ascertained by the Chancellor of the State; or to take money for the same, at their option. No doubt can remain but that they will elect to take Railroad stock. Should they not, however, take the stock of this Company, the amount to be paid them would probably be about twenty-five thousand dollars.

Having thus acquired the Bridge charter, and all other obstacles being removed, the Board proceeded to put the whole line under contract, from the Hudson to Rahway. That part of the work between Jersey City and Elizabethtown to be commenced immediately, and the residue at the option of the Board of Directors of this Company. The work on this portion of the route was let to highly respectable companies and individual contractors, at prices considerably below the estimated cost of construction. Contracts have been made for timber of the best quality, for the superstructure of the road and bridges, upon the most advantageous terms, to be delivered during the ensuing summer. The bridges across the Passaic and Hackensack rivers will be built upon piers, formed by driving piles, which will be strongly braced, and capped in such manner as to admit of stone piers being built at any future time without difficulty. Towns' plan of bridge will be adopted, and it is estimated that the two bridges can be built for fifty thousand dollars. Contracts for the superstructure as well as for the timber have already been made, and the bridges are both to be completed by the first of December next. It is estimated that a bridge upon stone piers may be constructed across the Raritan at New-Brunswick for about forty thousand dollars.

The contractors for the deep cut through Bergen ridge, and for the embankments on either side of the hill, commenced their operations in December last. Notwithstanding the inconveniences attending the prosecution of such a work in the winter season, they have already excavated 6,253 cubic yards of solid rock, 55,575 cubic yards of earth, and have raised 67,032 cubic yards of embankment. The grading of the road between Newark and Elizabethtown has been commenced, and will be prosecuted with vigor. Should no unforeseen accident occur, to interrupt and very greatly retard the progress of the work, it is confidently expected that the road from the Hackensack river, through Newark to Elizabethtown, will be finished and in operation during the next fall, and that the road from the Hudson to Elizabethtown will be completed and put in operation during the spring or summer of 1834. The whole line from the Hudson river to New-Brunswick, it is believed, may be completed and put in operation within two years. The time limited by the charter for its construction is five years from the commencement of the work, or about four years from this time.

It only remains for the Committee to present the future prospects of the Company, as they believe them to exist, after a careful examination of the facts connected with the subject. This is the least pleasing part of the task assigned to the Committee; not because the prospect they will present is an unfavorable one, but because the confidence of the public has been so often abused by promises and calculations of gain, which have resulted only in loss and disappointment.

According to the best estimate that can be made, from the number of stages that pass the bridges daily, and the number of passengers that have been ascertained to go by other means, the whole number of passengers between Newark and New-York is not less at present than three hundred each way, making six hundred passengers per day, exclusive of Sundays, who pay at least forty-four cents each, besides their ferriage. After deducting from the receipts of the bridges the tolls received for stages and other vehicles carrying passengers, and for the waggons carrying merchandize between Newark and New-York, the residue would be sufficient to keep the bridges and road in repair, and to pay a dividend of five per cent. on the capital. But should this calculation prove incorrect as to the receipts of the bridges and road, it will only prove that the estimated receipts of the railroad are too low, as every dollar taken from the receipts of the bridges and road will add five to those of the railroad. There is also a considerable business carried on between the places just named, in merchandize on waggons, consisting of manufactured articles, such as shoes, hats, carriages, saddlery, &c. sent to the city, and a return of the raw material to the manufacturer, and other articles to the merchant. The amount of tonnage thus transported is estimated, by those immediately interested in the business, at eleven thousand eight hundred and twenty five tons per annum: for the transportation of which an average of from three to four dollars per ton is now paid. On the railroad the cost of transportation will not exceed one dollar per ton: consequently, the Company will be the carriers of this branch of trade. The railroad will probably pass the canal at a basin within a few yards of its termination, on the Passaic river, and in the centre of the docks from which the principal freighting business between Newark and New-York is carried on. There are twelve sloops engaged in this business, making at least two trips per week each, and carrying from thirty to fifty tons each trip. During our coldest winters the navigation of the Passaic is closed about sixty days, leaving two hundred and fifty three

days, exclusive of Sundays, for the freighting business. According to this statement, the amount of merchandize transported by the sloops at this time is at least sixty-nine thousand one hundred and twenty tons per annum. It has been constantly augmenting by the growth of the town and adjacent country, for many years past. When the Morris Canal shall get into full operation, and there is every reason to believe that this will shortly occur, the amount must be greatly increased. One fourth of the present business done by sloops, or seventeen thousand one hundred and eighty tons per annum, it is believed, will, from the nature of the articles to be transported, go on the railroad. The price of freight by the sloops is from 50 cents to $2 per ton; by the railroad it will not exceed $1 per ton.

Between Elizabethtown Point and the city of New-York there are two hundred persons passing daily, according to the estimate of those best acquainted with the subject in Elizabethtown, paying 12½ cents each for their transportation to the Point, and 25 cents from thence to New-York. It is believed that at least one half of these will go by the railroad. There is also about 19,750 tons of merchandize passing annually between these places, costing $1,40 per ton for the transportation. It may be carried on the railroad for $1,25 per ton.

The business of Rahway is very considerable. Several of the substantial manufacturers and merchants residing there have offered to guarantee to the Company an annual income from the transportation of passengers and merchandize from that village and its vicinity, alone, sufficient to pay an interest of six per cent. on the construction of the whole road from Newark, through Elizabethtown, to that place. The whole amount of business is estimated at from thirteen to fourteen thousand dollars.

There is an extensive business carried on between New-Brunswick and New-York, employing four steamboats. The number of passengers is estimated at 200 per day each way, who pay 50 cents for the passage between the cities. Ten sloops are also engaged in the freighting business, making at least one trip a week, and carrying from 30 to 40 tons each, both ways, or from 30,000 to 40,000 tons annually, and charging from 80 cents to $6 per ton. It is supposed that the steamboats carry about 15,000 tons of merchandize during the season, at prices varying from $2 to $6 per ton.

The foregoing estimates are based on the actual amount of business now done between the city of New-York and the several points on the road, by steamboats, and other modes of conveyance. In estimating the income of the road, it will be assumed that the whole business of Newark and Rahway, now carried on by stages and common waggons, will be done by this Company; and that one-fourth of the merchandize now transported by sloops will take the railroad. From Elizabethtown, we have assumed that half the passengers and merchandize, going now by the steamboats, will be carried by this Company; and that one-fourth of the merchandize now passing by sloops will pass on this road. From New-Brunswick, it is assumed that half the passengers and merchandize now conveyed on steamboats, and one-fourth of the merchandize conveyed by sloops, will be transported by the Railroad. It should also be borne in mind, that the New-Jersey Railroad runs through all the post towns on the route, from one extreme to the other, and will consequently afford facilities to the mail contractors of conveying the mail—of which they will no doubt avail themselves. The income from this source, supposing the mail to be conveyed in a single carriage as heretofore, with only five passengers each way, with one ton of baggage, will amount to $5,256.

The estimated receipts upon the road will then be as follows:

Toll on the bridges and Newark turnpike road between Jersey City and Newark, from the ordinary travelling, at 5 per cent. on the capital, -	$8,750
U. States Mail, with one car for baggage carrying one ton, and one car carrying 5 persons, once a day each way, 365 days, will pay for cars, baggage, and passengers, - -	5,256
Three hundred passengers between Newark and New-York, each way, or 600 passengers at 25 cents each, will pay for 313 days, (exclusive of Sundays,) - - - - -	46,950
Twelve sloops plying between Newark and New-York, making two trips a week, averaging 40 tons each way, at the rate of from 50 cents to $2 per ton, for thirty-six weeks, making 69,120 tons per annum, one quarter of which, viz. 17,180 tons at $1 per ton, will be - - - - -	17,180
Eleven thousand eight hundred and twenty-five tons of merchandize now carried on waggons, at $1 per ton, will pay - - - - - -	11,825
Fifteen hundred tons of merchandize now carried by steamboats, one half at least of which will go by the railroad, at $1 per ton, is - -	750
One hundred and sixty passengers from Elizabethtown, not including those coming from Rahway, one half of whom at 37½ cents, will pay for 313 days, - - - - - -	18,780
Nineteen thousand seven hundred and fifty tons of merchandize from Elizabethtown, to N. York, one quarter of which, viz. 4,937½ tons will go by the railroad, paying $1,25 per ton, is	6,172
Forty passenger, between Rahway and New-York, (20 each way) at 44 cents, will pay for 313 days - -	5,509
Three thousand three hundred and thirty-three tons of merchandize from Rahway to New-York, the portion which it is estimated will be taken between those places on the railroad, per year, at $1,33 per ton, -	4,444
Four hundred passengers per day (200 each way) between New-Brunswick and New-York, one half of which, viz. 200, it is believed will take the railroad, at 50 cents per day for 313 days, will amount to - -	31,300
Thirty-six thousand tons of merchandize carried annually from New-Brunswick to New-York, one quarter of which, or 9,000 tons, by the railroad at $1,50 per ton, is -	13,500
Total amount of receipts,	$170,416

ESTIMATED COST OF ROAD, MOVING POWER, &c.

The whole expense of completing the road for one track, with suitable passing places, from the Hudson to New-Brunswick, including the Bridge and Newark Turnpike Companies, the bridges over the Hackensack, Passaic, and Raritan, and the moving power, cars, &c. as per report of Engineer, appended hereto, is -	718,912
Add cost of superstructure for a second track on the whole line (30 miles) at $4,710 80 per mile, is - -	141,324
Total for the completion of the whole road, with double track, -	$860,236

The annual expense, including renewal of road, moving power, cars, &c. is estimated by the engineer as per report, at $35,640; by subtracting which from the annual receipts, as presented in the foregoing statement, there is left the sum of $134,775, yearly applicable to the payment of dividends to the stockholders, or upwards of 15½ per cent.

It will be perceived, that in the statement of the probable annual expenses in the report of the engineer, provision is made for moving power and cars calculated to do more than twice the business embraced in the estimate, and that the road itself, when completed with a double track, as the statement of its cost contemplates, is capable of affording employment to at least five times more moving power and cars than estimated above.

[To be continued.]

NEW PADDLES FOR STEAMBOATS.—What the sail is to the wind the paddle may be deemed to the steam-engine—the means by which its force is communicated as a moving power to the vessel. As there are few subjects on which the minds of sailors have been more intently fixed than the size, shape, and position of the sails, so has the form and proportions of the paddles engaged the anxious attention of the navigators by steam. Experiments, infinitely various in their characters and designs, have been tried during a series of years, with results so unsatisfactory, that the subject has been left almost exactly where it was taken up; and the wheel, with all its disadvantages, has still been deemed the least objectionable form of paddle hitherto invented. We have, however, now to make our readers acquainted with a contrivance which appears to hold out every prospect of obviating the principal objections to the paddle-wheel in ordinary use. The loss of power inseparable from the action of a wheel upon the water, has been variously calculated; and as there is no doubt, without entering into particulars, that it is very great, the advantage will readily be understood of a paddle which makes no back-water whatever, and consequently applies the whole power exerted by the engine to the propulsion of the vessel. As the paddle-box, too, is admitted to be a great impediment to the progress and easy navigation of a vessel, when opposed to a head sea, foul wind, or heavy gales, it may properly be reckoned among the advantages of the new paddle, that it requires no box or covering whatever. Another advantage is the facility with which the paddles may be removed altogether, when the wind is sufficiently fair to put the vessel under canvass, whereby a large saving of coal would be effected, as steam vessels are at present obliged to keep their engines at work, be the wind ever so fair, or the vessel sailing ever so fast; for as the paddle-wheels cannot be removed from the water, they would, without they were kept going, afford a powerful resistance to the progress of the vessel. In the application of steam to ships of war, the new paddles also lay claim to another advantage over the ordinary paddle-wheels, by never rising above the level of the gun-deck of the vessel; so that a whole line of guns might be pointed in any direction, without interference with, or from, the propelling power, which obviously could not be the case in an ordinary steam vessel, with its rising wheel and high-built paddle-box. The new invented paddles may be thus described:—Two three-throw crank shafts project horizontally from the side of the vessel, a paddle presenting a surface of 10 superficial feet being suspended from each throw of the shaft nearest the head of the vessel. The second aftermost shaft may be termed the driving shaft, and is furnished with three connecting rods of which the extremities are attached to the corresponding paddles. The two shafts being thus united, the paddles in making their revolutions necessarily retain a perpendicular position. The shafts are driven by a centre and two spur wheels, so that the speed of the propelling power may be adjusted to that required for every class of vessels. We have seen a well constructed model at work as we describe, and coincide with the opinion of the scientific men before whom it has been exhibited, that it will be perfectly efficient when brought into operation on a large scale. This simple and beautiful contrivance is the invention of Mr. Grant, storekeeper of the Royal Clarence Yard at Gosport, whose ingenious machinery for the manufacture of biscuit for the navy has already brought his name favorably before the world.—Mr. Grant has not attempted to monopolize his invention, by securing for himself the protection of a patent, liberally preferring to throw his ingenious contrivance into the hands of the public at large, and thus afford an opportunity of the merit of the plan being ascertained by a fair and spirited trial.—[Athenæum.]

INTENSE FLAME.—In the flame of the compound gas blow-pipe, we perceive a power almost irresistible. The late Dr. Clarke, of Cambridge, informed me he had, in one experiment, no less than an ounce weight of platinum in a state of perfect fusion in it.—With it I succeeded in *fusing* the *diamond*, which seemed to be as completely *liquid* as a globule of oil, when acted on by a minute stream of air, and the jet of flame seemed actually to impress the fused portion of the diamond. With this powerful though dangerous apparatus I also melted two *emeralds* into

limpid mass. The flame in this instrument, however, is probably *solid*, from the close contact of the inflammable matter, and the supporter of combustion.—The light produced when this compound flame is forced to play on calcined lime or magnesia, is exceedingly dazzling, indeed altogether overpowering, by its splendor. The principle has been made subservient to a most valuable purpose, namely—the measurement of the base of the triangle in the grand trigonometrical survey of the British Isles. Lieutenant Drummond, I believe, first suggested this application of this intense light, obtained from chemical means In his experiment made in the Tower of London, a ball of calcined lime, surrounded on all sides with minute jets of the flame, of alcohol, was propelled on the central ball of quicklime, by oxygene as so many radii, converging towards a centre. An officer of the royal Engineers informed me that this light was seen from one of the mountains of Morne, in Ireland, at a distance of not less than sixty miles!—For the light-house, and night telegraphic signals, this light seems pre-eminently calculated—the intelligence might have reference to its periodic duration and repetition.–[Murray on Flame and Safety Lamps.]

New-York and Erie Railroad.—As the day approaches when the books, for receiving subscriptions to the stock of this road, are to be opened, we cannot permit an opportunity of referring to its great importance to pass, without again calling to it the attention of our citizens, than whom none have a more direct interest in its early construction—not even those who reside on its immediate route; and, in order to place the subject in a more intelligible shape before our readers, we shall give in our next a wood cut, showing the outline of the country from Lake Ontario to Virginia, and from the Hudson and Atlantic to Indiana and the Ohio river, with the great canals and railroads, whether already completed, in a state of forwardness, or in contemplation, delineated thereon, by which the importance of this road, especially to this city, will readily be perceived, in order to retain even the trade *already* enjoyed from the great west, as well as our relative position and importance among the Atlantic cities. The great efforts that are now being made by the British Government to improve the navigation of the St. Lawrence, that they may divert the produce of our western states in that direction, as well as the enterprize of our neighbors and competitors, Pennsylvania and Maryland, demand from the citizens of New-York another effort to secure the advantages already enjoyed by, and which, with equal facilities for transportation and travel, naturally belong to, them, but which, without the aid of additional means of communication, will as naturally flow through the more ready channels of our neighbors. The inhabitants of the city of New-York, however, are not by any means the only ones directly interested in the success of a railroad to Lake Erie. The hundreds of thousands inhabiting the southern tier of counties in this State, and those adjoining on the north, as well as in Pennsylvania on the south, are equally, and, if possible, more directly interested in its success They are now, and have been for years, laboring under great comparative disadvantages in getting the produce of their soil and manufactories to market; so great, indeed, have been the difficulties, that they have been compelled to avail themselves of the precarious and hazardous advantages of a river navigation—so hazardous, indeed, that the losses from that source alone, we have not a doubt, within the last *twenty* years, would construct a railroad in a permanent and substantial manner from New-York to Lake Erie: a fact, we should think, of sufficient importance to produce a lively interest in the success of a work of so much importance.

The city of New-York alone has a sufficient interest in its construction to furnish the means, and we have not a doubt but that the owners of real estate on this island would be gainers if the amount were to be raised by a tax upon their property, payable in five annual payments, as the increase in the value of real estate would be greater, in one year after its completion, than the cost of the road. The same may also be said of that section of the state through which it will pass. The value of their property will be increased more than the cost of the work, in addition to the facilities it will afford them in the transaction of business when completed; and therefore, it would be surprising indeed, if, amongst the various interests to be affected by it, there should not be found those who possess, and are ready to furnish, the means necessary to commence a work which, when once commenced, will not be permitted to flag for want of funds to carry it to a successful issue.

Another reason for immediate action will be found in the following extract from a letter from a highly respectable gentleman at the west, by which we learn that our Pennsylvania neighbors are ready to avail themselves of our delay; and they will do so, too, to our cost, unless we take early measures to secure, at least, the trade of our own State:

"If any doubt exists as to the immense importance of the locality of this road, (the Ithaca and Owego Railroad,) a truth of which its active friends have long since been cognizant, it is in the fact, that at a meeting of the Pennsylvania Commissioners at Tonkhannock, at which many distinguished persons assisted, it was resolved to go on and *construct a railroad from Nanticoke Dam, on the Susquehanna, to the New-York State line*, under the charter now existing. This, then, leaves but a few miles of space between it and the termination of the Ithaca and Owego Railroad, either to be passed by boats on the river, or by the construction of a short piece of road intermediate. Indeed, the impetus given by the Tonkhannoch meeting is so powerful, that we understand a company is now forming to complete the remaining link in the great inland chain of communication."

New-York and Erie Railroad Company.—The following communication from Judge Wright, whose official agency and influence in the survey and construction of the principal canals and railways in this State, and other parts of the country, and whose pre-eminent reputation as a civil engineer, entitle his opinions on this subject to the highest respect, cannot fail to inspire confidence in the proposed undertaking.

New-York, April 19, 1833.

Dear Sir,—Having maturely considered the proposed plan and object of some of our citizens, for constructing a railroad from this city to Lake Erie, through the southern tier of counties in this State, I feel no hesitation in expressing my opinion of the incalculable importance of having this work carried into effect for the great interests of the city and country through which it will pass, and in view of the rapid increase of our trade and intercourse with the lake counties, and the Western States.

In the present state of things, when our neighbors in the south are making great exertions to secure a part of our legitimate trade, and those on our northern frontier, within the limits of Canada, are opening avenues of business and intercourse, well adapted to secure a portion of what has been our own trade, to forego or postpone this work would imply great negligence of our commercial advantages, our interests, and our prospects.

It needs no argument to show the vast advantages which such a work would confer upon this city. The cost of so extensive an undertaking must undoubtedly be great, but by no means discouragingly so, when viewed in connection with a reasonable estimate of the benefits to be secured to the city. The route presents some difficulties, but they are small compared with those which are met in Pennsylvania, in the railway over the Alleghany; and at various intervals there are long pieces which are very favorable. That every part is practicable for a railway, I have no doubt; and for such a railway as will prove eminently useful and important to this city. A spirited commencement of the work should be made by the enterprise of our citizens, and in that case, it is confidently believed that important aid will be extended to it from the funds of the State.

There are many weighty considerations in favor of constructing the first track of the proposed road with timber for the use of animal power only, and with a view to its being used by the inhabitants on the route, with their own animals.

Such a road may be opened and brought into productive use at a moderate expense. Level grading and embankments, which would be expensive and indispensable, were steam power to be used, may, on this plan, often and to a considerable extent, be dispensed with. Judging from the reports of the Baltimore and Ohio Railroad Company, railways of this description on favorable locations may be constructed for about six to nine thousand dollars per mile. But even a larger expenditure than either of these sums, on the most difficult portion of the proposed railway, namely, that between the Hudson and Susquehanna rivers, would be justified. A road, built upon the most economical plan for horse power, I think may probably be completed over the space between those rivers for a sum not much exceeding one million of dollars.

That portion of the road would of itself be of very great importance to this city; and having reached the valley of the Susquehanna, it would force itself over the remaining part of the route, where the grading on an average would be much less, and would soon be extended to Lake Erie. In the valley of the Susquehanna it would connect with many important roads and other means of communication, leading to flourishing towns and villages, which now have a very considerable population, and are growing rapidly. The concentration of persons desirous to reach this city, by a safe, easy and rapid conveyance, would insure a great amount of travel on it, and this, added to the various tonnage of products from the soil and forests, would, as I should believe, render it a fair investment.

In a word, I have the fullest confidence in the merits of this undertaking, and believe it called for by every consideration of public and local utility, and hope it may be adopted by our citizens with all their wonted energy, enterprize, and public spirit. I think the protection of their own interests requires the construction of this particular road.

These are my views of this project, and if I can be useful in furthering it, I shall consider myself as doing good to our city.

I am, very respectfully, your obedient servant,

Benjamin Wright.

To E. Lord, Chairman of a Committee of Corporators and Commissioners of the New-York and Erie Railroad Company.

Col. Dewitt Clinton, of the U. S. Engineers, by whom the entire route of the proposed railway has been examined, and surveys made of a considerable portion of it, under the direction of the department of war, authorizes an ex-

pression in the strongest terms of his opinion in favor of the contemplated undertaking, both with respect to the physical advantages of the route and the great benefits it would secure to this city and to the country through which it extends.

In a recent communication, he estimates the tolls on a railway over the entire route from the Hudson to Lake Erie, from travel and transport of commodities, at more than $700,000 per annum, clear of expenses. "The result of our surveys last fall, (he adds,) completely demonstrates the practicability of the road; and after a careful examination of the route at three different times, it is only necessary to say, that there is no undertaking of a similar class in this country which promises to confer more extensive or more permanent benefits than this, on this city and State; and there can exist no cause to prevent it from becoming the best railroad stock in the country."

[*From the Cincinnati Republican.*]

WABASH AND ERIE CANAL.—This splendid undertaking is but just commenced. Twenty miles of the canal are now under contract, and in a short time there will be sixteen more. The whole distance of the Wabash and Erie canal will be about two hundred miles, and runs through a section of country amongst the most fertile on the American continent. Its two extremes are the mouth of the Tippecanoe, in Indiana, and the Maumee bay, in the State of Ohio. A great many laborers are now needed upon the work, there not being more than two hundred employed at present. Wages, about this time, rate at about fifteen dollars per month. Land of the first quality may be obtained, adjoining the located route of the canal, at one dollar and twenty-five cents per acre, so that an able bodied laborer, in a very few months, may be enabled to purchase a farm that will make him independent for life.

MOHAWK AND HUDSON RAILROAD COMPANY.—At the annual election held in New-York on Tuesday last, the following gentlemen were elected directors of this company for the ensuing year, viz:

Isaiah Townsend, Erastus Corning, James Porter*, and Aaron Thorp*, of the city of Albany.

Ramsey Crooks, Samuel Glover, Wm. C. Redfield*, Seth Grosvenor* and John Laurie*, of the city of New-York.

We learn that it is in contemplation to call Mr. Crooks to the presidency of the company, in the place of Mr. Jones, who declines a re-election. He is, we understand, a very active and thorough man of business. From what we know of the direction, we think it a happy selection for the stockholders; and it is not too much to suppose that great energy will be thrown into the operations of the company. The road is increasing in favor as well as in business, and there is no longer a doubt in the minds of intelligent persons that the revenues from it will be great and constantly increasing. So far, the travel upon it is unprecedented. Rich returns may be anticipated during the travelling season and the fall business.—[Alb. Argus.]

*In the place of Messrs. Jones, Van Vechten, Butler, Catlin and Griswold, who declined a re-election.

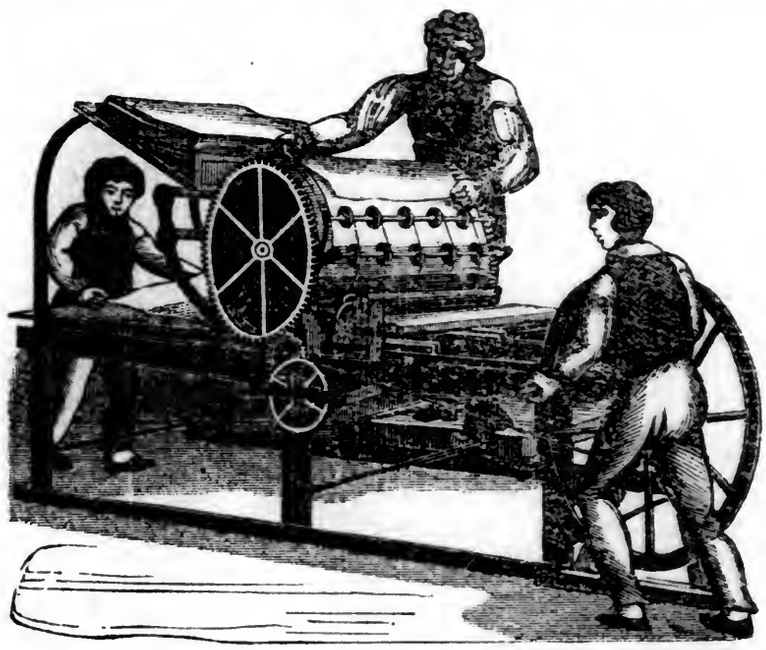
Chesapeake and Ohio Canal Co.—Mr. Eaton has superseded Charles Fenton Mercer, Esq. in the Presidency of this Company. General Mercer has been long known as among the ablest and most zealous advocates of this work, and his early, ardent, and continued exertions on behalf of the company have richly entitled him to expect every thing at their hands but—*such treatment as this.* There is perhaps no man in the Union, not an Engineer by profession, who possesses any thing like General Mercer's information on every subject connected with internal improvement. Of Mr. Eaton's qualifications for such a situation we can say nothing.—[Richmond Enquirer.]

FOUL CASKS.—Foul pails, tubs, or casks, intended for butter or any other purpose, may be cleansed by putting in some bran, indian meal, or flour, and filling up with water; a fermentation will take place which will perfectly cleanse the vessel. The liquid is the better for hogs after undergoing fermentation; consequently there is no expense attending the process.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.
For the Week ending Monday, June 17, 1833, inclusive.
Communicated for the American Railroad Journal and Advocate of Internal Improvements.

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
June 11	6 a. m.	58	29.70	NW—NNW	moderate	NW	fair
	10	65	29.71	NW—W	fresh	...	...
	2 p. m.	72	29.72	...	...	...	...
	6	64	29.80	...	moderate	...	clear
	10	60	29.84	...	light	...	...
" 12	6 a. m.	55	29.95	...	...	...	fair
	10	66	29.98	WNW	moderate	WNW	...
	2 p. m.	74	29.97	...	...	...	...
	6	72	29.95	W—WSW	light	...	...
	10	68	30.00	W	...	W W N	cloudy at west
" 13	6 a. m.	61	30.03	ENE	...	WNW	...
						WSW	
	10	70	30.05	S—ENE	moderate	WSW	—cloudy
	2 p. m	79	29.93	SSE	fresh	...	...
	6	71	29.87	...	moderate	WSW	cloudy
	10	69	29.80	...	...	SW	—lightn'g-thun. st.
" 14	6 a. m.	62	29.80	WSW	...	SW	fair
	10	74	29.80	...	...	W	...
	2 p. m.	80	29.77	...	light	...	cloudy—fair
	6	71	29.75	...	...	...	hair
	10	69	29.83	...	...	...	...
" 15	6 a. m.	65	29.81	...	faint	WSW	...
	10	72	29.80	SSW	light	WSW—W	...
	2 p. m.	76	29.75	...	...	WSW	...
	6	72	29.71	SW—WSW	...	...	haze at NW
	10	70	29.74	WSW	moderate	NW	...
" 16	6 a. m.	63	29.75	NW	...	NW	hazy
	10	75	29.77	NNW	moderate	WSW	fair
	2 p. m.	79	29.73	WSW	...	...	winds from NW
	6	75	29.71	SW	fresh	...	...
	10	70	29.75	...	moderate	...	...
" 17	6 a. m.	63	29.80	W—WNW	...	W	...
	10	70	29.85	NW	fresh	WNW	...
	2 p. m.	75	29.84	NNW	moderate	NW	...
	6	68	29.91	...	...	...	...
	10	65	29.99	...	...	...	...

Average temperature of the week, 66°.83.



RUTT'S PRINTING MACHINE, MADE BY NAPIER, (*Hoe's Improvement.*)—This machine is put in motion by hand labor; the engraving represents the carriage at the back part of the machine, with the form of type just after a sheet has been printed, and the lad at the back in the act of taking it away: the table or carriage then returns to the front of the machine, to receive the ink for the next impression, which is communicated from the ink receiver by several rollers, distributing the ink one from the ot er until it finally reaches the form upon the carriage by means of an elastic composition roller; in the mean time, another sheet is brought from the heap, sufficiently over the edge of the board (and not *on* the cylinder, as shown in the above cut,) to enable a range of grippers, that are fastened with springs upon the cylinder, to seize and convey it on the form as the carriage again passes under, when it receives the impression; and it is then delivered at the back of the machine as above. The carriage and cylinder are propelled by cogged wheels, as will be seen on reference to the cut—the former having a fly-wheel attached beneath it; and the inking apparatus is kept in motion by a cogged rail fastened on the carriage.

When we read the lives of distinguished men in any department, we find them almost always celebrated for the amount of labor they could perform. Demosthenes, Julius Cæsar, Henry the Fourth of France, Lord Bacon, Sir Isaac Newton, Franklin, Washington, Napoleon,—different as they were in their intellectual and moral qualities, were all renowned as hard workers. We read how many days they could support the fatigues of a march; how early they rose; how late they watched; how many hours they spent in the field, in the cabinet, in the court; how many secretaries they kept employed; in short, how hard they worked.—[Everett's Discourse.]

We understand that Commodore Ridgely has arrived here to take command of the Navy Yard at the Wallabout, Commodore Chauncey having been appointed one of the Navy Commissioners to reside at the seat of government.—[Gazette.]

Stone-Splitting Screws. By Robert Mallet. [From the London Mechanics' Magazine.]

Sir,—Some time since, while visiting the Bangor slate quarries, I was struck with the enormous waste of materials, arising from the mode adopted of shaking down large masses of slate to be afterwards split into roofing slates. The strata lie nearly vertical, and by every blast that is fired many tons of slate are shivered to atoms and made useless.

As a remedy for this, some powerful but simple application of the wedge appeared to me to be worthy of consideration. A conical male screw, working in a split female screw, placed in a jumper hole in the stone to be cleft, appeared one of the best that occurred; and, upon subsequent experiment, I find it to exceed my expectations, both for splitting, roofing, slate-work, and all other stones.

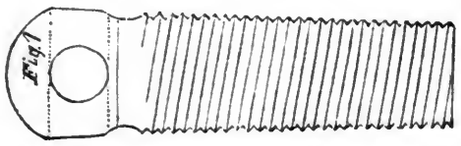
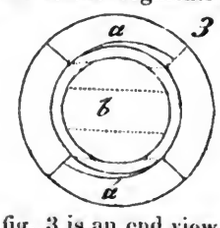


Fig. 1 represents a vertical screw for this purpose, made as an experimental one. It is about nine inches long in the screw, and two inches diameter at the lower end, and two inches and an eighth at the upper. It has a round thread, of as strong a form as possible, and a proper eye at top for the insertion of a lever. The two segments of a cylindrical shell, which form its nut or box, are each one-fourth the circumference of a complete cylinder, and half an inch in thickness; thus the jumper hole for this screw requires to be three inches diameter and nine inches deep.

The screw is made of iron, sheathed with steel like a tap, and hardened; and the box segments are made of cast iron, poured in an iron mould, which makes the screw threads very perfectly and cheaply; their brittleness and hardness are afterwards corrected by annealing. They alone are injured in the operation of splitting, and by this way of making them are easily replaced.

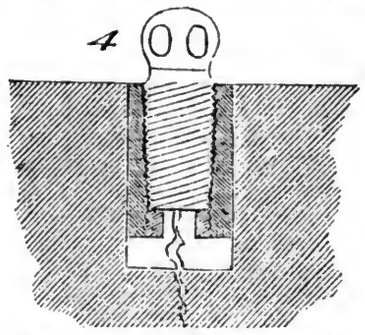
Now, I am fully aware of the objections that may be urged, of a conical screw being applied to a cylindrical one, and of the threads of a conical screw making variable angles with the axis; but the taper or angle of the cone requires to be but very small, being determined by the modulus of elasticity of the stone to be split, which in all rocks commonly met with is very low; so that the screw being very coarse—having round threads, being very little taper, and not requiring to fit accurately—those objections are not cogent.

Fig. 2 represents one of the segments of

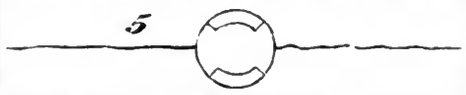


the box or nut; and fig. 3 is an end view of the two ($a\,a'$) in their places in the jumper hole; b, the screw.

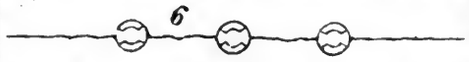
To use this apparatus, the jumper hole being prepared, the two segments are placed at opposite sides of it, and the screw inserted and screwed down. The friction of the stone against the back of the segments keeps them in their respective places. The screw must descend, and as it descends it must expand the segments, and by their expansion the



stone is split, (fig. 4.) I have found by experiment that the rock will always split in the direction of the interval between the segments, as in fig. 5; so that when a pro-



longed section of an homogeneous rock is required, it is easily produced by a number of such screws placed in the desired line, as



in fig. 6. Omitting the consideration of the effects of friction, which, I am fully aware, are in this case very considerable, but can only be determined by experiments, it is sufficiently obvious that the power of this instrument is the same as that of a wedge employed for cleaving, whose angle is equal to that of the cone round which the screw is wrapped, urged, or driven on by the energy due to the same screw, actuated by a lever of a given length.

The power of this screw, then, is expressed by

$$P=\frac{h}{2\pi R}W.$$

where P is the power or energy of the screw; h, the distance between two contiguous threads; π, the constant ratio of the diameter of a circle to its circumference; R, the length of the lever used; and W, the power or dead weight applied.

The power of the wedge, again, is given by the equation,

$$P=\frac{R\,l\,B}{L^2}$$

P representing the energy with which the power of the screw acts against the resistance of the particles of the stone, the length from the point or extremity of the cleft or split when *first commenced*, to that point where the resistance may be supposed concentrated against the sides of the wedge, *i. e.* the screw segments; and L, the length of the cleft when first commenced. It is obvious, that R, l, and L, vary with different kinds of stone, and are constant with each particular kind; whence, for want of experimental data, it is impossible at present to reduce these equations to figures. The friction, too, of the instrument increases in a greater ratio than the pressure, from the continually increasing difference between the threads of the conical male screw and those of the cylindrical female screw.

So far, it will be admitted, I have not slurred over the difficulties and disadvantages to which the machine is exposed; but I have tried it, and the result of one experiment, at which the whole of the Commissioners of Public Works in this county, Mr. Vignoles, the engineer, of Liverpool, and Mr. John M'Mahon, of the firm of Henry Mullens & M'Mahon, were present, and expressed their entire satisfaction, will suffice.

Two men, with a lever of only *three feet in length*, and a single screw and segments of the size before described, split a mass of the argillaceous lime-stone of the county of Dublin, (*Calp* of Kirwan,) weighing nearly a ton, in 17 revolutions of the screw, made in about 25 or 30 sec. The men did not put forth their strength, but merely walked round the stone, which was split contrary to its stratification, and exactly in the line of separation of the segments. The sufficiency of the power is thus clearly shown.

Mr. John M'Mahon has informed me by note, that "he considers it a very great improvement in the art of quarrying."

This instrument is more particularly applicable to slate quarrying, and for the purpose of obtaining great tabular masses of granite, sienite, or other very hard and homogeneous rocks. In the former application, the saving of slate, and of labor in clearing the *face* of slate-rock of the accumulating rubbish shook down by the method of blasting, recommend it. In the latter, the saving of labor, the certainty of the direction of the fracture, and the capability of splitting larger blocks than have been as yet attempted by wedges. It may be also applied to raising stratified rocks from their beds, and as a substitute for blasting in general. The jumper holes usually used for the granite of this county are three inches in diameter, and sometimes *sixteen feet* deep. Each of these screws only requires a jumper hole of nine inches deep, and three inches diameter, and *no gunpowder*; and it is hardly questionable but that 20 of these screws, requiring *less* labor of preparation, would produce a greater effect than the one blast, besides producing it in a predetermined direction.

There is another advantage of these screws over blasting, that they are free from danger to the workmen employed in using them. There is but one way that I am aware of in which it is possible for them to fail, namely, by the threads of the screw splitting off; but the force required to strip a steel screw of one-fourth of an inch round thread, in depth and width, when twelve or fourteen threads are engaged at once, is enormous; and when a number of screws are in action on one mass of rock, the force on any individual screw need not be great.

The first cost of such screws is not very great. The male or conical screws, being of hardened steel, will last a long time; and the segments are cheaply made, when once the mould is prepared, as they wear out or are broken. The cost of jumpers is less than for blasting purposes, as they are so much shorter. It is obvious, also, that these screws may be applied at the bottom of a fissure or jumper hole, as well as near the surface of the rock, by having the head of the screw properly prolonged.

Oil and black lead should be used to lubricate the screw during its descent. If a cast iron segment should break in the hole during the descent of the screw, it does not matter, as the pieces are still held by friction in their relative situations. The saving in gunpowder and labor alone, in such a place as the

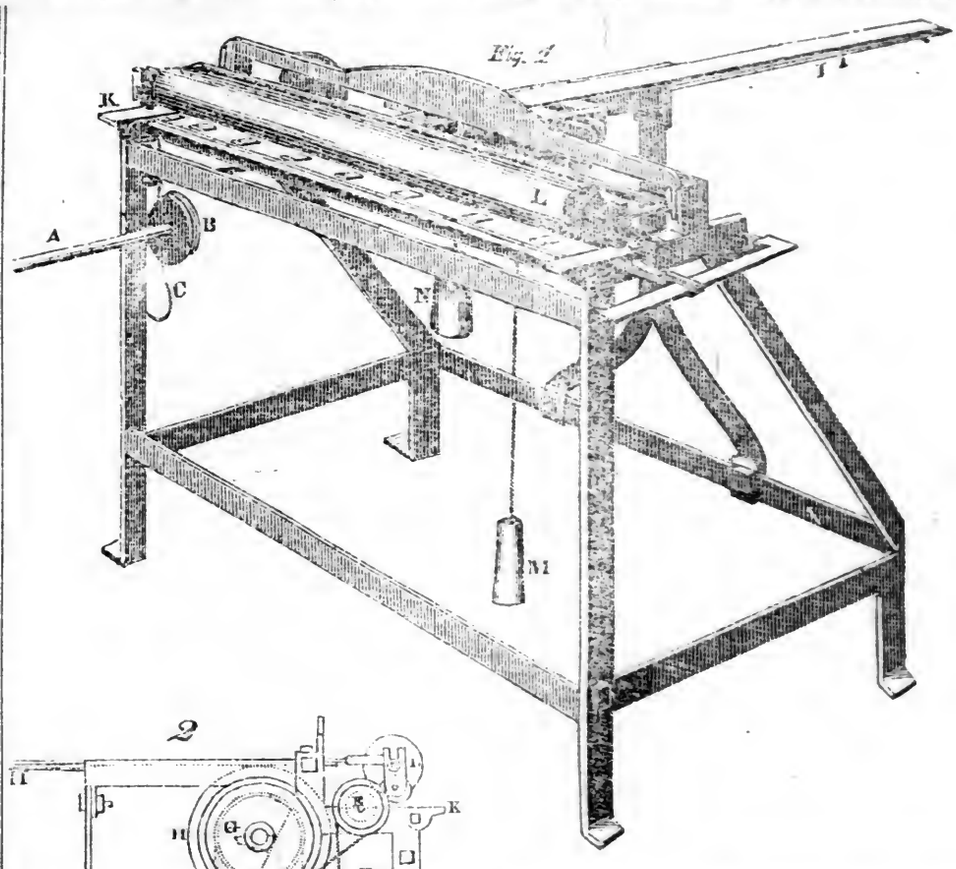
Bangor slate quarries, would pay the cost of some thousands of these screws, should they be found to succeed, in a few months I should suppose.

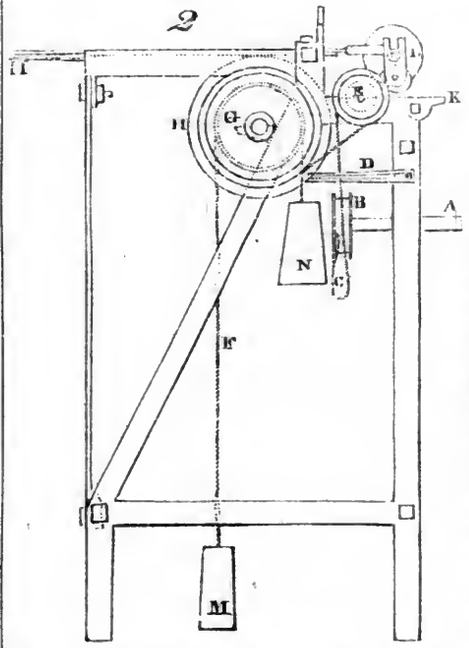
Sub-marine Boat.—In the course of last autumn, M. Villeroi, of Nantes, made a successful experiment at sea, off the island of Noirmoutier, with a locomotive sub-marine boat of an entirely novel construction. It is ten feet six inches in length, and three feet seven inches diameter in its greatest width. The machinery by which it is impelled is said to be a mechanical application of the forms and means with which nature has endowed fish, and, in this instance, it is brought into play by the aid of steam. When the flux of the sea had attained its height, the inventor stepped into his boat, navigated for half an hour on the surface of the water, and then disappeared at a spot where the depth was between fifteen and eighteen feet, bringing up with him, on his re-appearance, a quantity of flints and a few shells. During his submersion he steered his boat in various directions, in order to deceive those who thought that they were following in his track, and rose at some distance from any of them. He then shifted his course repeatedly whilst navigating the surface; and at the termination of an hour and a quarter's practice he threw off the cover which had protected and concealed him, and showed himself to the spectators amidst hearty cheers. It is obvious, from the success which attended this essay, that with the aid of M. Villeroi's ingenious machine, an individual may traverse a considerable distance under water with the same velocity as a common boat, and after calculating the depth to which he should plunge according to the density of the water, post himself under a ship's side for a hostile or other purpose, cut their cables asunder without being liable to detection, or descend for the recovery of wrecked stores, &c. The inventor was accompanied by two assistants, neither of whom suffered any inconvenience during their hour's submersion. The boat is constructed of iron.

New Fire— Mr. J. Hancock, of Fulham, has, we are assured, invented a compound which burns under water, and which continues inflammable in any accumulation of moisture. It is in all respects similar to the much celebrated *Greek Fire*. He proposes to apply it not to human destruction, but to the saving of the lives of miners. It is the most perfect and unerring fuse for blasting ever contrived; the wet damp, and water, which often interfere, being no hindrance to its perfect and definite action. It may, too, be accommodated to time, as a yard will burn out in one or two minutes, or in five or six minutes as desired. It is moreover as cheap as any fuse that ever was made.—[London Lit. Gazette, Ap. 6.]

Patent Improved Ink Distributor.—We have been much pleased with inspecting and witnessing the operation of Messrs. Sabbaton & Spence's Patent Ink Distributor, in book printing, at the office of Mr. Dean, Frankfort street, in this city.

This machine, represented by the annexed plates, stands at the opposite side of the press to the workman, and receives its impulse from the rotary motion of the rounce, the shaft, A, of which is made long, passing to the end of the machine, where the pully, B,





is fast; through the rim of this pully the end of the chord, C, is tied, and the other end, passing between a projection of iron, D, and a spring, is fastened to the loose pully, E, on the shaft of a wooden roller, as represented in figs. 1 and 2. This pully is attached by the same cord to pully G, on the end of the main shaft, that supports the pullies and weights in the centre of the frame, where a large loose pully, H, is connected by two catgut cords, H, passing in opposite directions to each end of the tail of the frame, K, that supports the composition roller, L.

On the side of the loose pully, H, is a groove to receive the cord of the small weight, M; and on the other side a pully is fastened on the shaft, having a similar groove for the large weight, N, and on its periphery a catch tooth is held by a latch, to prevent the weight from falling until required; when, by raising the tympan, a flat piece of iron on its end presses a tripping rod inward, which raises the latch clear of the tooth, when a catch on the pully, H, takes its place, and, by the descent of the weight, N, both go round together, forcing the composition roller over the types.

Having performed a revolution, the tooth comes again in contact with the latch, and the catch, raising over an inclined plane on the latch, is freed, so that the small weight, M, being wound up by the descent of the large one, takes effect, and reversing the motion, brings the roller back to where it started.

The form is now run under the platen to receive the impression, and, by the connection of the pullies and cords before described, the large weight, N, is raised, while at the same time the wooden roller, together with a small vibrating distributor, and the composition roller, L, which rest upon it, are carried round by means of a catch on the loose pully, E, acting in a ratch tooth on the shaft of the wooden roller. This performs the act of distributing the ink for the impression.

The form is then removed from under the platen, which unwinds the cord off the pully on the rounce; but the projection, D, and spring, prevent it from throwing off the loose pully, E. The tympan being raised, the large weight performs the same operation as before described, winding up the slack cord on the loose pully, E, by means of the connection of the cord F, with the pully G, on the end of the main shaft; and by a snail on the same shaft, the small vibrating distributor is pressed down to a metal roller in the ink fountain, where the ink being regulated by a straight edge in four parts, and moved by eight screws, it receives the necessary supply.

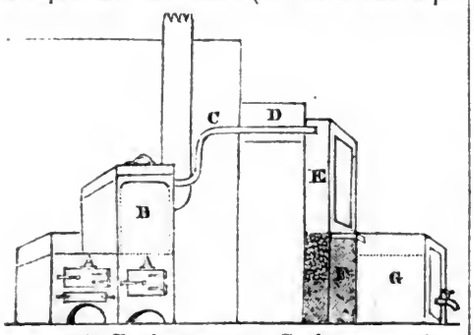
The metal roller is turned round in the fountain by a catch on the frame of the small distributor, acting in a ratch wheel on its end.

Thus, by a simple compact piece of mechanism, the whole operation of distributing the ink for letter-press printing is well and accurately performed, with scarcely any additional labor to the workman.

Apparatus for freshening Salt Water. By E. W. B. [From the London Mechanics' Magazine.]

Dear Sir—I beg to submit for insertion in your truly valuable Magazine, the design of an apparatus intended to remedy the dreadful consequences arising from want of fresh water on board of ships. The apparatus by which this immense advantage may be obtained is so simple, and will occupy so little room, that there is no vessel which might not readily avail itself of it.

It is well known that the steam arising from salt water is perfectly fresh. If, therefore, this steam were conveyed, by means of a pipe attached to the copper, through a trough of cold water, which would act as a condenser, and if the water thus obtained were then passed through a filterer, it would be furnished for use not only in a fresh but in a very pure state. In the accompanying sketch, A A represents the stove (one of Frazer's patent sort); B, the copper; C, the steam pipe; D, the cold water condensing trough; E, a well for the reception of the water to be purified, which is half filled with sand, and coarse gravel on the top of it, and communicates at the bottom with another well, F, only half the height of the former, and which is also to be filled, excepting two or three inches, with coarse sand. The water, after filtering downwards through the first well, ascends through and accumulates on the top of the sand in the second, whence it passes over into the reservoir, G.



If, from frequent use, the apparatus should get in the least clogged, it may be cleansed in a few minutes, with the utmost facility, by merely washing the sand and gravel, and thoroughly rinsing the pipes.

Much, of course, will depend on the size and purity of the sand, which will not always afford the same results. I have found that a prolongation of the stratum of sand does not much impede the produce of the filterer, but materially contributes to the purity of the water, which, it is not exaggeration to say, may be had by this means equal to the best spring water.

[In another number of the Mechanics' Magazine, we find the following, in relation to the preceding invention:]

Salt Water Freshening Apparatus.—Dear Sir: Since I forwarded the sketch of the apparatus for freshening salt water, which you was kind enough to insert in your last number, I have found that the pipe for the steam must be in the shape of a syphon, and not as shewn in your engraving; for I find that the motion of the ship, when there is the least wind, would otherwise send the water back into the boilers. There ought also to be a cock inserted in that part of the pipe which is close to the boiler, so that the steam might be turned off when required; for in Fraser's patent stoves most of the vegetables are cooked by steam. There might also be a pipe led from the condenser to the boiler, so that when the water becomes warm from the action of the steam in the pipe, it could be discharged into the boiler. I remain, dear sir, your obedient servant,

Edw. Whitley Baker, jun.

AGRICULTURE, &c.

Suggestions relative to Florists' Work, for June and July. By the Editor.

Our friend A. W. has sent us the following lines of Poetry, which, in his estimation, speak the language of that piety which arises from an impassioned love of flowers. It is from the pen of Horace Smith. Our readers will, we suppose, very cheerfully, before they commence the floral culture of summer, unite in singing a

HYMN TO THE FLOWERS.

Day-stars! that ope your eyes with man, to twinkle
From rainbow galaxies of earth's creation,
And dew drops on her holy altars sprinkle
As a libation.

Ye matin worshippers! who bending lowly
Before the uprisen sun, God's lidless eye,
Throw from your chalices a sweet and holy
Incense on high.

Ye bright Mosaics! that with storied beauty
The floor of nature's temple tesselate,
With numerous emblems of instructive duty
Your forms create!

'Neath cloistered boughs, each floral bell that swingeth,
And tolls its perfume on the passing air,
Makes Sabbath in the fields, and ever ringeth
A call to prayer;

Not to the domes where crumbling arch and column
Attest the feebleness of mortal hand,
But to that fane most Catholic and solemn,
Which God hath plann'd.

To that cathedral, boundless as our wonder,
Whose quenchless lamps the sun and moon supply;
Its choir the winds and waves—its organ thunder—
Its dome the sky.

There, as in solitude and shade I wander,
Through the green aisles, or stretch'd upon the sod,
Awed by the silence, reverently ponder
The ways of God.

Your voiceless lips, O flowers! are living preachers.
Each cup a pulpit, each leaf a book,
Supplying to my fancy numerous teachers
From loneliest nook.

Floral apostles! that, in dewy splendor,
"Weep without woe, and blush without a crime,"
O may I deeply learn and ne'er surrender
Your lore sublime!

"Thou wert not, Solomon! in all thy glory,
Arrayed," the lilies cry, "in robes like ours;
How vain your grandeur! ah, how transitory
Are human flowers!"

In the sweet scented pictures, heavenly Artist!
With which thou paintest nature's wide-spread hall,
What a delightful lesson thou impartest
Of love to all!

Not useless are ye, flowers! though made for pleasure,
Blooming o'er field and wave by day and night,
From every source your sanction bids me treasure
Harmless delight.

Ephemereal sages! what instructors hoary
For such a world of thought could furnish scope?
Each fading calyx a *memento mori*,
Yet fount of hope.

Posthumous glories! angel-like collection!
Upraised from seed or bulb inurred in earth,
Ye are to me a type of resurrection,
And second birth.

Were I, O God! in churchless lands remaining,
Far from all voice of teachers and divines,
My soul would find, in flowers of thy ordaining,
Priests, sermons, shrines!

Hot and Green-House Plants.—The principal attention that these require is watering every evening in very dry weather, turning the pots of those that require but a little water on their sides during long storms, making frequent examinations for insects, regularly syringing them, turning them often to prevent them from being drawn to the sun on one side, pulling off dead leaves, and tying up and trailing runners and creepers. If the plants are in a drying situation, the small ones will require watering morning and evening.

Flower Garden.—Holland bulbs are generally lifted or taken up in June. Anemones and Ranunculus should be carefully taken up soon after their leaves begin to fade. Roses are to be pruned soon after they have done flowering—the old wood cut out, and the plant properly shaped. Should the season be dry, many of the shrubs will require watering, particularly those that were set out in the spring.

Propagation.—Most kinds of flowers and ornamental shrubs may be increased in number by either cuttings, layers, division of the plants, inoculation, and the various modes of grafting. Soon after the plants are done flowering, by some one of these operations they may be multiplied. Roses, and geraniums, for instance, are increased by cuttings; the former also by inoculation and layers. The unskilful however should not risk destroying a choice plant for the sake of getting more of it, still it is well for those who are fond of flowers to amuse themselves by acquiring a little practical information on the various methods of propagation, for this leads much to the science of the vegetable kingdom. Ladies should not fail to amuse themselves in trying their skill in the propagation of plants. To do it successfully, they should study nature a little—reflect what is requisite to insure success. If, for instance, they take a cutting, they should not put it in the ground where it is exposed to much sun, which will dry it up before it takes root. And a bud is more likely to grow on the north than on the south side of the branch.

Currant Wine.—This is the season for the ladies to begin to think of having a little temperate beverage for their friends. The following is from the Genesee Farmer:

"Take eight to ten gallons of currant juice, to which add ninety pounds of common brown, or one hundred pounds of molasses sugar—put them into a brass kettle, which hang over a moderate fire—stir them up together well, and carefully take off the scum which rises to the top. Particular care must be taken that the fire is not so great as to make the juice boil,—no more heat is necessary than to cause the impurities contained in the sugar to rise so as to be skimmed off. When the liquor becomes pure, pour it into a clean firm barrel—then fill up the barrel with clean water, and let it stand (in the cellar) with the bung out to ferment. Let the fermentation continue as long as it will. The ensk must be filled up frequently with sweetened water. When the fermentation ceases, bung up the barrel tight, and the process of manufacturing the article is ended.

My friend assured me that he could buy his currants, and manufacture his wine, for 37½ cents per gallon, and that he had frequently sold it at one dollar per gallon.

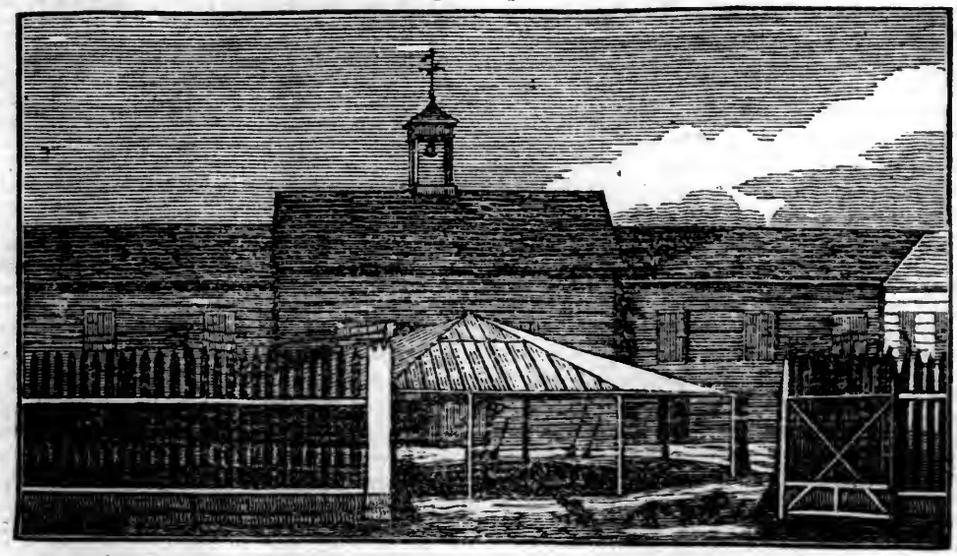
"Many a farmer has currants, which might, in this way, be made use of to great advantage; and those who have not might, in little time, and with little trouble, furnish themselves with an ample supply. Respectfully, W. P. W.

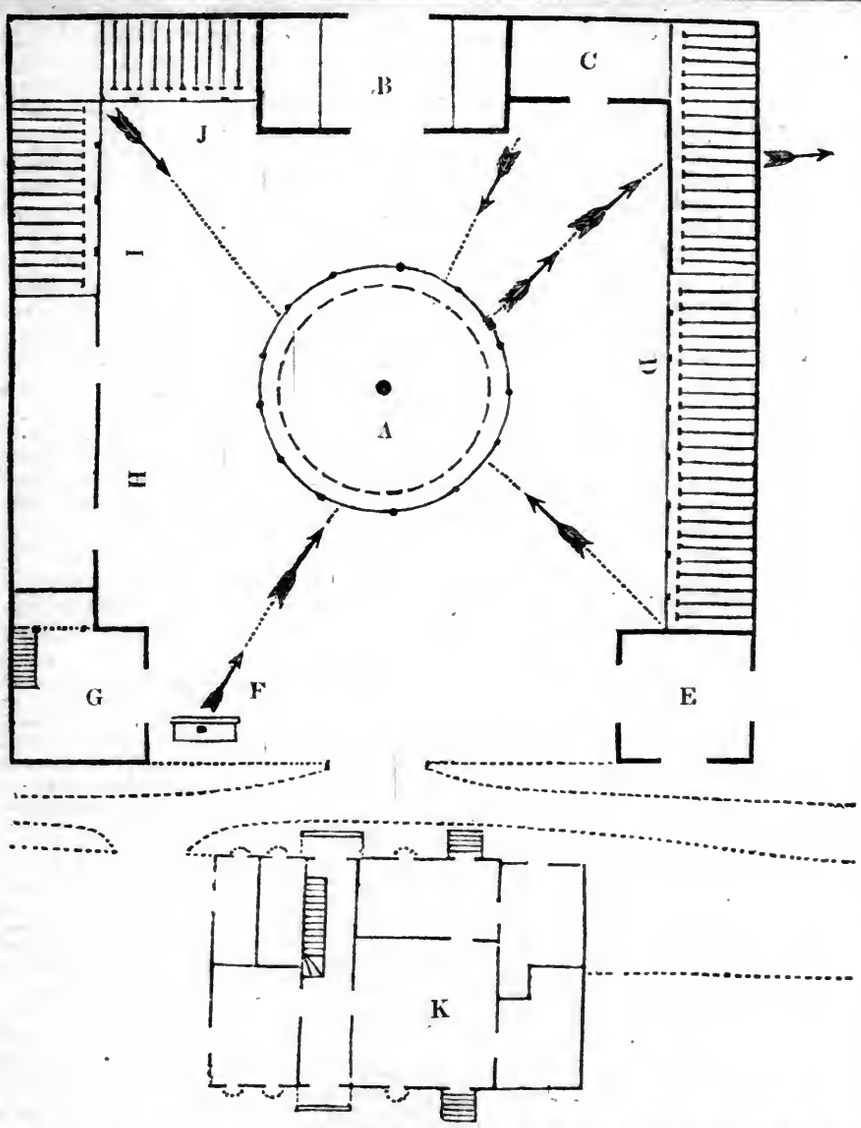
"Milton, March 22, 1833."

Land Ditching.—One of the cheapest and most effectual modes of draining is to dig a ditch of convenient breadth, and to a depth of one and a half to two or three feet. First fill in with brush of hemlock, cedar, or other that is more convenient, with the ends all one way, and to the depth of more than half a foot, after being pressed or pounded down, and then fill up with the earth.

To destroy the Black and Green Fly.—Take clay well worked with water, and cover the limbs and shoots with it. The first rain will wash it off and leave the plant free of these insects.

Description of an Improved Stercorary—communicated in a Letter to Dr. James Mease, of the Agricultural Society of Philadelphia, by DAVID HOSACK, M. D. [For the New-York Farmer and American Gardener's Magazine.]





NEW-YORK, May 1, 1833.

DEAR SIR,—When you did me the favor of a visit at Hyde Park, during the last summer, you expressed a wish to receive from me a sketch and description of the shed or stercorary I have erected in my barn-yard for the purpose of preserving and improving the qualities of manure. Having many years since, when Professor of Botany in Columbia College, taught the principles of vegetation and agriculture as connected with that department of science, and discoursed upon the food of plants, the nature and qualities of soils and manures, you will readily believe that upon removing into the country and engaging in the practical duties of farming, my attention would be primarily directed to accumulate, preserve, and improve the contents of the barn-yard, as constituting the essence, or, as it may be called, the *vital principles* of successful agriculture. For this purpose, while my neighbors are in the habit of exposing their manure to the air and the sun, or accumulating it in cellars, I was induced to erect the shed, or umbrella, exhibited in the annexed plate. I should premise that the barn and other buildings surrounding the barn-yard occupy three sides of a hollow square, each side being 175 feet in extent. The stercorary is placed in the centre of the barn-yard, and is covered by a shed in the form of an umbrella; this is erected immediately above the manure heap, for the purpose of preventing the evaporation of the manure in summer, at the same time that it serves as a shelter for the cattle during a storm. The shed is about *forty feet* diameter; the centre post sustaining it is *thirteen feet* high; the posts in the circumference are *ten feet* in height and *ten* in number, allowing sufficient space for a cart or a waggon to pass between them for the deposite or the removal of the manure; the top is covered with common unplaned boards, and the whole roof is washed or painted over with a mixture of tar, oil, and sand, and colored with a small proportion of Spanish brown, by which composition it is partly preserved from decay. You will recollect that the barn-yard is so formed that the centre of it is excavated in the form of a dish, while all the other adjacent parts of it are gradually inclined to the centre, gravelled and rolled, so that every portion of the yard is preserved dry, hard, and clean. Small paved drains for conveying the *stale* from the cattle sheds and stables, communicate with the centre. In case of rain, the water from the adjoining buildings also flows to the reservoir, and when the dish or excavation may overflow, a covered stone drain, with an iron grating at its mouth, conveys the surplus liquid parts of the manure to a large tank, or cistern, holding about 60 hogsheads, situated in the garden, from whence it is raised by a pump at the pleasure of the gardener, who finds in this a valuable and rich resource for his vegetables. By this contrivance no part of the manure of the yard is lost. The above mentioned shed, by placing a frame work like the small braces of an umbrella at the upper part of it, is also devoted to the purposes of a roost for poultry; this, too, at the same time that it affords an ample and warm protection for fowls, in some degree attracts them to that part of the barn-yard, and thereby preserves the remainder of it relatively clean, for it is to be recollected that they spend a great portion of the day upon the manure heap, as well as lodging above it during the night. They are also regularly fed in the barn-yard, which attaches them to it, and prevents them from wandering far from their home. The fowls also have access to the cattle sheds, and to the sheep cellar beneath the barn, where they make their nests; by this arrangement, while the family is most abundantly supplied with the produce of the poultry yard, the fowls are protected from their natural enemies.

REFERENCES.—A, the stercorary; B, the barn; C, straw house; D, cattle and horse stables, with sheep cellar beneath; E, waggon-house; F, well and trough, for watering the cattle; G, cider mill, with the cider press adjoining, next to H; H, apartment for sheep shearing, with cider cellar beneath; I J, cow stalls, with a root cellar situated in the centre; K, farm-house and dairy beneath.

NEW-YORK AMERICAN.

JUNE 15, 17, 18, 19, 20, 21—1833.

LITERARY NOTICES.

THE PRINCIPLES OF CHRISTIAN PHILOSOPHY: by *John Burns*, M. D. F. R. S.; 1 vol. 12 mo. Philadelphia: *Carey, Lea & Blanchard*.—This is the first American from the third London edition of Dr. Burns' work on the doctrines, duties, admonitions and consolations of the Christian religion. It treats of a future state, and of the means of arriving at the happiness that is promised and avoiding the misery that is threatened in it, and with distinct chapters upon personal duties, relative duties, and the duties men owe to God, enters into a universal examination of the various requisitions for their full and successful performance. The divisions of the subjects treated, with their general arrangement, are both ingenious and logical, and must prove serviceable to those wishing to impress upon their own minds the truths laid down in the work. The style, however, though generally good, is occasionally somewhat ambitious and declamatory, vices of composition which, though a fine delivery may render tolerable in the pulpit, should never characterize a religious treatise intended for the closet. We quote a passage in a different strain, containing some food for thought.

He who admits the omniscience of God, must admit, that events, removed to the most distant period of futurity, are now, and always have been, present to his view He who admits the foreknowledge of God, must also admit his predetermination; for that which is foreseen, must eventually take place. The doctrine of Providence, general and particular, is founded on the omniscience of God, by whom all things, even the most minute circumstances, which ever has occurred, or ever is to occur, must be at all times perceived, and the mutual relation, of every incident, whether past, present, or to come, in the intellectual and material world, must be known. If one thought, of any individual, who is yet to exist, be unknown, the perfection of the Deity is destroyed. It may be supposed, that, although, God does foresee, yet, he does not predetermine; but this supposition leads to the doctrine, that all things are left to chance, or some accidental operation of various causes, which may produce effects, either eventually good or bad, as circumstances may turn out.

The doctrine of *predestination* in its fullest extent seems to be included in this passage; and indeed the author elsewhere observes that "the existence of a Providence and the doctrine of Predestination must stand or fall together." And yet he does not deny the existence of free will in men—nor is there to our apprehension any necessity for so doing; for it has always seemed strange to us that the most acute minds should find this famous subject of controversy, so perplexing, when the simple reflection *that there is no such thing as* TIME *to an Eternal and omniscient Mind*, seems to get over the difficulty at once. There is no such thing as a succession of objects to an all-seeing vision, that embraces every thing within its ken at a glance, and it appears idle to talk of the Deity *foreseeing* and *predetermining* acts and events, when everything is *simultaneous* in His mind.

"Much of the difficulty of this subject," says Dr. Burns, "arises from applying the same rules to the infinite that we do to the finite mind. To talk of cause and effect with regard to God, is talking as if his mind were like ours. Two operations of mind cannot be simultaneous, and yet stand in the relation of cause and effect. To the Deity, the past, the present and the future, are alike known; and his knowledge is not like that of mortals derived from ratiocination or observation, but intuitively by one act of mind, which embraces all objects at once." These reflections have doubtless in some shape passed through the minds of many of our readers, but we do not recollect having met with them thus embodied in language before. *

REESE ON CHOLERA, is the title of a well printed octavo, from the press of Messrs. Conner & Cooke, which professes to be a plain and practical treatise on the epidemic Cholera, as it prevailed in this city during the last summer The work, which is by Dr. D. M. Reese, of this city, is designed for popular instruction, and includes a brief essay on the medical use of ardent spirits, in which the writer attempts to show that alcohol is as unnecessary and mischievous in sickness as in health. The publication is for sale by all the principal booksellers in this and the other cities of the Union. It is enriched with a map of the infected districts of last summer. *

WALTHAM; A NOVEL. 1 vol. 12mo. Carey, Lea & Blanchard, Phila.—This tale, which forms one of the numbers of Leitch Ritchie's Library of Romance, possesses much interest; and though somewhat stiffly told, displays considerable powers on the part of the author. The hero, like most novel heroes, is anything but the most interesting personage in the story, the dramatis personæ of which are generally well drawn and grouped together. Waltham, who is an intellectual kind of personage, is a gloomy fatalist, whose solemn and apprehensive disposition is happily contrasted with that of a bold and ardent young nobleman, called Lord Arnwood, whose high spirit and masculine character is again placed in opposition with that of a gentle, tender, and confiding girl, the daughter of Waltham, and of course his lady-love. We have then a couple of very good villains, one sallow visaged and canting, and the other bluff and bold-faced. The back-ground is well filled by an honest Scotch servant and a score of courtiers and foot-pads, millionaries, and other ordinary filling up of an ordinary novel. The manner in which some of these are introduced, however, gives somewhat an air of originality to their proceedings. They are flung in like streaks of light among masses of sombre coloring, and thus serve to make the general gloom of the picture more striking. We make a few extracts: *

A First Interview.—With many such lamentations the Scot carried Lord Arnwood up, laid him on his master's bed, and set about restoring him; acting, however, by the orders of one who soon made her appearance, and seemed no novice at such benevolent offices, and who commenced dressing his wounds and performing the part of his nurse, with an anxiety and gentle skill which were soon successful.

Arnwood was for some time in that state of half consciousness in which surrounding objects are seen and voices heard, without a distinct perception of the reality of either the one or the other. At first, he felt a soft hand holding his own, and the fingers pressing his pulse. A pale female face seemed sometimes to be close to his, so that he could feel her warm breath upon his cheek; and the long dark hair which fell from her stooping head, while she dressed his wounds, he felt sweeping gently over his neck. Then his awaking eye fastened and dwelt upon a figure which reminded him of a Grecian sculpture, watching in a sitting posture, between himself and the light; and while dreamingly contemplating the features which he was too giddy to see distinctly, he thought the dark hazle eyes beamed upon him with such a lovely expression, that whether sleeping or waking, his involuntary admiration caused a sigh to escape from his breast.

At this moment the figure rose, and seemed to bend solicitously over him; and though his eyes were half closed, he perceived her smile with so captivating a softness, that believing himself to be in a dream, he lay motionless; fearing to break so delicate a vision.

At length he looked long and steadfastly, as if striving against the drowsy confusion of his brain. He perceived himself to be in a small bed-chamber, neatly arranged; the furniture being rather separately elegant than consistently tasteful. The figure of the lady, however, still attracted his interest so exclusively, that as he gazed upon the graceful bend of the body, between himself and the single taper—the neck tangled with long hair, and the features perfect in their outline and expression—he was unable to suppress the exclamation—Lady! how is this? Where am I?

The lady started, as if suddenly alarmed, and rising up and glancing towards him with a pleased smile, glided out of the room.

Coquetry Tactics.—Arnwood's observations were more keen than usual, but still he had not altogether deceived himself. Lady Amelia really delighted in his society, was interested in him, was proud of him as a conquest, nay, even loved him. But her love was not (shall we be understood when we say it?) like the love of a woman. And so she could extinguish it, or sacrifice it to pride, or trifle with it (as she could, and did, with the object of it), with all the caprice and hauteur of a high-born and worldly dame. For some time she teazed Arnwood, partly by coquetry with other admirers, and, at times, by cruel allusions to things in which he felt keenly all the disadvantages of his situation. A new favorite in the person of a Colonel Vance, now began to call forth her triumphant "flirtation," and jealousy and wounded pride soon completed the alienation of Arnwood's heart.

THE ANIMAL KINGDOM, ARRANGED IN CONFORMITY WITH ITS ORGANIZATION: by the Baron Cuvier. Translated from the French, and abridged for the Use of Schools, by H. M'Murtrie, M. D. &c. &c. 1 vol. G. & C. & H. Carvill.—The study of Natural History is among the most delightful and satisfactory of all that can engage one's attention. The interest of the various subjects presented keeps curiosity continually alive; and thus begets a habit of careful investigation, and strengthening the memory while it exercises the judgment, brings, as is justly remarked by Dr. M'Murtrie, the intellectual faculties of the pupil into a state of the greatest activity, and tends also to elevate his moral character, from indulging in a train of inquiry which finally leads him from the creature to the Creator. The great work of Cuvier, in an edition of four volumes, has been for some time for sale by the Carvill's; and the ingenious translator has certainly rendered a service to those who would enter upon an elementary course of zoology, by the present abridgment, which is well calculated for the use of those to whom it is dedicated—"The teachers of youth in the United States of America." The volume is printed in sufficiently handsome form to make it an acquisition to almost any private library. *

AMERICAN TURF REGISTER and Sporting Magazine. Vol. IV., No. 10.—A spirited engraving; from a drawing by Rindisbacher, of Capt. Mason killing two deer with a bird gun in the American Bottom, forms a striking embellishment to this No. At page 501 we find a well written and very interesting letter on crossing our Thoroughbred Horse with the Wild American or Prairie Horse, which is thus prefaced by the Editor of the Magazine:

If the following suggestions had been carefully perused when received, they would have been sooner given to our readers. If the writer be not a practical breeder or trainer of horses, he is evidently a sensiblo man and a good writer, as well as an amateur. We regret not having given his remarks earlier and more earnest attention; and have little doubt that we might soon realize great improvement in our road horses by the first cross, even though there should not be sufficient perseverance in continuing the cross until more bone and greater stoutness should be obtained in the race-horse. Our impression, as to the cross for the purposes of the road, is founded also on facts that we have heard of—one or two Indian horses, brought to Maryland, which were probably not selected with much care. We should be glad to receive any additional information which any gentleman can give us, as to facilities in procuring specimens best adapted to a favorable experiment; and feel sure, from his well known public spirit, that the Secretary of War may be relied on to give any aid in his power to any proposition to benefit an essential public interest. A contrary supposition would belie his character for intelligence and large and liberal views. *

A very handsome new Map of the City, just published by J. H. Colton & Co. No. 9 Wall street, is before us. Being formed from recent surveys, it is very correct, and has the desired improvement of the names of places marked upon the points which represent them, instead of their being noted in a side column of reference. *

SUMMARY.

INTERESTING FROM THE FAR WEST.—The followng letter to the Editor, from Col. S. C. Stambaugh, iSecretary to the Commissioners for settling boundaries, &c. with the Indian Tribes of the West, will be found highly interesting to our readers, and we tender our thanks to the writer for his politeness in furnishing us with the information it contains.—[Arkansas Gazette.]

FORT GIBSON, MAY 7TH, 1833.

Dear Sir—I have had but little news to communicate, since I received your message. I can, however, now say something about the occurrences of the last few days.

One of the finest looking, and apparently most efficient commands that ever penetrated an Indian country west of the Mississippi, left here to day, on an expedition to the extreme western boundary of the United States, and have encamped this evening on the Arkansas, a few miles below. It is composed of two select companies of the 7th infantry, and three companies of Rangers. The officers are Lieutenant Col. Many, Commander; Major Young, Lieut. Dawson, Adjutant; Assistant Surgeon, Worrell; Lieut. Northrop, Quartermaster and Commissary of Subsistence; and Lieut. Howell, of the infantry. The Rangers, 1st. Company is commanded by Captain Ford, Lieutenants Gibson and Shields; 2nd. Company, by Capt. Boone, Lieuts. Hamilton and Butler; 3rd. Company, by Captain Beau. Lieutenants Pentecost, Watson, Caldwell, and Ury.

The officers belonging to the Rangers are all at their posts, except Lieut. Steens, who is engaged by the Commissioners in running the line West between the Creeks and Cherokees, in accordance with their treaty stipulations of the 14th February last. He will join the command somewhere on the waters of the Canadian, after having completed the duties assigned him. Lieut. Watson, of Washington City, is the only officer oppointed to the new Dragoon corps, that has yet arrived. Lieut. Seawell declines accepting the appointment tendered him in that corps; preferring his present rank in the infantry.

The principal object of Col. Arbuckle in sending out this expedition, is to display a large military force in the heart, and in the extreme hiding places of the Indian country, where no white soldier has ever yet appeared.

The Pawnees and Camanches have been very troublesome during the last winter, evincing an unfriendly temper towards citizens of the United States. Besides the serious robbery committed upon Judge Carr's party, on their way from Santa Fe to St. Louis, in January last, they have been very annoying to traders and trappers, who have happened to go near their haunts, and have lost no chance of attacking and plundering unprotected travellers.

It is contemplated by the commanding officer, to strike Red River about the head waters of the Boggy, and probably ascend to the Blue and Fausse Washita. On their route to that point, the troops will scour the country between the North Fork and main branch of the Canadian.

Should the expedition fall in with any of the Pawnee and Camanche Chiefs, they will be brought to this place, for the purpose of holding a Talk with the Commissioners, who are particularly directed to obtain an interview with these roving and restless tribes, who have no fixed place of residence; but follow the buffalo, and appear alternately in the United States and Mexico. The Commissioners have urnished interpeters, to enable the commanding officer to effect this object. From the high standing of the officers having command of the expedition, I have no doubt but they will carry their intentions into effect, if untiring preseverance and genuine courage can insure success. If they meet the hostile Indians, the orders are to treat them friendly; but should they indicate hostile intentions, or commit any depredations they will be taught a salutary lesson on the spot.

This is truly an interesting expedition. The whole of that Great West to the Mexican line, between the waters of the Arkansas and Red River may be explored, its physicial qualities ascertained, and its adaptation to the wants of the Indians who are to receive it as their permanent homes, promulgated to the American people. The expedition will visit the Salt Plains of the Arkansas, and pass over the Grand Prairie, where the weary march will be enlivened by the exciting chase of the wild horse and buffalo, which inhabit those unfrequented plains, periodically, in immense herds.

Another command, of one company, has been detached from this garrison, and will march to-morrow, Lieu. West commandiag; Lieu. Dix, Quartermaster and Commissary; and Assistant Surgeon, O'Dyer. The object is to repair the road from Fort Smith to Red River, which was opened by Capt. Stewart last spring. The length of this road is 147 and strikes Red River near the Horse Prairie. From the information I can obtain, all the work done upon this road, will be labor lost. It passes through a country entirely unadapted to the object contemplated, over numerous hills and high rocky mountains. No blame, however, can be attached to Capt. Stewart, as the road was laid out and blazed before he was ordered upon it, by Col. Bean. Lieut. West is ordered to endeavor to make it passable for wagons.

I cannot recollect any thing else worth communicating. Reports have just arrived that a party of Osages have arrived at their village, within 60 miles of this place, with a number of Pawnee scalps, and several prisoners. I am inclined to think the report is true. I have just received a letter from Major Chouteau, announcing that he is on his way, and will arrive here to-morrow, with fifty of the Chiefs and head men of the Osage nation, for the purpose of holding a council with the Cherokees, to settle some disputes, agreeable to certain treaty arrangements existing between these tribes.

The Commissioners have had but little business before them since the adjournment of the Osage council. Mr. Ellsworth has gone home; Mr. Schermerhorn has left for Little Rock two days since, for the purpose of collecting the Quapaws, in order to treat with and fix them permanently, if possible, on some part of the Indian Territory. I will follow in a day or two, and meet Mr. S. at Little Rock. Gov. Stokes will superintend the council between the Cherokees and the Osages, and then proceed to Fort Leavenworth, on the Missouri, for the purpose of examining the country in that direction, and of meeting a party of Pottawatamies, who are on their way to this place, under charge of Col. Pepper, for the purpose of selecting a country in the new Indian Territory, for their future residence. I am, respectfully, your friend and obedient servant,

S. C. STAMBAUGH.

UNIVERSITY OF VIRGINIA.—Extract of a letter received in this city from a gentleman in Baltimore:

In reply to your inquiries I have to observe, that the election in regard to the professorship of medicine now vacant at the University of Virginia, will take place at the next meeting of the Board of Visiters, on the 10th of July. The vacancy at that Institution has arisen, I believe, chiefly from a desire on the part of the gentleman who is about to withdraw, to practice his profession in a city, which his recent appointment to the chair in our medical school, will enable him to do with advantage. You are mistaken, therefore, as to the cause of the change at the Baltimore School. The University of Virginia ranks very highly among our institutions, both for the liberal spirit which pervades its regulations, and the extensive acquirements of its graduates. The medical school, in particular, has surpassed the expectations of its most sanguine friends; and, under the influence of name and talent, cannot fail to maintain its reputation. No doubt the applicants will be numerous for this very desirable situation. The salary I am told, for the Professor of Medicine, will in future be $1000—a house free, the rent of which is $450—a class, the fees of which have hitherto varied from $800 to $1000, and a country practice, which has been represented as worth a thousand more.

The New Orleans Argus in a notice of the lamented death of the Hon. J. S. Johnston, by the explosion on board the Lioness, says:—

Mr. Johnston was a native of Connecticut, but was taken in early infancy by his father to Kentucky.—He received his education in the latter state, and emigrated to Louisiana at the close of the year 1804, or the commencement of 1805. His whole life since, with a few short intervals, has been spent in the public service. He served in the first territorial legislature which was convened in New Orleans, and he continued a leading and efficient member of that body until Louisiana was admitted into the Union.—Immediately after the organization of the state government he accepted an important office in the judiciary, and filled it with credit and usefulness until he was elected to the House of Representatives of the United States. He continued to serve as a member of that body for two congresses, and after a short interval was selected by the legislature for the office of senator in congress; and there he has since remained; a period, if the writer mistakes not, of eleven years.

We learn from various quarters that the Lioness had not caught fire before the explosion—and how that occurred is utterly unknown. The blow was so instantaneous and astounding, that few could have been saved but for the narrowness of the river.—There were about sixty kegs of gunpowder on board.

An end must be put to the shipping of gunpowder, but in such way as shall obviate all danger. This is not difficult, provided it be not shipped secretly or under disguise, and the fact remains thus unknown.—[Bulletin.]

NEW ORLEANS.—*The Indians.*—Capt. Thompson, of the steamer Arkansas, which arrived yesterday from Cantonment Gibson, informs that there had been a conflict betwen the Pawnees and Osages, about 36 miles from that place, in which the former were defeated. The Pawnees entered the settlement of the Osage tribe, and stole away some horses, which it is supposed was the occasion of the battle.—[Courier.]

A dry goods merchant in Philadelphia recently received an anonymous letter, enclosing seven hundred and twenty dollars, which the writer declares was his property.

"*Dead Letters.*—In the General Post Office at Washington, there is one department for the examination of dead letters, which has a superintendent and five clerks."

The above paragrsph, which we find in circulation in the newspapers, reminds us to say, that the number of dead letters returned to the General Post Office and there examined, &c. amounts to the enormous number of 600,000 annually. This branch of the Post Office is under excellent regulations. Every thing of value is carefully preserved, to be restored to its owners, if they can be found.—[Nat. Intell.]

[*Correspondence of the United States Gazette.*]

NEW TROY, PA. JUNE 5, 1833.—This little village was yesterday made the scene of an exhibition of most unusual and thrilling interest. The remains of those who were sacrificed at the Wyoming massacre on the 3d of July 1778, were disinterred preparatory to the erection of a monument commemorative of that disastrous event. On the beautiful plain where now stands the cheerful village of New Troy on the west bank of the Susquehanna, and a short distance above Wilkesbarre, was recently discovered the sepulchre where the dead had been hastily interred by the surviving settlers. The bodies had evidently been promiscuously thrown into one common grave, and as no stone had been placed to mark the spot, it had long since been lost sight of. Different individuals residing in the neighborhood some of whom were children of the sufferers, had made repeated attempts to discover the grave, but the progress of cultivation had so effectually obliterated all traces, that every search had heretofore proved fruitless. The grave is situated in a lot adjoining the road and is slightly elevated above the surrounding country. The Susquehanna is within a short distance and adds to the picturesque beauty of the scenery, which from every point of view possesses uncommon interest. About twelve hundred dollars has been already subscribed towards defraying the expense of a monument. The workmen are now engaged in preparing a vault in which the remains are to be deposited and it is expected that the monument will be erected on the 3d of the ensuing month, it being the anniversary of the battle. * * *

Among the relics was found small portions of a garment, made of wool, on which the color, a "bottle" green, is distinctly visible.

MR. AUDUBON.—The interest with which all the motions of this distinguished naturalist are watched by his friends, makes the following letters addressed to the editors of the Gazette, very acceptable:

Eastport, May 26th.

We returned last night from an excursion to Grand Manan and other Islands; we were absent three days and have obtained much information, procured some valuable rare birds, some shells, and some plants, which I never had met with before. The appearance of the Island of Manan is sublime and terrific as you approach its stupendous, bold and rugged rocky shores on the north side of it. Not a spot can you find where to land, or if put ashore, where one can climb to its summit without being the possessor of extraordinary activity and strength. We sailed within a few hundred yards of these bold walls, in great depth of water and in full security, the wind being quite fair and the sea smooth. The croaking of the Ravens, which build their tenements and raise their broods amongst the fissures of these rocks, was the only sound that reached our ears, and the minds of landsmen at least, becomes chilled at the relation and

recollection of lost vessels and their crews as one passes, one after another, hundreds of these sharp capes, all ready to crush the unfortunate or unwary ship in an instant. The southern aspect of this Island (20 miles in length) is entirely different; its shores rise gradually in the form of an immense amphitheatre displaying a great portion of its contents, houses, cleared spots of land, and its forests mixed with *hard* timber and firs; all of which look of a tough and dwarfish nature. We landed and found the soil indifferent, being extremely rocky and full of *peat*. The woods filled with mosses a foot deep, under which one sinks up to the knee in mire at every step. I found there growing wild, the common currant, gooseberry, strawberry, raspberry, and various species of whortleberry; all these, we were assured, were found here by the first settlers. *Not a wild quadruped*, except a species of *wood rat*, which I never saw before, and which I procured. Attempts have been made to introduce the moose deer, but they did not live long. The islanders have some very indifferent cattle, a few horses and sheep. They grow little or no grain, and it appears as if potatoes and fish were their main support. The bays are swarming with cod and other fishes, and even now abundance of water fowl. The eider duck and a few other species breed on all the rocky islets that seem to stud the neighboring sea. The black guillimot, and razor bill, also breed here, and a species of large gull by millions, that are protected by the inhabitants, who feed on their eggs, and rob all these birds of their valuable feathers. I have had the best opportunities of studying them and their habits. My son found an eider duck's nest with three eggs in it, but it is too early for these birds yet. We here caught four *ravens*, by letting a sailor down forty feet from the top of the rocks by means of a rope. I mean to take them with me to Labrador as *compagnons de voyage*. I have procured one of the best water dogs I ever saw, equal to man in intellect, tho' he does not *speak the dead languages*. On *White Island*, Mr. Falkland (the owner) received us kindly, and sent his sons to assist us in our researches. He entertained us hospitably, and gave us a round of cheers as our little vessel departed from the shore. We landed on six other Islands in quest of birds; and as we sailed on, we could plainly see the land in Nova Scotia, though more than 40 miles distant.

Within three days, nature seems to have made a Spring towards perfection, for we found trees open, upon which scarce a bud was visible when we left Eastport.

Eastport, May 29.—We have been busily engaged in drawing and saving our skins. Since my last, I have made a drawing of two very rare ducks, and my son has completed a drawing of three Phalaropes, which he had the good fortune to shoot; a bird which I scarcely ever could find any where else that I have been. Our vessel is about 100 tons, the whole of it so arranged as to enable us to pursue our employment in rainy weather within. Our party now consists of six persons besides our crew. The son of Dr. Shattuck, Dr. Ingalls, and Mr. Jos. Coolidge, from Boston, Mr. Thomas Lincoln, son of the Judge, from this neighborhood, and ourselves. Our party possess every thing that will be useful, necessary, or indeed comfortable; our drawing table is firmly fixed under the main *hatch*, so that we have a pretty good light. Since we have been here, we have completed four valuable drawings, added much to our journal, and objects of Natural History, and we have made three pretty views from this region.

At the meeting held on Monday evening by the friends of the plan for colonizing Africa with people of African descent from the U. States, eleven hundred and twenty-eight dollars were collected for the benefit of the Colonization Society. The meeting was addressed by Mr. Gurley, Secretary, and Mr. Finley, its Agent, and several gentlemen of this city. A colored man attempted to speak in opposition to the objects of the meeting, but was prevented by the Chairman, on the ground that the meeting was called by the friends of the Society, and that its adversaries had no right to be heard. It appeared from Mr. Gurley's statement that during the year past the Society had sent out 600 emigrants to Liberia, and had engaged, as usual, to provide for their support during the first six months of their residence in that country. The means of the institution were thus exhausted, and he had been directed to visit this and other cities of the Union, with the view of obtaining an increase of funds.—[Post]

On Thursday night last, a violent whirlwind passed over the Mount Carbon landings, at Pottsville. (Pa.) where it unroofed a large stone-built store, carrying a horse a considerable distance from the place where he was fastened, and a portion of the roof to a distance of three miles. At Tumbling Run, it unroofed a house and barn, and razed a mill dam to its very foundation.

The London *Morning Herald*, of the 9th of May, contains the annexed paragraph, noticing an affray which, we believe, has not yet been heard of in this part of the world. The English editor does not give the name of his informant:

Here is the article:—

American Duel.—A duel took place a short time since, in one of the Western States, in which there were six combatants on each side, who attacked one another with swords, pistols and daggers, with the most savage fury. Three were left dead on the field, and nearly all the rest were wounded, till at length the weaker party retreated.

While our news-boat T. H. Smith was cruizing off the Hook yesterday, a large Eagle lighted on the main boom, when one of the hands presented it a piece of beef, on a mackerel hook, from the end of a boat hook, which the bird eagerly caught at and was taken. The men christened it by the name of Black Hawk. It is their intention to domesticate this Eagle and occasionally despatch it to the city with ship news.—[Mercantile.]

Twenty Four Thousand Old Maids.—It appears by the correct schedule of the fifth census of the United States, that in every section of the country, except New England, the free males out number the free females. The excesses of free females over free males in New England, 24,638. Excess of free males in the Middle States 53,949; Ditto Southern States, 10,536; Ditto in the Western States 118,027 Ditto in the Districts and Territories, 8,979—making an excess of males over females (in the Middle Southern, Western, and South Western States, Districts and Territories) of 196,176—and in the whole United States of 171,448. In New York, the free males exceeded the fair sex by 32,806 in Ohio, by 31,068: in Pennsylvania by 30,548; and in Kentucky by 10,856. But in Massachusetts the females exceeded the males by 14,314; in N. Hampshire by 6,397; in Connecticut by 3,156; ad in Rhode Island by 3,431.

The following note was found among the papers of the late Lord Erskine.

To General Washington.

Sir—I have taken the liberty to introduce your august and immortal name in a short sentence, which is to be found in the book I send to you.

I have a large acquaintance among the most valuable and exalted classes of men, but you are the only human being, for whom I ever felt an awful reverence. I sincerely pray to God to grant a long and serene evening, to a life so gloriously devoted to the universal happiness of the world.

T. Erskine.

London March 15, 1796.

Steamboat Fare Reduced.—The Hudson River Company have reduced the fare between Albany and New York to two dollars.

The 10 o'clock line having been discontinued, the Novelty, Capt. T. Wiswall, takes her place in the seven o'clock line.

Geneva College.—We are gratified (says the Geneva Gazette) to have it in our power to state, that the annual Address before the Alpha Phi Delta and the Englossian Societies of Geneva College, will be delivered at the next Commencement, by the Hon. Gulian C. Verplanck, of New York; a gentleman long and favorably known as a scholar and man of talents.

Westpoint.—The annual examination of the Cadets at this institution terminated on Friday last; and in the afternoon of that day the Corps marched into camp, in which they remain until 1st September.

The very thorough nature of the examinations at this institution (which occupy, as we have before said, from twelve to fifteen days, nine hours each day,) have justly rendered them alike remarkable and interesting. Not less so are the accuracy and extent of the knowledge acquired by the Cadets; and sure we are, that no fair minded persons, however previously prejudiced against the Military Academy, could witness the results, as displayed at these annual examinations, without feeling and avowing that it is a most valuable, and in every sense a thoroughly national, institution.

The class graduated this year consists of 45: the class entering, of about 120. It is of rare occurrence,—such is the severe ordeal of study and conduct through which a Cadet must pass—that more than one-third of the number who enter pass through the whole term of four years. Of those who do thus perfect their course, it may therefore be fairly assumed that they are of more than ordinary merit, talent, and attainments.

Duties on Wines.—The following letter from the Treasury Department, addressed to a house in this city, is important to wine dealers and drinkers:

Comptroller's Office, 4th June, 1833.

Gentlemen,—The Secretary of the Treasury has referred to me your letter to him of the 27th ult. in which you submit the following questions for the decision of the Department:

"Are the duties on wines to be reduced on the 4th March, 1834, to one half their present rates, and a return duty to be allowed on those then on hand, or instead thereof will the progressive reduction contemplated by the Tariff act of 2d March apply to wines? In the latter case will the wines in bond on the 4th March, 1834, be entitled to the first reduction of duty?"

In reply I have to observe, that the duties on such wines as are now in bond and shall remain so until after the 31st December, 1833, and on such wines as may be imported before that day, and shall at the time of importation be deposited under control of the proper officers of the customs, and shall remain so until after that day, will have to be regulated by the provisions of the 1st section of the act of 2d March, 1833, to modify the act of 14th July, 1832, and all other acts imposing duties on imports, and accordingly if such duties exceed an ad valorem duty of 20 per cent. a reduction thereon will be made, at the time of withdrawing the wines from the Public Stores, equal to the tenth part of such excess. Respectfully,

Jos. Anderson, *Comptroller*.

To Messrs. —— New York.

Cincinnati, June 11.—The river commenced rising on Friday night last, since which it has risen full thirty feet, a circumstance, we are told, altogether unprecedented in so short a time at this season. It was still rising rapidly when our paper went to press last evening. After excessive heavy rain on Friday and Saturday, the weather became fair on Sunday and yesterday, both of which were delightfully pleasant, and business at the landing yesterday was unusually active.

Mr. Randolph of R.—We understand that the will of Mr. R. was not presented for probate at the last Charlotte Court. As Judge Tucker was not present, Mr. Wm. Leigh declined opening the will, which was left in his possession by Mr. R. *before* he went to Russia. As his papers have not yet been ransacked, it is impossible to say whether he has left a later one behind him.

A schedule has been taken of his slaves and horses by his steward, since his death—from which it appears, that he was in possession of 318 slaves, and 180 horses—of which, about 120 are blood horses.

Mr. B. W. Leigh denies the report, that Mr. R. requestad of him to write his life—but the public have looked to him, or to Judge Henry St. George Tucker, for a collection of the speeches, and extracts from the correspondence—along with a biographical sketch, of this distinguished man.—[Richmond Enquirer.]

We find the following annunciation, which is also a profession of faith, in a Baltimore paper.

The abode of a pure spirit has been changed by the death of the infant child of W. C. Conine, yesterday, the 13th inst.

[Editor Brooks of Portland, passed through the city from his Southern tour, a few days ago, and in his last letter pays New York the following *elegant compliment*.]

I rambled around—saw the multitude crowding to see the balloon go up—enjoyed a little of those odors, written and unwritten, that so distinguishes New York, the kitchen of American cities, not two per cent. better off than New Orleans as to filth, &c.—and the Cholera is a blessing if it only wakes up "the authorities,"—and then by four o'clock P. M. the same day I embarked in the Franklin for Providence.

The following is a transcript verbatim et literatim of the proceedings in a suit before a justice of the peace in one of our western towns, inserted in 7 Wendell, page 389; and though it was objected to before the Supreme Court, on the ground of its not being written in the English language, Judge Nelson very promptly over ruled the point.

"Samuel Cooper } This 25th day of November
vs } 1824—Summons redurned per
fretrick Browner } sonal served in a plea of——o
fifty dullows and issue gind, and the parties were
rety for triel and witness swearn and gudgman
for twenty six dullows and twenty six cents. Dami
iges $26,26, corst of suit 72 $26,98 I hereby sar
tify that the apove copy is a correckt and true cop
of my pook. Guven unter my hand at seal
Donube this 18th day of January 1825."

In the King's collection in the British Museum is a pamphlet of very great rarity—"The humble petition of Menasseh Ben Israel, one of the Jewish nation, to his highness the Lord Protector Cromwell." The prayer of the petition sets forth the hardships the Jews have suffered in England, an application for certain privileges, and for St. Paul's Cathedral to be given up to them for a synagogue!

Anecdote.—It is said, that the Indians, while they were at Old Point, conducted themselves with the greatest propriety. Old Hawk's handsome son was very fond of the company of the beautiful American Squaws. He is passionately attached to music—and, on one occasion, after listening with the most profound attention to the strains of the piano forte as its keys were touched by a young lady, he suddenly jumped up, and drawing a brilliant ring from his finger presented it with many compliments, to his fair companion. She declined it, with an air of great politeness; but the young Hawk was much mortified at the refusal, and still more at the idea of his having transgressed some established rule of American etiquette. These Indians return home with the most favorable impressions of the character, strength, and refinements of the Citizens of the United States.—[Richmond Enquirer.]

Southern Scenery.—Those who have been in the habit of traversing our Southern woods, have, no doubt, been frequently struck by that sudden transition, within the compass of a few miles, from scenery of one description to others of an entirely different character, which, beyond almost any other feature, may be said to characterize the dense solitudes of Carolina. The effect of this sudden and unexpected transition is one always of inexpressible charm.

After a ride or walk of several hours, through woods wholly impervious to the sun, and literally walling the traveller in, so as to allow just space enough for his horse,—wading through deep and dangerous swamps, reedy brakes, and a world of briars, through which he has to fight his way,—the hunter or lover of nature, who woos her in her most secret recesses, finds himself all at once, and as if by magic, treading the smooth and verdant carpet of some upland lawn, with trees in regular array, as fashioned by the hand of art; and interspersed with lights and shadows, and soft and beautiful knots, inviting you to repose; and, reigning over all this, silence the most profound—broken at intervals by the solitary note of the Red Bird or sound of the Woodpecker.—[Charleston Mercury.]

The editor of the Wyoming Herald thus notices the copper mine recently discovered in Luzerne county, (Pa.)

"The mine is opened about twenty yards in length, and four feet thick; the ore is imbedded in grawacke, and in appearance is very extensive. A specimen of the ore, and also of the copper made from it, was a few days since shown to us, and we were assured that the yield is fifty per cent. If so, it is of itself "a mine of wealth," and will add much to the universal resources of the county, already rich in minerals, and all it wants to convert it into the solid metal is 'capital.'"

Mexican Caravans.—We have inquired of a Mexican gentleman, whether the regular *conducta de platas* (money caravan) for Vera Cruz is now restored: he answered in the affirmative, and that it sets out monthly; but in extraordinary cases, where foreign or native merchants solicit *extra* convoys, the government sometimes complies, sometimes refuses.

The roads are not yet Macadamized over the mountains of Mexico; the advantage of wheel carriages is little known, and all is carried a-mule-back in gauged loads, (cargas,) well packed directed by *arrieros*, or, as the Scotch would say, cadgers (carriers.) Before the revolution, which interrupted "extraction from the mines," and transmission of cargas of vanilla, silver, &c. &c. forty nine thousand mules used to leave Mexico in a single conducta for Vera Cruz, with an escort of four thousand troops. No wonder that tourists have left us such pictures of the caravan; the harnessed mules (from custom) stopped with their *aoarejos* for their load: in their descent of steep places, sliding on their posteriors; the authoritative tone of the guides, the magisterial din, or significant silence of the military escort.—[New Orleans Bulletin.]

The Jews.—The London Courier of April 17th, remarks, that the masterly speech of Mr. Macauley last night, on the subject of the Emancipation of the Jews, produced a powerful effect upon the House.—The Hon. Gentleman thus summed up their case:—"You first generate vices, and then put them forward as a plea for persecution—you make England but half a country to the Jews, and then you wonder that they have only half patriotism—you treat them as foreigners, and then wonder that they have not all the feelings of natives—you draw a line of separation, and then express astonishment that they do not mingle with you—you will not allow them to possess an acre of land, and yet complain that they devote themselves exclusively to trade—you debar them from all exertion of honorable ambition, and then reproach them for taking refuge in the arts of avarice—in fine, you have for ages subjected them to every species of injustice, and then you condemn them for resorting to what is the natural resources of the weak against overwhelming power, artifice and cunning.

London University.—From an editorial article in the London Medical Gazette, we learn that the affairs of this institution are in the most deplorable condition. By a report of the council it is admitted that the University is now insolvent. The following is an extract from the medical journal referred to.

"To feel any thing like exultation or satisfaction at the present deplorable state of the University, we should hold to be utterly unworthy of us; but, we repeat, we feel no surprize at that state. We have looked calmly at some of its late proceedings; we could, in short, augur what has happened. But our deductions, we confess, have fallen considerably short of the facts. We did not anticipate so speedy and so astounding an appeal to the proprietary. We did not expect so soon to read a report announcing the approach of actual bankruptcy—stating distinctly, that at the end of the present session the place will be £4,000 sterling in debt, and that it will be impossible to proceed without an immediate subsidy of £1.000. The council, in fact, in their report, which we have seen, stated that unless they can raise this thousand pounds by subscription, they will be unable to open next session. The London University pays its expenses by the receipt of a proportion of the of the fees of the students; and the deficit has arisen from the great falling off in the number of pupils. When Professor Pattison was connected with the Institution, there were about 700 students in attendance; and in the present report it is stated that the whole number was only 282 pupils.

The Cotton Trade.—In France, in 1831, the cotton spun was 74,000,000 lbs. besides the British yarn smuggled through Flanders. In Alsace, power looms are increasing fast. Average wages of spinners, 5s. 8d.; hours of labor 12 to 14 hours. In Switzerland, in 1831, the cotton spun was 18,816,000 lbs.: No. 40 costs 14 1-2d. when cotton is 8d. 3.5ths, wages, 4s. 5d.; wages in similar mills in Britain, 8s. 4d. In the Prussian and Rhenish Provinces, in 1830, the cotton spun was 7,000,000 lbs. Power looms have been profitably introduced. In Saxony cotton spinning is just commencing, and fast augmenting; in 1831 there was spun 1,200,000 lbs. of cotton; average wages, 3s. 6d. They spin as cheap as the British as high as No. 50 warp, and No. 80 weft. In Lombardy, in 1831, the cotton spun was 4,000,000 lbs. In Austria it is fast advancing: in 1831, 12,000,000 lbs.; average wages, 3s. 9d. In India the new mill, 12 miles above Calcutta, works every day, 91 hours in the week. The spinner managing one mule earns 1s. 9d.; his piecers (three in number) 9d. to 1s. each. No. 20 to No. 40. In the United States, in 1831, the cotton spun was 77,550,000 lbs.

MISCELLANY.

JOHN RANDOLPH, OF ROANOKE.

No. III.

"My knowledge of Ireland," said he to me one morning, "seems to astonish you as much as it did "Mr. Canning's servant at Washington, the other "day. He brought me a note from his master—who "by the way is a superior man, sir—and as soon as "he spoke I at once recognised the brogue, and said "to him,—'You're from *Munster*, are you not?' "'I am, *plaise* your honor,' replied he, astonished at "the question. 'From the county Clare I presume?' "'Yes sir,' said he, still more astonished. 'What "town did you come from?' 'The town of Ennis, "sir." 'Oh,' said I laughing, 'I know Ennis "very well—pray does Sir Edward O'Brien still live "at Dromoland?' 'He does indeed, sir.' 'And "Mr. Stackpool at Edenvale?' 'And the Knight of "Glin on the banks of the Shannon?' 'Yes sir,' and "then after a pause and a low bow he said, 'Might "I make *bould* to *ax*, sir, how long you lived in "Clare?' 'I never was in Europe,' said I, 'but "I hope to be there soon.' 'Oh, sir, don't be *afther* "making a fool of me—faith, you're a bit of an Irish-"man, for you have the brogue, and you know as "much of the country as I do myself, and more too, "I'm thinking.' It was in vain that I assured him "I had never seen Ireland—he went away still in-"sisting that I had *lived* there!"

No wonder poor Paddy should have been deceived, when *we* on board the ship, both English and Irish, were often made to blush by the superior local information that Mr. Randolph possessed, even of the very counties in which we were born!

He used to amuse himself with two Yorkshire passengers by speaking in the peculiar dialect of the "West Riding," and if they sometimes corrected any expressions, he would enter into a regular argument, and quote authorities—such as ballads, story books, old songs, &c., to prove that he was correct, and in most instances they had to confess that he was right. All this was done in the most perfect good humor, and it afforded us a vast deal of amusement, for he would enter into those discussions with as much apparent zeal as if he were speaking on the Tariff bill in Congress!

One day I asked him who was his favorite candidate for the Presidency after Mr. Monroe's time would expire? "Why, Sir," replied he, "if it had "not been for his *wrong* vote on the Missouri ques-"tion, I should at once say Rufus King; he is the "best man north of the Potomac, and a gentleman, "too, of the old school; and best of all, sir, an honest man—rather a scarce article now among "politicians. A sad mistake sir, he made, on "that question; but he thought he was right, and I "esteem him still, but he will not *now* do for Presi-"dent. The New England men, sir, would rob us "of our patrimonial slaves and our patrimonial oaks, "and they are trying to obtain some of our patrimo-"nial acres also; but it will not answer, sir. Old "Virginia has some strength left yet, and we must "therefore get a southern man for President!"

He was very free in expressing his opinions of all the great political characters, both living and dead, and his satire was cutting. Sometimes he amused us by repeating parts of his speeches in Congress, on important subjects, especially on the late war and the Bankrupt Bill, both of which he opposed most violently. Once or twice during the voyage he lost his temper, but generally speaking he was in good humor, and full of spirits, and contributed greatly to our amusement. I regretted very much that we had to part in Liverpool, but we agreed to meet again during the summer in London.

In the month of June business took me to London, and my father accompanied me. I immediately called at Randolph's lodgings, and was glad to find him in town. The next day I introduced him to my father, who was greatly pleased with him. In the course of our conversation he suddenly rose from his chair, and said in his most imposing manner—"Sir, I have lately seen the greatest curiosity in "London—aye, and in England too—compared to "which, Westminster Abbey, the Tower, Somerset "House, Waterloo Bridge, and Parliament itself, "sink into utter insignificance!—Yes, sir, I have "seen Elizabeth Fry in Newgate, and have witnessed "the miraculous effects of true Christianity upon the "most depraved of human beings—bad women—"who are worse, if possible, than the Devil himself; "and yet Mrs. Fry has absolutely tamed them into "subjection, and they weep repentant tears when-"ever she addresses them. Nothing *but* religion "could effect this; and what *can* be a greater mira-"cle than the conversion of a degraded woman, ta-"ken from the dregs of society;—and *you* must "also see this wonder. Come, sir, this is her "morning for visiting the prisoners, and we shall "be just in time. I will introduce you, as she has "permitted me to bring my friends with me."

We immediately ordered a carriage and drove to Mrs. Fry's house, but found to our disappointment that the death of a relative had suddenly called her to the country.

Subsequently I had an opportunity of accompanying her to Newgate, and the scene which I there saw fully justified Randolph's description of it.

Some time afterwards I dined with Mrs. Fry at her country seat near London, and Mr. Randolph's name was mentioned at table. "He is a singular "character," said one of her daughters to me; "we "had quite an amusing note from him the other day. "My mother requested me to write a note of invi-"tation to dinner to him, and in it I apologized for "naming so unfashionably early an hour *as four* "*o'clock*. His reply was as follows:

"Mr. Randolph regrets that a prior engagement "will deprive him of the pleasure of dining with "Mrs. Fry on Thursday next. No apology, how-"ever, was necessary for the hour named in her "note, as it is *two* hours later than Mr. R. is accus-"tomed to dine in Virginia, and he has not yet been

"long enough in London to learn how to turn day "into night, and vice versa."

I should mention that the fashionable dinner hour was 8 o'clock, which Randolph disliked very much, and frequently protested against.

Very soon after he arrived in London he became acquainted with Lord L——, who introduced himself to him one night under the gallery of the House of Commons. His Lordship told me afterwards that he had never met with so well informed a gentleman on all subjects of History, Belles Lettres, Biography, &c. "and sir," said he, "what most astonished me was "his intimate local knowledge of England and Ire- "land—I thought I knew them well, but I was obli- "ged to yield the palm to Mr. Randolph. I was so "delighted with his conversation, that I was deter- "mined to pay a compliment which I knew would "gratify his Virginia pride. Without mentioning to "him my intention, I solicited permission from the "Lord Chancellor to introduce Mr. Randolph into "the House of Lords at the private entrance near "the Throne; and having obtained it, I desired the "doorkeeper to admit him whenever he presented "himself, the same as if he were a Member of the "House. I am a high Tory, sir, but I worship ta- "lent even in a Republican; and, I assure you, it "gave me great pleasure to shew this mark of dis- "tinction to your American friend."

I know I very much envied him this privilege on the night of the debate on Mr. Canning's "Roman Catholic Peers' Bill." The House of Lords was excessively crowded, and I had to wait for nearly two hours before I could obtain admission into the space below the bar; and just as I squeezed myself through the doorway, nearly suffocated, I espied John Randolph leisurely walking in, at the other door surrounded by Canning, Lord Londonderry, Sir Robert Peel, and many other distinguished members of the House of Commons.

He did not take any letters of introduction with him from this country. I asked him, one day, why he had refused them. "Because, sir," replied he, "I go to England to see and not to be seen—to hear, "and not to be heard."

He became, however, one of the lions of the day, and his company was much sought after. At the splendid ball given for the benefit of the Irish poor under the patronage of the King and royal family, Lord Londonderry singled out Randolph, and stood by him for a considerable time, pointing out to his notice all the distinguished characters, both male and female, as they passed in review before them.

"Your countryman, sir," said he to me a few days afterwards, "is a most accomplished gentleman. "Who could ever suppose that so fascinating an ex- "terior covered so much deceit? I admire his po- "lite manners, but detest his politics!"

A very distinguished member of Parliament brought Mr. Randolph and Miss Edgeworth together at his breakfast table, and he told me that he had never enjoyed so rich an intellectual treat before. To use his own words, "spark produced spark, and for "three hours they kept up the fire until it ended in a "perfect blaze of wit, humor and repartee. Mr. "Randolph absolutely knew Miss Edgeworth's "works better than she did herself, for immediate "quotations, and we were all exceedingly astounded "by his intimate acquaintance with Ireland and Irish "manners. Lady T. and myself did nothing but lis- "ten, and I was really vexed when some public bu- "siness called me away!"

I was with Randolph one morning soon afterwards, when he received a most friendly note from Miss Edgeworth, written in the familiar style. I begged of him to give it to me as a keepsake. "Give *that* "note to you!" said he with emphasis—"why, I "would not part with it for half my estate!"

One day we dined together at the Marquis of L's, where we met several distinguished characters, and amongst them were Professor Smythe, of Cambridge, and Sir John Newport. The hour mentioned on the card of invitation was quarter past seven. I said to Randolph that we need not reach the house much before 8. "Sir," replied he, "I always comply "literally with the terms of an invitation—we must "be there at the time specified." We went accordingly; and, as I had predicted, there was nobody in the parlor, nor had the Marquis yet reached home from the House of Lords. However, by and bye, the Marchioness, a very lovely woman, made her appearance, and Randolph apologized for our republican punctuality. In a short time the rest of the company joined us, and at 8 o'clock we sat down to an excellent dinner. The conversation became very animated, and took a political turn. Randolph was questioned closely on American affairs, and amused them very much by his replies. He exposed what he termed the sad degeneracy of old Virginia, and became quite pathetic, in mourning over the abolition of the laws of primogeniture. Some of the company thought this a strange complaint from a republican; and, before we separated, they really had nearly *mistaken* Randolph for an *Aristocrat!* Professor Smythe was so much interested in the conversation, he walked home with us after the party broke up, and remained at our lodgings until 2 o'clock in the morning, endeavoring to procure as much particular information as he could about American institutions. When he had gone I could not avoid telling Randolph that *I* was the best republican of the two, and I laughed at him for having played the aristocrat so well. The Professor gave us a warm invitation to visit him at Cambridge, which Mr. Randolph subsequently availed himself of, but I was prevented by business from accompanying him. He afterwards told me that he was delighted with his visit to that classical city, where he became acquainted with several learned men.

I visited most of the curiosities of London with him, and derived great advantage from his intimate knowledge of everything. We always dispensed with the show-men and guides, as he much preferred to act in that capacity himself, and *I* willingly paid *them* the fees for *his* services. He had a curious fashion of leaving his card, 'Randolph of Roanoke,' wherever we entered, whether it was Westminster Abbey among the monuments, or at the top of St. Paul's; and I never could exactly understand his motive—some strange piece of vanity!

No. IV.

Mr. Randolph was as singular in his dress whilst in London as he used to be at Washington, and whenever we walked the streets together, the people would turn about and stare at him with astonishment; but this never seemed to offend him; on the contrary, if he got upon an interesting topic of conversation, he would sometimes stop in one place, no matter how public, until he delivered one of his "extemporaneous flashes," as I used to term them, and then walk quietly on, without paying the least regard to the shrugs of the passing strangers. Although it was his first visit to the metropolis, yet he possessed a thorough knowledge of all the streets, lanes, alleys, &c.; and when we had any great distance to walk, he used to take all the *short cuts* through by-lanes, &c., which I had supposed were only known to a Londoner.

One morning we set out together to pay a visit to Miss Edgeworth, and *he* was to be the guide. He began to tell me some very interesting anecdotes, and I listened without paying any attention to the streets we were traversing. At length, after about an hour's walking, I just asked him how much farther we had to go; he suddenly stopped, and looking around him exclaimed, "Why, really Sir, we have been so very "agreeably employed I perceive we have gone about "a mile out of our way; but no matter, exercise is "good for young men." We immediately retraced our steps; but when we arrived at Miss Edgeworth's lodgings, had the misfortune to find that she had left town only two hours before for Ireland! "Delays "are dangerous," said Randolph; we should have "come here yesterday, agreeably to my intention."

After spending four weeks very delightfully in London I was obliged to return to Ireland, and parted with much regret from Mr. Randolph, whom I did not again see until my return to America in 1823.

I arrived here from Europe in May, 1823, during the Long Island Races, but was not tempted to attend them, even by the great attraction of Eclipse and Henry, who were then to contend for the grand prize. I was glad to find Mr. Randolph in town, and called upon him at Mrs. Bradish's. He gave me a most amusing description of the Race Course, but contended that the Race would have been won by Henry, had he not been frightened by the immense crowd, who rather encroached upon the ground. Not being a sportsman, I was unable to defend "Eclipse," which I thought of very little consequence, inasmuch as he had won the race—pretty good "prima facie evidence" in his favor! After the termination of this great race, when the crowd were loudly applauding the successful rider—Purdy—Mr. Randolph, who had just before expressed great confidence in "Henry," gave vent to his disappointment by exclaiming to the gentlemen around him—"It is a "lucky thing that the President of the United States "is not elected by *acclamation*, otherwise *Mr. Purdy* "would be our next President beyond a doubt"!

He spent a night with Rufus King at Jamaica, and on his return to town the next morning he said to me—"Ah, Sir, only for that unfortunate vote on the "Missouri question—he *is* the man of my choice—"the genuine English gentleman of the Old School "—just the right man, Sir, for these degenerate "times—but Missouri has destroyed his chance for "ever!"

In the spring of 1824, I received a letter from him requesting me to engage passage for himself and his faithful man John on board the Liverpool packet of 16th May. He reached town the day before the vessel sailed, and I had a busy day with him. At night I told him that I would call upon him the next morning at half past 9 o'clock, and I begged of him to have all his luggage, &c., in readiness to be taken down to the steamboat which would start for the ship precisely at 10 o'clock.

Next morning I accordingly called on him at Bunker's, expecting to find him in perfect readiness; but what was my astonishment upon entering his room, to see him in his dressing gown, writing a letter, with a large Bible open before him, and John on the floor most busily engaged unpacking a trunk! "What in the world is the matter, Mr. Randolph?" exclaimed I. "Do you know that it is almost 10 "o'clock, and the steamboat never waits a minute "for any person?" "I cannot help it, Sir," replied he; "I am all confused this morning; I am just wri- "ting a farewell letter to my constituents, and would "*you* believe it, Sir, I have forgotten the exact "words of a quotation from the Bible, which I *must* "use; and as you know I always quote correctly, I "cannot go on till I find it. I never was at fault be- "fore." "What is the quotation," I asked; "perhaps "I can assist you, for time is precious." "Why," said he, "it begins 'How have I loved thee, oh Jacob'— "but for the life of me I cannot remember the "other words. Here, you take the Bible and look "over it, whilst I finish the rest of the letter." "My dear Sir," replied I, "you cannot wait to do "this; but let us take letter, Bible and all on board "the boat, where you will have ample time to com- "plete your quotation before we reach the ship." To this he agreed after some hesitation; and then he suddenly said, "Well, Sir, I will not take John with "me, and you must get back his passage money!" "Not take John with you!" I exclaimed; why, this "is folly: only recollect how much you suffered last "voyage for want of him!" "Sir, I have decided; "the question is no longer open to discussion. John "has disobliged me—he has become spoiled by your "*free* blacks, and I don't want to have to take care of "*him*." Then turning to poor John, who was much distressed, he gave him a long list of instructions as to his journey back to Virginia; and when he had just concluded, he said to him in a sarcastic manner, "Now John, you have heard my commands—but you "need not obey them. When you get to Philadelphia, "call on the Manumission Society, and they will make "you *free*, and I shall not look after you!" This was too much for poor John, who replied in much agitation—"Master John, this is too hard—you know "I love you—and you know you find me at Roanoke "when you come back!"

I really felt indignant, and said—"Well, Mr. "Randolph, I could not have believed this: I thought "you had more compassion. Surely you have pun- "ished him enough by leaving him behind, without "hurting his feelings;—you have made the poor fel- "low cry." "What!" said he quickly, "does he "shed tears?" "Yes," replied I, "I saw them my- "self." "He *shall* go with me. John take down "your baggage!" was the end of this curious scene. John instantly brightened up—forgot his master's anger, and in a short time I bid them both good bye.

When they returned from England in the fall, I called upon Randolph, and my first question was—"Well, sir, did you regret my advice about taking "John?" "Regret it, sir!" replied he, "I should "have died without him; he saved my life three "times!" "Then," said I, "I hope, to use your "own figure of speech, next time you will not 'go off "at half-cock!'" I then asked him how he was pleased with England during this visit. He answered with enthusiasm—"There never was such a country "on the face of the earth as England, and it is ut- "terly impossible that there can be any combination "of circumstances hereafter to make such another "country as Old England now is!"

He then gave me a rapid sketch of his journey, and told me that he had gone to Ireland agreeably to his promise, and was delighted with the country and people, but shocked at witnessing so much misery. Alluding to the oppressions of both the Government and Church, he said, "The Lion and the Jackall have "divided the spoils between them, sir; but if I had "my way, I would 'unmuzzle the ox which tread- "eth out the corn.'" He also said that he thought the Marquis of Wellesley must be an impartial man, because he received the violent abuse of both parties—"no small compliment to a statesman, sir, in "the present state of Ireland!"

No. V.

Since the year 1824 I have not seen much of Mr. Randolph, as he has only paid two or three hurried visits to New York, and I have not been in Washington since the winter of 1823. But we kept up a correspondence, sometimes pretty regularly, at other times his letters "like Angels' visits were few and far between."

I shall give a few occasional extracts from them. He was very jealous of his fame as a correct speaker in Congress, and used to be continually blaming the reporters for not taking accurate reports of his speeches.

In a letter dated Feb. 14, 1824, I find he says, referring to a speech he had just made:

"As you have done me the honor to transmit my "bagatelle of a speech across the Atlantic, I wish "you could find some means of apprizing Lord L——, "and Mr. R——, of some gross mistakes of my "meaning by the Reporter. I never spoke of Mr. "Pitt as the "greatest" of Ministers, for such I ne-"ver thought him. I described him as one of the "'loftiest and most unbending,' and instead of re-"ferring my auditors to the countless speeches of "Mr. Fox, I expressly stated the case of interference "attempted by Mr. Pitt to be that of Oczakow. If "you please I will send you a more correct report of "what I said, and I shall be gratified very highly if "it should attract the attention of such good patriots "and able statesmen as Lord L——, Lord H——, "and Mr. S. R——. * * *

"When you write to England or Ireland pray re-"member me to all friends. By the way, get some "Liverpool friend to send you 'Tim Bobbin,' (a "Lancashire author) and then make me a present of "it. Farewell, my good Sir. Sincerely yours, "J. R. of R."

"P. S. As you relish such matters, I send you a "couple of jeux d'ésprit:

"On Dr. H. delivering a very flowery oration, with "a sroll of barley sugar brandished in his right "hand."

"With razor keen
As e'er was seen,
A B-r-b-r they call Phil,
In Congress rose,
And by the nose
Took Mr. Hemphill's Bill:
In huge affright
At such a sight,
I saw a Jersey Dandy
Attempt to stay
That razor's way
With a stick of sugar candy."

"Wynn, the Virginia Racer, sold Dr. Thornton, of "great notoriety, a race-horse named Rattler, and "was obliged to bring suit for payment. Thorn-"ton pleaded that Ratler was good for nothing, and "Wynn proved that he had been brought to that con-"dition by starvation:

"Wynn vs. Thornton.
"How can he hope to win, whatever his speed,
"With his horses unfed, and his Counsel unfeed?
"His horses unfed will sure lose him his race,
"And his lawyers unfeed will lose him his case."

"*March* 1, 1824.

"I send you a more correct report of my speeches "on the Greek question than has yet been published. "They are not compositions in writing; they are "short hand reports, with here and there a correc-"tion of a flagrant mistake. I shall send you by to-"morrow's mail all Cobbett's printed sermons. I "am very unwell and nearly blind. Farewell—and "let me hear from you as often as possible. I have "the gout in my right hand and great toe. I should "dislike that Mr. S. R——, or Lord L——, or Lord "H—— should think I spoke of Mr. Pitt as the "'greatest of Ministers.' I never thought so, "and said no such thing. I gave the palm to Mr. "Fox. Yrs. J. R. of R."

"*March* 9, 1824.

"Your favor of the 6th arrived not ten minutes "ago. You see that I endeavor by the promptitude "of my acknowledgements to obtain, if not to de-"serve, a continuance of your favors. If such as that "before me be among your "stupid" letters, I shall "die a laughing when I get one of the witty ones.

"Yesterday, Mr. —— came out flushed with con-"fidence on the Tariff bill; but his shallow sophis-"try and ignorance were exposed in the most glar-"ing manner. (He did not know that the article of "the treaty which he had signed was a transcript of "that of Jay in 1794; and he talked of duties which "England had *lain*, &c.) We struck out the third "section of the bill, 114 to 66, and I never saw mor-"tification more strongly depicted than in his face "and manner. I think we shall defeat the bill.

"Mr. Macon was much diverted with your letter, "which I took the liberty to send to him; especially "that part of it that relates to your Irish road jobs. "I remember well Miss Edgeworth's admirable sa-"tire. By the way, do you ever have a conveyance "to her? If you are one of her correspondents, "make my devoirs.

"In one of my speeches, 'will' is reported for "'shall.' I forget whether I corrected for not."

"*April* 14—*From Babel.*

"Nothing but the Tariff bill kept me from going "to New York on Sunday last to take passage in "the packet that sails on Good Friday.

"A most unprovoked and rude attack was made "upon me in the House on Monday; but it was re-"ceived in a spirit which Robert Barclay could not "have disapproved, and which bought me 'golden "opinions' from all sorts of people. I have heard "of many—Mr. King, the Patroon, and twenty more "—speaking for themselves. Mr. K. said 'he was "delighted, &c. &c.' with much more that my mo-"desty will not permit me to write."

"*May* 11, 1824.

"If the affair of Mr. Edwards and the Tariff will "let me off in time, I shall travel post so as to reach "New York on the night of the 15th, and take my "passage for the 'father-land' the next day. Can "you arrange this matter so as not to compromit me "if I do not arrive, and at the same time not to make "public my design?

"Mr. Crawford has this day triumphantly, but with "the most perfect dignity and good temper, refuted "Mr. Edwards's charges, and has convicted him of "perjury without using the term, or bringing the "charge, merely by referring to second testimony "that directly contradicts his evidence on oath. It "is the most passionless production that can be con-"ceived, and will recoil upon his adversaries. I "consider that this business will insure his elec-"tion."

"*May* 13.

"My servant (John) goes on this day, and if I "do not overtake him at Baltimore this evening, I "shall be off to-morrow morning with the speed of "light, and in New York as quick as 'horses, steam, "guineas but not curses' can carry me. Pray clap "a writ on the 'Nestor's' stern until I arrive, which "I'm told will be Sunday morning, time enough, I "trust, for the packet."

"*At anchor off the Hook, Sunday night.*

"I forgot my stick, a hickory sapling, on board "the steamboat, this morning. I left it where I was "writing. It is 'pignus amicitiæ,' and the pilot has "promised to recover it, if possible, for which pur-"pose I have given him one dollar and a description "of the stick, which has no cost bestowed upon it, "but a ferule and a little varnish, and has a bul-"bous head. Pray send it by the 'Orbit.' Poor "John has no bed, and I am sorry I brought him.

"Yours truly. J. R. of R."

POETRY.

[*From the Knickerbacker for June.*]

THE EAGLE'S CANZONET.

"*Audro Solem.*"

My eyrie is the rifted rock,
Which props the clouds of mist,
And there I brave the whirlwinds shock,
And live as eagles list.
My watchtower is the ether pure,
Where, on my wings I rest;
From mau's presumptuous gaze secure,
Unshackled—unoppressed.
And there I lie,
With eager eye,
To watch the movements of my hapless prey,
Then stoop and seize, and tear their hearts away.

Up with the orb of light,
Exulting and alone,
I wing my tireless flight,
In regions all my own.
High in his blaze I soar,
Till, cradled in the west,
He sinks amid the roar
Of billows to his rest.
'Tis then I stoop,
With bloodless swoop,
To gain, in shelter of the mist crowned cleft,
My screaming wild brood, not of care bereft.

Mine was a royal lot
Since ever Time began,
The idol of the warrior's thought,
The emblem on his van:
The crest of nations as they rose,
To majesty and might,
Their bird of hope, mid thronging foes,
Their watchword in the fight.
And ever so,
My name shall glow,
Linked with the great, the mighty, and the free,
The lords and arbiters of earth and sea.

O, I will live as ever,
While day succeeds to day;
The quivering limb to sever,
Or soar sublime away.
And when old age steals o'er me,
Some dreadful deed shall tell—
I die like those before me,
Who fiercely fought and fell.
I'll call at length,
My failing strength,
And, pouncing on the ruthless tiger, part
My beak and talons writhing in his heart.

[The following capital lines, from the Standard of Saturday, are more in the Halleck vein than any thing that has caught our eye for some time: If we mistake not, they are by a hand which has more than once favored these columns with some very happy poetic contributions:]

ADDRESS TO BLACK HAWK.

There's beauty on thy brow old chief! the high
And manly beauty of the Roman mould,
And the keen flashing of thy full dark eye,
Speaks of a heart that years have not made cold:
Of passions scathed not by the touch of time,
Ambition, that survives the battle route.
The man within thee, scorns to play the mime
To gaping crowds that compass thee about.
Thou walkest with thy warriors by thy side,
Wrapped in fierce haste, and high unconquered pride.

Chief of a thousand warriors! dost you yet
Vanquished and captive, dost thou deem that here—
The glowing day star of thy glory set—
Dull night has closed upon thy bright career?
Old forest lion, caught and caged at last,
Dost pant to roam again thy native wild?
To gloat upon the life blood flowing fast
Of thy crushed victims; and to slay the child,
To dabble in the gore of wives, and mothers,
And kill, old Turk, thy harmless pale faced brothers?

For it was cruel, Black Hawk, thus to flutter
The dove-cotes of the peaceful pioneers,
To let thy tribe commit such fierce, and utter
Slaughter among the folks of the frontiers.
Though thine be old hereditary hate,
Begot in wrongs, and nursed in blood, until
It had become a madness, 'tis too late
To crush the hordes who have the power, and will
To rob thee of thy hunting grounds, and fountains,
And drive thee backward to the Rocky Mountains.

Spite of thy looks of cold indifference,
There's much thou'st seen that must excite thy wonder.
Wakes not upon thy quick and startled sense
The cannon's harsh and pealing voice of thunder?
Our big canoes with white and wide-spread wings,
That sweep the waters as birds sweep the sky;—
Our steamboats, with their iron lungs, like things
Of breathing life, that dash and hurry by?
Or if thou scorn'st the wonders of the ocean,
What think'st thou of our railroad locomotion?

Thou'st seen our museums, beheld the dummies,
That grin in darkness in their coffin cases:
What think'st thou of the art of making mummies,
So that the worms shrink from their dry embraces?
Thou'st seen the mimic tyrants of the stage
Strutting in paint and feathers for an hour—
Thou'st heard the bellowings of their tragic rage,
Seen their eyes glisten and their dark brows lower.
Anon, thou'st seen them with their wrath cool'd down,
Pass in a moment from a king to clown.

Thou seest these things unmoved, say'st so, old fellow?
Then tell me, have the white man's glowing draughts
Set thy cold blood in motion?—Has't been mellow,
By a sly cup or so of our fire waters?
They are thy people's deadliest poison—they
First make them cowards, and then, white men's slaves,
And sloth, and poverty, and passion's prey,
And lives of misery, and early graves.
For by their power, believe me, not a day goes,
But kills some Foxes, Sacs, and Winnebagoes.

Say, does thy wandering heart stray far away?
To the deep bosom of thy forest home,
The hill side, where thy young pappooses play,
And ask amid their sports when thou wilt come?
Come not the wailings of thy gentle squaws,
For their lost warrior loud upon thine ear,
Piercing athwart the thunder of huzzas,
That, yelled at every corner, meet thee here?
The wife who made that shall decked wampum belt,
Thy rugged heart must think of her and melt.

Chafes not thy heart as chafes the panting breast
Of the caged bird against his prison bars,
That thou, the crowned warrior of the west,
The victor of a hundred forest wars,
Should'st in thy age become a raree show,
Led like a walking bear about the town,
A new caught monster, who is all the go,
And stared at gratis, by the gaping clown?
Boils not thy blood, while thus thou'rt led about,
The sport and mockery of the rabble rout?

Whence came thy cold philosophy? whence came,
Thou tearless, stern and uncomplaining one,
The power that taught thee thus to veil the flame
Of thy fierce passions? Thou deepest fun,
And thy proud spirit scorns the white men's glee
Save thy fierce sport, when at the funeral pile,
Of a bound warrior in his agony,
Who meets thy horrid laugh with dying smile
Thy face, in length, reminds one of a Quaker's,
Thy dances, too, are solemn as a Shaker's.

Proud scion of a noble stem! thy tree
Is blanched, and bare, and seared and leafless now.
I'll not insult its fallen majesty,
Or drive with careless hand, the ruthless plough
Over its roots. Torn from its parent mould,
Rich, warm and deep, its fresh free balmy air
No second verdure quickens in our cold
New barren earth, no life sustains it there.
But even though prostrate, 'tis a noble thing,
Though crownless, powerless, "every inch a king."

Give us thy hand, old nobleman of nature,
Proud leader of the forest aristocracy;
The best of blood glows from thy every feature,
And thy curled lip speaks scorn for our democracy,
Thou wearest thy titles on that god-like brow;
Let him who doubts them, meet thine Eagle eye;
He'll quail beneath its glance, and disavow
All question of thy noble family;
For thou may'st here become, with strict propriety,
A leader in our city good society.

NIGHTS IN JUNE.

Whose light so gladsome shines aloft
That ev'n the dew refrains from weeping,
And every breath that comes is soft
And pure as that of infants sleeping,—
Nights, such as Eden's calm recall,
In its first lonely hour,—when all
So silent is, below, on high,
That if a star falls down the sky,
You almost think you hear it fall!

SUNSET.

Now in his palace of the West,
Sinking to slumber, the bright Day,
Like a tired monarch fann'd to rest,
'Mid the cool airs of evening lay;
While round his couch's golden rim
The gaudy clouds, like courtiers, crept,—
Struggling each other's sight to dim,
And catch his last smile ere he slept.

A PORTRAIT.

And first, a dark-eyed nymph,—array'd
Like her, whom Art hath deathless made,
Bright Mona Lisa,—with that braid
Of hair across the brow, and one
Small gem that in the centre shone,—
With face, too, in its form resembling
Da Vinci's beauties—*the dark eyes*
Now lucid, as through crystal trembling,
Now soft, as if suffus'd with tears.

MARRIAGES.

On Saturday morning last, by the Rev. Mr. Eastburn, THATCHER T. PAYNE, Esq. to ANNA ELIZABETH PAILEY, all of this city.

On Monday morning, in Grace Church, by the Rev. Dr. Wainwright, EDWARD S. GOULD, to MARY E. POTTER, eldest daughter of Cornelius Dubois, Esq. all of this city.

Yesterday morning, 18 instant, by the Rev. Dr. Matthews, JOHN SLOSSON, to ELIZABETH, daughter of JOHN STEWARD, Jr.

Last evening, by the Rev. Dr. Wainwright, Mr. SIMEON BUTLER, of Northampton, Mass. to Mrs. CHARLOTTE MCNEILL, of this city.

At Nassau, Rensselaer County, on the 13th inst., by the Rev. Mr. Tracy, ROBERT DAY, of the city of New York, to ELIZA, daughter of Thomas Hoag, Esq. of the former place.

DEATHS.

On Saturday morning, THOMAS LYNCH, aged 51 years, (of the firm of Lynch & Clarke

This morning, in the 30th year of his age, SAMUEL BARD, son of William Bard, Esq.

Wednesday morning, after a short but severe illness, in the 13th year of her age, Miss MARGARET-MARY-AGNES MCFARLAN, youngest daughter of the late Henry McFarlan.

Wednesday morning, after a short illness, Mr. JAMES BLACKWELL, aged 40.

Wednesday, after a lingering illness, MICHAEL CRAWBUCK, aged 44 years, son of Peter Crawbuck, deceased.

On Sunday evening, Rosa W., infant son of R. W. Wood, aged 21 months and 9 days.

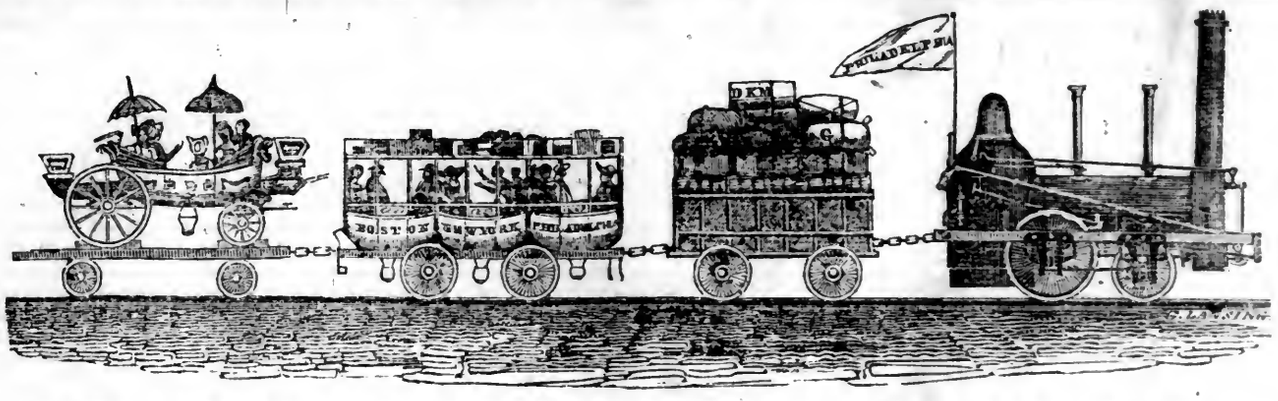
On Tuesday, THOMAS S. BLAUVELT, Printer, in his 56th year.

At Matteawan, Fishkill Landing, on Monday, 17th instant, in the 75th year of her age, Mrs. MARGARET SCHENCK, relict of Peter A. Schenck, formerly Surveyor of the port of New York. The death of this excellent lady has left a blank that will long remain in the circle in which she moved.

May 31st, on her passage from Mobile, where she had been for the benefit of her health, Mrs. MARY CENTER, wife of Robert Center, Esq.

In Marine Settlement, Madison County, Ill. of malignant Cholera, on the 17th ult. Moses Clark, aged 24. On the 20th, Captain Curtis Blakeman, aged 57. On the same day, Miss Bethena Blakeman, aged 15. On the same day, Mrs. Wood, a widow lady. On the 21st, Mrs. Eliza Blakeman, relict of Capt. Blakeman, aged 36.

At New Orleans, May 29, of Cholera, Capt. George Rollins, aged 68 years, a native of Somersworth, N. H., and for many years a respectable citizen of the former place.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, JUNE 29, 1833.** [VOLUME II.—No. 26.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JUNE 29, 1833.

New-York and Erie Railroad.—In our last we called the attention of our readers to the above subject, as to one of much importance to this city,—and with the same view, we have again devoted a large space to the same purpose.

The extract of a letter relative to the intention of our neighbors to "tap" the State of New-York at Owego, published last week, must necessarily awaken those interested in the early construction of the New-York and Erie Railroad to the importance of immediate action—unless they are willing to see a large share of the business of New-York diverted to Philadelphia and Baltimore, whose citizens are actively alive to whatever tends to promote their own and the general prosperity. We shall find that, whilst we are contemplating, unmoved, their success and enterprize, the vaunted superiority of *our Internal Improvements* will prove so *only* in imagination.

Of the immense advantages derived by those in the vicinity of the Erie Canal, it is unnecessary to speak—they are well understood by all.

May not those, then, living remote from it, and in a great measure beyond its favorable influence, after having contributed to its early success, and waited patiently until it has nearly paid for itself, with great propriety claim their right to have an improved mode of conveyance for the produce of their soil to market? May they not claim equal—they ask no more—privileges with their northern neighbors, on, and near the lines of 500 miles of Canal? If they are entitled to equal privileges, then may they not call upon the *State* to construct a Railroad for them? This, however, they do not claim: although they would like to have the State take a part of the Stock. They do ask, however, the privilege of constructing a Railroad for themselves: with which view they propose to open books, in a few days, to receive Subscriptions to the Stock, and therefore we lay before our readers an outline of the country, with a delineation of the principal lines of communication between the Atlantic and the Western Waters. Accompanying it will also be found some suggestions relative to the plan proposed to be adopted in its construction.

We have had some doubts, heretofore, as to the most judicious mode of constructing the *first* track of this road—but, from recent accounts of the success of the cheap mode of constructing the South Carolina Railroad, we hesitate not to say that we are decidedly in favor of constructing a single track, with suitable turn-outs, of wood. By adopting this mode, a road may be built that will last many years, at about 6 or $7000 per mile, which will accommodate the present necessities of the inhabitants, and enable the Company hereafter to construct a *permanent* road at about two-thirds of the present cost, and with such improvements as may be introduced in the mode of construction. Such a road can be completed at a much earlier period than one constructed of heavy materials—a consideration of much importance to those who are most interested in its construction; and, upon it may be used either horse or steam power, as may be deemed most expedient.

That steam power may be used with great advantage, we have good evidence in the experiments made upon the South Carolina Railroad, which, when completed, will have cost, including 18 locomotives, 108 freight and 12 passenger cars, not exceeding $7200 per mile, and upon which the distance of 140 miles per day is now performed with great ease, with both freight and passengers. May we not, then, construct a road for the same, or a less cost, which will give us a ready access to the interior, and at the same time afford to the inhabitants of a large section of the State an easy and cheap mode of sending to market at *all seasons* of the year? The experiment is at least worth making, and we are fully convinced that an investment in such a road will be found both profitable and patriotic.

New-York and Albany Railroad.—We have before us a pamphlet containing a mass of facts, showing the feasibility and importance of this Railroad. Our columns, however, were occupied with other matter before it came to hand—so much so, indeed, that we have barely space to acknowledge its receipt, and say that it will receive proper attention in our next. We would, however, call attention to the advertisement in some of the daily papers, relative to the opening of the books of subscription in this city, Dutchess County, and Albany, on the — of July.

We have been politely furnished with late Reports of the Boards of Directors of the *Boston and Providence* and *South Carolina Railroad Companies*, both of which will receive an early notice.

An apology is due from us for having so long delayed Mr. Bulkley's communication in reply to Mr. Boyden, upon the subject of the Guard Rail; it will, however, we trust, be found in the long documents which have so entirely preoccupied our columns for several weeks past, and of which we have others still on hand. We shall give it a place at as early a period as possible.

Brooklyn and Jamaica Railroad.—We are happy to learn that this road is about to be commenced, and completed with all possible despatch, probably by the first of June 1834. The stock has been all subscribed, and four routes surveyed, by Mr. Douglass. The whole cost of the road is estimated at about $110,000 for a single track—distance from Brooklyn to Jamaica, between 11 and 12 miles. The company are compelled by their charter to purchase the turnpike stock, which, with various repairs, will amount to $50,000, making in the whole $160,000. It is in contemplation to make a branch from Jamaica to the great Marine Pavilion now erecting at Rockaway, one of the most pleasant places for sea-bathing in the country. When these improvements shall be completed, the line from Brooklyn to Jamaica, and to Rockaway, will be ornamented with numerous cottages and mansions. Long Island is well calculated for pleasant residences in hot weather, on account of the sea-breezes, the comforts of which may be experienced at almost any time or hour of the day.—[Hempstead (L. I.) Inquirer.]

Circular to the Stockholders of the New-Jersey Railroad and Transportation Company, exhibiting the past operations, present situation, and future prospects of the Company. Prepared by order of the Board of Directors.

[Continued from page 387.]

It may be objected to the calculation above submitted, that Railroads cannot compete with steamboats, where there is a water as well as land communication. Although there may possibly be places so situated as to render it doubtful, until the experiment shall have been actually made, whether Railroads can successfully compete with steamboats, still the Committee believe, that no reasonable doubt can be raised in the present case to vary unfavorably the results to which they have arrived. Few roads can so well compete with steamboats as this. In the first place, the road is graded nearly to a level, twenty-six feet to the mile being the highest elevation allowed; while much the largest portion of the road does not rise even to this grade. In the next place, the road is principally composed of straight lines, there being but two curves on the whole route, of a less radius than 1000 feet, and these not difficult; consequently there can be no obstacle in the way of using steam engines as the moving power on the road, or of travelling at the fastest rate, that experience has shown to be safe on Railroads that are straight, and nearly level. Even the Camden and Amboy road, excellent as that work undoubtedly is, has curves and an elevation to overcome which are inconvenient. From the nature of the ground near South Amboy, an elevation of 45 feet to the mile, and frequent curves for some miles, were inevitable. The distance between Newark and New-York by water is 27 miles, requiring at least two hours for each trip of a good boat. By land the distance is less than 8 miles, and can be passed on the Railroad in from 20 to 30 minutes; the stages require at least an hour to perform the passage. The prices by the Railroad being less than by stages, and about the same as by the steamboat, there can be no doubt which mode of transportation will receive the public patronage. In the transportation of light merchandize between the places last named, the Railroad will successfully compete with the steamboat and sloops, as common waggons are now preferred to the boats for carrying many articles. As the price of transportation can be greatly reduced below the actual cost of transportation on waggons, it follows that the Railroad Company will carry the light merchandize, and much of the heavier kinds.

The Railroad has a decided advantage over the steamboat plying between New-York and Elizabethtown Point. The Railroad is located through the town of Elizabeth, while the steamboat must stop at the Point, which is about two miles from the town. Passengers for New-York must be transported that distance in stages before they reach the boat, over a road which for a considerable part of the year is bad. It requires at least an hour and a half for the passage from Elizabethtown to New-York by stages and the steamboat, and frequently much longer, while passengers may for the same price, by the Railroad, be landed in New-York in less than an hour. From this view of the subject, it would appear to be perfectly reasonable to calculate upon carrying all the passengers from and to Elizabethtown, instead of one half, as has been estimated.

No competition with the Railroad from any other mode of conveyance between New-York and Rahway need be apprehended. The calculation of the income to the road from New Brunswick is based upon the supposition that the railroad will carry half of the passengers and one-fourth of the merchandize. The point however is not conceded, that steamboats and sloops will carry the passengers or merchandize even in that proportion. It requires from three and a half to four hours for the passage of a good boat, between New-York and New-Brunswick. On the Railroad the passage may be effected in an hour and a half, and will always be performed in two hours. Now, as the prices are the same, and nearly half the time saved to the man of business, no reason is perceived why the railroad will not receive a decided preference in the transportation of passengers. It will be recollected too, that, for a considerable portion of the winter months, the river at New-Brunswick is obstructed with ice, during which period the Railroad will be without competition.

If the railroad can successfully compete with the boats between New-York and New-Brunswick, and it appears to be perfectly reasonable to conclude that it can, it follows as a necessary consequence, that a considerable portion of the travelling between New-York and Philadelphia, not included in the foregoing estimate, will take the New-Jersey Railroad. The condition upon which the privileges conferred on the Camden and Amboy Railroad, in the supplement to their charter, passed in 1832, is, that they shall have a branch of their road completed from the city of New-Brunswick to some point on their line, at or west of Spotswood, as soon as the New-Jersey Railroad shall be built to New-Brunswick. Should the Camden and Amboy Railroad Company neglect to construct this branch at the time specified, they would unquestionably forfeit the exclusive privileges conferred by the supplement: consequently, whenever the New-Jersey Railroad shall be completed to New-Brunswick, the line of communication by land on railroads will be extended from New-York to Bordentown, if not to Camden. The time required to run the boat between New-York and Amboy is about two hours, and frequently more; while the longest time required by the railroad to run to New-Brunswick will never exceed two hours. It will not require so long a time to pass from New-Brunswick to Spotswood on the branch, as from Amboy to that place on the main line, the distance being about four miles shorter, and the elevation and many of the worst curves on that road, near Amboy, will thereby be avoided. As no higher prices will be charged to passengers by way of New-Brunswick, than by way of Amboy, no reason can be assigned why this railroad will not receive a full share of the travellers and business between the great cities. Should a portion of the travelling between New-York and Philadelphia be carried on this road, the other line of communication will still continue to be well supported. There is, at this time, business enough between the cities just named to sustain two lines of conveyance. And whenever a fair competition exists, and the prices of transportation are brought down to their lowest reasonable rate, the increase of business more than compensates for the loss to either line, by dividing the business. It is true that the Camden and Amboy Railroad Company may charge $2 50 on every passenger on their road from Camden to New-Brunswick, and thus prevent the joint use of their road west of Spotswood, still it does not follow that because power is vested in the hands of fair and honorable men, that it will therefore be abused. But take the worst state of the case for this road: suppose the Camden and Amboy Railroad Company should exact the whole amount allowed by law for each passenger, a case which the Committee believe will never occur, what will be the result to them and to us? It has been shown that the distance between New-York and New-Brunswick can be passed in an hour and a half. The Philadelphia and Trenton Railroad will be completed as soon as, or before, the New-Jersey Railroad can be finished to New-Brunswick, and can always be passed in an hour and a half. There will then remain but twenty-six miles of common turnpike road to pass, in the whole line from New-York to Philadelphia, and a good line of stages will run over this space in from two and a half to three hours. Should the road be properly improved, so as to adapt it to the uses of a thoroughfare communication, as it undoubtedly will, if it becomes necessary, it could be passed at any season of the year in from two and a half to three hours. Thus the entire passage between the two great cities could be effected in six hours, and would always be passed in less than seven hours, and at prices which would secure a large portion of the travel. Thus it appears to the Committee, that in any event the calculations of carrying a part of the New-York and Philadelphia passengers on this road are rendered certain.

The New-Jersey Railroad possesses great advantages from the fact that there is not only an immense amount of transportation passing in a direct line from one extremity of the road to the other, but that there are new sources of revenue springing up on the whole line of the road. The Somerville Railroad will intersect this road at or south of Elizabethtown. By a supplement to the charter of the last-named Company, passed at the last session of the Legislature, their road was extended from Somerville to Easton and Belvidere. From surveys already made for the Susquehannah and Delaware Railroad Company, by Major Beach, it appears that their road may be constructed along the west shore of the Delaware, from Easton or Belvidere, to the Water Gap, and thence across the country to Pittston, on the Susquehannah, the Lackawana Coal region, at an expense which would have justified the undertaking, even before the New-Jersey Railroad was chartered, or the Somerville Railroad extended to the Delaware. It is the opinion of competent judges, that no better route could be selected for the line of a road extending from New-York to Lake Erie, than that of the road just named, with a proper extension from Pittston to some suitable point on the Lake. It is not necessary at this time to decide whether such extension will ever be made, in order to show the immense advantages that will result to the New-Jersey Railroad, from the business that may be done on the Somerville and the Susquehannah and Delaware roads, or even on the Somerville road alone. This last road runs through a rich agricultural country, the produce and business of which, in the opinion of persons acquainted with the subject, would yield an ample revenue to the road, independent of the business that would meet it at the Delaware. It is believed that coal might be transported on this road, so as to compete successfully with other modes of transportation. As the Somerville Railroad will intersect the New-Jersey Railroad at least thirteen, and probably eighteen or twenty miles from Jersey City, it follows that the latter will be greatly benefitted by the construction of the former road. The only question that remains is, whether the Somerville road will be made. If entire feasibility and a reasonable prospect of profit can furnish sufficient inducements, it certainly will.

There is another advantage possessed by the New-Jersey Railroad and Transportation Company, of which few other Companies can boast. Their road is located through a region of country teeming with an agricultural, mechanical, and manufacturing population. The towns through and in the neighborhood of which it passes, as well as the interior of the country depending upon it, are increasing in population and business with astonishing rapidity. In 1820, the population of Newark was 6,507; in 1830, 10,953; and it unquestionably is, at this time, 15,000. The mechanical and manufacturing business of this place has more than kept pace with its population. The manufactured articles made in this town, for exportation, amount, according to the opinion of those engaged in manufacturing, to $3,000,000 annually, and are principally transported to New-York on common waggons. It is believed, in Newark, that the manufacturing business of the town has doubled in five years, and there is every reason to anticipate, that the same ratio of increase to the business and population of the town, which has been witnessed during the last five or ten years, will continue for the future. Some evidence of the rapid growth of Newark is furnished by the per centage received on the business of his office by the Post Master of that place for some years past. From 1824 to 1829, his average receipts per annum

were $871, while from 1829 to 1833 they were $1317, and during the last year, $1591. But a stronger proof still is furnished by comparing the number of passengers carried between that place and New-York a few years ago, and the number that pass at this time. The only public accommodation for travellers seven or eight years ago were four or five small two-horse stages, owned and driven by colored men, not carrying more than seventy or eighty passengers a day. Now there are eight large four-horse coaches in the winter, and ten in the summer, making two trips a day, and carrying about two hundred passengers each way daily. The great increase of travelling may be owing, in some measure, to the greater frequency, certainty, and comfort, afforded to travellers by the coaches put upon the road by the Messrs. Stevens and Mr. Colden. If increased facilities for communication between Newark and New-York are furnished, it is believed that the business will be proportionably augmented. The proximity of this town to New-York, enabling the manufacturer to avail himself of all the advantages of buying and selling at the head of the market, and also affording facilities to the merchant from distant parts of the country trading in New-York, to visit the manufacturing establishments in Newark, without interfering with his daily avocations while in the city, will present sufficient inducements to men of business to travel this road frequently.

Much that has been said of Newark will also apply to Elizabethtown, Rahway, and New-Brunswick. They are all flourishing towns, rapidly increasing in population and business, and will constantly augment the income of this road.

The populous counties of Essex, Morris and Warren, and parts of Sussex, Hunterdon and Somerset, lie west of the line of this road, and find an outlet to the city of New-York for their surplus productions over some part of it. They are already studded with flourishing villages and manufacturing establishments; and possessing great agricultural and mineral wealth, and immense water power, they will constantly add to the revenue of the work.

The Committee cannot conclude without presenting another view of this subject. They consider this work as one of immense national importance. There is a line of inland communication by Railroads in a course of construction, from the city of Boston, over a great portion of the line, to the city of Washington: and there can be no doubt that when the advantages of an easy, safe, and vastly accelerated mode of transportation by land shall be established on extensive portions of this line, that national pride, or at least considerations of mutual interest, will induce all who are concerned to unite in perfecting the whole line by the best practicable route. Nor should it be forgotten that in the construction of any link in this great chain, it is destined to be extended through the Southern States, and finally to New-Orleans. The Baltimore and Ohio Railroad is calculated to connect the great Western Valley with the Atlantic States, and thus extend the benefits of these improvements throughout the country. For the transportation of the mail, and the carrying of passengers, no means yet discovered can be compared to Railroads. Their permanency during all seasons of the year, while other channels of communication are liable to frequent obstruction, and the certainty with which travellers can calculate on passing from place to place, will secure to them an unfailing succession of business. Nothing can tend more to perpetuate our inestimable Union than to bring the people of distant States frequently together, by means of improved channels of communication. In time of peace, such an improvement as this company is engaged in constructing is of great importance to the community: in time of war, its value would be absolutely incalculable. By means of such a road running through the several States, a much smaller body of men could guard a more extended frontier or coast, as upon a threatened attack the whole force could be precipitated upon any point with incredible velocity, and thus prevent the disasters of invasion, or effect the objects of attack.

In conclusion, the Committee respectfully urge upon the Company the importance of carrying forward the enterprize they have in hand, with the utmost despatch that a careful and prudent expenditure of their means will admit. The prospect of a certain and speedy return for funds invested in such a work is a sufficient incentive to the capitalists to go forward. If other inducements were wanted, they are found in the vast benefits to be conferred on the State through which the road is located, and the nation at large.

JOHN S. DARCY,
THOMAS SALTER,
A. W. COREY,
} Committee.

Considerations on the subject of the New-York and Erie Railroad.

The attention of the public and of the legislature has for several years been directed to the subject of opening a state road, or other medium of communication, direct from this city to Lake Erie, through the southern counties of this state.

The importance of such an avenue to a large portion of the state, and to the trade and intercourse between this city and the western country, especially in the winter months, has long been felt; the subject has been repeatedly presented to the legislature in executive messages, and surveys and estimates for a public road over the whole distance were made, by the direction of that body, at the expense of the state, nearly ten years ago.

Since that period every succeeding year has added to the force of all the considerations in favor of such a thoroughfare; the population, trade, and wealth of this city, and of this and the western states, and the intercourse between this port and the region of the Lakes, have been vastly augmented; and the necessity of greater facilities for constant and rapid communication throughout the whole year have become more and more evident, especially since the means of such communication have been in progress on several more southerly routes, between the waters of the Atlantic and the Ohio river.

In April, 1832, the legislature, of this state, chartered the "New-York and Erie Railroad Company," for the purpose of constructing a railway from this city to Lake Erie, through the southern counties of this state.

The route prescribed in the charter of this company connects this city with the remote interior, the eastern with the western states, and the Atlantic with the Lakes, by the most direct and shortest practicable line attainable from any point; the whole distance being but little greater than that from Albany to Buffalo. Of this distance about one hundred and fifty miles are adjacent to the Delaware, Susquehanna and Tioga rivers; beyond which the route crosses the waters of the Genesee, the Allegany, and several less important streams. It likewise intersects the Delaware and Hudson canal, and passes near the southern termination of the Chemung canal, the Chenango canal now about to be constructed, and the Ithaca and Owego railroad, and terminates on a portion of Lake Erie which is liable to little obstruction from ice, and from which communications, now open and in progress to the Ohio river, and to all the western states, are easily accessible.

Generally, the face of the country to be traversed is favorable to the object. Unlike the more southerly routes from the Atlantic to the west, there are on this no extensive ranges of mountains to be crossed, nor any formidable elevations to be overcome.

From a point a few miles west from Hudson river, a valley through the Highlands affords an easy progress into Orange county, within which country no considerable impediments occur. The passage through Sullivan and Delaware counties will be more difficult. From the Susquehanna westward, the route for about 120 miles is nearly level; and thence to the Lakes no discouraging obstacles exist.

As a whole, the line prescribed presents many advantages for the construction of a railroad; those portions of it especially which are most uneven abound with the necessary materials of stone and timber.

From the preceding observations, it will be apparent that the proposed railway will furnish the shortest and cheapest medium of communication with this city, from an immense extent of country on its right and left, and from the regions beyond its western limit.

It is distant from any other eligible route, on either side, for travel or transport to the Lakes or to the Ohio river. It will afford the readiest passage to this city from the whole of the western portion of this state—from Cincinnati and Pittsburg, by steamboat on the Ohio and Allegany rivers, and from the western states by the Lakes, the Ohio and Indiana canals, and over land.

A glance at the map will at once indicate the importance of the route to this city, to the country through which it passes, and to the states and territories of the west. Its importance to this city is too obvious to need any illustration. It passes through a country remarkable for its healthfulness, and adapted to the support of a dense population; but as yet favored with no eligible means of transporting its products to market. As a medium of communication with the western states, both in summer and winter, it can have no rival.

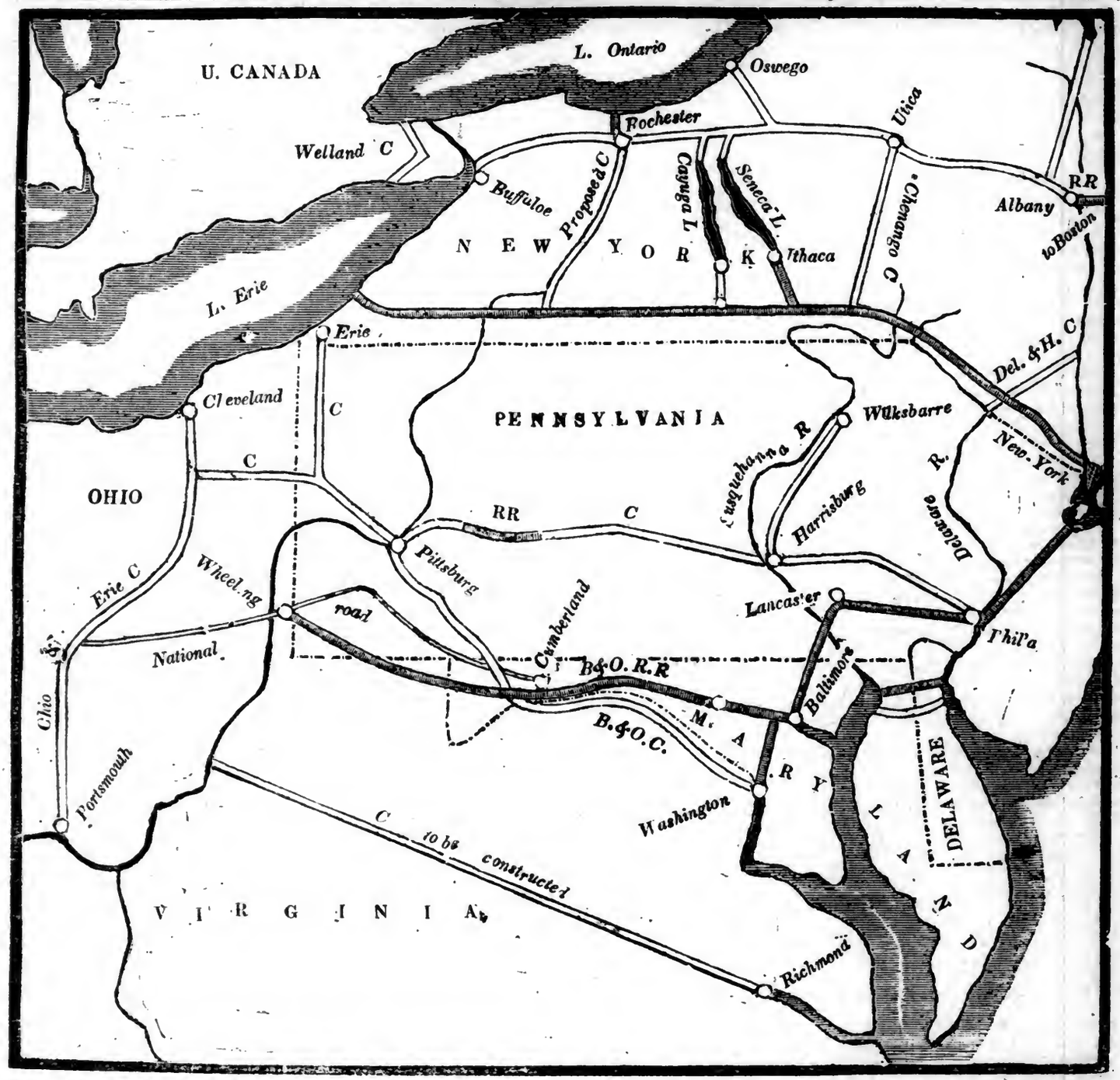
If it be considered that, from the nature of the country, no other route can be found possessing the advantages of this, and terminating south of the Highlands, and that this will accommodate throughout the year the vast and rapidly increasing travel and transport between this part of the Atlantic border and the west, and will supply the facilities now wanting to the trade and intercourse of this city with the Lakes and the valley of the Mississippi, there can be no extravagance in the opinion that the proposed railway would be altogether the most important and most productive thoroughfare from the coast to the interior in any part of the country. This opinion is confirmed by every view of the subject: whether we consider the business and relations of the commercial capital from which the route proceeds, the points with which it is connected, or the countries beyond its termination; whether we consider the question of economy of time and expense involved in the travel and transport between this city and every part of the western interior and the lakes, or whether we regard the present amount of trade and intercourse to be accommodated, or that which a few years would exhibit with a railway requiring 30 or 40 hours only for the passage hence to Lake Erie.

If a railroad from any point on the Atlantic to the western interior is required for the accommodation of the public, it would seem to be sufficiently apparent that this will have advantages which must give it a precedence over any other.

But however obvious, unquestionable, and immense may be the advantages and benefits of such a thoroughfare to the public, it is necessary to consider whether it would, at the same time, be advantageous to its proprietors—whether it would constitute a safe and productive investment.

There need be no hesitation in saying, that if any similar work from any other point on tide water to the west is safe and desirable to the stockholders, this would assuredly prove so: and if events hitherto have, as is known to be the case, fully justified the confidence in which some similar works were undertaken several years ago, particularly that of the Baltimore and Ohio Railroad, there can be no temerity in undertaking the work now under consideration.

But, though the object in view cannot be of greater moment to any other city than to this; and though every consideration in favor of such a route bears with at least as much force upon this community as upon any other; and notwithstanding that the necessary expenditure may be even more certain to be safe and pro-



ductive as an investment, than in any other similar work: still there may be a doubt, whether so large an expenditure per mile at the onset, as has taken place in some works of this nature, can be immediately productive on a route of such extent as that now proposed.

It therefore seems necessary, before subscriptions to the stock of this company are solicited, to consider in what manner the work may be undertaken, and the capital first subscribed be laid out, so as to insure the highest degree of safety and advantage to the stockholders.

Railroads are constructed either for the use of steam or of animal power. The cost of a road for steam power must, unavoidably, be far greater, even on a level route, than is required for the use of animals; and on a route presenting numerous though moderate inequalities of surface, may be as three or four to one. This difference arises from the necessity of far greater strength and solidity in the one case than in the other, and of approximating more nearly to a level, by excavations and embankments.

Could a single railway of sufficient strength and solidity be constructed on this route, in such a manner as to be used with advantage and economy by animal power, for an aggregate expenditure not exceeding three millions of dollars, no one perhaps would for a moment doubt of the safety or productiveness of the investment. Such a railway, it is believed, can be constructed from the Hudson to Lake Erie, at a less cost than the sum mentioned, and so as to secure the great natural and commercial advantages of the route.

A railway on the plan now intimated, would open the desired communication between this city and the western interior; would furnish facilities for travel and transport, especially in the winter, incalculably superior to any which now exist; would be adequate to the wants of the public, at least for a period, and would be of great value in relation to the construction of additional tracks, whether for the use of horses or of steam, whenever it became expedient to lay them.

Proceeding, therefore, on the admitted and obvious importance of opening such a communication, and waiving, as unnecessary, any attempt to estimate the probable amount of travel and transportation on this route, its advantages to the trade of this city, or the minor benefits to the citizens, of fuel, and other articles of consumption to be conveyed on it, especially in the winter season, some considerations in favor of constructing the first track of the proposed railway, on a scale proper for the use of animal power only, will here be briefly presented.

The charter, it is to be observed, requires that a singe track of railway shall be complet d and used throughout the whole distance, before any portion of a second track shall be laid.

In order to realize the peculiar advantages of a road for steam, the travel and transport ought to be not only very great, but to be nearly uniform in amount from week to week throughout the year; otherwise the preparations and power occasionally required would constitute an excess for the rest of the time; and the expenses of attendance and preparation necessary in the most busy periods would be out of proportion, and occasion loss at other seasons. Whereas, with horses and carriages, furnished by those occupying the road, no such disadvantages would occur.

It is doubtless true, that on railways designed for the use of steam, heavier loads may be drawn, and greater speed attained, than on those for animal power. But it is to be considered that a railway for horses on the route in view would be as much superior, in both these respects, to any existing or probable means o

communication, as steam is in any respect to animal power.

It is understood to be the opinion of some engineers, that such a use of horses by the inhabitants, on a railroad, as is here intimated, would be attended by many difficulties; others, however, do not deem such use liable to very great objections, provided the turnouts are sufficiently frequent, and occur at the proper points.

In view of the preceding considerations, and of the relations and advantages of the route, the most entire confidence is entertained that the stock of a railroad of the description proposed would be both safe and productive.

It is believed that a railway of adequate strength for animal power, constructed with timber properly supported on stone where convenient or necessary, and on posts where the nature of the ground, inequalities of surface below the required level, or other circumstances, might render such supports expedient, and conformed to the natural surface of the route without extravagant expense for grading, may be completed for about $5000 to $6000 per mile on an average of the whole distance; and that a single track may be constructed over the most difficult portion of the route, from the western shore of the Hudson river to the great bend of the Susquehanna, for about one million of dollars.

A railway on this plan would, without material detriment to its objects, admit of greater deviations from a level than would be compatible with the use of steam. Railways for animal power afford the same comparative advantages over common roads on ascending as on level lines. The expense of additional horses kept for the purpose, whenever such elevations occurred as to require them, would be trifling compared with that which must be incurred at such points for the maintenance of stationary steam power.

By constructing such a road to the Susquehanna, a portion of the route would be opened which is most certain to be fully occupied, and always to require a road of that description; a vast object would be accomplished for this city; the interests of stockholders would be secured, and in the further prosecution of the route through the valleys of the Susquehanna and Chemung rivers, the same or a different plan might be pursued as might then appear most expedient.

Some reference has been made to the avenues already opened or in progress, for connecting the western interior with the Atlantic coast, and forming new and adequate channels of trade and intercourse.

Among these, the canals and railways connecting Philadelphia with Pittsburg, Erie, and the upper waters of the Susquehanna; the railway from Baltimore to the Ohio river, now far advanced; the canal from Washington to Pittsburg, also considerably advanced; and the canal about to be commenced from Richmond to the Ohio: are the most conspicuous.

A glance at the accompanying map will indicate, with respect to this city, the bearings of these several works. Their relations to the cities from which they respectfully proceed, is to be judged of, not merely by their localities, but by the noble enterprise and public spirit which they have excited, and the vast expense encountered in their construction. They have been undertaken with enlarged and generous views, and with an ardor of resolution and confidence as to the magnitude and value of their results, a moderate share of which in this community would insure the speedy accomplishment of the work now proposed.

But the tendency of these works to turn the trade of the west from this city on one side, is not more obvious than that of the preparations on our northern frontier, to divert the course of western commerce in an opposite direction. In the confidence of achieving results of incalculable importance, the British government is about to construct canals to pass the successive rapids in the St. Lawrence, by which, and by the Welland canal, steamboats, sloops, and schooners, of large capacity, may pass from Montreal to the upper lakes. By these means, the products of agriculture may be conveyed down the St. Lawrence at a very cheap rate; and great inducements will be presented to the entire regions bordering on and communicating with the lakes, for an exchange of their commodities for supplies of British and colonial merchandise. This commerce, under favor of the colonial system of discriminating duties, will most advantageously meet the wants of Great Britain and her dependencies, and sustain the interests of her trade, manufactures, and navigation.

The bearings of this gigantic scheme are as yet but partially developed. They are doubtless better comprehended, and estimated at a higher rate, at the seat of British power than elsewhere. It is, however, no longer to be doubted that a vast scheme exists in connection with these works in Canada, having relation to the whole compass of British interests and policy on both sides of the Atlantic, and to the future destiny of the regions of Upper Canada; that trade, navigation, and cheap supplies, are its first objects; that it contemplates the growth of extensive marts of business near our territories, between the waters of Niagara and Lake Superior; that success will attend this scheme in proportion as the facilities of travel and transportation from the lakes to this city are inadequate; and that it now behoves this city and state to augment and cheapen those facilities, and to adopt plans which may be extended as the growth of western population and commerce may require.

For this city, especially, to continue, with respect to our connections with the lakes, and the western states, to depend on the Erie canal, would imply an incredible degree of insensibility to what is passing elsewhere. That canal, though of immense value to this state and this city, is inadequate to the object. It is closed by ice nearly one half of the year, so as to be of no avail either with respect to travel or business, during that protracted period. It affords no facilities to the extensive business, now so essential both to the interests of the west and of this city throughout the winter. Even the immense transactions which cannot be consummated till very late in the fall, and those which require to be despatched on the decline of winter and during the first weeks of spring, can be but slightly favored by it. That part of the lake to which the canal extends, is itself blocked up by ice for a considerable period, earlier in the autumn and later in the spring, than are any of the more westerly harbors on its southern shore.

The construction of a railway through the southern counties is, however, of far greater importance to this city than to any other portion of the state. The interests of this city at the present moment, and all its prospects of future growth, loudly demand the execution of this work. It is easier to preserve and strengthen our hold on the commerce of the western regions, than to regain it when directed to other points, and trammeled by all the relations of business and acquaintanceship.

We need but glance at the herculean undertakings projected and commenced by other cities and communities, to arrest the needful attention to what this city owes to itself.

To the merchants of this city, the capitalists and owners of real estate, the object now proposed especially addresses itself. It appeals to their interests, to their enlarged views of the advantages and future growth of this commercial metropolis, and to their enterprise and public spirit. Upon them the accomplishment of the work depends, and to them its principal benefits will accrue. They cannot fail to appreciate those benefits, a very moderate estimate of which, in relation to the trade of the city, is sufficient to insure the undertaking. While they are extending their aid to similar works in other parts of the country connected with other cities, it may be presumed that they will not overlook what so immediately concerns themselves.

Those who have most attentively considered the proposed undertaking, regard it as promising results to this city not surpassed in value by those of the Erie canal; and in the event of subscriptions to the stock amounting to one million of dollars, as required by the charter, so that the company may be organized and commence its operations, the utmost confidence is entertained of a liberal subscription on the part of the state in aid of the counties on the route, which greatly need and deserve, but hitherto have not shared, the benefits of public expenditure for internal improvements.

Books of subscription to the stock of the company are by the charter, as recently amended, to be opened at the Merchants' Exchange, in this city, on Tuesday, the 9th day of July next, under the direction of the commissioners.

The last link in the chain of the Railroad from Albany to Fort George is about being completed by the construction of the Warren county Railroad, which extends from Glen's Falls to Lake George.

At a meeting of the stockholders of this company at Albany, on 15th inst. the following gentlemen were elected Directors for the ensuing year: Jesse Buel, Robert Gilchrist, William Caldwell, John Townsend, Peletiah Richards, Dudley Farlin, Henry Ogden, C. V. S. Kane, John Worthington, William G. Bucknor, Daniel Jackson, Alexander Hamilton, Augustus James.

At a subsequent meeting of the Board Alex. Hamilton was chosen President, William G. Bucknor Treasurer, and John Worthington Secretary.

Railroad Stock.—We have been informed that offers have been refused for Railroad Stock at $105.—[Charleston Patriot.]

Dispatch by the Railroad.—As an evidence of the great importance of our Railroad in facilitating the intercourse between the North and South, we would mention that several passengers, who left New-York Saturday afternoon, 15th inst. in the steamboat David Brown, started this morning, 19th, on the Railroad for Augusta, and will reach to breakfast to-morrow morning.—[Charleston paper.]

Camden and Amboy Railroad.—At the meeting of the directors of the company at Bordentown, on Monday the 17th instant, a new locomotive engine constructed by R. L. Stevens, Esq. was exhibited, and a trial made of its speed and power, as well as of the adaptedness of the road to this mode of transportation. The engine is the third one now on the road, and is the lightest, and is manifestly an important improvement on the English engine heretofore used with very satisfactory results. The experiment in the present case was entirely successful, and surpassed the expectations of those present. The engine, with a train of cars, passed from Bordentown to Highstown (more than 13 miles) in 36 minutes, and 31 sec.; being at the rate of 25 miles per hour, and it was obviously not at full speed. It was obvious also, that there was no diminution of speed at the curves, and among the greatest curves on the whole road, are those on this section of it; and the greatest curve on any part of the road has been passed at a rate exceeding 40 miles an hour. The highly important device by which this is accomplished, is a recent invention by Mr. Stevens, as well as another, by which the capacity of the boiler to generate steam is greatly increased, probably doubled. These two properties are fully exhibited in this engine, the motion being unimpeded by any curvatures on the road, and a surplus quantity of steam during the whole experiment being thrown off. The partial use of anthracite during this trial, induces a confident hope that this fuel may be applied entirely on the locomotives on the road.

Six or seven engines in addition to the three now on the road will soon be in readiness, when horse power will be dispensed with, and the trip between New York and Philadelphia may be accomplished in 6 or 7 hours.—[U. S. Gazette.]

Babbage on the Economy of Manufactures.

[Continued from page 375.]

ON THE METHOD OF OBSERVING MANUFACTORIES.

128. Having now reviewed the *mechanical* principles which regulate the successful application of mechanical science to great establishments for the production of manufactured goods, it remains for us to suggest a few inquiries, and to offer a few observations to those whom an enlightened curiosity may lead to examine the factories of this or of other countries.

The remark—that it is important to commit to writing all information as soon as possible after it is received, especially when numbers are concerned—applies to almost all inquiries. It is frequently impossible to do this at the time of visiting an establishment, although not the slightest jealousy may exist; the mere act of writing information as it is communicated orally, is a great interruption to the examination of machinery. In such cases, therefore, it is advisable to have prepared beforehand the questions to be asked, and to leave blanks for the answers, which may be quickly inserted, as, in a multitude of cases, they are merely numbers. Those who have not tried this plan will be surprised at the quantity of information which may, through its means, be acquired, even by a short examination. Each manufacture requires its own list of questions, which will be better drawn up after the first visit. The following outline, which is very generally applicable, may suffice for an illustration; and, to save time, it may be convenient to have it printed, and to bind up, in the form of a pocket-book, a hundred copies of the skeleton forms for processes, with about twenty of the general inquiries.

General Inquiries.—Outlines of a Description of any of the Mechanical Arts ought to contain Information on the following points:

Brief sketch of its history, particularly the date of its invention and its introduction into England.

Short reference to the previous state through which the material employed has passed; the places whence it is procured; the price of a given quantity.

The various processes must now be described successively, according to the plan which will be given in Sec. 129; after which the following information should be given:

Are various kinds of the same article made in one establishment or at different ones, and are there differences in the processes?

To what defects are the goods liable?

What substitutes or adulterations are used?

What waste is allowed by the master?

What tests are there of the goodness of the manufactured article?

The weight of a given quantity, or number, and a comparison with that of the raw material.

The wholesale price at the manufactory £ *s.* *d.* per

The usual retail price £ *s.* *d.* per

Who provide tools? Master, or men? Who repair tools? Master, or men?

What is the expense of the machinery?

What is the annual wear and tear, and what its duration?

Is there any particular trade for making it? Where?

Is it made and repaired at the manufactory?

In any manufactory visited, state the number ( ) of processes, and of the persons employed in each process, and the quantity of manufactured produce.

What quantity is made annually in Great Britain?

Is the capital invested in manufactories large or small?

Mention the principal seats of this manufacture in England; and if it flourishes much abroad, the places where it is established.

The duty, excise, or bounty, if any, should be stated, and any alterations in past years, and also the amount exported or imported for a series of years.

Whether the same article, but of superior, equal, or inferior make, is imported?

Does the manufacturer export, or sell to a middle-man, who supplies the merchant?

To what countries is it chiefly sent—and in what goods are the returns made?

129. Each process requires a separate skeleton, and the following outline will be sufficient for many different manufactories:

Process ( ) Manufacture ( )
Place ( ) Name ( )
date 183

The mode of executing it, with sketches of the tools or machine, if necessary.

The number of persons necessary to attend the machine.

Are the operatives men, ( ) women, ( ) or children ( )? If mixed, what are the proportions?

What is the pay of each? (*s.* *d.*) (*s.* *d.*) (*s.* *d.*) per

What number ( ) of hours do they work per day?

Is it usual, or necessary, to work night and day without stopping?

Is the labor performed by piece or by day-work?

Who provide tools? Master, or men? Who repair tools? Master, or men?

What degree of skill is required, and how many years ( ) apprenticeship?

The number of times ( ) the operation is repeated per day or per hour.

The number of failures ( ) in a thousand.

Whether the workman or the master loses by the broken or damaged articles?

What is done with them?

If the same process is repeated several times, state the diminution or increase of measure, and the loss, if any, at each repetition.

130. In using this skeleton, the answers to the questions are in some cases printed, as—Who repair tools? Masters, Men: in order that the proper answer may be underlined with a pencil. In filling up the answers which require numbers, some care should be taken; for instance, if the observer stands with his watch in his hand before a person heading a pin, the workman will almost certainly increase his speed, and the estimate will be too large. A much better average will result from inquiring what quantity is considered a fair day's work. When this cannot be ascertained, the number of operations performed in a given time may frequently be ascertained when the workman is quite unconscious that any person is observing him. Thus, the sound made by the motion of a loom may enable the observer to count the number of strokes per minute, even though he is outside the building in which it is contained. M. Coulomb, who had great experience in making such observations, cautions those who may repeat his experiments against being deceived by such circumstances: "Je prie (says he) ceux qui voudront les repeter, s'ils n'ont pas le temps de mesurer les resultats apres plusieurs jours d'un travail continu, d'observer les ouvriers à differentes reprises dans la journee, sans qu'ils sachent qu'ils sont observes. L'on ne peut trop avertir combien l'on risque de se tromper en calculant, soit la vitesse, soit le temps effectif du travail, d'apres une observation des quelques minutes." (*Memoires de l'Institut. Tom. II. p.* 247.)—It frequently happens, that, in a series of answers to such questions, there are some which, although given directly, may also be deduced by a short calculation from others that are given or known: and advantage should always be taken of these verifications, in order to confirm the accuracy of the statements; or, in case they are discordant, to correct the apparent anomalies. In putting lists of questions into the hands of persons undertaking to give information upon any subject, it is in some cases desirable to have an estimate of the soundness of his judgment. The questions can frequently be so shaped that some of them may indirectly depend on others; and one or two may be inserted whose answers can be obtained by other methods; nor is this process without its advantages in enabling us to determine the value of our own judgment. The habit of forming an estimate of the magnitude or frequency of any object immediately previous to our applying to it measure or number, tends materially to fix our attention and to improve our judgment.

DISTINCTION BETWEEN MAKING AND MANUFACTURING.

131. The *economical principles* which regulate the application of machinery, and which govern the interior of all our great factories, are quite as essential to the prosperity of a great commercial country as are those mechanical principles, the operations of which have been illustrated in the preceding section.

The first object of every person who attempts to make any article of consumption, is, or ought to be, to produce it in a perfect form; but in order to secure to himself the greatest and most permanent profit, he must endeavor by every means in his power to render the new luxury or want, which he has created, cheap to those who consume it. The larger number of purchasers thus obtained will, in some measure, secure him from the caprices of fashion, whilst it furnishes a far greater amount of profit, although the contribution of each individual is diminished. The importance of collecting data for the purpose of enabling the manufacturer to ascertain how many additional customers he will acquire by a given reduction in the price of the article he makes, cannot be too strongly pressed upon the attention of those who employ themselves in statistical inquiries. In some ranks of society, any diminution of price in a commodity will bring forward but few additional customers; whilst, in other classes, a very small reduction will so enlarge the sale as to yield a considerable increase of profit.

132. If, therefore, the *maker* of an article wish to become a *manufacturer* in the more extended sense of the term, he must attend to other principles besides those mechanical ones on which the successful execution of his work depends; and he must carefully arrange the whole system of his factory in such a manner, that the article he sells to the public may be produced at as small a cost as possible. Should he not be actuated at first by motives so remote, he will, in every highly civilized country, be compelled, by the powerful stimulus of competition, to attend to the principles of the domestic economy of manufactures. At every reduction in price of the commodity he makes, he will be driven to seek compensation in a saving of expense in some of the processes; and his ingenuity will be sharpened in this inquiry by the hope of being able in his turn to undersell his rivals. The benefit of the improvements thus engendered is, for a short time, confined to those from whose ingenuity they derived their origin; but when a sufficient experience has proved their value, they become generally adopted, until in their turn they are superseded by other more economical methods.

133. There exists a considerable difference between the terms *making* and *manufacturing*. The former refers to the production of *a small*, the latter to that of *a very large number of individuals*; and the difference is well illustrated in the evidence given before the Committee of the House of Commons on the Export of Tools and Machinery. On that occasion Mr. Maudslay stated, that he had been applied to by the Navy Board to make iron tanks for ships, and that he was rather unwilling to do so, as he considered it to be out of his line of business; however, he undertook to make one as a trial. The holes for the rivets were punched by hand-punching with presses, and the 1680 holes our export trade has been most injurious, as the following extract from the evidence before a committee of the House of Commons will prove:

"*Question.*—How long have you been in the trade?

"*Answer.*—Nearly thirty years.

"*Question.*—The trade is at present much depressed?

"*Answer.*—Yes, sadly.

"*Question.*—What is your opinion of the cause of that distress?

"*Answer.*—I think it is owing to a number of watches that have been made so exceedingly bad that they will hardly look at them in the foreign markets; all with a handsome outside show, and the works hardly fit for any thing.

"*Question.*—Do you mean to say, that all the watches made in this country are of that description?

"*Answer.*—No; only a number which are made up by some of the Jews, and other low manufacturers. I recollect something of the sort years ago, of a fall-off of the East India work, owing to there being a number of handsome looking watches sent out, for instance, with hands on and figures, as if they showed seconds, and had not any regular work to show the seconds: the hand went round, but it was not regular.

"*Question.*—They had no perfect movements?

"*Answer.*—No, they had not; that was a long time since, and we had not any East India work for a long time afterwards."

In the home market, inferior but showy watches are made at a cheap rate, which are not warranted by the maker to go above half an hour: about the time occupied by the Jew pedlar in deluding his country customer.

141. The practice, in retail linen-drapers' shops, of calling certain articles yard-wide when the real width is, perhaps, only seven-eighths or three-quarters, arose at first from fraud, which being detected, custom was pleaded in its defence; but the result is, that the vender is constantly obliged to measure the width of his goods in the customer's presence. In all these instances, the object of the seller is to get a higher price than his goods would really produce if their quality were known; and the purchaser, if not himself a skilful judge (which rarely happens to be the case), must pay some person, in the shape of an additional money price, who has skill to distinguish, and integrity to furnish, articles of the quality agreed on. But as the confidence of persons in their own judgment is usually great, large numbers will always flock to the cheap dealer, who thus, attracting many customers from the honest tradesman, obliges him to charge a higher price for his judgment and character, than, without such competition, he could afford to do.

AGRICULTURE, &c.

The following article is, says our respected correspondent, to whom we are indebted for the pamphlet from which it is taken, "of great value, as the authority is unquestioned."

On the Cultivation of Rye. By JOHN KEELY.

To the Trustees of the Essex Agricultural Society.

GENTLEMEN,—Having for some years past been more than commonly successful in raising large crops of winter rye by a process of cultivation which, I believe, is entirely new, I have been induced, by the suggestion of some gentlemen whose judgment I very much respect, to submit for your consideration a statement of the mode of culture, with the produce. And that the success of the experiment this season may not appear to be altogether accidental, it will, perhaps, be as well to communicate the result of the process for the three or four previous years.

The land on which the experiment has been conducted is situated on the Merrimack, about a mile and a half east of Haverhill bridge; and came into possession of my father in 1827. The soil is a sand, approaching to loam as it recedes from the river. Perhaps the term *plain land* (by which it usually passes) will better convey an idea of the quality of the soil. It is altogether too light for grass. The crops we find most profitable to cultivate on it are winter rye, Indian corn, potatoes, and to some extent turnips. Oats might probably be raised to advantage, were it not that the land is completely filled with the weed commonly called charlick, which renders it entirely unfit for any spring crop, excepting such as can be hoed. The crops of rye, on the neighboring soil of the same nature, vary, I believe, from seven or eight to twelve or thirteen bushels per acre, according to the cultivation, and their approximation to the river. We usually raise on land from thirteen to thirty bushels of Indian corn per acre. Potatoes are very good in quality, but the quantity is quite small; not sufficient to be profitable, were it not that the land is very easily cultivated.

In the summer of 1827, we sowed three bushels of winter rye near the river, on about two acres of land, which produced twenty-eight bushels.

In 1828, we sowed four bushels on four acres of land running the whole extent of the plain from the river. This piece was sowed in the spring with oats; but they were completely smothered with charlick, and about the middle of June, the whole crop was mowed to prevent the charlick seeding. By about the middle of August, a second crop of charlick having covered the land, it was ploughed very carefully, in order completely to bury the charlick; and then suffered to remain until the 15th of September, when we began sowing the rye in the following manner. A strip of land about twelve yards wide was ploughed very evenly, to prevent deep gutters between the furrows, and the seed immediately sown upon the furrow and harrowed in. Then another strip of the same width, and so on until the whole was finished. We found the oat stubble and charlick entirely rotted, and the land appeared as if it had been well manured, though none had been applied to this part since it had been in our possession. The rye sprung very quick and vigorously, having evidently derived great benefit from being sown and sprouted before the moisture supplied by the decaying vegetable matter in the soil had evaporated to any considerable extent. This crop produced 133 bushels.

In 1829, the charlick was suffered to grow on the land appropriated to rye, until it had attained its growth and was in full blossom. The land was then ploughed very carefully, and the charlick completely covered in. In a short time a second crop appeared more vigorous than the first. This also was allowed to attain its growth, and then ploughed in as before. A third crop soon apprared, which of course was destroyed, when the land was again ploughed for sowing about the middle of September. This piece of land was a parallel strip running from the river, and containing two acres. Two bushels of rye were sowed. The crop presented a remarkably promising appearance, and yielded seventy-four and a half bushels.

In 1830, the land appropriated to rye included nearly all the lighter part of the soil, and owing to a pressure of business was not attended to as we could have wished. It was ploughed in the early part of the summer. But harrowing to destroy the weeds was substituted for the second ploughing. This, and the unusual blight which affected all the grain in this part of the country, led us to anticipate a small crop. It yielded however fifteen bushels to the acre.

The land on which the crop of rye was raised the present season had for the three or four previous years been planted with Indian corn: and owing to the extent of our tillage land, we have not been able to apply more than four or five loads of manure to the acre this season. The charlick was suffered to attain its growth as usual; and on the 18th and 19th of June it was carefully ploughed in. The second crop was ploughed in on the 6th and 7th of August. On the 14th and 15th of September it was sowed in the usual manner, namely, a small strip of land was ploughed, and the seed sown immediately upon the furrow, and then harrowed in. Then another strip of land was ploughed, and so on until the whole was completed. One bushel per acre was sowed as usual. The seed was originally obtained from a farmer in this vicinity, and I suppose is similar to that which is generally used. We have never prepared our seed in any manner, but have directed our attention solely to the preparation of the land; and to this we attribute our success. Owing to the unusual severity of the winter, the crop was considerably winter killed, but recovered very soon in the spring, excepting in the midfurrows. There, as the land lies very level, the water settled, and so completely destroyed the rye that they continued bare the whole season. This would of course cause some diminution in the crop; perhaps a bushel or two. The rye was reaped at the usual season, and, as the weather was favorable, immediately put into the barn. The land contained one acre and thirteen rods, and yielded *forty-six bushels and three pecks. A remarkably fine sample.*

In entering a claim for your premium, I would ask your attention particularly to the process of cultivation. It is I believe entirely new, and capable of general application.

Sowing the seed immediately after the plough we consider very advantageous to the crop. The soil being then moist, causes the seed to spring immediately, and gives a forwardness and vigor to the plants which they ever after retain.

The process of ploughing in *three* crops of weeds before the seed is sown, very much enriches the soil. It would be altogether unnecessary to attempt to refute the notion, that by such a process nothing more is applied to the soil than was before derived from it. If one could not discover by the light which Chemistry has shed upon the subject of Agriculture, sufficient *reasons* for the contrary conclusion, observation, one would think, would be sufficient to convince any intelligent man of the fact.

And here I would suggest that I do not consider the experiment, as we have conducted it, quite complete. To render it more so, in the first place, in ploughing in the weeds, I would not turn a furrow after the dew had evaporated. I have no doubt but that a large portion of that fertilizing quality in the soil, which (during the summer months) is continually exhaled from the earth, is by the dew brought again within our reach, and it would be wise to avail ourselves of the opportunity of again burying it in the soil. And in the second place, I would by all means use a heavy roll after each ploughing. It would fill all the cavities left by the plough, and by pressing the soil more closely to the weeds, at once hasten their decomposition and very much retard the evaporation from the soil.

But the land is not only very much enriched by this process. There is, I conceive, no method by which it can be so effectually cleaned. Three times during the season a fresh surface is presented to the atmosphere, and each time, as the decaying vegetable matter increases in the soil, so is the exciting cause augmented to make a more vigorous effort. We have in this manner gone over nearly all our land which is infested with charlick, and the diminution of the weeds is quite sufficient to warrant the expectation, that in a few years it may be comparatively eradicated. Very respectfully,

JOHN KEELY.

Haverhill, Sept. 22, 1832.

The undersigned having assisted in measuring the rye, an account of which is given above, hereby certify that the quantity is as there stated, namely, forty-six bushels and three pecks.

JOHN KEELY,
THOMAS E. KEELY,
SAMUEL THOMPSON.

I have this day measured a lot of land belonging to Mr. Keely, on which is a crop of rye, and find it to contain one acre and thirteen rods. C. WHITE, Surveyor.

Haverhill, Aug. 1, 1832.

At a Meeting of the Trustees of the Essex Agricultural Society, January 1, 1833, the foregoing statement having been read and examined,

Voted, That the first premium offered for the cultivation of rye be awarded to Mr. Keely.

Attest. J. W. PROCTOR, Secretary.

CLOVER MANURE FOR WHEAT.—We would request practical farmers to compare the following, taken from the Hagerstown Torch Light, with the successful method of shallow ploughing green manure, recorded in the Transactions of the Essex Agricultural Society in another part of this number:

THE wheat crop is the most important of all crops to the farmer. A man who has one hundred acres of cleared land, of common quality, ought to raise on an average *one thousand bushels of merchantable wheat*, and also rye, corn, oats, and potatoes, sufficient to defray the expenses of carrying on the farming. The wheat crop should always be *clear gain*.

Don't startle at this, farmer. A man who has a farm of one hundred acres of cleared land, can yearly put forty acres of it in wheat; and if the land be in order as it should be, and as every farmer may have it, every acre of the forty will give 25 bushels, amounting altogether to one thousand bushels. I shall now show how land must be farmed, in order to produce in this way. Never break your land before harvest and stir it after, as is customary with many farmers. Much ploughing impoverishes land, and is productive of no good effects. Your wheat ground must be heavily set in clover, and broken up after harvest with three horses, when the seed in the clover is ripe. By thus turning clover down after harvest, when the seed is ripe, it will never miss coming up in the spring, which is frequently the case when sown in the spring with seed. You also save between forty and fifty dollars worth of seed annually, which it would take to sow your ground. When the clover is ploughed down after harvest, before you seed the field, you must harrow it lightly the way you have ploughed it, in order to level the ground, and prevent the seed from rolling between the furrows and coming up in rows Never plough your seed in with shovels, nor harrow it in across the ploughing, when you have turned down clover after harvest, lest you raise the clover, but always harrow it in by twice harrowing with light harrows the way you have broken up your ground. Many farmers have ploughed down clover once, and finding that their crop was not bettered by it, but injured, as they believed, have never attempted it again. This is almost invariably the case the first time clover is ploughed down after harvest, especially if the fall be dry, and the winter frigid and close. In turning clover down you must necessarily plough the ground deep, and the first time you do it you turn up the clay, which, being unmixed with manure of any sort on the top, is in a bad state to sow wheat on. The wheat after some time will sprout and come up, but will look yellow and very spindling. Its roots after some time will get down among the unrotted clover, and there will choke, and for want of moisture a great deal of the wheat will dwindle away and die. The unrotted clover, too, below, will keep the ground loose and springgy, so that the frost will injure the wheat not a little. But when the clover is twice ploughed down the bad effects to the wheat crop arising from unrotted clover are not experienced. You then turn up the clover from below which was ploughed down before, and which is a manure on the top. The seed sown on it now springs up directly, and before the winter sets in has taken deep root. The clover now turned down rots very soon, in consequence of the rotten clover turned up, which as manure always keeps the ground moist, however dry the fall. You may now go on farming in this way: every time you turn up a coat of clover, turn down one, and your wheat crop will never fail, until your land becomes so rich that you will have to reduce it with corn.

RAPID MODE OF RAISING EXCELLENT VINE PLANTS.—At the pruning season leave a shoot of young strong wood, over and above what may be wanted for training it, of a sufficient length to bend down as a layer into a pot; and also for training, during its growth, when the vine begins to push, displace the buds from the shoot intended for laying, except the leading one. When this is grown to about all eight inches or one foot long, bend down to the pot, and lay it so that the top joint, whence the young shoot has sprung, may be fixed with a strong crook at about one inch under the surface of the mould. As soon as it begins to take root, weaken its resources from the mother plant, by making an incision in the wood behind the pot, which enlarge by degrees, as fast as the young plant will bear it, until it is quite separated from the old one.—[Gard. Mag.]

[*From the Globe of Saturday.*]

MILITARY ACADEMY AT WESTPOINT.

REPORT *of the Board of Visiters to the general examination of Cadets of the United States Military Academy, in June*, 1833.

To the Secretary of War:

The Board of Visiters who have been invited, to be present at the general examination of the Cadets of the United States Military Academy, in order that the War Department may be correctly informed of the condition and management of the Academy, have attended the examination of all the classes and are perfectly satisfied with the progress made by the Cadets in the several departments of their studies in which they were examined.

At the request of the Superintendent, a Committee appointed by order of the Board, assigned the subjects to each individual of the class, in order to avoid all suspicion of the Examining Professor having adapted the subject to the capacity and attainments of the Cadets, so as to exhibit an appearance of greater proficiency than the class really possesses.

The first class was examined in Military and Civil Engineering, in Mineralogy, Rhetoric, Ethics, Constitutional and National Law, and in Infantry and Artillery tactics; and in each of these departments exhibited proofs of their application and attainments, and of the zeal, capacity and industry of the Professor and Assistants. The Cadets of this class will leave the Academy well fitted to fulfil the great objects of the institution, viz: to introduce into the armies of the United States all the modern improvements in the art of war, and the high state of discipline which distinguishes the best armies of Europe, to disseminate throughout our country a knowledge of Military Tactics and Engineering, so as to furnish the means of rendering our militia as well as our regular army an efficient arm of defence in time of war; and to provide officers properly instructed, and fully capable of superintending the construction of fortifications for the permanent defence of our maritime frontier, and of works connected with the internal improvement of the country.

The Cadets of the second class were examined in Chemistry and Natural Philosophy, and showed a degree of proficiency very creditable to the Professors and Assistants, who have been charged with their instruction in these departments. The Board would here remark, that in their opinion it would be expedient to establish a permanent Professor of Chemistry. The important discoveries made and still making in this department of science, and its application to the useful arts, as well as its connexion with the means of preserving the health of the soldier in camps and barracks, render it important that it should be taught in this Academy, and it is obvious that it requires great application, experience and long practice to teach a science which must be illustrated by experiments made before the pupil. It is believed to be difficult to acquire the art of instructing youth in any department of literature or science; but it is especially so in those which require skill in demonstrating the theories and principles by experiments. Instruction in such branches ought not to be entrusted to officers liable to be frequently removed.

The third class were examined in Mathematics and French. There is no institution that we are acquainted with where this department of science in its higher branches, is more thoroughly taught than in this Academy. The high attainments and unwearied industry of the Professors and Assistants, together with the great application and capacity of the Cadets of the third class were exhibited throughout the course of this examination in a manner highly satisfactory to the Board.

The examination in French was very creditable to the Teachers and Cadets of this Class They appeared to be well instructed in the grammar of this difficult language, conjugating the regular and irregular verbs very correctly, and they translated it into English with great facility, which is all that is deemed requisite: the principal object of this course being to enable the Cadet to consult the best French authors on Military Science.

As there are at least 160 students to be taught in this language, it is believed by those best acquainted with the subject, that another teacher in this branch ought to be added to those already employed.

The fourth class were examined in Mathematics and French. The Cadets of this class evinced a degree of proficiency in the elementary branches of Mathematics highly creditable to the gentleman who is charged with this department of their studies.—Whatever may be the talents and application of the student, he cannot make any proficiency in this essential department of study, which may be considered as the foundation of all military education, unless his studies are directed by a person not only profoundly versed in the science, but possessed of great experience in the art of instructing youth; and the Board would take this opportunity of remarking, that to remove such an instructor from the Academy for the purpose of substituting another, who, whatever his talents and acquirements may be, does not possess the same experience and practice in teaching, cannot but be prejudicial to the interests of the Academy, and would be unjust to the Cadets.

The Government exacts from them, especially in the department of Mathematics, a degree of proficiency, which they cannot obtain without the assistance of competent instructors; and they may be exposed to be turned back as deficient, or to be dismissed as incapable of going through the course of studies in the Academy, because the instructor provided for them is incompetent or inexperienced.

The Board is induced to make these remarks from having had before them a late order of the Commander in Chief, containing regulations sanctioned by you, which, if applicable to this Academy, would seem calculated to affect very materially the instruction of the Cadets. It appears to them that the regulations requiring all officers, who have not served with their regiments for three years to join their respective corps, as it will remove nearly all the Assistant Professors from the Academy, would be attended with very great inconvenience at any time; and at this period, when the Superintendent, who has so long presided over this Institution, with such signal ability and success, is about to retire, such a change would seriously embarrass his successor.—This embarrassment will be increased by the effect of the regulation, which takes from the Superintendent the power of nominating the officers to be detached for that service. He is supposed from his situation to be better acquainted than any one else with the acquirements and moral character of the graduates, and as the responsibility rests with him, it appears but just that he should have the power of selecting his Assistants. It is deemed important, that the course of studies should be steady and keep pace with the improvements which daily take place in the progress of science. This would be impracticable if the Assistant Professors were frequently changed and selected from officers who had graduated prior to the introduction of the improvements now taught in this Institution throughout every department of science. Indeed it would appear advisable that the Professors and Assistant Professors, who have evinced so much capacity in imparting instruction to youth, should be offered every inducement to remain by being permanently attached to the Institution, and receiving some additional allowance for services materially affecting the future character and efficiency of the army, and which, if they were rendered in any literary institution in the country, would command much higher pecuniary rewards.

The Board attended the Battalion, Light Infantry, and Artillery drills, and had every reason to be satisfied with the instruction of the Cadets in their field exercises. They were present likewise in the Laboratory when the Cadets exhibited their proficiency in Pyrotechny, and they subsequently saw them throw shells, and fire at the target with light and heavy pieces of Artillery; all which they executed with a precision rarely equalled, and not surpassed in any school of practice in Europe.

This is the more remarkable from the state of the pieces used for practice. They are very defective; and the Board recommend that the several pieces of Ordnance which are required for the instruction of the Cadets by their able and scientific instructor, should be furnished of the best quality and most approved constructions.

Much credit is due to the officer charged with the instruction of the Cadets in this department. He has compiled a practical treatise on Military Pyrotechny and translated an excellent elementary treatise on

the forms of Cannon and various systems of Artillery, and another on the Theory and Practice of Gunnery, from the French of Professor Persy of Metz; all of which, with numerous plates illustrating the subjects, have been published in the Lithographic Press in the Academy.

The Cadets are encamped two months in every year, and during that period are instructed in all the duties of the soldier in active servive, in the use of instruments, and in the application of the different branches of science necessary to a knowledge of their profession; whether this practical course of the application of science to the purposes of military and civil engineering may not be usefully extended, is worthy of consideration.

The Library of the Academy contains a very valuable collection of works adapted to the peculiar objects of this institution. It is rich in works on military science and on civil engineering, and contains a valuable series of military history, and the best geographical and topographical maps of the States of Europe to illustrate this important study. It is true that in works on polite literature it is as yet rather deficient, although the selection has been very judicious; but however desirable it may be to augment the number of volumes on miscellaneous subjects, the real object of the institution must be kept steadily in view, and it will continue to be the duty of the Superintendent to purchase, in preference to all others, books relating to the sciences taught in this Academy, and to supply the necessary works on Architecture, Chemistry, Geology, Mineralogy and Moral Science, in which the Library is still very deficient.

The philosophical apparatus and astronomical instruments are of the best kind and of the latest invention, but many more are required fully to illustrate the course of Natural Philosophy.

The building which contains the Library and philosophical apparatus is both unsafe and unstable, and the rooms are so small and inconvenient as not to admit of the necessary arrangement and display of them for useful purposes. Many instruments of the philosophical apparatus, which are delicate in their structure and uses, and require to be very nicely and accurately adjusted, are exposed to be injured by the constant and violent shaking of the edifice, and the finer astronomical instruments cannot be used from the same reason and from want of space. A large telescope is placed in a detached building entirely unsuited to its uses.

From these reasons and from the intrinsic value of the books and instruments, the board recommend the erection of a fire proof building with an observatory annexed to it.

Upon a careful and minute examination of the public buildings of the Academy, it has been found that they are inadequate to the purposes of the institution and are not only badly constructed, but entirely too limited to afford comfortable or proper accommodations for the Cadets who are lodged in them.

A number of Cadets are from necessity crowded into a small room, which must produce a prejudicial effect upon their studies, their morals, and their health. That they have been exempt hitherto from the diseases which are engendered in confined and crowded apartments, is due altogether to the admirable system of internal police and strict attention to cleanliness, which distinguish every department of this institution.

There is besides a want of accommodations for the Assistant Professors; and the Quarter Master, Pay Master, and Adjutant are without offices. For all these purposes nearly fifty new rooms are required. The Board would recommend, that the Superintendent be instructed to furnish a plan of a building, capable of uniting all the accommodations required by the officers and cadets now at the Academy, and of being extended whenever the Government may think it expedient to enlarge this institution. and render it proportionate to our vast territories and rapidly increasing population; and that whenever it may be thought proper to erect the building now called for, it may be so constructed as to form a part of an edifice hereafter to be completed with more extensive accommodations.

On examining into the fiscal concerns of the Academy the Board had every reason to be satisfied, that great economy has been exercised in the administration of this department of the institution, and cheerfully bear testimony to the order and regularity with which the books are kept and the receipts and disbursements accounted for, as well as to the integrity and judicious economy with which the finances of the Academy are administered.

There are several subjects, the importance of which is fully understood and acknowledged by the Superintendent and Academic Staff, but which are not taught in this institution for want of time. In military and civil engineering it is thought that the following might be introduced with great advantage to the Cadets: A course of applied mechanics on the investigation and description of some of the most usual machines employed in the construction of public works. Some practical exercises in the field, such as laying out and throwing up some of the works of a campaign which are most ordinarily used: batteries, trenches, cavaliers, the manner of conducting saps, the construction of gabions and fascines, &c. &c. and a course of topography as applied to military reconnoissances: indeed, such is the vast importance of this branch, that a new department, embracing the whole subject, could not fail to be very advantageous to the military student.

In the department of Natural Philosophy many important practical illustrations might be advantageously introduced. At present the experimental part of the course is principally confined to the illustration of such facts and general principles as may be established by experiments exhibited in the presence of the entire class. These illustrations are attended with the most beneficial effects, as they serve to make a very forcible impression on the mind of the student, but they are alone insufficient. It is frequently important that the student should not only be acquainted with the name and use of an instrument; but that he should be able to employ it himself. This can only be done, when sufficient time is allowed for each student to make frequent use of such instruments under the immediate direction of the Professor.

This deficiency is particularly felt in the course of Astronomy, where an intimate acquaintance with the use of instruments, and the habits of submitting the data furnished by observation to the process of calculation, are essentially necessary to enable the student to apply his theoretical knowledge to useful purposes. The instruction in practical Astronomy is altogether too limited. The time which can be devoted to this object being scarcely more than sufficient to permit the Professor to make the students acquainted with the objects of the few instruments in the possession of this department. This is certainly a great defect; important lines are frequently required to be established as boundaries between States and Territories of neighboring nations, where the accurate use of instruments is of the last importance, and the Cadets of this Academy ought to be practically taught to use them with perfect correctness.

The principles of Strategy or Grand Tactics might be taught with advantage.

It is true that there is no work treating of those subjects which is sufficiently condensed and at the same time perfectly unexceptionable in its principles and illustrations; but the same industry and talent which have furnished text books in other departments of military science, might be employed for this purpose with great success, and furnish a series of lectures embracing a definition of the technical terms employed and of such general principles as admit of the clearest and most exact illustration

It appears always to have been desirable that Cavalry Tactics should be taught at a great National Military Academy. This branch has hitherto been totally neglected; but it has become more essentially necessary since this arm has been added to the regular army of the country. The service of Cavalry and Horse Artillery ought to form a part of the practical instruction of this Academy, and the Board respectfully recommend this subject to your consideration. As the Cadets are now occupied sedulously every hour of the day in the prosecution of the studies now taught in this institution, it will be necessary, if these subjects are deemed of sufficient importanee to be added to the present course, that the term of the academic study should be extended—or that the qualifications required on entering the Academy should be made much greater than they now are.—They are now lower than is required by any literary institution in this country, and no doubt the frequent dismissal of those young men, who cannot keep up with their class, arises principally from this cause. Parents ought to be informed of the great advantage their sons would derive the first year of their course of this Academy, by being well grounded in the classics, in Arithmetic and Algebra, and in the rudiments of the French language.

The manner in which the Cadets are furnished with clothing was a subject of inquiry by the Board, who were satisfied that this was done in the most economical manner. Their mess room was inspected while the Cadets were at their meals, and the Board were satisfied that the Steward fulfilled his contract faithfully, and supplied the tables with abundance.

An inquiry having been made into the manner in which the Cadets are supplied with the class books and stationary, the Board are satisfied, after a careful investigation, that the Cadets are supplied with all such articles at a lower price than they can be purchased in New York and in the most convenient, just, and economical manner; and that the arrangement made by the Superintendent in this particular is marked by the same prudent economy, order and intelligence, which characterize the management of the institution.

The Board having learnt that the present Superintendent of the Military Academy, whose health has suffered from his close attention to the affairs of the institution, has, by his own solicitation, been called to the performance of other duties, cannot forbear to express the very high sense they entertain of his merit and services during the long period of his command of the station.

To the knowledge acquired with this view by Col. Thayer, the Military Academy of the United States owes its present admirable organization; and to his zeal, capacity and unwearied attention to his duties, is to be attributed the high state of discipline and improvement of the institution. To his exertions we owe in a great measure the success of this establishment, the extensive usefulness of which needs only to be understood by the nation to be fully appreciated.

Independently of serving to disseminate over the vast territories of the United States knowledge of a description which cannot enter into the usual course of studies in other Academies, and furnishing the means of rendering most effective our army and militia, of securing our frontier and improving the communications throughout the States, it is calculated to elevate the moral state of the Military profession in our country, the importance of which to the general interests of the nation, cannot be too much insisted upon.

The annals of history prove, that success in arms is one of the most faithful sources of personal popularity, and in a country where the soldier is still a citizen, and may be called upon to share in the civil government, or rise to the highest honors of the State, the standard of study and discipline cannot be too high, which developes his talents and forms his character. The same annals show that at the close of successful wars, the liberties of a country depend in a great measure upon the character of its armies—at such a period the fortunate soldier possesses power, and great and probably well earned popularity, and if his character is not so elevated by nature or education as to lead him to prefer the solid fame of having preserved the liberties of his fellow citizens to the glitter of false ambition, and to sacrifice all personal views of aggrandizement to the good of his country, he may plunge the State into anarchy or rivet upon his fellow citizens the chains of despotism. If ever the liberties of the States of Europe shall be recovered, it will be effected through the improved condition, character and education of their officers and soldiers; and while we indulge the hope that the liberty of these States rests upon too firm a basis to be overthrown by the ambition of those who compose our Armies, it cannot be concealed that if they were not instructed, their ignorance and depravity might seriously endanger the peace of the country.

The Board have observed with some regret, that the old works in the neighborhood of the Academy have been in some instances disturbed. They ought, in their opinion, to be preserved as monuments of the glorious struggle, which secured our independence. The contemplation of such memorials cannot fail to have a beneficial effect. They are calculated to inspire all Americans with sentiments of exalted patriotism, and to remind them of the extraordinary efforts and great sacrifices made by our forefathers to achieve the liberty and independence of the country—and cannot fail to lead them to form virtuous resolutions and to reflect, that, as heirs of the immortal fame of their ancestors, they are bound to emulate their glorious career, and preserve their bright inheritance with the same inflexible courage and undeviating purpose.

STEPHEN VAN RENSSELAER, *President.*

Charles Coffin,	J. R. Poinsett,
J. R. Burden,	Erastus Root,
J. S. Skinner,	John Forsyth,
Levin Gale,	Joseph C. Yates,
Jas. Russell,	James Fenner,
T. Hartley Crawford,	John A. Tomlinson,
E. Banks,	F. B. Povall, Virginia,
John R. Fenwick,	R. Pollard, Virginia,
Brig. General,	F. Read, Delaware,
James Bankhead,	J. Rogers, Delaware.

JOHN NORVELL, *Secretary.*

NEW-YORK AMERICAN.

JUNE 22, 24, 25, 26, 27, 28—1833.

LITERARY NOTICES.

THE COMPLETE WORKS OF SCOTT: CONNER AND COOKE'S edition.—Numbers VII. and VIII., containing the Bride of Lammermoor, the Legend of Montrose, and Ivanhoe, are now published. Thus, one sixth of the work (there will be forty-eight numbers) is already out. At this rate of publication the whole will be completed in a little more than a year from the commencement.

CURIOSITIES OF LITERATURE, by D'ISRAELI, 3 vol. 8vo. *Boston*, LILLY & WAIT, COLMAN & HOLDEN; *New York*. WM. JACKSON.—A very handsome edition is here presented of a very amusing, though not a new book, which has gone through seven or eight editions in England, been translated into other tongues, and delighted thousands of readers of all classes and pursuits. The many interesting anecdotes of literary men and of their labors, and the curious private history which the industry and cleverness of the compiler, the elder D'Israeli, have here brought together, are well calculated to attract and reward attention.

SALATHIEL—by the Rev. GEORGE CROLY. New York: *D. Appleton & Co.* and *Collins & Hannay*. 2 vols.—The deserved success obtained by the first reprint, some few years ago, of this highly wrought and in parts most poetical narrative, has induced another edition of it—which will, we doubt not, be eagerly bought—the more eagerly, perhaps, for the effort now making in England to restore to an equality with other men the fallen race of Israel—whose grandeur, magnificence, courage and cruelty, form the main incidents of these volumes.

CRAYON SKETCHES, *by an Amateur; edited by Theo. S. Fay, Esq.*; 2 volumes, 12mo; CONNER & COOKE, New York.—These volumes, of which we spoke in advance in our review of the 8th instant, are now published, and do justice, by their mechanical execution, to the taste and talent of their literary contents.

MEMOIRS OF A CHAPERON—*Edited by Lady Dacre*. 2 vols. New York: J. & J. HARPER.—A collection of tales—five in number—all of much more than ordinary talent, and two of them—*Ellen Wareham* and *Milly & Lucy*—admirably written and of deep interest. They deserved a better collective name, for we confess we took up the book under the impression that it was another of those mawkish novels of fashionable life so common of late; but we had made very little progress in the story of *Ellen Wareham*, the first in the book, without finding our mistake, and we mention it that others may not be deterred by an unmeaning title from reading clever books.

SEQUEL TO THE JUVENILE READER; BY LYMAN COBB. New-York, COLLINS & HANNAY.—We have before had occasion to speak in terms of commendation of Mr. Cobb's efforts to simplify the processes of learning for beginners. In the little school book now before us, he has evinced good taste and discrimination in selecting passages in prose and in verse for the use of higher classes in schools and academies.—Many of the selections are from approved American writers.

BOYS AND GIRLS' LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE, Nos. IX, X, XI: Harpers.—'Tales of American History,' and 'The Young Crusoe,' are the subjects of these volumes, which are well selected to form a part of the collection with which they are here identified. The Young Crusoe is a story by Mrs. Hoffland, the author of 'A Son of a Genius,' and othes tales. It is an account of the shipwreck of a lad upon an uninhabited island, and his residence there for several months alone. Like the celebrated work which suggested the story, its design is to impress upon the youthful mind the never-failing goodness of Providence, and that there is no situation, however forlorn and deplorable, which the exercise of fortitude, ingenuity, and perseverance cannot render not only endurable, but even comparatively happy.

The Tales from American History are compiled from Irving's writings relating to the discovery of this country, which, with Edwards' History of the West Indies, Robertson's America, and Miss Emily Taylor's Letters on Maritime Discovery, have afforded abundant sources to the compiler to derive many of those picturesque incidents and romantic traits of character with which the early history of the New World so abounds; and which, while they are matters of actual record, possess all the dramatic interest and attractiveness of fictitious writing. This work was manufactured abroad, and though well suited to the dawning capacity of young children, we should be sorry to see it supersede with youth generally, the more authentic abridgement made by our countryman from his own excellent original.

The above volumes, with "THE HISTORY OF JONAH," by the Rev. T. H. Gallaudet, published by Crocker & Brewster, Boston, and for sale by J. Leavitt, Broadway, make an abundant supply for our juvenile readers this week. *

LEMPRIERE'S CLASSICAL DICTIONARY, 8th American edition: *Collins & Hannay*, and *W. Dean*. [Second notice.]—Having alluded briefly to this publication in a former notice, we have thought it due to a work of so much costliness and research, on the respective parts of the publishers and editors, to give a specimen of the new matter that has been embodied in this edition. The following account of that singular people who first severed the chains with which Rome held the world in thraldom, and afterwards imposed their own laws and customs so firmly upon Europe, as entirely to supersede the civil and political institutions of the ancients, comprehends in a brief space some of the most important features of history. The writer, (Mr. Da Ponte,) while on that debateable ground of history, which lies between the fall of the Roman empire and the rise of Feudal Europe, has with no little ingenuity managed the dry business of detail so as to comprize much learned information within the narrow limits to which he was restricted. The most puzzling thing to us in all theories and accounts of the origin of the Goths, has ever been, that such swarms of people should have come from regions which, with all the aids of modern civilization, are still unable to support a population half as dense as that of the countries which they overran and conquered. The truth is, we apprehend, that the celerity of their descent upon Southern Europe is much exaggerated by historians. Sufficient stress is not laid upon the breathing spells which these bold adventurers took on their devastating march southward; or else, instead of speaking of the icebound regions from which they sprung as "the Northern Hive," which sent out such swarms, such torrents of human beings, that the rush of the stream alone, carried it in a tide of desolation over the rest of Europe, the native forests of the barbarians would only be regarded as the sources whence those germs of conquering armies were derived, which, removing by stages of generations at a time to more genial climates, increased like the Israelites in the wilderness, and swelled into irresistible hordes, ere they came to the promised land.

There is another remarkable feature in the history of these fierce marauders—and that is the success of their invasion, in spite of the disunion and wars existing among themselves. How abject must have been the condition of the then civilized world, when its disciplined armies could make no stand against the naked invaders! Yet such, were it not for the invention of gunpowder, might hereafter be the fate of the most refined peoples. That invention, however, by converting war into a science, which may be taught in colleges, like other arts, in times of peace, has, by putting an end to the superiority of brute force over intellectual power, left it for mankind to pursue in quiet the arts of civilization, without incurring the risque of having the fruits of their labor wrenched from them by those who devote their lives to the use of arms alone. Cœur de Lion, who, with 17 men-at-arms, as Gibbon tells us, vanquished a thousand Saracens before the walls of Acre, might possibly charge through a regiment of modern cavalry; but a single piece of artillery discharged by a child would teach his bold lancers, that sinews toughened with years of training, and frames of iron clothed with triple steel, avail nothing against grape and canister; much less had a few cannon threatened from her battlements, would the half armed hordes of Scandinavia been able to become masters of the Imperial City seven centuries before his time. The wars and wanderings of the Goths, previous and subsequent to this event, are well detailed below: *

The most ancient records and traditions relating to the Goths, refer their first settlement in Europe to Scandinavia, where their name is extant still in that of the extensive tract of country between *Sweden Proper* and the kingdom of *Norway*. This region, separated by a narrow strait from the islands of *Denmark*, and opposite to *Rugen* and the coast of *Pomerania* on the narrowest part of the Baltic, is called *Gothland*, and was most probably the first established seat of the Gotthi in Europe. Originally one extensive nation, the Gotthi and the Vandali, in the progress of years, became divided, as a consequence of numbers and of frequent migration. Each people, however, upon this separation, appeared in subsequent history sufficient for the conduct of the most adventurous enterprizes and the subversion of the best established empires. The Goths themselves were subdivided into Ostro Goths and Visi Goths, referring to their relative geographical situation most probably, after the passage of the Baltic sea; besides which were the Gepidæ, who also belonged, as may be gathered from a comparison of manners and a collation of records, to this division of the Scandinavian horde. The Lombards, Burgundians, and Herulians, are merely to be mentioned as of Gothic blood; in Europe they made themselves known as a distinct people, or connected at most with the Vandalic stem. From the shores of the Baltic the first migration of the Goths conducted them through the savage region that intervened, to the countries lying on the Euxine Sea.—From this sea they next opened themselves a passage to the southern branch of the Borysthenes, supposed to be the *Prypee* of the present day, their numbers increasing at each march by the Venedi and Bastarnæ, who united with them in their devastations, allured by their success or terrified by their irresistible power. The province of Dacia, reduced but not subdued by the arms of Trajan, offered little resistance to the entrance of the Goths, now fixed on its confines; and through this unresisting country, abandoning the *Ukraine*, they passed, in the reign of the Roman emperor Decius, into the second Mœsia, a civilized province and colony of the Empire. The events of this war exalted the character of the Barbarians, and struck a fatal blow to the vanity of Rome; the Goths advanced as far as Thrace, defeated the emperor in person on their way, and secured an introduction within the now defenceless limits of the Empire at any future time. Their removal, on this occasion, was only effected by the payment of tribute, which Rome, still boasting her empire over the world, was content to pay to an undisciplined and half-armed tribe of barbarians. Such was the result of first descent of the Goths upon the outposts of the the Roman dominion, in the year of our Lord 252.—Diverted from the western territory of the Empire, the Goths next turned to the no less inviting regions of the east. They seized on the Bosphorus, and, passing over into Asia, they acquired an incalculable booty, effecting the subjugation of all the country through which they passed, and which offered scarcely a show of resistance to their dreaded arms. This is recorded as the first naval expedition of the Goths. A second succeeded, and a third, which brought those northern barbarians before the Long Walls of Athens, the once famous Piræus. The whole of Greece on the main land was ravaged in this descent of the Goths, who pursued their way to the borders of the sea, beyond which they could behold the coasts of Italy, which had not yet been

violated by the foot of a barbarian. Here they paused in their career of devastation and victory; numbers were induced to submit to the authority of the Roman empire, and were incorporated with the soldiers of the emperor. The rest returned, with various fortune and adventures, to their seats in the *Ukraine* and on the borders of the Euxine sea. Immmerable wars succeeded the period of this great expedition of the Goths, in which the Romans were not always sufferers; yet the Gothic power steadily increased till the appearanse of an enemy as formidable as they themselves had been when they first broke the bounds of their native wilderness, who threatened war and ruin no less to the half civilized people who had preceded them in their march towards the rich capital of the world, than to that capital itself. The kingdom of the Ostro Goths then extended from the Baltic to the Euxine sea, and its throne was occupied by Hermanric, one of their greatest princes, who ruled over an immense number of tribes. The Visi Goths, at the same time, occupied the banks of the Niester and the German side of the Danubius. Before the valour and ferocity of the Huns and Alani, these once dreaded conquerors were either prostrated or put to flight; and the barbarians, who had so often sent terror to the gates of Rome, now begged its clemency, and sued to be taken under its protection and received into the Empire. The emperor Valens was then upon the throne; and in his reign the Visi Goths were transported as tributaries and subjects within the ancient limits, which had not yet receded from the Danube and the Rhine. Established in Mœsia, and for a time beyond the fear of the Sarmatians, the Goths soon began to forget their allegiance, and to desire, if not to enjoy, their old independence. The next Gothic war was conducted, therefore, within the boundaries over which the Roman emperor pretended to rule; and the conflict was no longer for the integrity of the empire, but for its existence. Huns, Alani, Ostro Goths, and Visi Goths, united in this war; but the death of the Gothic leader, and the accession of Theodosius in the east, preserved yet a little longer the Empire and its name. For some time after this, the principal seats of the Gothic tribes were in Thrace and on the coast of Asia Minor. in which, in some measure, they resided as the stipendiaries of the Emperor. The reigns of the successors of Theodosius were coeval with the elevation of Alaric to the throne of the Visi Goths; and the wars of that people were renewed with a spirit which proved that they had not yet accustomed themselves to look upon the Romans as other than their enemies, and that they considered them still as legitimate a prey as when they first broke into their empire from the regions of the north. In the year 410 the city of Rome fell into the hands of these long aspiring warriors; and all Italy, that had so long been the privileged destroyer of nations, experienced the retributive justice which had for ages been invoked against her ambition. But no permanent empire succeeded the occupation of the Goths, and the death of Alaric terminated their sovereignty in Italy. Very soon afterwards, however, they obtained a less illustrious dominion in Gaul, in which they occupied the whole of the 2nd Aquitaine on the sea-coast from the *Garonne* to the *Loire*. From this comparatively narrow territory, and which, moreover, they enjoyed but as subjects of Rome. the Goths extended themselves over all the other southern parts of Gaul, and crossing the Pyrenees, established a new monarchy in Spain.—We have thus traced the progress of the Visi Goths to their final settlement in that part of the Empire which they were to hold as a permanent possession; they here become the progenitors of the modern Spaniards, and require no longer notice from the historian of antiquity. The fortunes and fate of the other races were not yet decided; but a branch of one of them, the Heruli, was destined very soon afterwards to put an end to the still remaining name and office of imperial power, and to fix a Barbarian throne in the seat of universal empire. The reign of Odoacer, however, and his Heruli, can hardly be placed to the account of the Goths, so long had that branch been severed from the original stem. When the Visi Goths became satisfied with the possession of Hispania, another numerous horde, the Ostro Goths, still roamed without dominion equal to their courage and their wants. The last years of the reign of Odoacer embroiled him with the leader of those still craving marauders; and the overthrow of the Heruli, and of the first Barbarian empire in Italy, was succeeded by the reign of Theodoric and the dominion of the Ostro Goths, A. D. 493. About 60 years afterwards the eunuch Narses, at the head of the forces of Justin, emperor of the east, put an end to the Gothic usurpation in Italy. The above account is furnished by the accredited authority of history; but another inquiry concerning the origin of the Goths proceeds upon other data, and innumerable theories supply the place of authenticated fact. Two only seem deserving here of particular notice; the first involving the question, "were the Goths Scythians?" and the second, that of their affinity with the Germans. It seems, the better arguments are brought to prove that, in the early settlement of Europe, when a second migration from the east impelled the Celtæ beyond the Danube and the Rhine, a division of the great Teutonic horde occurred; that a large portion directed itself beyond the Sinus Codanus towards the wild countries of the present *Sweden* and *Norway*, while the rest proceeded towards the centre of Europe. These latter people were the Germans; the former were the Scandinavians, who, at a later period, recrossed the gulf or sea, and, with the name of Goths, &c. possessed themselves of the abodes which the Germans, pressing on towards the limits of the empire, were abandoning almost from day to day.

MEMOIR OF THE REV. T. T. THOMASON, by the *Rev. J. Sargent, M. A.*, author of the Memoirs of Henry Martyn: N. York, D. APPLETON & Co.—The style in which this book is written is excessively bad; quaint, ambitious and affected, and addressing itself in its best points to but a very small class of the community. We shall take another opportunity of speaking of it below. The book itself is a very good one. It is the history of a fervidly pious and learned but simple minded man, and if plainly written, would have been a valuable addition, for general readers, to those works of biography which dealing rather with character than actions, teach us to draw a just estimate between the shining deeds of warriors and statesmen, and the less brilliant, but not less glorious, acts of those who court danger, privation and fatigue in disseminating the lights of knowledge and the comforts of religion in strange and barbarous lands. The Rev. Mr. Thomason was, like the lamented Bishop Heber, among the number of those high-souled individuals, who, after sacrificing the delights of home, and breaking the endearing ties that bind all there, for the sake of spreading the gospel in India, have ultimately fallen a sacrifice to their exertions in an uncongenial climate. His ministry endured for about eighteen years; during a part of which time the late distinguished Bishop of Calcutta bore the warmest testimony to his zeal and services. Bishop Heber, however, lets nothing fall in the just encomium he passes upon the clerical character of the subject of this memoir, to lead us for a moment to rank him (Mr. Thomason) as the author of his life would, with that eminent divine. Mr. Thomason was brought up as it were in the very bosom of the Church, from the early age of twelve, and, like any man who has moved but in a single sphere of life, and knows but little beyond its precincts, he was unfitted by education to become a teacher of mankind. As an expounder of Scripture, he was learned, zealous, and sincere; but as a disseminator and enforcer of its doctrines, he could hardly have been very successful, judging by the few specimens given of his discourses in the work before us. The style is mystical and figurative, made up chiefly of scriptural expressions, such as is becoming in a clergyman addressing a clergyman, but with nothing in it to take hold of a worldly mind, and "come home to the business and bosoms" of ordinary men. And this brings us again to the style of the book before us, which is of the same complexion, though heightened in degree. The vulgar use, or rather abuse, of Scriptural expressions, while it is the commonest, we hold to be one of the very worst vices of composition in a religious work. The language of the sacred Volume is almost always poetical, frequently so in the highest degree; and it should never be used in composition, unless to illustrate the loftiest subjects, and then only by those whose just perception of its beauties enables them to use it with discrimination. For, apart from the reverence attaching to it from holy association, it is as unsuited to the purposes of ordinary instruction, as would be the imaginative phraseology of Ossian to those of common conversation. It should be reserved for themes sublime, and master hands alone. But how different is the case with most writers and speakers upon religious matters. Instead of waiting till the grandeur of their subject or the ardor of composition shall strike its heavenly metaphors fresh from their minds, as the stream that gushed beneath the rod of the prophet, they open the floodgates of biblical illustration at the very commencement of their discourses, and squander the living waters as prodigally as if they would hide the barren channel over which they are made to flow. The most commonplace thoughts are dressed up in the sublimest language, and each hiatus, in their chain of reasoning, filled up with some mongrel mystical expression. This mode of writing and speaking, which is not only offensive to good taste, but really pernicious in its effect upon those addressed, is after all a mere matter of habit, and can easily be got over, if the writer, when a man of plain, strong mind, will confine himself to plain, simple speaking, and remember that unless in the way of texts and authorities, he has no more to do with the figurative language of the bible in the pulpit, than he has with the gait of a dancing master on his walk up the aisle; while, if he really have that poetic appreciation—that exquisite perception of the lofty beauties of the sacred compositions, which exist in some minds—there must be a delicacy of taste about him—a sensibility to external beauty—which will enable him generally to derive his illustrations from this breathing world around, and clothe them in language befitting his sacred office, leaving the deep and pure well of biblical literature to be drawn from only on high and solemn occasions.

There is yet another consideration, in this matter of style in religious writings; and although we have already exceeded our limits, it may be added here. The assuming and keeping up a peculiar phraseology in works of this description, tends more than any thing else to make them sealed books to nine-tenths of the world. The same simplicity should be aimed at in religious writings as now prevails in all treatises upon the arts and sciences. A lawyer, who talked to his clients in the technicals of the courts, would hardly be listened to long; and the pastor who addresses his flock altogether in the language of the conventicle, is likely to have but few understanding hearers. Our pen has run on so heedlessly this morning as not to leave us room for a word of comment upon the following extracts. The first is the eloquent and forcible appeal of the American Missionaries to the Governor General of India, upon their being expelled from that country, and the second is a picture of the desolation its provinces presented to the eye of Mr. Thomason, when travelling with the Governor.

"We would solemnly appeal to your Excellency's conscience, and ask, Does not your Excellency believe that it is the will of Christ, that his gospel should be preached to these heathens? Do you not believe that we have given a credible testimony that we are ministers of Christ, and have come to this country to preach His gospel? Would not prohibiting us from preaching here be a known resistance to his will? Can you justify such an exercise of your power to your God and final Judge?

"It is our ardent wish that your Excellency would compare most seriously such an exercise of civil authority with the general spirit and tenor of our Saviour's commands. We most earnestly entreat you not to send us away from these heathens. We entreat you by the time and money already expended on our mission; by the Christian hopes and prayers attending it; we entreat you by the spiritual misery of the heathen daily perishing before your eyes; we entreat you by the blood of Jesus, which was shed to redeem them; as ministers of Him who has all power in heaven and earth, and who with his farewell and ascending voice, commanded his ministers to go and teach all nations, we entreat you not to prohibit us from teaching these heathens. By all the principles of our holy religion by which you hope

to be saved, we entreat you not to prevent us from preaching the same religion to these perishing idolaters. By all the solemnities of the judgment day, when your Excellency must meet your heathen subjects before God's tribunal, we entreat you not to hinder us from preaching to them that gospel, which is able to prepare them, as well as you, for that awful day.'

'To have once taken the tour of the Bengal provinces, will be of great advantage in future operations. But there is nothing to tempt a second visit. To a feeling heart, the prospect of desolation is most distressing. The country affords much to gratify a naturalist, and an antiquarian; but the pursuits of such persons require time and leisure. We only passed through, and saw the immense plains of Hindostan, in all their nakedness. the dire effects of those contentions, which for centuries have depopulated the country, and covered its face with ruins. 'The ruins of Delhi are of surprizing extent, reaching sixteen miles or more; a sickening sight! O it made us sad to go through the awful scene of desolation. Mosques, temples, houses, all in ruins; piles of stones, broken pillars, domes, crumbling walls, covered the place. The imperial city presents nothing but the palace to give an idea of its greatness, and only appears grand from the magnificent wall with which it is surrounded, which still retains its beauty—being built of hard stone. Within is poverty and departed grandeur—all is going to decay. The famous hall of audience remains, built of marble, richly inlaid with stones sufficiently beautiful to realize all our expectations. We saw in the gardens the reigning prince, the poor representative of Timur's house. He was taking an airing, carried on a Tonjoh—(a chair borne on shoulders) preceded by a train of attendants bawling out his titles; he bowed to us, and appeared an intelligent man. The courts of the palace—the attendants—the offices of the servants—all gave an appearance of wretchedness one could not behold without a sigh.'

The new work on Chronology just published by Jonathan Leavitt, shall have full justice done it in our next.

Lectures for Common Schools.—We take pleasure in publishing the annexed notice—and shall repeat it from time to time, in the hope that it may attract the attention of some minds gifted with the high faculty of imparting sound and accurate knowledge, in plain and comprehensive language; and no higher or more beneficial employment of the loftiest faculties can be devised, than that of thus ministering to the instruction of the young:

Notice to Literary Persons.—A deposit has been made with the Life Insurance and Trust Company, in the city of New York, subject to the control of the subscribers and their associates, for the purpose of procuring Lectures, or Essays, on various subjects connected with scientific education, to be read in Common Schools of this State. To carry this purpose into effect, the subscribers give notice that they, or either of them, will receive manuscript essays or lectures, on the following subjects, at any time before the first day of January next; and that, to the author of such of them as shall be selected and approved, by the Superintendent of Common Schools and the subscribers and their associates, there will be paid the premiums hereinafter mentioned.

Should parts of several lectures be taken, the premium for the course of lectures on that particular subject, will be divided among their authors, in proportion to the quantity taken. The lectures are to be adapted to the capacities of children, and are to be divided into portions or sections, one of which can be conveniently read in half an hour.

The following are the subjects, on each of which, a course or series of lectures is now solicited:—

1. On the application of Science to the useful arts—for the best course of lectures on which, a premium of two hundred dollars will be paid.

2. On the principles of Legislation—the premium will be one hundred dollars.

3. On the intellectual, moral and religious instruction of the youth of this State by means of Common Schools—the duty of affording such instruction—and the improvements of which the system may be susceptible—a premium of two hundred and fifty dollars.

It is not expected that the essays will be entirely original either in matter or manner, but rather that the best authorities will be consulted; and even abstracts of the writings of approved authors will be received, if the original authority is designated. It is not desirable that the lecturer should dwell on detail, except where it may be useful for the purpose of illustration; nor will the brevity, which is essential to the plan, permit full elementary instruction on the subject of the course of essays. General principles and results, and those striking and plain illustrations which will excite attention and inquiry—which will be calculated to deposit in the youthful mind the seeds of knowledge and lead it to investigation and reflection, will best promote the object in view.

It is desired that the authors will not communicate their names with their essays: and that they will not furnish any means by which they may be known, until after the selection is made. They are requested to adopt some motto or fictitious signature; and to accompany their communications with a sealed note, containing the address of the author, on which will be endorsed the motto or signature used in the essay. Such of the notes will be opened, as have an endorsement corresponding with that of the selected lectures, to which a premium shall be awarded: the others with their accompanying essays, will be subject to the direction of their authors.

The lectures selected will be printed and distributed to every common school in this State: and subject from time to time to such use, the authors may, if they please, secure the copy-right of their productions.

Essays will be received from any quarter, either in this country or from abroad, and may be transmitted to either of the subscribers at their charge.

May 20, 1833.

John C. Spencer,
Canandaigua, N. Y.
Benjamin F. Butler,
Albany, N. Y.
Philo C. Fuller,
Geneseo, N. Y.

☞It is hoped that editors of newspapers generally, will be willing to promote the meritorious objects of this notice, by giving it a few insertions in their papers, gratuitously.

FOREIGN INTELLIGENCE.

By the *Henry IV.* we have our Paris files to 17th May inclusive. The only really important item of news—and that, if authentic, is important—is the rupture for the second or third time, of the negotiations between the Porte and the Egyptians. According to the latest Constantinople dates, Mehemet Ali had become more exacting in his terms, and the Turks, owing to the approach and support of the Russians, were less disposed to yield any thing. European intrigue is, we take it for granted, at the bottom of all this vacillation of councils, and if so, a European war is more and more probable.

The Duchess of Berri, whom her recent marriage has politically annihilated, is now to be set at liberty. She was probably only detained in custody until, by her confinement, the fact of her having contracted engagements incompatible with her claim to be Regent for her son, the soi-disant Henry V., could be irrefutably established. That such precaution was, in this point of view, necessary, is manifest from the pertinacity with which, even now, the ultra legitimists persist in treating the whole story of her marriage and maternity as a fiction.

The Gazette de France, of 17th May, says, "We have this moment received from Bordeaux a letter of the 12th, from a person in whom we have full confidence, stating that the Government had formally assured *Madame* that she should speedily be set at liberty. This promise had already produced a striking improvement of her health."

The Journal des Debats of 16th, says—"It is confidently stated that the *Duchess of Berri* will be sent to Palermo as soon as her condition will allow of it."

The Gazette de France states, as a rumor daily acquiring more consistency, that the French Ministry, and especially Messrs. du Broglie, Guizot and Thiers, contemplate a dissolution of the Chamber of Deputies at the close of its present session. The reason assigned by the Gazette for such a step, is the desire of the ministers named to re-establish the hereditary peerage. But that we should think impossible—revolutions do not go backwards.

The Belgian and Dutch question is still in agitation, with no prospect of a speedy termination.

The Belgian King is said to have received a cold reception at Gand.

It was reported in the Chamber of Deputies that the journey of the Duke of Orleans to London had been the cause of several duels. It was said that a rencontre had taken place between Achille Murat, son of the late King of Naples, and Gen. Marbot, aid de camp of the Duke of Orleans. Another rencontre is said to have occurred between the Prince Royal and Prince Lewis Bonaparte. These rumors are not vouched for, as they are not spoken of in private letters nor in the London journals.

Paris, May 16.—The rumors which have been in circulation for two days past, of a rupture of the negotiations between Ibrahim Pacha and the Porte, are confirmed to-day by the Augsburg Gazette, which contains the following article:—

Constantinople, April 23.—(By express.)—I hasten to inform you, that the negotiations with Ibrahim are still interrupted, and that we expect here that hostilities will be resumed. Ibrahim has received orders from his father, not to give up the district of Adana, and he will not evacuate Anatolia before the Sultan has ceded that district. But the Sultan will no longer listen to this cession; he has declared on the contrary, that having given sufficient proofs of condescension, he now retracts all his concessions. The Sultan, therefore, considers all the proposals hitherto made null and void, now that a Russian army is arrived to protect him. He has an entire confidence in Russia, and Admiral Roussin has been completely deceived. I have told you repeatedly in my previous letters, that the Porte only negotiated to gain time, and this, it appears, has not been believed either at head-quarters at Koniah, nor by the French Embassy, where they now reproach themselves with not having foreseen the real intentions of the Ottoman Porte; for Ibrahim will not dare attack the Russian camp, and if he loses time, it will be difficult for him to keep the field. The principal corps of the Russian army will arrive on the 15th May at Constantinople, and immediately assume the offensive. The most perfect understanding reigns between the Russian troops and the Turkish authorities: each party overwhelms the other with politeness, and the Sultan pays particular attention to the supply of the army of his auxiliary. At present there are 14000 Russians in the camp near Scutari, and to-morrow 400 Turkish artillery men will join them. Russian officers have been sent to the Dardanelles, to put the castle in a state of defence. The war thus now appears about to commence seriously. What events shall we witness! The most perfect tranquility reigns in the capital, and no doubt the presence of the Russians has greatly contributed to preserve it."

Falkland Islands.—Advices from the Falkland Islands come down to April 4th. H. B. Majesty's surveying sloop Beagle, of 10 guns, arrived there on the 2d. About 30 persons of all nations now constitute the colony at the Falklands. It seems to be understood at Buenos Ayres that these Islands now belong to the British. In other words, Jonathan has shaken the tree, and John has picked up the apples.

SUMMARY.

Westpoint.—The following list presents the names of the first five Cadets of each class attached to the Army Register, conformably to a regulation for the government of the Military Academy, requiring the names of the most distinguished Cadets, not exceeding five in each class, to be reported for that purpose after each annual examination.

The Cadets of the first class having completed their academic course, have left the institution.

FIRST CLASS.....	Frederick A. Smith, Massachusetts.
	Jonathan G. Barnard, do.
	George W. Cullum, Pennsylvania.
	Rufus King, New York.
	Francis H. Smith, Virginia.
SECOND CLASS..	William Smith, New York.
	John Sanders, Florida.
	Robert Allen, 1st Maryland.
	Harrison Loughborough, Kentucky.
	William T. Stockton, Pennsylvania.
THIRD CLASS.....	Charles H. Bigelow, Massachusetts.
	Charles J. Whiting, Maine.
	George M. Legate, New York.
	John H Martindale, do.
	Thomas T. Gantt, Maryland.
FOURTH CLASS..	James L. Mason, ——.
	Danville Leadbeiter, Maine.
	Alexander Hamilton, New York
	Barnabas Conkling, do.
	Joseph R. Anderson, Virginia.

We find the following paragraph in the Louisville (Ky.) Journal of 17th instant:

Senator Buckner.—A gentleman from St. Louis informs us, that the Hon. Mr. Buckner, member of

he U. S. Senate, died last week of the Cholera. His edy died of the same disease and at about the same ime.

New-Orleans, June 8.—The Mississippi is falling, and was yesterday 3 feet 9 inches below high water mark. The weather continues without the smallest perceptible change—the sun burning hot, and in the shade where the wind has access, (there being a constant stiff south-eastern breeze) it is, to us at least, disagreeably cool, and must be unhealthy, by too suddenly stopping perspiration—then, there has been no rain, since we know not how long, and the atmosphere is a cloud of dust in every street where there is business enough to stir it up. It is difficult to imagine a place more disagreeable than this at this moment.

We find the following queer announcement in the Westfield Eagle, printed in Chatauque county, in this State :

Lewis C. Todd has renounced Universalism. We believe there is not another preacher of that doctrine in the county.

Anecdote of John Randolph.—The Hon. Peter ——, who was a watch-maker, and who had represented B—— county for many years in Congress, once made a motion to amend a resolution offered by Mr. Randolph, on the subject of military duties.—Mr. Randolph rose up after the resolution had been offered, and drawing his watch from his fob, asked Mr. —— what o'clock it was ? He told him. 'Sir,' replied the orator, 'you can mend my watch, but not my motions; you understand *tictics*, but not tactics.'

Great Freshet.—On Friday afternoon last, the Raritan River commenced rising with great rapidity, and before 12 o'clock at night, the water was on the wharves at New Brunswick. Large quantities of pine wood, timber, flour, &c., were swept off; and so thickly was the river covered with the floating property, that a man of ordinary agility could have crossed over with nearly as much safety as on a bridge. At South Amboy it also did much damage. A passenger from Philadelphia informs us that, in passing up on Saturday, he saw upwards of eighty barrels of flour floating down the stream, together with the roof of a building supposed to have been a mill.—[Standard.]

Shawneertown, (Illinois) June 8.—*Steamboat Burnt.*—On the 29th ult. the Steamboat 'Forrester,' owned by Captain Earheart, of this place, was discovered to be on fire while discharging her freight at Baxter & Hixon's landing, on the Cumberland River; but the fire had spread so rapidly before discovered, as to render all efforts to extinguish it unavailing.—The Forrester was loaded chiefly with Salt. 325 barrels of salt were, together with all the other contents, consumed.

Varieties.—The Schr. Nile has arrived at Boston, from Hallowell, with 100 bushels of *shoe pegs!*—The Mercury has arrived from Eleuthera with a cargo consisting of 31,584 *pine apples!*

Columbus, (Geo.) June 15.—*Cholera—Famine.*—The fear at first produced in this place by the approach of the cholera, seems to have entirely passed away, and given place to the fear of another scourge equally painful—that is famine.

Since the rumor reached this place that the Cholera was at the Bay, there has been a great scarcity of the produce of the country in our market. A few barrels of flour arrived the other day, and were sold off immediately at $13 per barrel.

Pedestrianism.—The gentleman who has engaged to walk a distance of 2,000 miles in seventy days, living the whole time on bread and water, was weighed at Fuller's Gymnasium on Sunday morning. He weighed in his pantaloons, shirt, and light shoes, 118lbs. Yesterday morning he set off on his arduous undertaking. At a quarter past 10 o'clock, he reached East Chester, and expected to be at the Tontine, in New Haven, by night.—[Courier.]

Letters (says the Gazette of this morning) were received yesterday as late as the 6th ult. from on board the U. S. frigate United States, then at Genoa. All were well on board.

Princeton, June 22.—The corner stone of the new College building in this place, was laid on Thursday last. It is expected that the walls will be reared by the ensuing autumn. The edifice will be 100 feet in length by 40 in depth, and 4 stories high.—[Cour.]

[From the Boston Atlas of Tuesday.]

Docking of Old Ironsides.—That splendid structure, the Dry Dock at the Navy Yard in Charlestown, commenced in June 1827, and lately finished, was opened yesterday morning at 5 o'clock to receive the frigate Constitution. The veteran Isaac Hull had the command of the ship, and with his speaking trumpet in hand, trod the deck, as well he might, with a proud spirit. On board the frigate, were the Vice President, the Secretary of the Navy, the Secretary of War, Hon. Joel R. Poinsett of South Carolina, His Excellency Governor Lincoln, His Honor the Lieut. Governor, and many distinguished strangers, who are now the guests of the city. At half past 5, a salute was fired from a battery in the yard, and the gates of the Dock were opened. In about 25 minutes the gallant ship was safely lodged within and the hundred horse power engines immediately commenced pumping out the water, the Columbus 74 paying a grand salute to the occasion with her long thirty-two pounders.

After the entrance of the Constitution into the Dock, Com. Hull delivered three canes to the Secretary of the Navy, made of the original timber of the ship, which he stated were intended for the President, Gov. Lincoln and Mr. Poinsett of South Carolina.

Mr. Woodbury observed that he felt much pride in being selected as the individual to deliver the presents to the distinguished personages for whom they were designed. It added to his proud satisfaction to do the act on the deck of a ship that had accomplished so much for our National character, and which was so justly a public favorite. So far as it was in the power of man to preserve a vessel which was an emblem of this mighty Republic, and from whose bond of union it derived its name, he hoped that it would be done.

He regretted deeply that the indisposition of the President prevented his being present on the occasion, and he would therefore place in the hands of the Vice President the gift designed for the Chief who was richly entitled to the appellation of 'First in War, First in Peace, and First in the hearts of his Countrymen.'

The presents were then placed in the hands of the respective gentlemen, who returned their thanks in an appropriate manner.

Commodore Elliott, it will be recollected, commanded the Naval station at Charleston during the last winter and had ample opportunity to witness the noble stand taken by Mr. Poinsett against the Nullifiers and in defence of the Federal Constitution.

The gift to this eminent patriot could not therefore have been otherwise than gratifying. In making his acknowledgments, he said that he was proud to be a citizen of these United States and he was also proud that he was a native of South Carolina. Though some of the leading politicians of that State had pursued a course that was at war with the existence of the Union, he was happy in having an opportunity to say, that their voice was not the voice of the people.

Commodore Hull gave his orders on board in true sailor-like character. To his remark that he was not at home in making speeches, Commodore Elliot replied, 'No matter, my friend—make your speech as short as your fight and all will be satisfied.'

A society has been formed in New Haven, Connecticut, for the purpose of "improving the city in its architecture and its scenery." The following extracts from its first reports given in a morning paper indicate the views and spirit with which the association is to be conducted:

There are various subjects connected with economy and durability of architecture, upon which the public need to be better informed. Such are the following :—the comparative cost of stone, brick, wood, and stucco—their relative durability—their peculiar properties as respects warmth, dryness, and healthfulness—the most economical and effectual modes of warming : the structure and position of wells and cisterns—the relative value of different kinds of roofing, as shingles, slate, tin or zinc.

Nor would the enquiries respecting convenience, economy, and durability, be confined to dwelling houses; but they would extend to out houses, stores, and architectural structures of every kind both public and private.

In the third place, the improvement of the public taste, and the embellishment of the city upon classic models, the Committee view as one of the principal and most important objects of the proposed association. * * * * *"

It is not supposed that large funds will be required to accomplish the views of the association. Funds, however, to some extent, will be necessary, in order to defray the expense of drawings and engravings; and perhaps the publication of the reports or volume of Transactions may require some aid from the association, though it is believed that the copy-right of such a work would pay the expenses of preparation and publication.

A comparatively short period would probably be sufficient to accomplish the objects in view of the association, and it is not contemplated to prolong its existence beyond the time necessary to effect this purpose.

Benefits to be anticipated from the proposed association :—

In the first place, we regard whatever conduces to elevate and refine the public taste—to place daily before the eyes fine models of architecture, and beautiful scenery, as a source of rational gratification. It furnishes, moreover, much encouragement to attempt these improvements, that good taste, in regard to architecture, gardening, court yards, public squares, and rural embellishments, as shade trees and shrubbery, are not necessarily expensive. A cottage constructed in fine proportions, neatly painted, and surrounded with a handsome enclosure, embracing fine shade trees, and beautiful shrubs and flowers, is frequently an object of more admiration and delight than the most costly mansion unaccompanied by these ornaments of the vegetable kingdom. Art is expensive, and her higher productions are inaccessible to all but the wealthy. Nature has placed many of her finest productions within the reach of every man. Nature and art combined have wonderful powers to exalt each other.

MISCELLANY.

[From Verplanck's Discourses.]

The Characteristics of American History.

It has not, like the history of the old world, the charm of classical or romantic associations, and it bends itself with difficulty and without grace, to the purposes of poetry and fiction. But in ethical instruction, in moral dignity, it has no equal.

The study of the history of most other nations fills the mind with sentiments not unlike those which the American traveller feels on entering the venerable and lofty cathedral of some proud old city of Europe. Its solemn grandeur, its vastness, its obscurity, strike awe to his heart. From the richly painted windows, filled with sacred emblems and strange antique forms, a dim religious light falls around. A thousand recollections of romance and poetry, and legendary story, come thronging in upon him. He is surrounded by the tombs of the mighty dead, rich with the labors of ancient art, and emblazoned with the pomp of heraldry.

What names does he read upon them ? Those of princes and nobles, who are now remembered only for their vices; and of sovereigns, at whose death no tears were shed, and whose memories lived not an hour in the affections of their people. There, too, he sees other names, long familiar to him for their guilty or ambiguous fame. There rest the blood-stained soldier of fortune—the orator, who was ever the ready apologist of tyranny—great scholars, who were the pensioned flatterers of power—and poets, who profaned the high gift of genius, to pamper the vices of a corrupted court.

Our own history, on the contrary, like that poetical temple of fame reared by the imagination of Chaucer, and decorated by the taste of Pope, is almost exclusively dedicated to the memory of the truly great; or rather, like the Pantheon of Rome, it stands in calm and serene beauty amid the ruins of ancient magnificence and "the toys of modern state." Within, no idle ornament encumbers its bold simplicity. The pure light of heaven enters from above and sheds an equal and serene radiance around. As the eye wanders about its extent, it beholds the unadorned monuments of brave and good men who have greatly bled or toiled for their country, or it rests on votive tablets inscribed with the names of the blest benefactors of mankind.

Hic manus, ob patriam pugnando, volnera passi,
Quique sacerdotes casti, cum vita manebat,
Quique pii vates, et Phœbo digna locuti,
Inventas aut qui vitam excoluere per artes,
Quique sui memores, alios fecere merendo.

(*Translation.*)

Patriots are here, in Freedom's battles slain,
Priests, whose long lives were closed without a stain,
Bards worthy him who breathed the poet's mind,
Founders of arts that dignify mankind,
And lovers of our race, whose labors gave
Their names a memory that defies the grave.

Virgil.—From the MS. of Bryant.

Sources of National Pride.

Doubtless, this is a subject upon which we may be justly proud. But there is another consideration, which, if it did not naturally arise of itself, would be pressed upon us by the taunts of European criticism.

What has this nation done to repay the world for the benefits we have received from others? We have been repeatedly told, and sometimes, too, in a tone of affected impartiality, that the highest praise which can fairly be given to the American mind, is that of possessing an enlightened selfishness; that if the philosophy and talents of this country, with all their effects, were for ever swept into oblivion, the loss would be felt only by ourselves; and that if to the accuracy of this general charge, the labors of Franklin present an illustrious, it is still but a solitary, exception.

The answer may be given, confidently and triumphantly. Without abandoning the fame of our eminent men, whom Europe has been slow and reluctant to honor, we would reply: that the intellectual power of this people has exerted itself in conformity to the general system of our institutions and manners; and therefore, that for the proof of its existence and the measure of its force, we must look not so much to the works of prominent individuals, as to the great aggregate results; and if Europe has hitherto been wilfully blind to the value of our example and the exploits of our sagacity, courage, invention, and freedom, the blame must rest with her, and not with America.

Is it nothing for the universal good of mankind to have carried into successful operation a system of self-government, uniting personal liberty, freedom of opinion, and equality of rights, with national power and dignity; such as had before existed only in the Utopian dreams of philosophers? Is it nothing, in moral science, to have anticipated in sober reality numerous plans of reform in civil and criminal jurisprudence, which are but now received as plausible theories by the politicians and economists of Europe? Is it nothing to have been able to call forth on every emergency, either in war or peace, a body of talents always equal to the difficulty? Is it nothing to have, in less than half a century, exceedingly improved the sciences of political economy, of law, and of medicine, with all their auxiliary branches; to have enriched human knowledge by the accumulation of a great mass of useful facts and observations, and to have augmented the power and the comforts of civilized man, by miracles of mechanical invention? Is it nothing to have given the world examples of disinterested patriotism, of political wisdom, of public virtue—of learning, eloquence, and valor—never exerted save for some praiseworthy end? It is sufficient to have briefly suggested these considerations; every mind would anticipate me in filling up the details.

No—Land of Liberty! thy children have no cause to blush for thee. What though the arts have reared few monuments among us, and scarce a trace of the Muse's footstep is found in the paths of our forests, or along the banks of our rivers; yet our soil has been consecrated by the blood of heroes, and by great and holy deeds of peace. Its wide extent has become one vast temple and hallowed asylum, sanctified by the prayers and blessings of the persecuted of every sect, and the wretched of all nations.

Land of Refuge—Land of Benedictions! Those prayers still arise, and they still are heard: "May peace be within thy walls, and plenteousness within thy palaces!" "May there be no decay, no leading into captivity, and no complaining in thy streets!" "May truth flourish out of the earth, and righteousness look down from Heaven!"

INDIANS OF SOUTH AMERICA.—C. Cushing, Esq. in his interesting *Reminiscences of Spain*, makes these remarks:

The destiny of the Indian races in Spanish America has been widely and remarkably different from what it is in the United States. Here the aboriginal nations have little or no physical weight in the progress of events, and are scattered, in weak tribes, over the face of the land, withering and dwindling daily before the overpowering beams of civilization. There, they constitute a large and important element in the population, aggregated into powerful masses, capable by themselves alone of exerting a decided influence upon affairs, and holding, whether as independent communities, or as the subjects of the Spanish Americans, a rank in the scale of public estimation from which no conceivable change of dynasty or governments can cast them down, and possessing importance which the late revolution has powerfully contributed to strengthen and perpetuate.

Of the independent nations, like the Arancos, the Abiponians, and the various other tribes in the vast interior regions of the continent, who have never bowed the neck under the Spanish yoke, the spirit, vigor and numbers are well known to be far from contemptible. The possession of that noble animal, the horse, especially, by bestowing pastoral habits on the wanderers of the immense savannahs of the South, has communicated an energy and a power of forcible and rapid impression to the movements of the Indians, through the means of which, should they ever become concentrated by any common point of union, they would infinitely surpass, in barbaric splendor, the achievements of the ancient Peruvians and Mexicans. With these Arabs of the West, compare the Creeks, Cherokees, and other tribes in the United States, who, hemmed in by our fixed population, have no resource but either to adopt the manners of civilized neighbors, to be gradually extinguished, or to fly with the feeble remnants of their might beyond the Mississippi: and how striking is the relative consequence of South Americans! These nomadic nations, therefore, who sweep the verdant plains of the South, on steeds tameless and swift as the winds, uniting the errant propensities of the Indian hunter and the Tartar horseman, are peculiar objects of interest to the philosophic observer of events intrinsic to America.

But other portions of the Indian population are fast attaining importance from quite different causes. Among these are the Peruvians, and the observation may serve as an apology for now rescuing from unmerited oblivion some of the obscurer incidents of their political history. They have been a despised and an oppressed race. The hand of power has fallen heavily upon them in every age, from the days of the conquest, when the lawless bands of Pizarro trampled on the nation, down through the tyranny of many a provincial autocrat, to the time when Tupa Catari shook the walls of La Paz with the cry of liberty or death, and the limbs of Tupac Amaru were torn asunder by four wild horses. But a ray of hope smiles upon their future prospect. The revolution has raised them, in common with the other degraded castes, from the dust where they had been grovelling for centuries. In this democracy, rank must follow the lead of talent; and in South America, men of Indian descent, particularly those of mixed blood, begin to learn their consequence from the fortune of war. Mulattoes and *mestizos* are amongst the best and bravest soldiers of the revolution; and some of them have arisen upon its stormy waters to that distinction, which, in times of civil commotion, it is impossible to withhold from superior qualities. It may be long ere the multifarious and many-colored classes which compose the population of the revolutionized countries, will acquire the regular and systematic movement of our own more fortunate land. But whether in peace or in war, in times of discord or of tranquility, a race of men, which rises to two thirds of the whole population, which furnishes the laborers, and mans the fleets and armies of a republican country, cannot easily relapse into insignificance, or into the state of abject servitude. And a permanent melioration of condition is therefore the necessary consequence of the actual position of the Peruvians."

[*From Mrs. Jamieson's Loves of the Poets.*]

SHAKSPEARE.—It is not Shakspeare as a great poet, bearing a great name,—but Shakspeare in his less divine and less known character,—as a lover, and a man, who finds a place here. The only writings he has left, through which we can trace any thing of his personal feelings and affections, are his Sonnets.

Of these there are many which are without doubt inspired by the real object of a real passion, of whom nothing can be discovered, but that she was dark-eyed and dark-haired, that she excelled in music; and that she was one of a class of females who do not always, in losing all right to our respect, lose also their claim to the admiration of the sex who wronged them, or the compassion of the gentler part of their own, who have rejected them. This is so clear from various passages, that unhappily there can be no doubt of it. He has flung over her, designedly it should seem, a veil of immortal texture and fadeless hues, "branched and embroidered like the painted spring!" but almost impenetrable even to our imagination. There are few allusions to her personal beauty, which can in any way individualise her, but bursts of deep and eloquent reproach, and contending emotions, which show, that if she could awaken as much love and impart as much happiness as woman ever inspired or bestowed, he endured on her account all the pangs of agony, and shame, and jealousy;—that our Shakspeare,—he who, in the omnipotence of genius, wielded the two worlds of reality and imagination in either hand, who was in conception and in act scarce less than a god, was in passion and suffering not more than MAN.

SIR PHILIP SYDNEY. At the very name of Sir Philip Sydney,—the generous, gallant, all-accomplished Sydney,—the roused fancy wakes, as at the sound of a silver trumpet, to all the gay and splendid associations of chivalry and romance.

The Stella of Sydney's poetry, and the Philoclea of his Arcadia, was the Lady Penelope Devereux, the eldest sister of the favorite Essex. While yet in her childhood, she was the intended bride of Sydney, and for several years they were considered as almost engaged to each other: it was natural, therefore, at this time, that he should be accustomed to regard her with tenderness and unreproved admiration, and should gratify both, by making her the object of his poetical raptures.

So far Stella appears in a most amiable and captivating light, worthy the romantic homage of her accomplished lover. But a dark shade steals, like a mildew, over this bright picture of beauty, poetry, and love, even while we gaze upon it. The projected union between Sydney and Lady Penelope was finally broken off by their respective families, for reasons which do not appear.

TASSO.—Leonora d'Este, a princess of the proudest house in Europe, might have wedded an emperor, and have been forgotten. The idea, true or false, that she it was who broke the heart and frenzied the brain of Tasso, has glorified her to future ages; has given her a fame, something like that of the Greek of old, who bequeathed his name to immortality, by firing the grandest temple of the universe.

MILTON.—There is a tradition mentioned by all his biographers, that while Milton was a student at Cambridge, an Italian lady of rank, who was travelling in England, found him sleeping one day under the shade of a tree, and struck with his beauty, wrote with her pencil on a slip of paper, the pretty madrigal of Guarini, which Menage translated for Madame de Sevigne, "Occhi, stelle mortali," and leaving it in his hand, pursued her journey.

It is a curious circumstance, and one but little consonant with the popular idea of Milton's austerity, that the object of his poetical homage, and even of his serious admiration, was an Italian singer; but it must be remembered, that Milton the son of an accomplished musician, was, by nature and education, peculiarly susceptible to the power of sweet sounds.

I cannot find that either Leonora Baroni, or her mother Adriana, ever appeared on a stage; yet their celebrity had spread from one end of Italy to the other. Milton joined the crowd of Leonora's votaries at Rome, and has expressed his enthusiastic admiration, not only in verse but in prose.

Milton was three times married. The relations of his first, (Mary Powell,) who were violent royalists, and ashamed or afraid of their connection with a republican, persuaded her to leave him. She absolutely forsook her husband for nearly three years, and resided with her family at Oxford, when that city was the head-quarters of the King's party. "I have so much charity for her," says Aubrey, "that she might not wrong his bed; but what man (especially contemplative,) would like to have a young wife environed and stormed by the sons of Mars, and those of the enemie partie?"

Milton, though a suspicion of the nature hinted at by Aubrey never rose in his mind, was justly incensed at this dereliction. He was on the point of divorcing this contumacious bride, and had already made choice of another to succeed her, when she threw herself, impromptu, at his feet and implored his forgiveness. He forgave her: and when the republican party triumphed, the family who had so cruelly wronged him found a refuge in his house. This woman embittered his wife for fourteen or 15 years.

Milton's second and most beloved wife (Catherine Woodcock) died in child bed, within a year after their marriage.

After her death—blind, disconsolate, and helpless—he was abandoned to petty wrongs and domestic discord; and suffered from the disobedience and unkindness of his two eldest daughters, like another Lear. His youngest daughter, Deborah, was the only one who acted as his amanuensis, and she always spoke of him with extreme affection. On being suddenly shown his picture, twenty years after his death, she burst into tears.

These three daughters were grown up, and the youngest about fifteen, when Milton married his third wife, Elizabeth Minshull. She was a kind-hearted woman, without pretensions of any kind, who watched over his declining years with affectionate care. One biographer has not scrupled to assert, that to her tender reverence for his studious habits, and to the peace and comfort she brought to his heart and home, we owe the Paradise Lost. If true, what a debt immense of endless gratitude is due to the memory of this unobtrusive and amiable woman!—[From Mrs. Jamison's Loves of the Poets.]

JOHN RANDOLPH, OF ROANOKE.

No. VI.

"*Feb.* 19, 1825.

"In return for your very agreeable letter of the "13th, I am almost ashamed to send you this cos-"tive reply; but my health is worse than ever, and "I have suffered more within three days past from "my accident at Stoney Stratford, than I did at the "time when the injury was received.

"I have seen Mr. Robert Owen. He is in raptures "with his new purchase. He says that although "he has no concealments, and hates to have any "thing to conceal, yet at Rapp's request he has not "mentioned the price. It is certainly nothing like "the sum mentioned in the papers. He has bought "every thing, flocks, herds, &c. as it stands.

"Thanks for your Irish news. It always gives "me pleasure to hear from that quarter, and of such "men as Spring Rice and the Knight of Kerry. Suc-"cess to their schemes, for they have the good of "mankind in view.

"Believe me to be with the utmost respect and "regard, truly yours, J. R. of R."

"*Christmas day*, 1826.

"Perhaps you will have thought it strange that "no notice has been taken of your letter of the 19th "inst.; but my excuse is that I have this moment "found it among a mass of loose papers where some "officious attendant had thrust it. Be assured that "I retain a pleasing recollection of the acquaint-"ance that I had the good fortune to form with you "on our passage to England, and of the agreeable "hours that we have spent together.

"As you suppose, I did not visit Ireland this year, "neither was I so fortunate as to meet with that ex-"emplary son of hers, Mr. S. Rice. Lord L—— "told me that he was in Ireland, engaged in his "election.

"When you write to your friends in Ireland, be "so good as to mention me to your father and Mr. "F.—not forgetting your brother also—as one who "cherishes the remembrance of their civilities and "hospitality. J. R. of R."

"*April* 25, 1828.

"I am bleeding at the lungs, and see no company "—do not converse with my friends under this roof, "and am incapable of conversation, or any thing else, "except riding on horseback. You would hardly "recognize your old acquaintance in my ghostly "visage.

"Now Spring returns, but not to me returns
"The vernal joy my better days have known;
"Dim in my breast Life's dying taper burns,
"And all the joys of life with health are flown!"

"Yrs. J. R. of R."

"*January* 21, 1829.

"I have seen with deep concern the account of "the failure of the house of Frys & Chapman, Lon-"don. Knowing, as I think you do, my high admi-"ration of the character of Mrs. Elizabeth Fry, with "whom I have the pleasure of a personal acquaint-"ance, you will readily conceive the interest which I "feel particularly for her. I spent a delightful day "at Mr. Fry's country house in Essex, somewhat "more than two years ago, and passed the night there. "This circumstance only renders more lively the "regret that I feel at the late reverse of their for-"tune. I know that Mrs. Fry's brothers are men "of opulent estate, and the connexions of the family "generally are wealthy. This gives me consolation "on her account. The object of this letter is, as "you will have perceived, to obtain any information "that you may have on this subject. It will be "gratifying also to hear of any other of our English "or Irish friends. J. R. of R."

"*January* 30, 1829.

"I am indebted to you for two most obliging letters, "which I am entirely at a loss how to repay, except "by my poor but hearty thanks. Any intelligence "which you can furnish me with respecting our "English and Irish friends, will at all times be highly "welcome.

"In excuse for not having congratulated you (as I "now do most cordially) on your recent change of "state, I must beg to suggest how awkward would "have been my predicament in case the Mr. —— "whose marriage I saw announced in the newspapers "should *not* have proved to be my old fellow passen-"ger in the Amity, but another gentleman of the "same name in the vast and populous city of New "York. I am truly concerned to hear of the loss of "Mr. F——. I have a lively recollection of the morn-"ing that I breakfasted with him on my way to O'-"Brien's bridge and Loch Derg. Yet it must be a "consolation to all who knew him that he died in the "'blessed' vocation of the 'Peacemaker.'

"I am sorry that I can give you no comfort on the "subject of the Tariff. It will hardly be touched this "Session.

"Writing being particularly injurious to my disor-"der, (of the chest) I must conclude with a not very "modest request that you would let me hear from "you frequently. With great respect and regard, I "am yours, J. R. of R."

Whilst Mr. Randolph was in Richmond, attending the State Convention for altering the Constitution of Virginia, I received the following letter from him:

"*November* 27, 1829.

"Yesterday I had the pleasure to receive your "letter of 21st, which reminds me that a former one "has remained too long unacknowledged. In excuse, "I may truly plead the wearisome nature of my pre-"sent avocation—age, disease, and, worst of all, "lassitude and languor, that cause even my small "correspondence upon matters of business to accu-"mulate upon me.

"A very lame and crippled report of me has gone "forth in the Enquirer—one that I am ashamed to "see, and which, in justice as well as mercy towards "me, I hope my friends will not read. I have not "had time to do justice to myself in that particular.

"It gives me great pleasure to hear of our Irish "and English friends, and when you write, I beg to "be mentioned to them in terms of warm and grate-"ful respect. I shall not fail to read the "Colle-"gians. A 'County Limerick Man,' is to me a "great recommendation.

"Our situation here is irksome to the most pain-"ful degree. Old ultra Federalists, *now* new ultra "Jacobins, are tearing down all that is valuable and "venerable in our institutions.

"Yours, faithfully, J. R. of R."

Mr. Randolph went to Russia and England the next year, and during his absence I received but one letter from him in London, which does not contain any matter of special interest.

No VII.

Mr. Randolph returned from England for the last time in the fall of 1831. I called upon him immediately after his arrival, and was very much shocked at his emaciated appearance. In reply to my question about his health, he said, in a melancholy tone of voice—"Ah, sir, I am going at last; the machine "is worn out—nature is exhausted, and I have tried "in vain to restore her!" He then changed the conversation, and spoke with his usual animation of his late visit to England, and touched slightly upon his short sojourn at St. Petersburgh. He told me that his faithful Juba had a regular attack of *yellow fever* at the latter city, which induced him to hurry away the sooner!—besides which, there was no business of importance to detain him there, and his own health was bad.

"Well, Mr. Randolph," said I, "*great* events "have occurred in Europe, since you left us!" "Yes "sir," replied he, in his most sarcastic manner, "*great* events have occurred *abroad*, and *very small* "ones at home! They sent me the Washington pa-"pers, containing the letters, but I could not read "them. I blushed for my country. The affair *told* "badly in Europe, sir!"

I asked him whether he had attended the debates on the Reform Bill. He replied in the affirmative. I then inquired whom he considered the greatest orator in the House of Commons. "Your country-"man, O'Connell, sir, by all odds; he is a Giant "among Pigmies!" He then remarked what a dearth of good speakers there was in England, compared with the days of Fox, Burke, Sheridan, Pitt, &c.

I asked him whether the reports which were then received relative to the dangerous state of the King's health were true. He replied, "They are all d—d "Tory lies, sir; he was in excellent health when I "left London. I had the honor of breakfasting un-"der a tent with his Majesty, at the opening of the "New Bridge, a short time ago, and he appeared to "be as likely to live as any of the company—a much "better life than myself, sir!"

After spending an hour or two most agreeably with him, during which we talked of every thing and every body, I took my leave, under the impression that I had seen him for the last time; which has proved too true, though his death was more remote then than I had imagined it to be. He was so feeble, and had such a dreadfully severe cough, I really almost expected to hear of his decease on the road, before he reached Virginia!

It is stated in the newspapers that he has made his slaves free by will, which I dare say will be found true, as he has frequently told me that he was a decided enmey to slavery in the abstract, and that he would have emancipated his slaves long ago, if he could have felt convinced that they would have been as happy and as comfortable elsewhere as they were at Roanoke.

I have often heard from other persons that he was a kind and affectionate master, and did every thing in his power to make his slaves happy.

As he has now passed away for ever from "the "field of his glory," let us hope that the mantle of charity will be extended to his memory. Those who were warmly opposed to him, should now recollect that he is no longer present to reply to their attacks, and that "to err is human, to forgive divine."

No matter what difference of opinion there may be as to his political course, there can be none as to his extraordinary talents; on this ground, therefore, all parties can unite in paying the tribute of respect to departed greatness.

Those who have heard his most facinating eloquence can never forget him; and it is only by them that the preceding anecdotes will be appreciated. His *manner* of speaking was so perfectly original, it always gave point to the most simple expressions, which, when merely *read*, may not appear very striking to those who did not know him.

His personal friends will faithfully cherish the remembrance of his friendship; and his native State, "old Virginia," will not forget that in John Randolph of Roanoke she has lost one of her brightest ornaments and most devoted children! Peace be to his ashes! may they rest undisturbed beneath his "patrimonial oaks!"

POETRY.

[For the New York American.]

TAM O' SHANTER.

Two laughing Statues are from Scotland brought,
The works of Nature's child—by Art untaught:—
Yet tho' untaught their sculptor—time must end,
Before the Cobler and his tipsey friend,
Losing their power to please, neglected lie,
And cease, *unseen*, to charm the public eye.
These statues no mute body's image give,
The mind they represent—they breathe! they live!
Voiceless they magnify the sculptor's name,
And give *him*, great Praxiteles, *thy* fame.
Nature's strange power our senses so beguile,
We hear the Cobler's joke, and see his smile;
We hear his friend's applause, and hearty laugh,
And see them both the inspiring tankard quaff.
Genius made Souter Johnny's cap and clothes,
And made not *Genius* Tam O' Shanter's hose?
More honest praises Tam O' Shanter hallow,
And Souter Johnny's queerest stories follow,
Than Critics give the Venus and Apollo.
To give eternity to honest mirth,
To give to smiles and jokes a second birth,
Scenes to recall, long past, with magic art
To banish care from each spectator's heart;
At Connedy's gay feast a smiling guest
Will be the sculptor's praise, his prized bequest,
As long as Souter Johnny sits and smiles,
As long as Tam O' Shanter care beguiles.
Did e'er in Greece, or Rome, such statues shine,
Or in Canova's school, or Chantrey's thine?
Swift-footed Fame would *not* from Scotland run,
To spread the praise of Nature's gifted son.
Auld Ayre! if thy sweet town all towns surpasses,
As much for honest men, as buxom lasses,
Long mayest thou boast, mother of mighty men!
A chisel famous, as thy Poet's pen!

[*From the London Athenæum.*]

THE WIND IN THE WOODS.

'Tis a pleasant sight on a vernal day,
When shadow and sun divide the heaven,
To watch the south wind wake up for play:—
Not on the sea where ships are riven,—
Not on the mountain, 'mid rain and storm,
But when earth is sunny and green and warm,
O woodland wind, how I love to see
Thy beautiful strength in the forest tree!

Lord of the oak, that seems lord of the wild,
Thou art shaking his crown and thousand arms
With the ease of a spirit, the glee of a child,
And the pride of a woman who knows her charms;
And the poplar bends like a merchant's mast,
His leaves, though they fall not, are fluttering fast;
And the beach, and the lime, and the ash-crowned hill,
Stirs to its core at thy wandering will.

The pines that uprear themselves dark and tall,
Black knights of the forest so stately and old,
They must bow their heads when they hear thy call,
Aye, bow like the lily, those Norsemen bold;
And every tree of the field or bower,
Or single in strength, or many in power,
Quiver and thrill from the leaf to the stem,
For the unseen wind is master of them!

It is a gallant play, for the sun is bright,
And the rivulet sings a merrier song;
The grain in the meadow waves dark and light
As the trees fling shade, or the breeze is strong.
And over the hills, whether rocky or green,
Troops of the noon day ghosts are seen;
The lovely shadows of lovelier clouds,
With the gloom of the mountains amongst their crowds.

The birds as they fly scarce use their wings,
They are borne upon those of the wind to day;
And their plumes are ruffled, like all green things,
And flowers, and streams, by his noisy play;
One hour—and valley, and wood, and hill,
May be sleeping and shining all bright and still;
Not a wave, not a leaf, not a spray in motion,
Of all which now looks like a vernal ocean,—
Beautiful this;—yet I love to see
Thy strength, O wind, in the forest tree!

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK.

For the Week ending Monday, June 24, 1833, inclusive.

Communicated for the American Railroad Journal and Advocate of Internal Improvements.

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
June 18	6 a. m.	61	30.07	NNE—NE	moderate	NW / NE	fair
	10	66	30.15	ENE	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	72	30.18	S—SSE	.	NW / ESE / SW / WNW / NE	.
	6	67	30.15	SSE	.	NW / ESE / SW / WNW / NE	.
	10	62	30.20	WSW	light	NW / ESE / SW / WNW / NE	.
" 19	6 a. m.	60	30.20	.	.	NW / ESE / SW / WNW / NE	.
	10	65	30.21	S—SSE	moderate	NW / ESE / SW / WNW / NE	.
	2 p. m.	72	30.18	SSE	.	NW / ESE / SW / WNW / NE	.
	6	72	30.12	ESE	fresh	NW / ESE / SW / WNW / NE	cloudy
	10	66	30.15	SSE	moderate	NW / ESE / SW / WNW / NE	—rain
" 20	6 a. m.	65	30.09	.	.	NW / ESE / SW / WNW / NE	rainy
	10	68	30.09	.	.	NW / ESE / SW / WNW / NE	cloudy
	2 p. m.	71	30.10	.	.	NW / ESE / SW / WNW / NE	.
	6	68	30.09	.	.	NW / ESE / SW / WNW / NE	.
	10	67	30.09	.	.	NW / ESE / SW / WNW / NE	.
" 21	6 a. m.	63	30.07	S by E	.	NW / ESE / SW / WNW / NE	.
	10	67	30.07	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	68	30.07	.	.	NW / ESE / SW / WNW / NE	.
	6	68	30.07	.	.	NW / ESE / SW / WNW / NE	.
	10	66	30.15	SSE	moderate	NW / ESE / SW / WNW / NE	.
" 22	6 a. m.	65	30.09	.	.	NW / ESE / SW / WNW / NE	.
	10	68	30.11	N	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	68	30.07	.	.	NW / ESE / SW / WNW / NE	.
	6	68	30.07	.	.	NW / ESE / SW / WNW / NE	.
	10	67	30.07	NNW	.	NW / ESE / SW / WNW / NE	.
" 23	6 a. m.	70	29.97	.	.	NW / ESE / SW / WNW / NE	.
	10	74	29.95	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	78	29.97	.	.	NW / ESE / SW / WNW / NE	.
	6	74	29.95	.	.	NW / ESE / SW / WNW / NE	.
	10	70	29.97	.	.	NW / ESE / SW / WNW / NE	.
" 24	6 a. m.	69	29.99	NW	light	NW / ESE / SW / WNW / NE	.
	10	81	29.96	W	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	79	29.94	.	.	NW / ESE / SW / WNW / NE	.
	6	76	29.96	.	.	NW / ESE / SW / WNW / NE	.
	10	69	29.98	NW	.	NW / ESE / SW / WNW / NE	.
" 25	6 a. m.	68	30.00	.	.	NW / ESE / SW / WNW / NE	.
	10	69	30.00	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	68	29.98	.	.	NW / ESE / SW / WNW / NE	.
	6	68	29.98	.	.	NW / ESE / SW / WNW / NE	.
	10	68	29.98	.	.	NW / ESE / SW / WNW / NE	.
" 26	6 a. m.	65	30.00	.	.	NW / ESE / SW / WNW / NE	.
	10	68	30.02	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	71	30.01	.	.	NW / ESE / SW / WNW / NE	.
	6	69	30.01	.	.	NW / ESE / SW / WNW / NE	.
	10	67	30.01	.	.	NW / ESE / SW / WNW / NE	.
" 27	6 a. m.	66	30.01	.	.	NW / ESE / SW / WNW / NE	.
	10	70	30.01	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	72	30.00	.	.	NW / ESE / SW / WNW / NE	.
	6	70	30.00	.	.	NW / ESE / SW / WNW / NE	.
	10	68	30.00	.	.	NW / ESE / SW / WNW / NE	.
" 28	6 a. m.	67	30.00	.	.	NW / ESE / SW / WNW / NE	.
	10	72	30.00	.	.	NW / ESE / SW / WNW / NE	.
	2 p. m.	74	29.98	.	.	NW / ESE / SW / WNW / NE	.
	6	72	29.98	.	.	NW / ESE / SW / WNW / NE	.
	10	69	29.98	.	.	NW / ESE / SW / WNW / NE	.

Average temperature of the week, 69°.89.

AMERICAN

RAILROAD JOURNAL,

AND

ADVOCATE OF INTERNAL IMPROVEMENTS.

JULY, 1833, TO JANUARY, 1834.

VOL. II.—PART II.

NEW-YORK:

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No. 35 WALL STREET.

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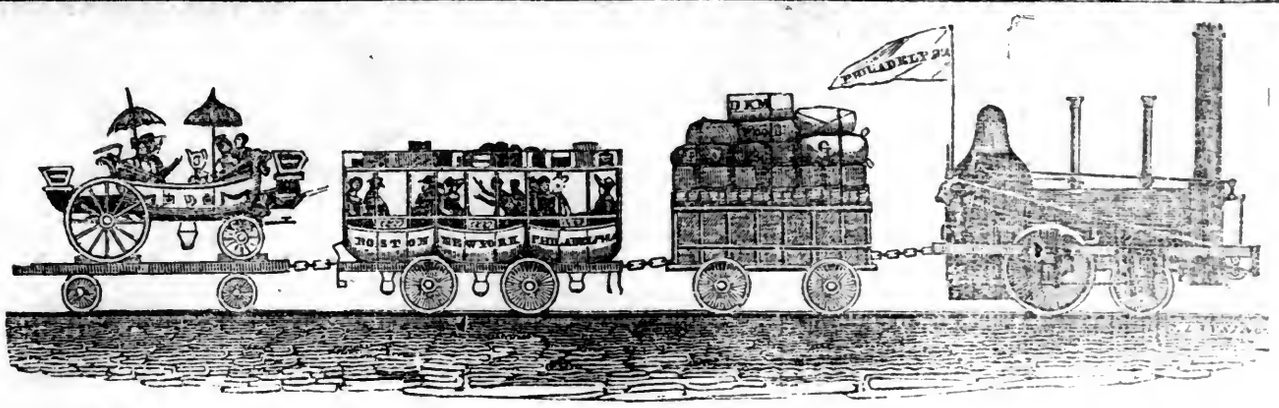
INDEX TO VOL. II. PART II.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, JULY 6, 1833.** [VOLUME II.—No. 27.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 6, 1833.

☞ Books for Subscriptions to the Stock of the *New-York and Erie Railroad* will be opened on the 9th, 10th, and 11th of July, inst. at the Merchants' Exchange, in this city.

NEW-YORK AND ALBANY RAILROAD.—We are again called upon by the importance, to this community, of the above named Railroad, to ask for the following statement of facts an attentive perusal. They will satisfy, we believe, any unprejudiced and candid person, that the project for a railroad from this city to Albany, through the eastern, or even the more central, part of the counties lying east of the Hudson, and bordering upon Connecticut and Massachusetts, will not only prove a safe, but in fact a judicious investment to the capitalist. It has been urged by many, and with very plausible arguments too, that a railroad so near, and parallel to, such a water course as the Hudson, can never become productive stock; because, they say, transportation cannot be effected as cheap upon it as upon the river; this may be true so far as it relates to goods intended for, or produce deposited in, the storehouses immediately on the river, and during nine months of the year, but not so when we refer to the interior or remote parts of those counties, as well as to the counties in the adjoining states, where they have to pay, in addition to river freight, the expense of transportation to, and often of storage at, the river: nor can the trip to and from New-York be performed with the same ease, facility and despatch, by the river as by a railroad. The ordinary rate of speed upon the river does not now exceed about twelve miles per hour, whilst 15, and even 20, miles may with ease be attained on a railroad by locomotives—and we have not a doubt that greater improvements will be made in the construction of railroads and railroad machinery within twenty years to come, than have been made in steamboats within twenty years past; nor do we believe that we calculate too sanguinely upon the spirit of the age, when we say that our faith is strong in the belief that, before the 4th of July, 1850, the man of business may take his breakfast and tea in New-York and dine the same day in Albany. With a railroad from New-York to Albany there will be more uniformity of business than at present; the farmer and manufacturer will be able to send the produce of their labor to market as soon as it is ready, instead of keeping it on hand until the river opens, and especially those articles of a perishable nature, by exposure to warm weather. Butter, lard, poultry, pork, and various other articles equally necessary for every day's use, may be brought to market with as great ease during the coldest days of winter as at any other season, by which means the farmer will receive good prices, and the citizen will obtain them at a more reasonable rate than at present.

There will be found in this number of the Journal a communication from Mr. Sullivan, on the preservation of Wood Rails. It is a subject well worthy of investigation, particularly at the present moment, when books are to be opened for two railroads of such vast importance as the *New-York and Erie* and *New-York and Albany*. If the theory is correct, an immense amount of money may be saved by its adoption; if not correct, it should be so decided before it shall have been extensively adopted.

We observe in the Albany Daily Advertiser, a very particular account of the first locomotive engine placed upon the Saratoga Railroad.

According to this account, it is one of the most complete locomotives which have been invented. It left Schenectady with a train of freight waggons, on the morning of the 2d of July, overtaking a train of passenger cars at Ballston, which it took up in addition, and with these arrived at Saratoga in one hour and forty minutes, stoppages included. Its second trip over, was in the afternoon of the same day. It left Schenectady at 5 P. M. with a train of cars, and reached Saratoga in one hour and thirty minutes, stoppages included: and this was during a heavy thunder shower, working with only about thirty pounds of steam, over muddy rails. A gentleman who was passenger states, that, during some part of the way, the speed was at least thirty miles per hour! After a very minute description of every part, too much in detail for our space, the Albany Daily concludes with the following summing up of its properties:

The engine is very easily cleaned, and in its convenient arrangement as easily managed.

It is capable of drawing 15 tons at the rate of 17 miles an hour, and even more, with about five bushels of coke, which will cost perhaps 10 or 12 shillings.

It will do the work of 50 horses, which are an expense of $50 a day, for the comparatively trifling sum of $15 a day, *all* expenses included.

It will enable travellers to reach Saratoga in two hours and a half from Albany, if the Mohawk company do not suffer the private interests of two or three persons to create unnecessary delays at Schenectady—delays against which there is an unanimous complaint.

It shows what may be done by good management, on a cheap and useful road; and adds another to the many proofs already existing, of the skill and good conduct of the directors and agents of the Saratoga company.

The engine itself is a model of excellence and elegance, and may be considered the ne plus ultra of the manufacturer.

The "Camden and Amboy Rail Road and Transportation and the Delaware and Raritan Canal Companies," paid to the Treasurer of the State of New Jersey, on the 27th June, the sum of $15,000, for the first 6 months running passengers, &c. via said Rail Road, being the half yearly payment of the $30,000, stipulated by said companies to be paid to the State of New Jersey, for privileges granted.

UTICA AND SCHENECTADY RAILROAD.—The following are the sums subscribed at the respective places at which the books were opened, for the capital stock of this company.

New York	$5,286,000
Albany	3,957,000
Utica	4,300,000
Schenectady,	1,541,000
	$14,374,000

NEW-YORK AND ALBANY RAILROAD.—Several years have now elapsed since the attention of our citizens was first directed to the important object of opening a direct and improved line of communication from the city of New-York through the heart of the country which lies between the Hudson and Connecticut rivers.

However valuable and important may be the water communications which this city now possesses, it is still desirable to obtain a free intercourse with those parts of the country which are remote from navigable waters. It is also important that this intercourse should be free from the embarrassments and periodical interruptions to which navigation is subject, and from the troublesome and expensive shipments and retransportations to which this mode of conveyance is necessarily subject. Nor can the multifarious productions of the interior country be otherwise brought to the doors of its citizens, or rendered fully available to their comfort, and to the growth and prosperity of both city and country.

Impelled by considerations of this character, a number of our citizens were at a former period induced to undertake the construction of the Sharon canal, a work which afforded the best prospect then known to the public of realizing these objects. Had that work been completed, it would still have failed in the important desideratum of affording a free intercourse during the winter months, when the usual means of conveyance are for the most part unavailable; nor would it have been at all adapted to the advantageous transportation of passengers, which is often the most important and always the most profitable business of a railroad. A concurrence of adverse circumstances, in connexion with the spirit of stock-jobbing, which prevailed so extensively at that period, gave a death-blow to that enterprise at an early stage of its progress. The superior advantages of railways were at that period unknown to the public, and the failure in executing the canal, though painful to its patriotic friends, can at this time hardly be regretted, since it leaves this valuable section of the country open to an improvement of a more useful and important character.

Since the advantages of railways for general purposes have been practically demonstrated, further attention has been given to this important line of intercourse, and near the close of the year 1830 public notice was given of an application to the legislature of New-York, for an act of incorporation for the purpose of constructing a Railway from the city of New-York to a point near Sharon in Connecticut, having in view the general route which had been chosen for the Sharon Canal, and for liberty to extend the railway at a future period so as to intersect the Hudson at or near the city of Albany. But owing to a defect in the publication of this notice, the subject was not at that time brought before the legislature.

The rapid accumulation of the evidence in favor of railroads, and the degree of confidence and expectation which that evidence was calculated to inspire, now rendered it imperative on the friends of this improvement to present its claims before the legislature and the public, on the broad footing of its manifest utility and importance. Legal notice was accordingly given in the summer of 1831, of an application which should comprise the objects first contemplated, and should also provide for a continuous line of railroad to the cities of Albany and Troy: and in addition to its primary objects, thus remove those embarrassments which annually occur from the suspension of the usual intercourse through the channel of the Hudson.

A provisional committee, which was organised in this stage of the proceedings, published a prospectus of the undertaking, in which they remark as follows:

"The rapid extension of the means of improvement, which is resulting from the introduction of railways and the use of locomotive steam engines, has rendered it obvious that the establishment of this mode of intercourse between our great commercial metropolis and the interior portions of the country is not only eligible in itself, but is also demanded by a just regard to our present and future interests. With these views the committee propose to their fellow-citizens to unite their efforts for establishing a line of railway from the city of New-York to the city of Albany, and connecting at that point with the great lines of intercourse which extend through the valleys of the Hudson and the Mohawk, to the Northern and the western lakes. By this means a highly improved and uninterrupted communication will be preserved at all seasons with the interior of the state and its seat of government; new and extensive sources of wealth in the mineral, agricultural, and manufacturing departments of industry will be opened; and a main trunk or channel be formed for a most valuable system of communication with the New-England states, and which will serve as a base line for numerous branches and lateral communications of lesser magnitude and cheaper construction, which the welfare and convenience of the adjacent country will not fail to require."

It will be seen from what has already been premised, that the proposed "New-York and Albany Railroad" is not designed to enter into competition with the general business now transacted on the Hudson river, but will, as its friends believe, find ample support in the general business of the country through which it is destined to pass, and in the exclusive business which it will command at those seasons in which the present communications are obstructed and impassable. It is the proper business of the country which is intersected, that gives the greatest value to the most important channels of intercourse in our country. It will be useful, therefore, to inquire into the amount of business which can be furnished to the railway from the country on its borders, and from those interior districts which must mainly depend on it for their intercourse with a maritime market.

The county of Westchester is the first district to which our inquiries will be directed. This large, populous, and wealthy county will be intersected by the railway at nearly equal distances between the shores of the North and the East rivers. The inhabitants of this county will thus obtain ready access to the city markets, and the impulse which will thereby be given to the agricultural and manufacturing industry of the county must, from the very circumstance of its contiguity to the city of New-York, afford a large annual amount of tonnage and passengers to the railroad, with which its interest will be especially identified. In one of the remote towns in this county, the descending tonnage for a railway has been estimated at near 2000 annually, and the passengers at 800 in each direction. The population of this county in 1830 was 36,476; the valuation of real and personal estate in 1831, was 9,397,840 dollars.

The county of Fairfield, in Connecticut, lies near the contemplated route of the railroad, and the interior portions of it can have no other favorable outlet for the products of their industry, which now contribute much to the general business of the city and country. A branch railway of nine miles will reach Danbury, one of the shire towns of this county, overcoming an elevation of but 48 feet. Some estimate may be formed of the industry and amount of business of this flourishing town, from the fact that two hundred thousand feet of boards are annually used in the construction of packing boxes for the single article of *hats* sent to the New-York market. The number of passengers booked by the stages at the same place is said to be 6000 annually.

The county of Putnam, though of limited extent, will afford much for the support of a railway. Extending from the Hudson at the Highlands to the east line of the State, its most valuable and productive portions will be found contiguous to the railroad. A partial estimate of its transportation has been made by citizens residing near the eastern border of the county, which amounts to 7000 tons, and 6000 passengers annually. Population in 1830, 12,701. Valuation of real and personal estate in 1831, $2,198,889.

The county of Litchfield, in Connecticut, next claims our notice. The interior position of this large county, and its proximity to our borders and to the route of the railway, will secure to the latter almost the whole amount of its export and import trade. Possessing in the Housatonic and its tributaries a vast amount of water power, rich in its soil and its extensive deposits of iron ore, limestone, and marble, its productions must be greatly multiplied by the increased facilities which the railway will afford. The iron of this county possesses the highest reputation, and is now transported from Salisbury, on the borders of this state, to the United States' Armory at Springfield, by land, at an expense of twelve dollars per ton. Some estimate of the present business of the county may be formed by an examination of the following statement of its productions and their annual value, by John M. Holley, Esq. which has recently been published:

Pig and bar iron, &c. -	$293,000 00
Manufacture of iron, &c. -	177,650 00
Other productions, produce, &c.	1,414,200 00
Total - -	$1,884,850 00

The number of passengers to and from New-York, furnished by this county, is very great, and constantly increasing.

The county of Dutchess, which has been long distinguished for its agricultural industry and wealth, will contribute much to the permanent business of the railroad. Much of its finest soil lies contiguous to that beautiful valley through which the railway is designed to pass. Careful estimates of the present amount of transportation have been made in some of the towns in the eastern portion of the county, and the result is highly favorable. An average of eight towns in this county, may be supposed to give their support to the railway throughout the year, not to include the business which would be derived from the other towns, and from the flourishing village of Poughkeepsie, in the winter season. The present transportation of three of the above towns, is estimated at 10,167 tons, at the annual cost of 36,168 dollars. Applying this ratio to the eight towns, and then deducting one half of the amount, will afford the estimate which we shall venture to give of the present transportation of this county, which will pertain to the railroad, and is equal to 13,556 tons annually, at an expense of 48,224 dollars. The number of passengers which can be obtained from this county is not known. Population of the county, 50,926. Valuation of real and personal estate in 1831, $16,188,739.

We are next called to notice the amount of business which can be obtained for the railway, from the county of Berkshire, in Massachusetts, the inhabitants of which, owing to its peculiar position, are more deeply interested in the success of this enterprise than almost any other section of country. An examination has been made of the amount of transportation in thirteen towns in the county, which amounts, independent of certain omissions, to 20,981 tons annually, which, at the existing rates, costs 106,157 dollars. The remaining seventeen towns of this large county are represented as affording at least an equal amount, making an aggregate of 212,314 dollars, exclusive of a large number of passengers from the county and other parts of the country more remote from the railway. A respectable inhabitant of that county, in a letter to the corresponding committee, says: "Although the result of this examination exceeds even our hopes, still, in my view, it is not the most interesting feature of the subject. The business which a railway would *create*, and the increased activity which it would give to branches now pursued, is the great point. We have marble in this town suitable for every part of the most splen-

did dwelling, from the foundation stone, to the mantel and pier-table in the parlor. Every variety of color from white to black is here, with the exception of that which is denominated Egyptian. Yet it avails us nothing: we have no means of transporting it to market. What is here said will, in many particulars, apply with equal force to many other towns." The article of hay, of which vast quantities would be sent to the New-York market, has not been included in the estimate.

In the county of Columbia we may estimate an average of nine towns as being immediately connected with the railway. One of these towns affords a greater amount of transportation than any other town from which returns have been received, and the whole are averaged as equal to the three towns in Dutchess, whose returns have been mentioned. Deducting one-half the amount of this estimate, for proximity to navigation and other considerations, there will remain 15,250 tons, at the annual cost of 54,252 dollars. The population of this county is 39,964. Valuation of real and personal estate 9,776,941 dollars.

Passing over the towns which will be intersected by the railway in Rensselaer county and the city of Troy, we will consider the whole county, as well as that of Albany, as forming the northern terminus of the route, the estimate for which will claim our attention hereafter.

The data on which we proceed in estimating the amount of business which will be afforded to the railroad, though founded on careful estimates in some towns, is necessarily imperfect in regard to others. Some of our estimates may possibly be overrated, others certainly fall short of the truth, and in those towns where a careful re-examination has been made, the amount has been much increased, and there is good reason for believing that the returns on which our results are chiefly predicated, are more precise and authentic than are usually obtained in similar cases. We shall be justified, therefore, in completing our approximate estimation of the business of the country contiguous to the route of the railway, and shall then give to the travel and transportation, which will pass through the entire length of the route, a separate consideration.

We accordingly present the following summary:

	tons.	at the cost of
Reduced estimate of nine towns in Columbia county, -	15,250	$54,252
Estimate of Berkshire, -	41,962	212,314
Reduced estimate of Dutchess county, - - -	13,556	48,224
Litchfield county, estimated at ⅔ of Berkshire, - -	31,472	159,236
Putnam co., partial estimate,	7,000	28,000
Fairfield county, - -	7,000	28,000
Westchester county, estimated equal to Putnam and Fairfield, - - - - -	14,000	56,000
	130,240	$586,026

We have thus a total of 130,240 tons now transported annually at the expense of 586,026 dollars. Supposing this to be a proper estimate on the present business of this section of country, the inquiry arises, how much transportation would accrue to the railway when completed, and at what prices?

In answering these important questions it may be proper to suggest, that much of this business now pays an additional freight on the Hudson, a portion of which will be saved to the railway by passing direct to New-York; that although the railway prices must be lower for the same distance than is now paid for transportation on common roads, still the increased mileage in passing to that city will more than compensate for the decrease in price. The effect of the railway will also be to greatly multiply the amount of products transported, so as to preserve, if not increase the gross amount now paid for transportation. Besides this, the general increase of business which may be expected to occur before the period can arrive at which the railway will be opened, especially with the stimulus of the railway in prospect, may be supposed, of itself, more than sufficient to make good the above amount to the railway. Some facts relating to the increase of business in Berkshire will show this in a strong light. About the year 1826 an examination was made into the amount of transportation then afforded by that county, in reference to an extension of the Sharon canal through the rich valley of the Housatonic. It was found that its transportation was then performed at the annual expense of about 100,000 dollars, and the committee who instituted the inquiries ventured to predict, that, with the aid of the facilities which a canal would afford, this amount would be doubled in six years. Since those inquiries were made, six years have elapsed, and, without the aid of the contemplated canal, the transportation now exceeds 200,000 dollars, and intelligent persons in that county, who are conversant with its industry and statistics, avow their belief that with the facilities which a railway on that route might afford, the present amount would be quadrupled in another equal period.

We shall therefore be fully justified in assuming an amount of transportation in the first years of the railway operations, equal to the summary above recited. Lest, however, we should appear too sanguine, and to remove all possible objections, we will deduct 40 *per cent.* from the foregoing estimate of transportation, which reduces the amount to 351,616 dollars.

We come next to the estimate of the *passengers* which would be afforded to the railway from the same district of country, and in making this inquiry we are obliged to proceed on data less precise than that which has governed our estimate of heavy transportation. We are, notwithstanding, in less danger of overrating the subject, for all past experience has shown that the travel in this country, particularly on routes connected with its commercial metropolis increases annually, in a ratio far beyond that of its business or population, and in no case is this increase so high as when connected with the establishment of steamboats and railroads.

In twelve towns in Berkshire, the passengers to and from the Hudson are estimated as now paying an amount of $10,720 annually. But the estimate is made on the present residents in these towns, not including transient visiters, and with the increase which will accrue in five years, together with the vast multiplication of travel which the railway will occasion, and the increase of mileage in the transit of a great portion of these passengers to the extreme points of the route, it will be fair to estimate the amount from this source from these twelve towns, on the opening of the railway, at $30,000 annually, and the travel of the whole county at $60,000. Nor will this estimate appear exaggerated when we consider that the most productive business of a railway is found to consist in the conveyance of passengers.

We will however estimate the travel of Berkshire county as producing annually to the railway the sum of - - - - $40,000

Litchfield county - - - -	30,000
Columbia, (including winter travel,)	20,000
Dutchess - - - - -	20,000
Putnam - - - - -	12,000
Fairfield - - - - -	12,000
Westchester - - - - -	18,000
	$152,000

We now devote our attention to that part of the travel to and from the intermediate points on the railway, which is furnished from the cities and counties which are situated at its northern and southern terminations. This important part of the estimate must begin with the city of New-York, which will possess in this railway, if we except the Hudson river, its most interesting and frequented channel of intercourse with the country. Thousands of its citizens will be induced to seek, through this accommodation, a respite from the cares of business, in the rural scenery and free air of the country, which will court their enjoyment. Thousands also of the strangers who visit the metropolis will be attracted by these inducements, and the exhibitions of manufacturing and mechanical skill which this enterprising country affords, to visit places and objects in the vicinity of the railway. To form a just view of the amount of this intercourse, we need but remember that the resident population of the city in 1830 exceeded 207,000 persons, that it is now equal to at least 225,000, and that its real and personal estate is valued at $139,280,214. Brooklyn, which is but an extension of the city, had in 1830 a population exceeding 15,000, which is rapidly increasing, and its valuation is near 7,000,000 of dollars.

At the northern termination of the route we have the flourishing cities of Albany and Troy, a large portion of whose citizens are natives of New-England, who maintain a constant intercourse, both mercantile and social, with the land of their fathers; and if we look beyond these limits to the north and to the west, we find the same relations existing, and a corresponding frequency of intercourse, which must needs contribute largely to the resources of the railway. The valuation of Albany county is $12,739,690. Its population in 1830 was 53,537. Valuation of real and personal estate in Rensselaer county, including Troy, $9,615,392; population 49,172.

It is highly probable that this description of travel to and from the intermediate portions of the route will equal that which is furnished by the intermediate country itself, amounting, as we have seen, to 152,000 dollars, and making a total of 304,000 dollars, a sum, it will be perceived, which is still below the estimated transportation of the same country. In compliance, however, with our former rule of caution, we will reduce this amount to 200,000 dollars.

We have thus an aggregate of 200,000 dollars for the entire intermediate travel of the railway, and which includes not only all which is properly afforded by the counties which are intersected, but also all the intermediate or way travel which emanates from the county of Rensselaer, and the cities of Albany and Troy, on the north, and the city of New-York on the south. Nor can we think this item to be overrated, for, on comparing it with the known amount of travel on stage routes through less important districts, it would evidently justify a larger estimate.

We come now to consider the probable income of the railway, from the business passing from the extreme points through the entire length of the railway, and will first attempt an estimate of that which will pass in the winter months, say an average of three months in each year.

Although the amount of travel between New-York and Albany by the post-road, at this season of the year, is comparatively small, yet all must be convinced that, under the operation of the railway, the business and travel would not only be greatly increased but more equally diffused through the different seasons. During the season of navigation not fewer than eight steamboats pass daily on the Hudson through the entire route. One boat is said to have carried 25,000 passengers annually on an average of past years, and some boats have much exceeded this number. If we allow a season of 35 weeks, and six passages per week, it will give 112 passengers per day for each boat, or an average of near 900 per day, and we may safely allow 75 per day, in each direction, as the average of the long travel in the winter months, when intercourse shall be established by a railway. This number, at five dollars each, which would be a moderate winter price, will amount to 58,500 dollars. This average may seem too small, and doubtless is so, but it must be remembered that we have previously estimated all the travel to intermediate points on the route. The amount of property to be carried through by the railway cannot be so

satisfactorily ascertained, but as the railway will form the sole channel of communication between New York and the interior at that season, and will greatly facilitate commercial exchanges, we will assume the amount of the winter transportation to be equal to the foregoing item, or 58,500 dollars. To this may be added, for light articles transported at other seasons of the year, $12,500.

There remains but one other source of income to be estimated, which is that arising from the long travel in summer, or that which passes through the entire length of the railway during the season of navigation, and which, as has been premised, is not mainly relied upon in calculating its profit or utility. It would be a mistake, however, to infer that no income will be derived from this source. The nature of the case, as well as past experience, shows that an increase of the means and facilities of conveyance always increases travel, and that many travellers will be drawn to the railroad from motives of interest or curiosity, and still greater numbers from considerations of convenience or a desire of change, so that a considerable portion of what is called *pleasure travel*, as well as of the men of business, will be induced to pass in one direction by the steamboats, and in the other by the railway.

If the number of passengers which now pass daily in the steamboats, between the extreme points of the route, be reckoned at 800 on an average of six days to the week, they may, at the expiration of six years from the present period, be safely estimated at 1200 per day. Perhaps one-third of the number would be induced to take the railroad, but we will allow 150 per day, in each direction, as the average of the long travel by the railway at the period of its completion, which in a season of 38 weeks, reckoned at 6 days in a week, gives 68,400 passengers, which, at $2,50 each, will be 171,000 dollars. These amounts require no reduction.

We present the following recapitulation:

Estimated transportation of the country connected with the railway, less 40 per cent. -	$351,616
Winter freights - - - -	58,500
Other light freights - - -	12,500
Reduced estimate for way travel pertaining to the route, and also from the cities and other parts of the country - -	200,000
Winter passengers through the entire route - - - -	58,500
To which may be added the estimate for passengers through the entire route, during the season of navigation - -	171,000
Total estimate of annual income	$852,116

It may be seen, from the statistics already given, that the valuation of real and personal estate in the cities and counties, at the termination of the railway, or intersected by it, amounts to about two hundred millions of dollars, without including the adjacent counties of Connecticut and Massachusetts. The whole valuation of the State of New-York is about 365 millions; so that more than one-half of the interest of the state is immediately connected with the interest of the railway. If it should be said that the intermediate river towns ought not to be included, we answer, that they are necessarily dependent upon its operations in winter, and that it is also connected in some degree with the interests of every other portion of the state, and especially with its interior districts.

The above calculations are founded chiefly on the present amount of business. It should be remembered, they include nothing for the transportation of wood, coal, hay, animals of any sort, or daily supplies for the New-York market, nor for the transportation of the mails, although the railway would necessarily form a portion of the great mail route, not only from New-York to the eastern States, but from the same States to Albany and the great West.

But it may now be asked, is the route proposed for this railroad sufficiently practicable! What will be the cost of the work, and what its annual expenses when completed? Have railroad a decided superiority over other means of intercourse? And is not the construction of a long line of railroad through an agricultural or manufacturing country a hazardous enterprise! These are important questions, and deserve a satisfactory answer.

A considerable part of the route proposed for this railroad has been thoroughly examined and surveyed, for the location of the Sharon canal, and is known to be, for the most part, highly favorable in its character. During the past autumn, a committee was appointed to collect topographical information, in relation to the entire route, at the head of which was Benjamin Wright, Esq. a distinguished Civil Engineer, who, at a former period, had directed the canal surveys, and whose talent and experience, aided by an intimate acquaintance with that section of country, entitle his opinions to the fullest confidence. The report of this committee will be found annexed, and may be deemed a sufficient answer to the first inquiry, till the engineers of the company shall have decided on the specific location of the railway.

The *cost* of the railway must depend essentially upon the character of the route through which it is to pass, the nature of the obstacles to be overcome, the style or manner in which it may be constructed, and the practical intelligence of those to whose guidance its plans and operations may be committed. The Chesapeake and Delaware canal has cost an average of 161,600 dollars per mile. The Pennsylvania state canals about 28,000 dollars per mile; and some portions of the latter have cost 100,000 dollars per mile. The New-York State canals are admitted to have cost upwards of 22,000 dollars per mile. So of railways. The Liverpool and Manchester railway of 32 miles, has cost upwards of 800,000 pounds sterling. But if we deduct 50,000 pounds for Parliament and law expenses, 100,000 pounds for a tunnel of 1¼ miles under the town of Liverpool, a large amount for deep and extensive rock cutting—expensive viaducts of solid masonry—long and heavy embankments over deep morasses—and heavy disbursements for the sequestration of valuable lands—we shall reduce the cost to an amount by no means alarming. But with all this accumulated expense, and a limit of 10 per cent. profit, which is imposed by its charter, the stock of this railway continues steady at an advance of more than 100 per cent., and the business of the road is rapidly increasing. The first six miles of the Baltimore and Ohio railroad, graded in an expensive manner, on a difficult route, has cost an average of about 60,000 dollars a mile, while the greater part of the road to the Blue Ridge, and the portion which is to extend over the Alleghanies, is admitted to cost but little more than $20,000 a mile, completed with a double track. The various rail-roads in Pennsylvania are stated to have cost from $2,000 to 25,000 per mile. The railroad from Albany to Schenectady, owing to various causes will exceed, it is said, an average of 30,000 dollars per mile; while that from Schenectady to Saratoga, formed with a single set of tracks and including a portion of heavy work, will cost but little more than 9000 dollars per mile. The railroad from Charleston, S. C. to Augusta, Geo. a distance of 135 miles, which is now in a state of forwardness, it is said will cost 6,500 dollars a mile.

The Saratoga and Schenectady railway, will afford the best data from which to estimate the cost of the New-York and Albany road. Three-fourths of the route of the latter may, in the present state of our information, be deemed of easy construction; the remaining fourth as moderately difficult. The entire distance being supposed equal to 160 miles, we have 120 miles at 9000 dollars per mile, for a single track; and which, to cover contingencies, may be put at 10,000 dollars, amounting to 1,200,000 dollars. We have remaining 40 miles, at the supposed average of 15,000 dollars per mile, amounting to $600,000, making in the whole 1,800,000 dollars.

Those persons who are familiar with the history and progress of railroads in this country, will generally unite in the opinion, that in most cases it is not expedient to establish a double line of tracks until the use of a single track has been sufficiently productive to justify the additional expenditure. In the present case, however, the great importance of the road, and the known resources on which it can rely for support, will justify the adoption in the first instance, of a grading and masonry adapted to a double set of tracks. This will probably increase the outlay at the rate of about 1,800 dollars per mile, equal to 288,000 dollars, which swells the cost to 2,088,000 dollars. To this may be added 212,000 dollars for locomotive engines, carriages, sheds, and the usual paraphanalia of a great carrying establishment; making a total amount of 2,300,000. The laying of a second set of tracks would probably require the balance of three millions of dollars; and to provide for such an enlargement of the work, or for any other emergency, this sum may be fixed as the amount of the capital. This sum is predicated on a scale of strict economy in the expenditure, and as a railway, considered in reference to the future growth of the country, is a progressive work, a larger capital may ultimately be employed. The annual interest on three millions, at 6 per cent. is $180,000.

The annual expenses of maintaining the establishment cannot be ascertained with certainty; but the experience which has been derived from the railroads in this country and in Europe affords a criterion by which these expenses may be safely estimated. We have seen that the estimated receipts for freight are stated at 422,616 dollars, on which it is usual to allow half for the expenses attending its transportation, which leaves 211,308 dollars as the nett product of this branch of the railway business. The estimate for passengers is 429,500 dollars, on which it is usual to allow 1-5 to 1-3 for expenses; but to cover all charges for oversights in our estimates, or for other unknown contingencies, and to make good any deficiency or excess of expenses which may possibly occur in the other branch of the estimates, we will appropriate half of the receipts for passengers to meet the expenses, which leaves for a nett product a moiety of the whole estimate, or 426,058 dollars. From this sum we will make a further deduction of 66,058 dollars for annual repairs, if the same be not covered by our previous liberal allowances, which leaves us a supposed annual surplus or profit of 360,000 dollars, being equal to a dividend of twelve per cent. on a capital of three millions.

In estimating the value of railroads it should be borne in mind, that a railway which produces a nett income or dividend of 6 per cent. in the first years of its operations, will be considered as good property, for the gradual increase of business which must ensue will increase the annual profits in a geometric ratio. In the mean time the proprietors are exempt from that universal, and often ruinous competition which stages, steamboats, and merchant vessels, are usually compelled to sustain. The railway is also perfectly adapted to any further improvements in the means of locomotion which may chance to be introduced, whilst its almost imperishable character is in striking contrast with the perishable nature of those vehicles which constitute the usual means of conveyance.

Still, doubts are often expressed of the real superiority of railroads over canals and other means of conveyance, and from sources that would seem entitled to respectful consideration. Without advancing more on this head, it is sufficient to say, that of two admitted advantages, among all others which have been named as pertaining to railroads, either is deemed sufficient to give a decided preponderance in their favor. The first of these advantages is celerity and despatch. Time is money, or rather is an element which necessarily enters into the esti-

mate of the cost or advantage of every transit which is made of person or property. The second, is that of free intercourse in adverse or inclement seasons of the year; when all other means of conveyance are embarrassed or interrupted.

We will add on this subject the testimony of one of the most cautious and experienced engineers in Great Britain, whose opportunities of forming correct opinions on this subject have not been surpassed by those of any other individual.

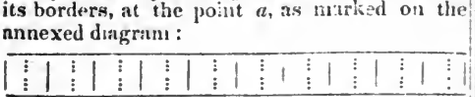
"The question that railways are fitted for the conveyance of general merchandize, has been decided in the most conclusive and practical manner. Being applicable at greater rates of speed than by any other mode, not only for the conveyance of passengers, but also for general merchandize, has affixed a value to railroads possessed by no other means of conveyance. Uniting the several qualities of being alike adapted for the transit of light and heavy goods, and the conveyance of passengers, will unquestionably lead to the substitution of railways for other modes, not possessing such properties, in all cases where the extent of traffic is such as to justify the out-lay of capital necessary for their construction."—(Wood on Railroads, 2d edition, 1831.)

There remains in concluding our inquiries, but one point to be examined. Is not the construction of a long line of railroad, through an agricultural or manufacturing country, an uncertain or hazardous enterprize?

It is often said that those railroads only can be profitable which are of moderate extent, and which unite great cities or thoroughfares, and the case of the Liverpool and Manchester Railroad is often referred to as a case in point. This idea or objection is by no means new. It was urged with great confidence against the construction of the Erie Canal, and ruin was confidently predicted to the finances of the state, should the legislature embark its interests in that mad adventure. The example of this canal may be referred to with more safety than that of the Liverpool Railway, and it proves that the true principles on which the success of these works depend have been mistaken by the objectors, and that, other things being equal, the success or profit of a line of canal or railway depends very much upon its extension, and that the value increases with the length in a geometric ratio. This matter is generally understood by our civil engineers, and it is admitted that in penetrating a secluded country, although the distant portions of the work may, if separately considered, fail to remunerate for their construction, yet the increased mileage of the remote trade on the more frequented portions of the work will more than compensate for the deficiency.

The importance of this view of the subject, and its bearing upon the interests of the proposed railway, which is to lead from the city of New-York towards the interior of our country in another direction,* induces a more specific examination of the question under review.

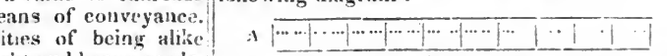
In order to give a correct illustration, we will suppose ten separate districts of country of equal dimensions, and furnishing an equal amount of tonnage or passengers, each district to be intersected through its geographical centre by a railway leading to a market on one of its borders, at the point *a*, as marked on the annexed diagram:



a a a a a a a a a a

We will, for the sake of numerical exactness, further suppose these districts to be each ten miles square, and the equal products or travel of each to be drawn to the several railways at points which shall average the mileage at that which is the common centre of each district. It is obvious that the average distance which the products will be carried on each railway, is five miles; and if the total amount of tonnage or passengers be 5,000 in each district, it will, at one dollar per ton or passenger for this distance, amount to 5,000 dollars. If we now take the aggregate of the ten railroads in the several districts, estimated by the same rule, the aggregate compensation or income for the 100 miles of railroad will amount to $50,000. This is a fair exhibition of the operation of railways in single isolated districts, each leading to its separate local market.

We will now examine the effect of a continuous railway through the same number of districts of like dimensions, and furnishing a like amount of tonnage or passengers, the entire length of railway being the same as before, but leading to a common market at the termination of the tier of districts, as at A. in the following diagram:



It is here evident, that the tonnage or passengers of each district will pass the same average number of miles in the district as in the former case, but mark the difference which follows. The tonnage of the district nearest to the market at A. will reach its destination in travelling an average of five miles from the common centre of the district; but the products of the second district, after travelling the same distance, must pass through the entire length of the first district, or an average distance of 15 miles, and the tonnage of the third district must pass in its turn 25 miles: and the same ratio of increase will apply to all the remaining districts, producing the following results:

			cost of transportation.
From 1st dis.	to market at	A. estimated 5 miles,	$5,000
2d do-	do.	do.	15 do. 15,000
3d do.	do.	do.	25 do. 25,000
4th do.	do.	do.	35 do. 35,000
5th do.	do.	do.	45 do. 45,000
6th do.	do.	do.	55 do. 55,000
7th do.	do.	do.	65 do. 65,000
8th do.	do.	do.	75 do. 75,000
9th do.	do.	do.	85 do. 85,000
10th do.	do.	do.	95 do. 95,000
			25,0,000

Thus it appears that the amount of income or compensation derived from the same amount of tonnage or passengers, from the same number of districts, on a continuous railway of the same aggregate extent, but leading through the several districts in succession to a common market, will amount to $500,000, being *ten times* the amount which the same business will afford on ten local railways of ten miles each, while from the more simple economy in the superintendance and management of the longer route, the aggregate expenses would be but little increased.

We find, therefore, that extended lines of communication, leading from great markets towards the interior, are by far the most profitable, especially in a country of such wide extent as our own, and it is only the converse of the objection that holds true, viz.: That *short* lines of railway or canal cannot be made profitable in this country, unless in uniting important cities or great lines of communication.

It is these obvious considerations which have given such value to the Erie Canal. Had this great work been restricted to one-fourth of its present length, in its extension from the Hudson, it would probably have remained an annual burden upon the finances of the state, instead of imparting, as it now does, happiness, wealth, enterprize, and confidence, throughout our widely extended and prosperous community.

The time will soon arrive when the subscriptions for the stock of the New-York and Albany Railroad will be open to the public. After the company shall have been organized, the surveys and other necessary arrangements for the final location and execution of the work will protract the time at which the directors will commence calling in the instalments for one or two years longer, and we may then expect to see the work in active progress. The Legislature of Massachusetts during its last session passed an act giving corporate powers for the construction of the railway or its branches in the county of Berkshire; and by connecting with the Harlæm Railroad, provision is already made for its extension into the heart of our great commercial city.

* The New-York and Erie Railroad, through the northern line of counties.

RAILROAD.—Extract from the log-book of a gentleman who left New-York on Thursday last for Baltimore. Left New-York at 6. 10, arrived at Amboy at 8. 21. Left Amboy at 8. 31, and arrived at Bordentown at 12. 8. Left at 12. 11, and arrived at Philadelphia at 2. 36. Left Philadelphia at 3. 16, arrived at New Castle at 6. 15. Left at 6. 21, and arrived at Frenchtown 7. 21. Left at 7.53, and arrived at Baltimore at 12. 35. A considerable time lost in changing horses between Amboy and Bordentown. The distance from New Castle to Frenchtown, 16¼ miles, which was performed in one hour, besides having made two stops on the route for the steam to go off *pish, pish*, at the cows, which were on the road. In one instance the boy who drove the cows was more frightened than the cattle: he ran one way and the cattle the other.—[Com. Adv.]

[*From the Frederick (Md.) Examiner, of 26th June.*]

RAILROAD AND CANAL.—Philip E. Thomas, Esq. President of the Railroad Company, and John Eaton, Esq. President of the Canal Company, accompanied by a committee of the Directors of each Company, visited the Point of Rocks, on Wednesday last, for the purpose of instituting measures to carry into effect the compromise for the passage of both works round the Point of Rocks. We have heard that the best disposition to accommodate all differences upon the subject was evinced, and that the two works will probably now progress in harmonious co-operation.

Rafts and Canal Navigation.—The great quantity of timber which is brought into the Erie canal, in rafts, by the opening of the Oswego and Cayuga and Seneca canals, has produced so much detention at the locks, during the press of business for several weeks since the opening of navigation, as to call for some effort to relieve this inconvenience hereafter, either by the construction of double locks, or such regulations as will induce the lumbermen to transport their rafts during the summer months, intermediate between the press of business on the canal in the spring and fall.

The attention of the public officers who have charge of the canals has been called to this subject, and we are authorized by the Comptroller to say, that the Canal Board, at an informal meeting on the 17th inst., took into consideration the transportation of timber in rafts on the Erie and Champlain canals, and the present rates of toll on lumber transported in that manner; and that such of the members of the board, as were present, entertain the opinion that some new regulations on this subject will the next year become indispensable. They are not now prepared to say what particular measure will be adopted; but it is not improbable that on timber transported in rafts during the spring and fall, when the canal is thronged with boats, the owners of rafts will be required to diminish the number of cribs in a ton, and to increase the number of hands, so that each crib shall be in the immediate custody of some person, and so managed as not unnecessarily to impede the navigation of boats; in addition to this the tolls on rafts navigating the canals in the spring and fall may be increased. In order to relieve the rafts from the effects of these restrictions, and to present the strongest inducements for their transportation during that part of the season when the canal is not crowded with boats, it is proposed to reduce the tolls on all rafts transported during three months in the middle of the season.

This notice is given in order that those who feel an interest in this subject may have timely notice of the probable change in the tolls and regulations, and may make their business arrangements with reference to those alterations.—[Albany Argus.]

MARKET FOR COCOONS.—The American Farmer states that a silk filature is about to be established in Baltimore, and that Mr. Hitchcock, proprietor of that paper, is authorised to purchase cocoons at twenty-five to fifty cents per pound, according to their quality.

A few Remarks on the Relation which subsists between a Machine and its Model. By Edward Sang, Teacher of Mathematics, Edinburgh.

At first sight, a well constructed model presents a perfect representation of the disposition and proportion of the parts of a machine, and of their mode of action.

Misled by the alluring appearance, one is apt, without entering minutely into the inquiry, also to suppose that the performance of a model is, in all cases, commensurate with that of the machine which it is formed to represent. Ignorant of the inaccuracy of such an idea, too many of our ablest mechanicians and best workmen waste their time and abilities on contrivances, which, though they perform well on the small scale, must, from their very nature, fail when enlarged. Were such people acquainted with the mode of computing the effects, or had they a knowledge of natural philosophy, sufficient to enable them to understand the basis on which such calculations are founded, we should see fewer crude and impracticable schemes prematurely thrust upon the attention of the public. This knowledge, however, they are too apt to regard as unimportant, or as difficult of attainment. They are startled by the absurd distinction which has been drawn between theory and practice, as if theory were other than a digest of the results of experience; or, if they overcome this prejudice, and resolve to dive into the arcana of philosophy, they are bewildered among names and signs, having begun the subject at the wrong end. That the attainment of such knowledge is attended with difficulty is certain, but it is with such difficulty only as can be overcame by properly directed application. It would be, indeed, preparing disappointment to buoy them up with the idea, that knowledge, even of the most trivial importance, can be acquired without labor. Yet it may not be altogether unuseful, for the sake both of those who are already, and of those who are not, acquainted with these principles, to point out the more prominent causes, on account of which the performance of no model can, on any occasion, be considered as representative of that of the machine. Such a notice will have the effect of directing the attention, at least, to this important subject. In the present state of the arts, the expense of constructing a full-sized instrument is, in almost every instance, beyond what its projector would feel inclined, or even be able, to incur. The formation of a model is thus universally resorted to, as a prelude to the attempt on the large scale. An inquiry, then, into the relation which a model bears to the perfect instrument, can hardly fail to carry along with it the advantage of forming a tolerable guide, in estimating the real benefit which a contrivance is likely to confer upon society.

In the following paper I propose to examine the effect of a change of scale on the strength and on the friction of machines, and, at the same time, to point out that adherence to the strictest principles which is apparent in all the works of nature, and of which I mean to avail myself in fortifying my argument.

Previous, however, to entering on the subject-proper, it must be remarked that, when we enlarge the scale according to which any instrument is constructed, its surface and its bulk are enlarged in much higher ratios. If, for example, the linear dimensions of an instrument be all doubled, its surface will be increased four, and its solidity eight-fold. Were the linear dimensions increased ten times, the superfices would be enlarged one hundred, and the solidity one thousand times. On these facts, the most important which geometry presents, my after-remarks are mostly to be founded.

All machines consist of moveable parts, sliding or turning on others, which are bound together by bands, or supported by props. To the frame work I shall first direct my attention.

In the case of a simple prop, destined to sustain the mere weight of some part of the machine, the strength is estimated at so many hundred weights per square inch of cross section. Suppose that, in the model, the strength of the prop is sufficient for double the load put on it, and let us examine the effect of an enlargement, ten-fold, of the scale according to which the instrument is constructed. By such an enlargement, the strength of the prop would be augmented 100 times; it would be able to bear 200 loads such as that of the model, but then the weight to be put on it would be 1000 times that of the small machine, so that the prop in the large machine would be able to bear only the fifth part of the load to be put on it. The machine, then, would fall to pieces by its own weight.

Here we have one example of the erroneous manner in which a model represents the performance of a large instrument. The supports of small objects ought clearly to be smaller in proportion than the supports of large ones. Architects, to be sure, are accustomed to enlarge and to reduce in proportion; but nature, whose structures possess infinitely more symmetry, beauty, and variety, than those of which art can boast, is content to change her proportions at each change of size. Let us conceive an animal having the proportions of an elephant and only the size of a mouse; not only would the limbs of such an animal be too strong for it, they would also be so unwieldy that it would have no chance among the more nimble and better proportioned creatures of that size. Reverse the process, and enlarge the mouse to the size of an elephant, and its limbs, totally unable to sustain the weight of its immense body, would scarcely have strength to disturb its position even when recumbent.

The very same remarks apply to that case in which the weight, instead of compressing, distends the support. The chains of Trinity Pier are computed to be able to bear nine times the load put on them. But if a similar structure were formed of ten times the linear dimensions, the strength of the new chain would be one hundred times the strength of that at Trinity, while the load put upon it would be one thousand times greater; so that the new structure would possess only nine-tenths of the strength necessary to support itself. Of how little importance, then, in bridge building, whether a model constructed on a scale of perhaps one to a hundred support its own weight! Yet, on such grounds, a proposition for throwing a bridge of two arches across the Forth, at Queensferry, was founded. Putting out of view the road-way and passengers altogether, the weight of the chain alone would have torn it to pieces. The larger species of spiders spin threads much thicker, in comparison with the thickness of their own bodies, than those spun by the smaller ones. And, as if sensible that the whole energies of their systems would be expended in the frequent reproduction of such massy webs, they choose the most secluded spots; while the smaller species, dreading no inconvenience from a frequent renewal of theirs, stretch them from branch to branch, and often from tree to tree. I have often been astonished at the prodigious lengths of these filaments, and have mused on the immense improvement which must take place in science, and in strength of materials too, ere we could, individually, undertake works of such comparative magnitude.

When a beam gives support laterally, its strength is proportioned to its breadth, and to the square of its depth conjointly. If, then, such a beam were enlarged ten times in each of its linear dimensions, its ability to sustain a weight placed at its extremity would, on account of the increased distance from the point of insertion, be only one hundred times augmented, but the load to be put upon it would be one thousand times greater; and thus, although the parts of the model be quite strong enough, we cannot thence conclude that those of the enlarged machine will be so.

It may thus be stated as a general principle, that, in similar machines, the strengths of the parts vary as the square, while the weights laid on them vary as the cube of the corresponding linear dimension.

This fact cannot be too firmly fixed in the minds of machine makers; it ought to be taken into consideration even on the smallest change of scale, as it will always conduce either to the sufficiency or to the economy of a structure. To enlarge or diminish the parts of a machine all in the same proportion, is to commit a deliberate blunder. Let us compare the wing of an insect with that of a bird: enlarge a midge till its whole weight be equal to that of the sea-cagle, and, great as that enlargement must be, its wing will scarcely have attained the thickness of writing paper; the falcon would feel rather awkward with wings of such tenuity. The wings of a bird, even when idle, form a conspicuous part of the whole animal; but there are insects which unfold, from beneath two scarcely perceived covers, wings many times more extensive than the whole surface of their bodies.

The larger animals are never supported laterally; their limbs are always in a position nearly vertical: as we descend in the scale of size the lateral support becomes more frequent, till we find whole tribes of insects resting on limbs laid almost horizontally. The slightest consideration will convince any one that lateral or horizontal limbs would be quite inadequate to support the weight of the larger animals. Conceive a spider to increase till his body weighed as much as that of a man, and then fancy one of us exhibiting feats of dexterity with such locomotive instruments as the spider would then possess!

The objects which I have hitherto compared have been remote, that the comparisons might be the more striking; but the same principles may be exhibited by the contrast of species the most nearly allied, or of individuals even of the same species. The larger species of spiders, for instance, rarely have their legs so much extended as the smaller ones; or, to take an example from the larger animals, the form of the Shetland poney is very different from that of the London dray horse.

How interesting it is to compare the different animals, and to trace the gradual change of form which accompanies each increase of

size! In the smaller animals, the strength is, as it were, redundant, and there is room for the display of the most elaborate ornament. How complex or how beautiful are the myriads of insects which float in the air, or which cluster on the foliage! Gradually the larger of these become more simple in their structure, their ornaments less profuse. The structure of the birds is simpler and more uniform, that of the quadrupeds still more so. As we approach the larger quadrupeds, ornament, and then elegance, disappear. This is the law in the works of nature, and this ought to be the law among the works of art.

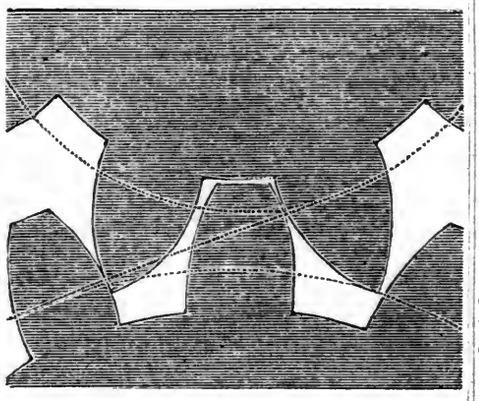
Among one class of animals, indeed, it may be said that this law is reversed. We have by no means a general classification of the fishes; but, among those with which we are acquainted, we do not perceive such a prodigious change of form. Here, however, the animal has not to support its own weight; and whatever increase may take place in the size of the animal, a like increase takes place in the buoyancy of the fluid in which it swims. Many of the smaller aquatic animals exhibit the utmost simplicity of structure; but we know too little of the nature of their functions to draw any useful conclusions from this fact.

Of Wheel Work.—In treating of the simple mechanical power, called the wheel and axle, (see The Artisan, vol. i. p. 86), we stated that motion was communicated from one wheel to another, either by belts and straps passing over them, or by teeth cut in the circumference of each, and working in one another. We shall now enter a little more fully into the subject and endeavor to explain some of the most useful principles upon which this branch of practical mechanics depends, and also to point out the various methods of applying this mechanical power in the motion of different kinds of machinery.

Where a broad strap runs on a wheel, it is usually confined to its situation, not by causing the margin of the wheel to project, but, on the contrary, by making the middle prominent, as represented by the following wheel or pulley, on which a broad strap runs, the surface being convex; the wheel which drives it is of a similar form but its upper part only is shown in the figure.

The reason of the middle being made prominent may be understood by examining the manner in which a tight strap, running on a cone, would tend to run towards its thickest part. Sometimes also pins are fixed in the wheels, and admitted into perforations in the straps; a mode only practicable where the motion is slow and steady. A smooth motion may also be obtained, with considerable force, by forming the surfaces of the wheels into brushes of hair. More commonly, however, the circumferences of the contiguous wheels are formed into teeth, impelling each other, as with the extremities of so many levers, either exactly or nearly in the common direction of the circumferences; and sometimes an endless screw is substituted for one of the wheels.

In forming the teeth of wheels, it is of consequence to determine the curvature which will produce an equable communication of motion with the least possible friction. For the equable communication of motion, two methods have been recommended; one, that the lower part of the face of each tooth should be a straight line in the direction of the radius, and the upper, a portion of an epicycloid; that is, of a curve described by a point of a circle rolling on the wheel, of which the diameter must be half that of the opposite wheel; and in this case it is demonstrable, that the plane surface of each tooth will act on the curved surface of the opposite tooth, so as to produce an equable angular motion in both wheels: the other method is, to form all the surfaces into portions of the involutes of circles, or the curves described by the point of a thread which has been wound round the wheel while it is uncoiled; and this method appears to answer the purpose, in an easier and simpler manner than the former. The following figure represents the teeth, &c. of two wheels, formed into involutes of circles, described by uncoiling a thread from the dotted circles; the point of contact of the teeth being always in the straight line, which touches both circles.



It may be experimentally demonstrated, that an equable motion is produced by the action of these curves on each other; if we cut two boards into forms, terminated by them, divide the surfaces by lines into equal or proportional angular portions, and fix them on any two centres, we shall find that, as they revolve, whatever parts of the surfaces may be in contact, the corresponding lines will always meet each other.

Both of these methods may be derived from the general principle, that the teeth of the one wheel must be of such a form, that their outline may be described by the revolution of a curve upon a given circle, while the outline of the teeth of the other wheel is described by the same curve revolving within the circle. It has been supposed by some of the best officers, that the epicycloidal tooth has also the advantage of completely avoiding friction; this is, however, by no means true, and it is even impracticable to invent any form for the teeth of a wheel which will enable them to act on other teeth without friction. In order to diminish it as much as possible, the teeth must be as small and as numerous as is consistent with strength and durability; for the effect of friction always increases with the distance of the point of contact from the line joining the centres of the wheels. In calculating the quantity of the friction, the velocity with which the parts slide over each other has generally been taken for its measure; this is a slight inaccuracy of conception, for the actual resistance is not at all increased by increasing the relative velocity; but the effect of that resistance, in retarding the motion of the wheels, may be shown, from the general laws of mechanics, to be proportional to the relative velocity thus ascertained.

When it is possible to make one wheel act on teeth fixed in the concave surface of another, the friction may be thus diminished in the proportion of the difference of the diameters to their sum.

To ascertain the height of a steeple, tower, &c.—Take two sticks of any but equal length, and holding one perpendicular, place one end of the other against its centre, so as to form a right angle with it; having done this, place your eye at the other end, and advance towards, or recede from, the object the height of which you wish to ascertain, until the upper and lower ends of the perpendicular stick shall appear to touch its top and bottom at the same time; then, from the spot on which you stand, measure the distance to the foot of the object, and this will be its exact height.

Architecture.—Of the Orders of Architecture.

The moderns have applied the term order to those architectural forms with which the Greeks composed the façades of their temples.

The principal members of an order are, 1st, a platform; 2d, perpendicular supports; and 3d, a lintelling or covering connecting the tops of these supports, and crowning the edifice.

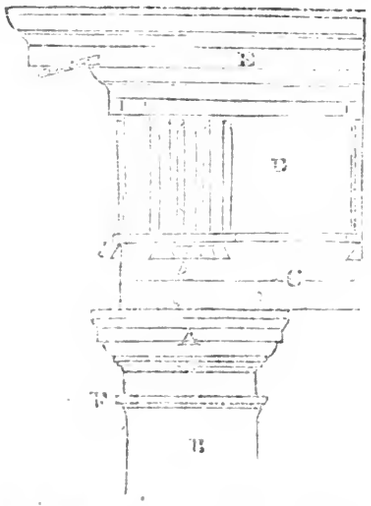
The proportioning of these parts to the edifice and to each other, and at the same time adapting characteristical decorations, constitutes an order, *canon*, or rule.

The principal member of an order is the perpendicular support or *column*. The accompaniments being subservient to this leading feature, the bottom of the column is fixed either on a general artificial platform, or each upon a particular *plinth*, or both. The lower part of the column, which rests upon the square plinth, is sometimes encompassed with mouldings, which, in allusion to their position, are, in conjunction with the plinth, called the *base*.

The top part of the column is also covered with a square plinth, with its sides straight or curved, and generally accompanied by circular mouldings or sculptured decorations upon the top part of the column, which is immediately underneath it; this, taken together, is called the capital. The body of the column, which reaches between the base and capital, is termed the *shaft:* it is the frustrum of a cone, with sometimes a plain surface, but frequently having perpendicular flutings, either meeting in an edge or leaving a small plane space between them. The lintelling or covering, which lies upon and connects the column, is termed the *Entablature*, and is sub-divided into three parts, named architrave, frieze, and cornice: the architrave consists of a mere lintel laid along the tops of the columns; the frieze represents the ends of the cross beams resting upon the former, and having the spaces between filled up, having mouldings also fixed to conceal the horizontal joint, and divide it from the architrave; and the upper member or cornice represents the project.

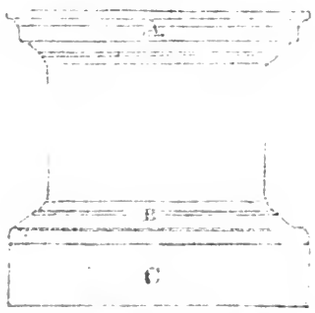
ing eaves of a Greek roof, showing the ends of the rafters.

These definitions will be easily understood by an inspection of the following figure:



A, the capital—B, shaft—C, architrave—D, frieze—E, cornice.

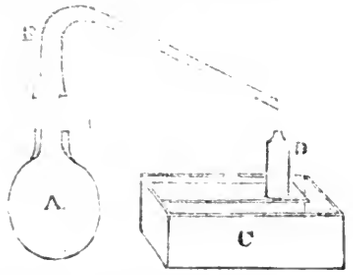
PEDESTAL.



A, the cornice—B, the base—C, the plinth.

History of Chemistry.

Of Oxygen Gas.—Oxygen gas may be obtained by the following process:

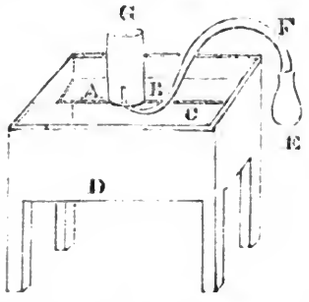


Procure an iron bottle of the shape A, and capable of holding rather more than an English pint. To the mouth of this bottle an iron tube bent like B is to be fitted by grinding. A gun-barrel deprived of its butt end answers the purpose very well. Into the bottle put any quantity of the black oxide of manganese* in powder; fix the iron tube into its mouth, and the joining must be air tight; then put the bottle into a common fire, and surround it on all sides with burning coals. The extremity of the tube must be plunged under the surface of the water with which the vessel C is filled.

This vessel may be of wood or japanned tin plate. It has a wooden shelf running along two of its sides, about three inches below the top, and an inch under the surface of the water. In one part of this shelf there is a slit, into which the extremity of the iron tube plunges. The heat of the fire expels the greatest part of the air contained in the bottle. It may be perceived bubbling up through the water of the vessel C from the extremity of the iron tube. At first the air bubbles come over in torrents; but after having continued for some time, they cease altogether.

Meanwhile the bottle is becoming gradually hotter. When it is obscurely red the air bubbles make their appearance again, and become more abundant as the heat increases. This is the signal for placing the glass jar D, open at the lower extremity, previously filled with water, so as to be exactly over the open end of the gun-barrel. The air bubbles ascend to the top of the glass jar D, and gradually displace all the water. The glass jar D then appears to be empty, but is in fact filled with air. It may be removed in the following manner: Slide it away a little from the gun-barrel, and then dipping any flat dish into the water below it, raise it on the dish and bear it away. The dish must be allowed to retain a quantity of water in it, to prevent the air from escaping. Another jar may then be filled with air in the same manner; and this process may be continued either till the manganese ceases to give out air, or till as many jars-full have been obtained as are required.* This method of obtaining and confining air was first invented by Dr. Mayou, and afterwards much improved by Dr. Hales. All the air obtained by this or any other process, or, to speak more properly, all the airs differing in their properties from the air of the atmosphere, have, in order to distinguish them from it, been called gasses; and this name we shall afterwards employ.†

Oxygen gas may also be obtained in a different manner, thus: Let D represent a



wooden trough, the inside of which is lined with lead or tinned copper; and let C be a cavity in the trough, which ought to be a foot deep. The trough is to be filled with water at least an inch above the shelf A B, which runs along the inside of it, about three inches from the top. In the body of the trough, which may be called the cistern, the jars destined to hold gas are to be filled with water, and then to be lifted, and placed inverted upon the shelf at B.

This trough, which was invented by Dr. Priestley, has been called by the French chemists the *pneumato-chemical*, or simply *pneumatic* apparatus, and is extremely useful in all experiments in which gasses are concerned. Into the glass vessel E put a quantity of black oxide of manganese in powder, and pour over it as much of that liquid which in commerce is called *oil of vitriol*, and in chemistry *sulphuric acid*, as is sufficient to form the whole into a thin paste; then insert into the mouth of the vessel the glass tube F, so closely that no air can escape except through the tube. This may be done either by grinding, or by covering the joining with a little glazier's putty, and then laying over it slips of bladder or linen dipped in glue, or in a mixture of the white of eggs and quick-lime. The whole must be made fast with cord.

The end of the tube F is then to be plunged into the pneumatic apparatus D, and the jar G, previously filled with water, to be placed over it on the shelf. The whole apparatus being fixed in that situation, the glass vessel E is to be heated by means of a lamp or candle. A quantity of oxygen gas rushes along the tube F, and fills the jar G. As soon as the jar is filled, it may be slid to another part of the shelf, and other jars substituted in its place, till as much gas has been obtained as is wanted. The last of these methods of obtaining oxygen gas was discovered by Scheele, the first by Dr. Priestley.

The gas obtained by the above processes was discovered by Dr. Priestley on the 1st of August, 1774, and called by him *dephlogisticated air*. Mr. Scheele, of Sweden, discovered it before 1777, without any previous knowledge of what Dr. Priestley had done: he gave it the name of *empyreal air*.* Condorcet gave it first the name of *vital air*; and Mr. Lavoisier afterwards called it *oxygen gas*: a name which is now generally received, and which we shall adopt.

1. Oxygen gas is colorless, and invisible like common air. Like it, too, it is elastic, and capable of indefinite expansion and compression.

2. If a lighted taper be let down into a phial filled with oxygen gas, it burns with such splendor that the eye can scarcely bear the glare of light, and at the same time produces a much greater heat than when burning in common air. It is well known that a candle put into a well closed jar, filled with common air, is extinguished in a few seconds. This is also the case with a candle in oxygen gas; but it burns much longer in an equal quantity of that gas than of common air.

Sinking Wells.—Bishop Heber mention a curious way of sinking wells in some parts of Asia. When the ground is sandy, a cylindrical tower of brick or stone work is made of the intended size of the well. This is suffered to remain until the masonry becomes indurated, and then it is gradually un-

* This substance shall be afterwards described. It is now very well known in Britain, as it is in common use with bleachers, and several other manufacturers, from whom it may be easily procured.

* For a more exact description of this and similar apparatus, the reader is referred to Lavoisier's *Elements of Chemistry*, and Priestley *on Airs*; and above all, to Mr. Watt's description of a *pneumatic apparatus*, in Beddoe's *Considerations on Factitious Airs*.

† The word gas was first introduced into Chemistry by Van Helmont. He seems to have intended to denote by it every thing which is driven off from bodies in a state of vapors by heat.

* This process, by which the joinings of vessels are made air tight, is called *luting*, and the substances used for that purpose are called *lutes*. The lute most commonly used by chemists, when the vessels are exposed to heat, is fat lute, made by beating together, in a mortar, fine clay and boiled linseed oil. Bees-wax, melted with about one eighth part of turpentine, answers very well, when the vessels are not exposed to heat. The accuracy of chemical experiments depends almost entirely in many cases upon securing the joinings properly with luting. The operation is always tedious; and some practice is necessary before one can succeed in luting accurately. Some very good directions are given by Lavoisier. See his *Elements*, Part iii. chap. 7. In many cases luting may be avoided altogether, by using glass vessels properly fitted to each other by grinding them with emery.

dermined until it is sunk even with the surface of the ground. If the well is not sufficiently deep, they add more masonry, and again undermine.

Fire Proof Cement.—The French cement for the roofs of houses, to preserve the wood and protect it from fire, is made in the following manner:

Take as much lime as is usual in making a pot full of whitewash, and let it be mixed in a pail full of water; in this put two and a half pounds of brown sugar, and three pounds of fine salt; mix them well together, and the cement is completed. A little lampblack, yellow ochre, or other coloring commodity, may be introduced to change the color of the cement, to please the fancy of those who use it. It has been used with great success, and been recommended particularly as a protection against fire. Small sparks of fire, that frequently lodge on the roofs of houses, are prevented by this cement from burning the shingles. So cheap and valuable a precaution against the destructive element ought not to pass untried. Those who wish to be better satisfied of its utility can easily make the experiment, by using on a small temporary building—or it may be tried by shingles put together for the purpose, and then exposed to the fire.

Water Color for Rooms.—Take a quantity of potatoes and boil them; then bruise and pour boiling water upon them until a pretty thick mixture is obtained, which is to be passed through a sieve. With boiling water then make a thick mixture of whitening, and put it to the potato mixture. To give color, if white is not wanted, add different colored ochres, lampblack, &c. according to circumstances. This paint dries quickly, is very durable, has a good appearance to the eye, and is moreover very cheap.—[London Paper.]

Hamilton's Patent Sawing and Boring Machine.—We have experienced much gratification in examining this useful labor-saving machine; and we are perfectly satisfied that it is destined to be of great public utility in cheapening the price of those articles which are in use by all classes of society, and will at the same time be a source of great profit to the ingenious mechanic who has invented it. We have no means of ascertaining the precise amount of labor and expense which this machine will save, but we venture to hazard the opinion that a man and two apprentices will accomplish more in *twelve* hours than *forty* experienced journeymen can accomplish at the same work during the same period of time. It is withal one of those inventions which require no extraneous aid to bring it into immediate usefulness. The proprietor has commenced working it daily, and in a ware-room adjoining the machine he offers for sale its produce at from thirty to fifty per cent. less than the market price. This simple fact and the certainty that the work is in all its parts more perfect than that manufactured by hand, has produced a demand more than equal to the supply.

The machine is admirably well adapted to any sort of sawing that is usually done by hand or cross-cut sawing. Tenons, mitre-joints, &c. are cut with the greatest precision. In all sorts of pannel work and small framing it will be very useful. It is peculiarly adapted to sawing regular and eccentric circles, such as felloes for wheels, chair tops, seats, legs, and backs, and circular blocks for brushes; and it saws chair tops and seats with great accuracy on a bevel. Each segment of a wheel is cut its proper length and proper inclination for the joint—the holes are bored for the dowels and spokes, and the hubs are bored on a principle entirely new, making every spoke stand with the greatest exactness from the centre to the extreme of the circle. The machine is perfectly simple in its construction, not liable to get out of repair, and easy to manage and understand. A few hours' acquaintance with it will enable any one, whether mechanic or otherwise, to operate on it as well as the inventor. It is only six feet square, and is propelled by a steam engine of two-horse power.

A part of the principle of the same machine is applied to a small portable frame, and used for sawing wood for the fire with astonishing rapidity.—[Courier & Enq.]

Facts in Physics.—Gold beaters, by hammering, reduce gold to leaves so thin that 282,000 must be laid on each other to produce the thickness of an inch. They are so thin, that, if formed into a book, 1500 would occupy the space of a single leaf of common paper.

One pint of water converted into steam fills a space of nearly 2000 pints, and raises the piston of a steam engine with a force of many thousand pounds. It may afterwards be condensed and re-appear as a pint of water.

On the New-York and Erie Railroad. By J. L. Sullivan. [For the American Railroad Journal.]

To the Editor,—It appears to the undersigned that the article in your last number failed to do justice to the great subject of the Railroad from this city to Lake Erie, in some respects. I subjoin a short specification of an improvement in forming the least expensive railway durably.

Permit me to suppose that there is a railroad proceeding from the heart of this city north to Harlaem; that a branch there inclines by Harlaem Valley to the North River, and follows its shore to a crossing to Sloat, in Rockland.

The passage across in winter time can be kept open for steam railway deck ferry-boats, by an application of machinery that I can satisfactorily explain, to break the ice and keep a canal through it open. After reaching Ramapo the route is a gradual ascent of this valley at 12 feet in the mile, to Chester and Florida, 24 miles. From thence, crossing the outlet of the drowned lands, the route gradually ascends to Deer Park Gap, and descends to and crosses the Hudson and Delaware canal; from whence the line follows up the Delaware shore at a gradual ascent to Deposit, where it is nearest the Susquehanna.

By this route it takes up the coal trade at the mouth of Lackawana branch, and carries it to the west, and in the four or five months of winter brings it to this city.

It is evident that no railroad ought to be undertaken unless it will give immediately an ample revenue to stockholders, unless by the State. By this plan (without preventing a branch to the centre of Sullivan county,) a communication will be had with the Susquehanna, also at the junction of the Lackawana, and I know the ground is favorable; and by thus reaching the Upper Delaware and the Upper Susquehanna, so many sources of business are opened that it would be worth while to make it, if it went no further. But now every section will add business, and when the route reaches the head of Alleghany river, the Blanchard steamboats will run from Hamilton to Pittsburg, and at low water to Cincinnati; and the continuation of the road to the Lake opens the trade of the coast of all these inland seas.

The article alluded to speaking of the durability of cheap railroads, I give this explanation of my ideas of the means in 1829, and have since made some improvement thereon, though preferring durable works where they can be afforded. J. L. S.

"Specification of an improvement or combination in the art of constructing Railroads, whereby timber employed therein may be increased in durability, viz.:

"In making railroads with timber, the posts or piles are liable to decay earliest at the surface, or a little above and below the surface of the ground, because the effect of heat and moisture there combine.

"To guard the post from this effect, I prevent the contact of earth with this part by means of stone laid close around it; and to keep the rain out from among them, I set them in water-lime-mortar, or in Roman cement, applying it to the wood as well as stones: I also use sometimes, in the upper stratum especially, a cement made of pitch and lime, when the kind of timber is congenial, pitch being adhesive and lime indestructible. In this manner may be used the fragments of the quarry and coarse gravel, to form an artificial rock, surrounding precisely that part which is naturally most exposed to the causes of early decay. The stone keeps the wood cool, the cement keeps it dry.

Again: when the bearing rail is of timber, surmounted with iron plate, the wood is liable to become heated under the iron from the effects of the sun's rays thereon, and to shrink, and the iron rail may be thus loosened, and any composition applied for the purpose of protecting the surface of the timber from sun and rain, may be liable to be worn away by the movement or action of the iron rail under passing pressure. In order to prevent this and to give the iron rail firmness in place and bearing, I give the surface on which it rests the faculty of solid resistance to the pressure of the iron rail, by driving into the wood at least two rows of small nails evenly, their size from one to two inches long, and distance apart according to the weight of load, say about one inch, giving all the nails relative level very near the surface of the bearer. And as the percussion by which nails are driven is a much greater force than the passing pressure of loads, this pressure will not settle the nails deeper in the wood, but they resist it effectually, and prevent the compression of the surface, and the displacement of any defensive composition, as pitch and lime, that may have been applied under the iron plate rail, which will have been drawn firmly into contact with the heads of the nails, by means of the screw bolts and nuts, with which it is fixed on, passing through the timber. A railroad thus constructed is guarded effectually against the working or yielding so prejudicial to durability and good operation.

"And I consider the principle of this improvement as aforesaid to be the combination of water-lime (or Roman) cemented stones surrounding posts or piles, and the nailing the top or bearing surface of timber for effective hardness with railroads."

J. L. Sullivan.

"Philadelphia, April 17, 1829."

NEW-YORK AMERICAN.

JUNE 29, JULY 1, 2, 3, 5—1833.

LITERARY NOTICES.

THE AMERICAN QUARTERLY REVIEW, No. XXVI.; *Philadelphia*, CAREY, LEA & BLANCHARD.—We adverted some time ago to the first paper in this number of the Quarterly, on *Froissart and his Times*, and now propose to call attention to the general merits of the whole. The admirers of chivalry, who see only the romance of the institution, and stop not to reason on the almost barbarian state of society, which the very existence of such an institution implies, will be little gratified, though they may be usefully impressed, by the paper on Froissart, and Mr. Barry St. Leger's just estimate of feudal times, and fetes, and tournaments, and oppressions and ferocities. Art. II, on the Army of the United States, does justice to the gallant little band which passes under that large sounding name, and is right—completely right as it seems to us—in the stand taken in behalf of the preservation of brevet rank. There is a fact stated in this paper worthy of being recalled here; for, though extensively published we believe at the time, it may not be remembered. It is that of the celerity with which, last summer, on the breaking out of the Indian war, troops were transported from the maritime to the inland frontier. The companies ordered from Old Point Comfort to Mackinaw, accomplished the distance, 1800 miles by the route taken, in 18 days. The military importance of such celerity of movement cannot fail to be appreciated at home and abroad. Art. III, is dedicated to *Captain Morrell's Voyages*, of which it furnishes an abstract, doing justice to the enterprize of the navigator, and lamenting, as we have done before, the unnecessary bulk of the volume. Art. IV is upon fortifications and sieges, and especially the late siege of Antwerp. Art. V reviews justly and favorably Prof. Dunglisson's *Physiology*. Art. VI presents a most attractive notice of what has always seemed to us a most attractive life, that of Sir Humphrey Davy. The great paper, however, of this number, which has so many good ones, is that upon Slavery, and to it we must devote the remainder of this notice.

The momentous topic of Slavery is here treated as a practical, and not an abstract question;—the thing as it is, and not as it should be, is grappled with; and the results at which the writer arrives, as well as the course of his argument, while denoting much personal experience and observation among a slave population, are such as both to encourage and to justify confidence in the ultimate and sure, though probably distant and very gradual, extinction of the evil. Slavery, as at present existing in the United States, is treated as a necessary evil, its endurance for a time as unavoidable, and immediate emancipation as impracticable, and never to be attempted, except through and with the full concurrence of the slave-holder. Mean time—as in a nation, of which one-sixth of the whole population is in a state of slavery, no citizen can stand aloof and declare himself indifferent to the fate, or treatment, or influence, for good or evil, of this portion,—much is to be done towards hastening and adequately preparing all parties for the entire eventual removal of slavery. The means to be relied on for this end, as stated with earnestness and ability in the paper under notice, are—1st, *free discussion*—not only in the North, but in the South; 2dly, *religious instruction*—which, in order to avoid the objections of masters to having their slaves taught to read or write—should be oral, and above all, should be conducted by those who, taking the civil condition of the slave as they find it, and leaving it to be ameliorated by those to whom it solely belongs to act in the matter, will confine themselves to his spiritual wants; 3dly, the *Colonization Society:* and 4thly, the *abolition of Slavery in the District of Columbia*. Each of these propositions is developed with considerable detail, and sustained by an array of reason and authorities that cannot be lightly regarded. We wish that this paper may be extensively read at the North and at the South—in the one, that its calm, practical good sense may serve to check the blind zeal of fanaticism—in the other, that the true state of the case, as to the inevitable and irresistible necessity of eventual abolition may be perceived—and that timely measures may in consequence be taken to render that abolition innocuous.

BIBLIOTHEQUE CHOISIE DE LITERATURE FRANCAISE, No. I; Philadelphia, CAREY, LEA & BLANCHARD.

THE SAME, by *Adam Waldie*, Philadelphia.

Here we have two semi-monthly publications under the same title, devoted to the same object—a dissemination, at a cheap rate, of a knowledge of the French language and current literature. We hope both may succeed, especially if—as in the numbers before us—each takes different subjects. We are bound to say, however, that of these two, that of Carey, Lea & Blanchard is to be preferred for its selections. *Les Ecorcheurs*, by M. D'Arlincourt is a sort of historical satire; which, by recalling and adapting to existing circumstances incidents long past, ridicules present men and times without any offence to modesty. The story of *Notre Dame de Paris*, by Victor Hugo, which Waldie has chosen, seems to us, as far as it goes, and we only know it by that part published in this specimen number, to be somewhat *leste*, as the French say—that is, not quite fit for the instruction of young gentlemen and ladies. Waldie's, however, is beautifully printed, and in that has a superiority over its competitor. With due care in the selections to be made, we cannot doubt the success of such publications.

THE FARMER'S REGISTER, by EDMUND RUFFIN, Richmond, Va.; T. H. White.—This is the first No. of a monthly publication just started in Virginia, and to be devoted mainly to the improvement of the practice, and the support of the interests of agriculture. It is well got up, and it will be a reproach to the intelligence and public spirit of Virginian planters, if it be not well sustained. As intimately connected with the agriculture of that State, this number, under the head of "Agricultural Review," affords a large space to quotations from two papers on the subject of slavery, originally published in the American Quarterly. The first of these papers, by Prof. Dew, looks at slavery as irremediable, and all the efforts for the emancipation and removal of the African race as visionary—the other, by Mr. Harrison, proves indisputably that the existence of slavery in Virginia is a great and growing evil. From such conflict of opinions truth must come at last.

THE BUCCANEER, a Tale, by MRS. S. C. HALL, author of Sketches of Irish Character; 2 vols.; *Philadelphia*, CAREY, LEA & BLANCHARD.—The very spirited sketches of Irish Character, which we have heretofore received from Mrs. Hall, are well emulated in the stirring incidents of the time of the Commonwealth, upon which these volumes are founded. The character of the Protector, and that of Hugh Dalton, the Buccaneer, are drawn with much talent; and the interest of the tale is strong and well sustained throughout.

TALES AND NOVELS OF MARIA EDGEWORTH, uniform edition, vol. V; N. YORK, J. & J. HARPER.—This volume printed with equal excellence with those which preceded it, contains the *Absentee*, *Mde. de Fleury*, *Emilie de Coulanges*, and the *Modern*

TOUR OF THE WANDERING PIPER, written by himself, and printed by *N. J. Little*, Portland, Me., purports to describe the wanderings of this personage through part of Scotland and Ireland. If his skill on the bagpipes do not exceed that with which he handles the pen, his music must be indifferent bad.

LUTHER, AND THE LUTHERAN REFORMATION: by John Scott, A. M. 2 vols. Harpers.—This history of the great Reformer and his times, forms No. III of the Theological Library, now republishing by the Messrs. Harpers. It is avowedly derived from the Church History of Joseph Milner and his cotemporaries; but though much abridged by compressing the mass of documentary evidence, and curtailing and pruning away much subordinate matter, we could have wished, in the prevailing taste for small books, that the Life of Luther had been given in a still more condensed form. The value of the work would have indeed been much lessened for its graver readers; but the chances of its general perusal greatly increased. Still, in its present shape, the publication is highly acceptable, and, though stamped rather strongly with sectarian feelings, for the severe impartiality of history in its most dignified forms, it embodies a mass of curious theological information that will recommend it to lay as well as clerical readers. We have selected for extract the account of the last illness and death of Luther, as one of the most interesting passages in the whole work. *

He left Wittemberg on the 23d of January, accompanied by his three sons. The weather was inclement, and he was detained three days at Halle, by the rising of the river, which he was obliged to cross in a boat, not without some danger. During his stay at Halle he preached for Justus Jonas, who had been superintendent there since the reformation of the place in 1539, and who attended him the remainder of his journey. On his arrival on their borders, the Counts of Mansfeldt received him with an escort of more than a hundred horse—treating him as the Elector of Saxony's ambassador. He was extremely weak, and seemed near death when he reached the residence of Count Albert, on the 28th of January; but medicine, friction, warmth, and other means of resuscitation revived him. He lost no time in entering upon the business which had brought him thither, and labored indefatigably in the despatch of it for three weeks together; being assisted by Wolfgang Prince of Anhalt, Count Swartzburg, and others; but his success was not such as he could have wished, though other points, relating to the ecclesiastical affairs of the country, were brought to some satisfactory conclusion.

In the mean while his health was declining. Some time before, he had a seton or issue opened in his leg, which had been the means of so much relieving his head, that he had been able to walk to church and to the lecture-room, and to mount the pulpit; whereas previously he was obliged to be conveyed in a carriage, and often could only address his family at home. But, on leaving Wittemberg for Eisleben, he had failed to take with him the applications used for keeping up the discharge, and amid the pressure of his present engagements this relief was neglected, which proved of bad consequence.

Thus matters proceeded till the 17th of February, Luther at all times applying himself to business, eating and sleeping well, and being very cheerful in his conversation. On that day, his friends perceiving more repose to be desirable for him, persuaded him to keep quiet in his study, which he did, frequently walking up and down, in an undress, but conversing with animation. "From time to time," says Justus Jonas, "he would stop, and looking out at the window, in that attitude (as his custom was) address fervent prayers to God, so that I and Cœlius, who were in the room with him, could not but perceive it; and then he would say, 'I was born and baptized here at Eisleben, what if I should remain or even die here?'"

Though, however, Luther passed the day in his study, he did not choose to sup there, but in the large dining room, observing, that "to be solitary did not help the spirits." During supper, he quoted and made observations on many interesting passages of Scripture. The conversation also happening to turn on the question, whether the righteous in a future state of blessedness would recognize those who had been their friends on earth, he gave his opinion decidedly in the affirmative. In the course of more ordinary conversation, he remarked, "If I can but establish peace among the counts, the rulers of my country, I will then go home, lay myself down in my coffin, and give my body for food to the worms."

Before supper he had complained of a pain in the chest, to which he was subject. It was, however, relieved by warm applications. After supper it re-

turned, but he would not have medical aid called in, but about nine o'clock lay down on a couch and fell asleep. He awoke as the clock struck ten, and desired that those about him would retire to rest.—When led into his chamber he said, "I go to rest with God;" and repeated the words of the Psalm, "Into thy hands I commend my spirit;" and stretching out his hand to bid all good night, he added, "Pray for the cause of God!" He then went to bed, but about one o'clock he awoke Jonas and another who slept in the room with him, desired that a fire might be made in his study, and exclaimed, "Oh! God! how ill I am! I suffer dreadful oppression in my chest; I shall certainly die at Eisleben!" He then removed into his study without requiring assistance, and again repeating, "Into thy hands I commend my spirit!" He walked backwards and forwards, and desired to have warm clothes brought him. In the mean time his physicians were sent for, as also Count Albert, who presently came with his countess. All Luther's friends and his sons were now collected about him, medicines were given him, and he seemed somewhat relieved, and having lain down on a couch he fell into a perspiration. This gave encouragement to some present, but he said, "It is a cold sweat, the forerunner of death; I shall yield up my spirit." He then began to pray, nearly in these words, "O eternal and merciful God, my Heavenly Father, Father of our Lord Jesus Christ, and God of all consolation! I thank thee that thou hast revealed to me thy son Jesus Christ, in whom I have believed, whom I have preached, whom I have confessed, whom I love and worship as my dear Savior and Redeemer, whom the pope and the multitude of the ungodly do persecute, revile and blaspheme. I beseech thee, my Lord Jesus Christ, receive my soul! O Heavenly Father, though I be snatched out of this life, though I must now lay down this body, yet know I assuredly that I shall dwell with thee forever, and that none can pluck me out of thy hands!" He then thrice again repeated the words, "Into thy hands I commend my spirit; thou hast redeemed me, O Lord God of truth!" Also those words, "God so loved the world, that he gave his only begotten Son, that whosoever believeth in him should not perish, but have everlasting life;" and that verse of the lxviiith Psalm, "Our God is the God of whom cometh salvation; God is the Lord by whom we escape death." He then became silent, and his powers began to fail him; but when several present addressed him, "Reverend father, you die in the constant confession of Christ and his doctrine, which you have preached?" he distinctly answered, "Yes," and spoke no more; but about a quarter of an hour afterward, between two and three o'clock of the morning of February 18, "with his hands clasped together, and without a finger or a feature being disturbed, he breathed his last."

Such is the account which Justus Jonas wrote to the Elector of Saxony, by the hand of Count Albert's secretary, within half an hour after Luther's death; except that in a few passages some things are supplied from the fuller narrative which was drawn up for insertion in Luther's German works, and authenticated by the signatures of Justus Jonas, Superintendent of Halle, and formerly rector of the university of Wittemberg, Michael Cœlius, Pastor of Eisleben, and John Aurifaber, chaplain to the Elector of Saxony; all of whom were present with Luther to the last.

HISTORY OF THE FLORENTINE REPUBLIC, AND OF THE AGE AND RULE OF THE MEDICI; by Lorenzo L. Da Ponte, Professor of Italian Literature in the University of the city of New York. 2 vols. 12mo *Collins & Hannay.*—These long expected volumes, whose preparation we mentioned some months since, have at length appeared—their author having found time, though employed simultaneously in several other laborious literary undertakings, to complete a task, to which, from talents, parentage and education, he was peculiarly fitted. In our present notice we can do little more than say, that the expectation of the author's friends will hardly be disappointed in his labors, and add a specimen of them below; taking a subsequent opportunity to give the work that particular examination to which, both from its intrinsic merit and as an original American publication, it is justly entitled. *

THE PLAGUE IN FLORENCE.

In the sufferings of this calamity the Florentines looked not to its ulterior effects, and the desolation of distant countries excited no sympathy among a people groaning and fainting beneath the severity of their own miseries. In Egypt, in Ethiopia, and under the distant mountains of Asia, innumerable masses of a dense population were falling under the baleful influence of a malady, which, undefined in its peculiar characteristics, has addressed itself to the imagination of men with aggravated terrors under name of *the Plague*.

In each place in which its awful visitation was made, it had assumed a modified character; but every modification had been, or had seemed to be, an augmentation of horrors. In many instances, a slight or sudden hæmorrhage was the only and the instaneous forerunner of the stroke of death; and frequently a case of this kind was the first indication to a populous city of the presence of that scourge, which was, in the course of a few hours, to decimate its population, and convert every mansion within its circuit into a house of mourning.

Scarcely had Florence recovered in part from the horrors of famine, while her citizens were still enfeebled and reduced by the scanty and unwholesome food upon which they had been compelled to feed, when the news of the arrival of the Asiatic scourge upon the shores of the Mediterranean awoke them to the dreadful anticipation of a still more devastating visitation. To the anticipation quickly succeeded the miserable reality; the gorgeous cities of the east had been clothed in mourning by its desolating progress, and all the west had received the poison, in the winds that seemed now freighted with contagion in every blast. For a moment the populace, horror-tricken, betook themselves to the ordering of their lives, and to the making preparation for death; to sumptuous living succeeded an abstemiousness which had been scarcely known to the famine itself; but in a moment, as it were, convinced, by the increasing virulence of the pestilence, that all preventives were vain, an unbridled dissoluteness and libertinage broke out as desperate as the desolating plague. The ties of kindred were severed; the mother beheld her infant perish, and never cared to place its lifeless form in sorrow on the bier; and the rude jests and ribaldry of the carriers of the dead were never checked by the presence of grief or by the appearance of mourning for the departed. The sick were left to perish; the fear of contagion had silenced the voice of nature; and the names of father, husband, wife, and child, having lost all moral influence, were now never pronounced, except when some neglected and deserted sufferer breathed them out with imprecations amidst the agonies of death.

It is impossible, in the varying accounts which have come down to us, to say what was really the mortality occasioned by this plague to Florence; but those who have observed the devastations of the recent pestilence, which, from the same birth-place, has extended itself over the earth, may estimate its effect in an age when the passions of men and the character of the times must have rendered them doubly susceptible to any epidemic influence; and when the healing art could hardly have attained the dignity or certainty of a science. We may not believe that 100,000 persons in Florence alone fell victims to the violence of the disease; but, as an illustrious historian has observed, the very exaggeration is proof of the extent of the mortality, and of the profound impression which it had left upon the minds of men. Among the victims, was one from whom we might have expected a full and simply eloquent account of its ravages, and in whom, indeed, we have found the principal authority for the preceding portions of our history. Humanity may feel for the sufferings of mankind even in distant ages, and the loss of human life may excite its sympathy; but literature laments the loss of one of its earliest ornaments more than the crowd of the vulgar, however the great and high-born may appear in the catalogue, and the votaries of intellectual worth select from the general ruin and embalm the name of VILLANI. The chronicle which this author has left of the early affairs of the Florentine people, written with the simplicity adapted to the character of the people and the times, remains to the present day a monument of the genius of its author, and sets forth in its style, even more than its faithful narration of facts, the history of the writer's life and times. It contains an account of the beginning of that pestilence in which Villani lost his life.

CHRONOLOGY, or an Introduction and Index to Universal History, Biography, and Useful Knowledge. New York: *Jonathan Leavitt*, Broadway. Boston: *Crocker & Brewster.* 1 vol. 12mo.—A good work on Chronology, in a portable shape, has always been a great desideratum. The great works, in a quarto form, (though, from the charts they contain, invaluable for reference in a library) are too large, and of course of too costly a character for general use; while the more ordinary books are commonly too small and meagre for useful reference. The elegantly printed duodecimo before us seems exactly to supply what was so much wanted; and its lucid and happy arrangement, with the great variety of historical facts embraced in it, will make the work well received by all who take the pains to examine it for themselves. The introduction of a variety of types, each of its kind being appropriate to particular classes of objects and occurrences, is well calculated to assist one seeking for any distinguished character or peculiar event, while the several divisions of the work are so well adjusted, that the task of reference can be accomplished in a moment. Thus, if we wish to know in what period any individual flourished, what was his nation and profession, and who were his contemporaries, we refer to his name in the biographical table; and then turning to the literary chronology and to the chronogical table, where his actions generally are recorded, we have in a few words the history of the man, and of the times in which he flourished. Of how great an assistance this must be to the student of general history, a better idea can hardly be given than in the language of Dr. Priestley where he speaks of a good system of Chronology as being one of the most efficient contrivances to make an entire course of history easily comprehended, while a proper distinction is at the same time observed between its parts—giving at the same time exact views of the condition of separate countries, with a general knowledge of the world at large—and enabling you to estimate the civilized state of one clime, while you contrast it with the barbarous lands around it. *

Life of Bishop Hobart.—We are gratified in being authorized to state, that Dr. Berrian's Life of this lamented prelate, which will complete the proposed edition of his posthumous works in three volumes, is finished, and will be ready for delivery to subcribers and others, in 2 or 3 weeks.—[(Aub.) Gosp. Mess.]

FOREIGN INTELLIGENCE.

LATEST FROM EUROPE.—By the packet ships Philadelphia, Capt. Chapman, from London, and Silas Richards, Capt. Bursley, from Liverpool, we have papers of those places to the 23d and 24th of May.

The affairs of Don Pedro are spoken of favorably, though no important event has occurred.

The most material occurrence in England, was the tremendous meeting at Birmingham, the particulars of which are noticed below.

The North American Colonial Association had a conference with Secretary Stanley on the 20th ult.

The jury in the case of "Cully," the police officer stabbed in the late riot, had brought in a verdict of "*justifiable homicide*," in the following words:—"We find a verdict of Justifiable Homicide on these grounds: that no riot act was read, nor any proclamation advising the people to disperse; that the government did not take the proper precautions to prevent the meeting from assembling, and that the conduct of the police was ferocious, brutal, and unprovoked by the people, and we moreover express an anxious hope that the government will in future take better precautions to prevent the recurrence of such disgraceful transactions in the metropolis." The meeting near Birmingham, was attended by seventy or eighty thousand persons, who conducted themseves peaceably, and adopted an address to the King and to Parliament. The news from the Continent is not so late by two days as that by the Henri IV. It was expected that Parliament would soon be prorogued. Nothing very important was before that body on the 19th and 20th.

The Royal assent was given to the Cotton duties reduction bill, on the 17th.

Mr. E. J. Littleton, member of the House of Commons for the Southern division of Staffordshire, has been appointed Chief Secretary for Ireland.

On the subject of negro emancipation, Lord Althorp stated in the H· of Commons, that ministers were determined to proceed with the question with all possible despatch.

Corn Laws.—On the 18th, Mr. Whitmore brought forward his promised motion, declaring in effect, that instead of producing any permanent good, the present Corn Laws had tended to cramp trade. The question being taken on going into the consideration of this motion, it was rejected by a majority of 99. Lord Althorp resisted the motion, on the ground that there was not now time to agitate the subject—at the same time he was by no means an advocate of the present corn laws, and thought that the land owners and farmers ought not to adhere to them.

An early prorogation of Parliament was said to pe resolved on by ministers.

The English Money Market was steady all the morning of the 21st—Consols 87 1-2 to 88.

Mr. Kean died at Richmond on the 15th.

LONDON, MAY 22d.—*Holland and Belgium.*—A preliminary treaty was yesterday signed by the Plenipotentiaries of Great Britain, France and Holland, which, so far as it goes, will give great satisfaction to the commercial world, as well as to a great number of line-and-rule political thinkers, who deem a rupture with Holland to be uncongenial with the spirit of our national history. The treaty consists of six articles, by the first of which the English and French embargoes will be taken off the respective ports of each nation, and the consequent measures in interruption of the navigation by the Dutch nation will be removed. 2. The intercourse between the respective parties will assume the same posture as before the French expedition in November last, and the services of the French and English squadrons be dispe ised with. 3. The Dutch garrison of Antwerp prisoners of war will be sent home. 4. The armistice between Holland and Belgium will be continued till the settlement of a permanent separation. 5. The navigation of the Scheldt will in the mean time remain free. 6. The navigation of the Meuse during the same period will be open, subject to the tariff settled by the treaty of Mayence.

[*From the London Traveller of May* 21.]

The great Birmingham Meeting, at Newhall Hill, took place yesterday, according to Mr. Atwood's letter of summons to the field. Upwards of 80,000 persons were present on this occasion, the number of those who attended the grand meeting on the same spot last May. We have not space to give the detailed report this evening, but must content our readers with a brief notice of the event. The immense concourse was addressed at length by Mr. T. Atwood, Mr. O'Connell, Mr. Muntz and Mr. B. Hadley. Various resolutions were put, and carried unanimously, condemnatory of the conduct of His Majesty's Ministers, who had betrayed the confidence of the people, and turned their sanguine hopes into despair. A petition to the King, praying his Majesty to dismiss his present Ministers, was also agreed to without a dissentient voice. Other petitions to the legislature were also adopted, having for object the reduction of taxation and the repeal of the corn laws. The meeting finally dispersed, having the whole of the proceedings with perfect order and regularity, and Birmingham remained quite tranquil.

It is impossible to contemplate the unanimity and determined spirit of this great assemblage without coming to the conviction that unless a change of ministry shortly occur, convulsions of a nature frightful to look forward to, must inevitably take place. The government has given a giant's strength to a mere dwarf, and upon their heads rest the consequences of allowing organized bands to overawe the executive. It is quite clear the demands of the country for relief from a pressure of taxation, are so overwhelming, that no administration can now hold office without resorting to an immediate reduction of the public burdens, in order effectually to enlist the moderate men to oppose the designing acts of the party of the movement.

ST. PETERSBURGH, MAY 4.—The Turkish General Namick Pacha left this city on the 29th April, to return to Constantinople.

BERLIN, MAY 13.—Accounts received here yesterday by express, which came by way of Vienna, say that all proposals of peace have been rejected by the Egyptians, and that consequently the state of war will continue.

HAMBURGH, MAY 17.—The Russian Government in Poland has published an ordinance of the Emperor, dated the 23d ult., by which persons accused of certain political offences including the publication of false news, are ordered to be tried before courts martial, the sentence of such courts to be carried into execution as soon as they have received the confirmation of the Viceroy.

The Warsaw papers also contain an account of 25 individuals belonging to the late Polish army, who were concerned in a recent unsuccessful attempt at insurrection. Five of the party were taken by Cossacks on the frontier; one of them poisoned himself, but the other four were brought before a court martial and sentenced to death. The sentence was carried into execution on three of the surviving prisoners; with respect to the fourth, on account of his extreme youth, the sentence was mitigated into corporal punishment and hard labor.

Egyptian Newspaper.—A journal is now published at Alexandria, under the title of *Miszer Wekaiesi* (Egyptian News). The vignette of this paper, in opposition to the Ottoman Crescent, presents half a sun, shining forth from behind a pyramid, on the side of which stands a flourishing young palm tree. On the left of the vignette are these words:—"Printed at the office of the *Divan of Events* in the Royal Castle." This paper, which is in the Arabic and Turkish languages, gives no political news, but is confined to civil and military subjects, which have merely a local interest.

FROM LIBERIA.—We are indebted to Mr. Williams, Lieut. Gov., and Mr. Rogers, high sheriff of Liberia, who arrived in the ship Jupiter from Liberia, for the following interesting account:—The Colony, at the time they left, contained upwards of 3000 inhabitants, and 250 dwelling houses, 5 churches and meeting houses, viz Episcopalians, Presbyterians, Methodists, and Moravians, an Academy, and several schools.—The colony is governed by a governor appointed by the Board of Managers at Washington, a Lieu. Governor, and two Councillors elected by the people once in each year. The people were contented and happy. It is gratifying to state, that there are only two persons in the whole population who are intemperate. Wheat and Rye have not yet been tried sufficiently to test the quality of the growth. Indian corn grows well, but lessens in size both in ear and stalk. Almost all the vegetables of this country flourish well there. They have one schooner of 60 tons, 1 of 40, and 5 of 6 tons, belonging to the place, and will soon build others. The natives in the interior have lately been very quiet. The staples of the country are rice, which is plenty and good; cotton, which is spontaneous, long, and of fine texture—a person from the south has undertaken to bring it to more perfection. Messrs. Williams and Rogers will proceed to Washington immediately, to confer with the Board of Managers on the propriety of allowing the colonists to choose all their officers, and to make such other alterations in their constitution as are considered necessory. The place was very healthy.—[Mer. & Adv.]

SUMMARY.

GREENWICH SAVINGS BANK.—This institution was opened for the first time on Monday last, and we are happy to learn was numerously attended by depositors, consisting principally of mechanics residing in the upper wards. The amount received was *Fourteen Thousand and Fourteen Dollars*, a large sum for the first day, and the amount is an auspicious omen for the success of its future operations, managed as it doubtless will be with intelligence and integrity. The funding Committee consist of Samuel Whittemore, John Bolton, and William C. Rhinelander—gentlemen eminently qualified for the trust reposed in them.

Extract from a letter dated New Orleans, June 17.

"Since last addressing you, wehave had an awful time, from the violence by which the very worst description of the cholera raged until within the last few days. It has ceased as suddenly as it commenced, and there is now no more of it. Our city is very dull, and strangers and almost all off, and nothing but cotton appears to sell."

[*From the Globe of Tuesday.*]

M. Roger B. Huygens, Count de Luvendal, late Chargé d'Affaires, *ad interim*, of his Majesty the King of the Netherlands, took leave yesterday of the Secretary of State of the United States, and presented his successor, M. E. A. Martini.

Ninety-one deaths occurred in our city during the week, ending on Saturday. Five persons died of diarrhoea, and twelve children perished with summer complaint.—[Philadelphia Inquirer.]

[*From the Gazette.*]

A beautiful and almost total Eclipse of the Moon was beheld by many hundreds last Monday from the Battery, very many of whom were, like ourselves, taken by surprize, and were therefore doubly gratified.

[*From the State Rights Banner. (Jackson, Miss.,) June* 13.]

Death of the Governor of Mississippi.—It is with feelings of deep regret, that we announce the death of his Excellency A. M. SCOTT. He died at the house of Col. Grimball, in this place, last night about 11 o'clock, of cholera. On Sunday evening last he felt slightly indisposed, and took his bed. He continued unwell, but not at all alarmingly so until yesterday about 4 o'clock, P. M., when he was attacked violently with the symptoms of spasmodie cholera. Every thing that medical skill and the attention and kindness of friends could do, was done to save him—but all in vain. He is gone! One of the best of men, the most devoted public servant is gone the way of all flesh. He fell a victim to his sense of public duty—for nothing but the pressure and importance of official business, has kept him in this place since the cholera made its appearance here. His death has been so sudden, and has come with such overwhelming weight upon us, that we must defer for the present any further notice of this melancholy event. We feel much afflicted, that the second number of our journal should appear in mourning columns—but a good and honest man—the chief magistrate of the state—the friend of the stranger—has left us—he died lamented by all who knew him—the object of the respect and regard of every one who admires principle and appreciates character.

Military Election.—At an election, held at Syracuse on the 8th inst. Col. Grove Lawrence, of Camillus, was unanimously elected *Brigadier General* of the 27th Brigade of the N. Y. State Infantry, vice O. Hutchinson, appointed Maj. General.

The name of the Post office at Otisco, Onondago Co., has been changed to that of "Otisco Centre."

Mr. *Edward Livingston* has been recently elected "a Foreign Associate of the Academy of Moral and Political Sciences in Paris," and in the Journal des Debats of 20th ult. we find it stated that the King, by an ordonnance of 8th June, had approved the choice.

COAL TRADE.—It appears by the Ulster Republican, that during the week ending on the 22d instant, 6,341 tons 5 cwt. of Lackawana Coal were received at Rondout; and during the same time, 52 vessels were loaded with this article and cleared from that place. Of these, 13 were bound to Providence, 7 to Boston, 2 to Salem, 1 to Jersey City, 1 to Norwich, 1 to Williamsburg, 1 to Staten Island, 2 to Hudson, 1 to Nantucket, 2 to Athens, 2 to Albany, 1 to East Greenwich, 4 to New-York, 1 to Troy, 1 to Bellville, N. J., 1 to Brooklyn, 1 to Poughkeepsie, 1 to Hartford, 1 to Bristol, R. I., 1 to Newburgh, 1 to Haverstraw, 1 to Rahway, 2 to New-Bedford, 1 to Fall River, 1 to New-Haven, 1 to Newport.

It is gratifying to learn, that the Delaware and Hudson Canal has sustained no injury by the late freshet, which has been so destructive at the South.

AFRICAN COLONIZATION.—We publish with pleasure the annexed circular addressed to the Clergymen of this city. No fitter time than that which commemorates our own freedom, could be selected for aiding in measures to promote that of the slave:

At a recent meeting of the Board of Managers of the New York City Colonization Society, the following resolution was unanimously passed, viz.: "Resolved, That a committee be appointed to address a circular to all the clergymen of the city, earnestly requesting them to have a collection taken up in aid of the Colonization Society in their respective churches, on the 4th of July next, or the Sunday preceding.

The undersigned, appointed a Committee in pursuance of the above resolution, request that you will take measures to have a collection in the Church under your care, for the purpose therein mentioned, and that the proceeds be paid over to the Treasurer of the Society, Moses Allen, Esq. Respectfully yours, &c.

Wm. A. Duer, William Colgate,
G P. Disosway, John W. Hinton,
Silas Brown.

[*From the Globe.*]

Senior Don Augustin de Yturbide, late Chargé d' Affaires of the United Mexican States, having been appointed Secretary of the Mexican Legation in Great Britain, took leave yesterday, of the Secretary of State of the United States, and presented his successor Senior Don Joaquin Maria del Castillo.

Three Steam Boats Burnt.—The Louisville Advertiser of the 22d ult. contains the fallowing.

Fire.—About ten o'clock last evening, the steamer *Sentinel* took fire while at the wharf in front of this city. The flames spread with such rapidity that, in less than ten minutes, the *Delphine* above, and the *Rambler* below, were also on fire, and the three boats were burned in about an hour to the water's edge.—The Sentinel had a full freight for N. Orleans, the Rambler had on board several hundred barrels of whiskey, and the Delphine had just received about twenty tons freight from New Orleans for Cincinnati. The engines, greatly damaged, will be saved. The cargoes have been entirely lost. Passengers had barely time to make their escape, leaving baggage, clothing and money on board. There were about twelve steam boats lying in port at the time, and it was with difficulty those on fire were separated from the others.

Dinner to Commodore Chauncey.—We understand that the Commissioned Officers of the Navy and Marine Corps on this Station, amounting to about thirty, gave a dinner to Commodore Chauncey on Wednesday, at the City Hotel, as a testimony of their respect and regard on the occasion of his leaving the Navy Yard.—[Gazette.]

[*From the Richmond Compiler of 28th June.*]

Contents of Mr. Randolph's Will.—We understand from a friend at Charlotte Court house that the will of Mr. Randolph was opened at Roanoke, his late residence on Friday last, by Judge Leigh, in the presence of Judge Tucker and one or two other gentlemen. The following are the principal if not the only devises.

To Henry St. George Tucker, President of the Court of Appeals of Virginia, ten thousand dollars.

To Judge Leigh of Halifax, ten thousand dollars.

To Judge Leigh's son, John Randolph Leigh, a small boy, five thousand dollars.

To John Wickham, Esq. of this place, some plate and a horse or two.

The remainder of his estate—lands, negroes, &c. to the son of his neice, Mrs. Bryant, of Gloucester, daughter of John Coalter, Esq.

Judge Leigh and Judge Tucker are the executors. This will was made subsequent to his return from Russia, and was dated in January 1832.

Our informant says that he has not himself seen the will, but that he gives us the report believed at Charlotte Court house. This will will be offered for probate at the next Charlotte Court. It is the same that was left in Judge Leigh's possession. An examination is yet to be made among Mr. Randolph's private papers.

The name of our correspondent and his official situation at Charlotte Court house, induce us to place the utmost confidence in the correctness of this his statement.

Mr. Randolph, it is said here, has left two other wills; one dated in 1822, by which he directed the manumission of his slaves—and another in March, 1832. The former of these is the one to which he was understood to refer, when he requested at Philadelphia that the provisions of a previous will should be carried into effect.

[*Office of the Pensacola Gazette, June 18.*]

The United States ship Vandalia, George Budd, Esq., Commander, arrived in our harbor on the 13th instant. The Vandalia has returned from a cruise in the Gulf of Mexico, having since her departure visited the Coast of Yucatan, from thence to Vera Cruz, Tampico, Santander, and as far north as the Rio del Norte; but, in consequence of very rough weather, did not anchor at the latter place.

We regret to learn that the Yellow Fever is prevailing to a great degree in the city of Vera Cruz, where it is said by the inhabitants to prove more fatal this season than has been felt the last six years.

We are also informed of the existence of the Epidemic Cholera in the city and surrounding country of Tampico; it is described by the residents as raging with great violence, and, as if any thing were wanting to add to its desolating character, it is accompanied in its destructive course by the Yellow Fever, which spares not even those who may have escaped the malignity of the other disease.

It is authentically said that the mortality was between eighty and ninety deaths a day in that small city. The atmospheric plague had also extended its polluted breath to the shipping in port laying five or six miles below the town. The other parts of the coast at which this ship touched was reported to be healthy, We are gratified to understand that the officers and crew of the Vandalia are in unusual good health, and that, notwithstanding the nature of the late cruise, all have returned unscathed and untouched by the influence of the climate through which they have passed.

Died, on board, at sea, on the 8th of June, Albert Krusiner, Esq., in the 29th year of his age.

A late Galenian publishes the substance of a *talk* held at the Four Lakes on the 29th April, between Colonel Henry Dodge, of the United States Dragoons, and the Chiefs of the Winnebago Indians living on Rock river. The council was opened by Whirling Thunder, who disclaimed any hostile intentions towards the whites, and sought only the privilege of remaining on the lands now occupied by them, for this season, that they might be able to raise supplies to keep them from starving during the winter. Several other Chiefs made speeches, the main design of which was to obtain the permission solicited by the first orator. Col. Dodge spoke in reply. Adverting to the treaty of 1832, he said, that it had been ratified by the President and Senate, and that every article would be faithfully performed by the United States; and that the President expected the Winnebagoes would comply faithfully with their stipulations. He said, that the United States Rangers would be there in a few days, to keep peace between the white and red men, and to enforce a strict observance of the treaties made between them.—That there were 20,000 rations of pork and flour at Fort Winnebago, on account of the treaty of Rock Island—a portion of which, knowing their necessitous condition, he would take upon himself to give them, to expedite their removal. Corn would also be furnished at Detroit, to be distributed to the Indians at Fort Winnebago, of which those of Rock river would be entitled to a share. He said, further, that General Clark had stated to Mr. Kinzie, the agent, that he would send the $10,000, stipulated to be given them next September, immediately, but that it appeared the chiefs preferred receiving the money in the fall. The Indians finally consented to go to their new lands at the time appointed by the treaty; entreating, at the same time, that their canoes might be taken across the Wisconsin for them. Colonel Dodge promised compliance with this request, and the council ended.—[St. Louis Rep.]

Ex-Sheriff Parkins.—We observe in several of the morning papers an account of the pending proceedings in the Court of Chancery in relation to this individual. On inquiry, we find that the jury having pronounced by their verdict that Mr. P. is sane, the Court, upon a creditor's bill, and for the security of creditors, have directed Mr. De Peyster, one of the masters resident here, to obtain, as far as he could, a discovery of the property and effects of Mr. P., and to appoint a suitable person as receiver thereof. This appointment has not yet been made, as the master is now engaged in ascertaining the necessary facts. This is the course adopted in similar cases.

MISCELLANY.

Indians of South America.—C. Cushing, Esq. in his interesting *Reminiscences of Spain*, makes these remarks:

The destiny of the Indian races in Spanish America has been widely and remarkably different from what it is in the United States. Here the aboriginal nations have little or no physical weight in the progress of events, and are scattered, in weak tribes, over the face of the land, withering and dwindling daily before the overpowering beams of civilization. There, they constitute a large and important element in the population, aggregated into powerful masses, capable by themselves alone of exerting a decided influence upon affairs, and holding, whether as independent communities, or as the subjects of the Spanish Americans, a rank in the scale of public estimation from which no conceivable change of dynasty or governments can cast them down, and possessing importance which the late revolution has powerfully contributed to strengthen and perpetuate.

Of the independent nations, like the Araucos, the Abiponians, and the various other tribes in the vast interior regions of the continent, who have never bowed the neck under the Spanish yoke, the spirit, vigor and numbers are well known to be far from contemptible. The possession of that noble animal, the horse, especially, by bestowing pastoral habits on the wanderers of the immense savannahs of the South, has communicated an energy and a power of forcible and rapid impression to the movements of the Indians, through the means of which, should they ever become concentrated by any common point of union, they would infinitely surpass, in barbaric splendor, the achievements of the ancient Peruvians and Mexicans. With these Arabs of the West, compare the Creeks, Cherokees, and other tribes in the United States, who, hemmed in by our fixed population, have no resource but either to adopt the manners of civilized neighbors, to be gradually extinguished, or to fly with the feeble remnants of their might beyond the Mississippi: and how striking is the relative consequence of South Americans! These nomadic nations, therefore, who sweep the verdant plains of the South, on steeds tameless and swift as the winds, uniting the errant propensities of the Indian hunter and the Tartar horseman, are peculiar objects of interest to the philosophic observer of events intrinsic to America.

But other portions of the Indian population are fast attaining importance from quite different causes. Among these are the Peruvians, and the observation may serve as an apology for now rescuing from unmerited oblivion some of the obscurer incidents of their political history. They have been a despised and an oppressed race. The hand of power has fallen heavily upon them in every age, from the days of the conquest, when the lawless bands of Pizarro trampled on the nation, down through the tyranny of many a provincial autocrat, to the time when Tupa Catari shook the walls of La Paz with the cry of liberty or death, and the limbs of Tupac Amaru were torn asunder by four wild horses. But a ray of hope smiles upon their future prospect. The revolution has raised them, in common with the other degraded castes, from the dust where they had been grovelling for centuries. In this democracy, rank must follow the lead of talent; and in South America, men of Indian descent, particularly those of mixed blood, begin to learn their consequence from the fortune of war. Mulattoes and *mestizos* are amongst the best and bravest soldiers of the revolution; and some of them have arisen upon its stormy waters to that distinction, which, in times of civil commotion, it is impossible to withhold from superior qualities. It may be long ere the multifarious and many-colored classes which compose the population of the revolutionized countries, will acquire the regular and systematic movement of our own more fortunate land. But whether in peace or in war, in times of discord or of tranquility, a race of men, which rises to two thirds of the whole population, which furnishes the laborers, and mans the fleets and armies of a republican country, cannot easily relapse into insignificance, or into the state of abject servitude. And a permanent melioration of condition is therefore the necessary consequence of the actual position of the Peruvians."

HISTORY OF THE CONSTITUTION.

[*From the Boston Commercial Gazette, June 11.*]

Frigate Constitution; commonly called Old Ironsides.—As every circumstance relative to this favorite ship will now be rendered doubly interesting, we propose to offer a brief history of her splendid and glorious career, part of which is from memory, having been present when she was launched, part from official documents, and part we have gleaned from the old newspapers of the day. She was built at Hart's ship yard, at the north end, situated between the Winnisimmit ferry ways and the Marine Railway, and was launched under the superintendence of Col. Claghorn, the builder, on Saturday, the 21st of October, 1797; consequently she is now nearly 36 years old. In Russell's Boston Commercial Gazette of the next Monday, we find the following notice:—

"The Launch.—*A magnificent spectacle!*—On Saturday last, at 15 minutes past M. the frigate CONSTITUTION was launched into the adjacent element, on which she now rides an elegant and superb specimen of American Naval Architecture, combining the unity of wisdom, strength and beauty. The tide being amply full, she descended into the bosom of the ocean with an ease and dignity, which, while it afforded the most exalted and heartfelt pleasure and satisfaction to the many thousand spectators, was the guarantee of her safety, and the pledge that no occurrence should mar the joyous sensations that every one experienced; and which burst forth in reiterated shouts which "*rent the welkin.*" On a signal being given from on board, her ordnance on shore, announced to the neighboring country, that the CONSTITUTION WAS SECURE. Too much praise cannot be given to Col. Claghorn, for the coolness and regularity displayed in the whole business of the launch; and the universal congratulations he receiv-

ved, were evidences of the public testimony of his skill, intelligence, and circumspection."

The severe labor that attended her birth, which was only effected at a third trial, was seized upon by the enemies of a navy, who at that time were numerous and powerful, as prophetic of ill-luck! with how little reason, her brilliant career has fully demonstrated. We may safely challenge the annals of naval history to name a ship that has done so much to fill the measure of her country's glory. She sailed on her first cruise on Sunday, the 22d of July, 1798, and in the Commercial Gazette of the next morning, we find the following:

"Yesterday sailed on a cruise for the protection of our commerce, the frigate Constitution, commanded by Capt. Samuel Nicholson. This noble frigate reflects honor on all concerned in her construction;—on the agent for obtaining every material of the best kind for her equipment, and for having the same manufactured in a superior manner;—on the builder for the execution of the hull, in a style demonstrating our capability of building ships of war at least equal to any of Europe. The Captain is a brave and experienced commander, in whom may be reposed perfect confidence. Her Lieutenants are young men, who have commanded merchant ships with approbation, and of whom fair expectations may be entertained. Her crew are, with very few exceptions, native sons of Massachusetts, many of them connected by the strongest of human ties, *wives and children.* Upwards of one hundred seamen have given orders in favor of their families, to draw monthly half of their pay, the public having made an arrangement for this purpose, evincive of its paternal care and encouragement of our marine. It would seem that nothing is wanting to render this ship and her crew perfect, but that experience, which can only result from actual exercise at sea."

She returned from this cruize about the middle of November. This was during the brief war with the French republic. We notice the appointment of Isaac Hull as her 4th Lieutenant, who, after the lapse of fourteen years, was fortunate enough to occupy a higher station on her quarter-deck, when the charm of British invincibility was destined forever to be broken. On the 28th of December of the same year, she again sailed from Boston harbor, on her second cruize, from which she returned a few months after, without having had the good luck to fall in with any of the enemy's national ships; less fortunate in this respect than the Constellation, under the gallant Truxton, who, about this time, succeeded in capturing the French frigate L'Insurgente, of 40 guns and 417 men. La Vengeance, a large French national ship of 54 guns and 520 men, likewise struck her colors, but was fortunate enough to escape in a squall, and arrived at Curacoa five days after, a complete wreck.

Shortly after this, our commerce in the Mediterranean having suffered severely from the depredations and insults of the Barbary cruizers, our government at once determined on chastising them. In May, 1803, Com. Edward Preble was appointed to the command of this favorite ship, and in June he sailed with the squadron destined to act against Tripoli. To all conversant with this scene of war, it is well known the Constitution acted a conspicuous part, in fact bore the brunt of the battle. After the destruction of the Philadelphia, of 44 guns, she was for a long time the only frigate on the station, and being ably seconded by the gallant Decatur and the smaller vessels, did more in a single year to humble the pride of the Barbary States, than all christendom ever did before or since.

In short, such a variety of service, hair breadth escapes, hard knocks, and perilous adventure, has never been achieved by any single vessel. Peace having been concluded with Tripoli, she soon after returned home, where she remained unemployed, or nearly so, till the commencement of the late war with Great Britain. This was on the 18th of June, 1812. On the 12th of July, she left the Chesapeake for New York, preparatory to a long cruize, and on the 17th discovered and was chased by a British squadron, consisting of the Africa 64, Shannon and Guerriere 38, Belvidere 36, and Eolus 32, under the command of Com. Broke, of the Shannon. During the most critical part of the chase, when the nearest frigate, the Belvidere, had already commenced firing, and the Guerriere was training her guns for the same purpose, the possibility of kedging the ship, although in nearly thirty fathoms of water, was suggested by Lieutenant, now Com. Morris, and was eagerly adopted, with the most brilliant success.—The enemy, who had before been gaining, was now almost imperceptibly falling astern, without their being able to conceive of the mysterious manner in which it was effected. A lucky mile or thereabouts had been gained in this way, before the discovery was made, and then it was altogether too late to avail themselves of it, with any probability of success; a propitious breeze springing up at this moment, of which the Constitution felt the first effects, soon increased the distance, and rendered any further exertions in warping and towing unnecessary.

The Shannon had for some hours all her sails completely furled—with 13 boats towing ahead. The Constitution had three boats towing, the remainder being engaged in carrying out kedges, while the crew on board found sufficient employment in warping up to them; and to this most fortunate expedient is her miraculous escape to be attributed. She bid a final adieu to her kind friends on the 19th, after a chase of nearly three days and three nights, and arrived safe in Boston on the 26th of July. This has always been considered, and undoubtedly was, one of the most brilliant exploits that occurred during the war. The deep feeling—the intense anxiety that reigned throughout the ship during this long and arduous chase, and which were pictured in the countenances of all on board in characters too strong to be mistaken—may be imagined, but cannot be described. Let us suppose for a moment, it had been the destiny of this fine ship to have fallen thus early in the war, into the hands of the enemy—a misfortune as has already been shown which was only escaped as it were by a miracle—what a vast difference it would have made at the close of the war, not to speak of the great moral influence of a first victory, in the profit and loss of our naval glory, and although the balance would still have been greatly upon our side, yet the sum total would have been very sensibly or nearly one half diminished. In the first place the loss of so fine a frigate at this early period would have been irreparable, and in following up the consequences—three of the most splendid victories of the war, together with the same number of hair breadth escapes from a superior enemy, would now have to be deducted from the aggregate of our glory, making a difference, both ways, of more than 200 guns and almost 1500 men.

After remaining a few days in port she sailed again, and on the 19th of August—precisely one month after her escape—was lucky enough to fall in with one of the same frigates cruizing alone and with her name emblazoned in large characters in her fore-top-sail. Nothing daunted at this, however, the Constitution took the liberty of edging down, for the purpose of ascertaining the object of such a close pursuit a few weeks before.

As soon as the two ships were within whispering distance, an explanation commenced which, after a close conference of thirty minutes, ended to the complete satisfaction of Captain Hull. She proved to be H. B. M. frigate Guerriere, Capt. Dacres, of 49 guns and 302 men, and had been totally dismasted, and in other respects was rendered such a complete wreck, that getting her into port was altogether out of the question. She was accordingly burned, and the Constitution returned again to Boston, where she arrived on the 30th of August. Never shall we forget the enthusiasm with which she was received.

The news arrived in town during divine service on Sunday morning, and the crowds that flocked to State street to hear the particulars of such a glorious victory, and the shouts that rent the air, fully evinced the deep interest that was felt by every class of the community.

The ship had anchored in President roads about five miles from town, and in the afternoon the harbor was alive with pleasure boats, anxious to take a closer view of Old Ironsides, and to exchange congratulations with her gallant crew. We among hundreds of others sailed round her several times, endeavoring in vain to trace the effects of an engagement with a British frigate of nearly equal force, that had occurred only eleven days before, and in which her antagonist was entirely demolished in the short space of half an hour. We could hardly believe our own eyes—no serious damage whatever was visible; now and then a place or two were pointed out where a splinter had been driven off, but on the whole she appeared in almost as perfect order as when she left the harbor only about three weeks before; indeed it seemed to us that like Shadrach, Meshech and Abednego, she had passed the fiery ordeal entirely unscathed. This was indeed a new state of things, and served not a little to increase the hope and confidence of the friends of our gallant navy throughout the Union.

Captain Hull, being now called upon, if we remember right, to attend to the affairs of a deceased brother—gave up the command of the ship to Capt. William Bainbridge, who, with the same crew, shortly after sailed on another cruize to South America—the sloop of war Hornet, Captain Lawrence, also under his command, from whom however he was soon after separated. On the 29th of December of the same year, while cruizing about 10 leagues from the coast of Brazil, she fell in with, and after a close engagement of nearly two hours, captured H. B. M. ship Java, of 49 guns and upwards of 400 men—Captain Lambert being mortally wounded during the engagement. In addition to her full crew, the Java had upwards of one hundred supernumeraries on board—officers and seamen—to join the British ships of war on the East India station. Besides these there were a number of land officers: among the rest Lieut. Gen. Hislop, Major Walker and Captain Wood.

This was one of the best contested battles that was fought during the war—the Java indeed only struck her flag, when every mast, bow-sprit and all, had, one after another, gone by the board. Com. Bainbridge, in his official account says—"The great distance from our own coast, and the perfect wreck we made of the enemy's frigate, forbade every idea of attempting to take her to the United States. I had therefore no alternative left but burning her, which I did on the 31st of December, after receiving all the prisoners and their baggage, which was very hard work, only having one boat left out of eight, and not one left on board the Java." After blowing her up, the Constitution returned to Boston, where she arrived on the 18th of February, 1813.

Well do we remember being at the Federal street Theatre, when the news of this victory was announced from the stage by the manager, Mr. Powell; and shortly after, when the gallant Commodore, together with some of his officers, appeared in one of the boxes, the whole house resounded for many minutes with the cheering of the audience. The veteran Cooper, then in the prime of life, was in the second act of Macbeth, and although he stood a little behind the scenes, entirely forgetting the gracious Duncan he had murdered, we saw him swing his cap round with as much enthusiasm as any one.

In June 1818, Capt. Charles Stewart was appointed to her command, and on the 30th of December, she proceeded to sea, notwithstanding Boston was then blockaded by seven ships of war, and safely run the gauntlet through the whole of them. She returned on the 4th of April, 1814, and was chased into Marblehead by two of the enemy's heavy frigates, La Nymphe and Junon.

About the middle of December 1814, she proceeded on her second cruize under Capt. Stewart, and on the 28th of February, off Madeira, fell in with and after a severe action of 40 minutes, succeeded in capturing H. B. M. ships Cyane of 34, and Levant 21 guns, and 325 men. A more perfect specimen of nautical skill was probably never witnessed, than was exhibited throughout the whole of this memorable battle. The advantages of a divided force, or as the boys call it, of two upon one, are well known to all, particularly to men of naval science. A raking fire is almost always very sure to be decisive of the fate of a battle; and to have avoided this from either of his opponents, and with a leading breeze too, is indeed miraculous, especially when we recollect that the Constitution succeeded in raking both her antagonists more than once during the engagement.

After taking possession of her prizes, the three ships made sail for the Cape de Verd Islands, and on the 10th of March came to anchor in the harbor of Port Prayo in the Island of St. Jago. Two days after this, a squadron of the enemy hove in sight, consisting of the Newcastle and Leander, of 50 guns each, and the Acasta frigate of 40, the whole under the command of Sir Geo. Collier, and in 7 minutes after the discovery was made, the Constitution with her two prizes had cut their cables, and were under way, being at this time only about gun shot to windward of the enemy. The Levant was recaptured. The Cyane had the good fortune to escape and now forms a part of our Navy. The Constitution continued her cruize, and shortly after returned to Boston, where she was received with every possible demonstration of joy and exultation. The last news from her had been brought by the Cyane, arrived at New York, when the above squadron was left in chase, and she had heard a heavy canonading shortly after losing sight of her, so that the most intense anxiety had for some time been entertained for her safety.

Peace had now been proclaimed, and to have lost this noble vessel and her gallant crew at this late hour, and after such a catalogue of glorious services too, would have cast a gloom over the whole country.

No wonder then that her safe arrival, after so many "moving accidents by flood and field;" and after having escaped so many perils of "the waters,

winds and rocks"—should be greeted with such universal enthusiasm. Capt. Stewart not only received the thanks of Congress, but of almost every State Legislature then in session, and from many quarters some more substantial marks of approbation.

After this, old Ironsides was taken to the Navy Yard and immediately dismantled,—where she remained unemployed, we believe, with a single exception, till the spring of 1825, when she was again fitted out, and sailed under the command of Capt. Daniel T. Patterson to join the squadron in the Mediterranean. She remained there about three years, after which she returned to the U. States, and as if to add one more to the many instances of good luck that have always attended her—she was so fortunate as to arrive and fire a federal salute in her native city—during the celebration of the 4th of July, 1828, and contributed not a little, as well by her beautiful appearance as by the delightful associations that are ever uppermost in the presence of such a glorious vessel, to heighten the splendor and add a zest to the festivities of the day.

We have now we believe briefly touched upon most of the leading incidents in the eventful history of this favorite ship; doubtless there are many others well worth recording, but which can be only known to those who at the time of their occurrence were on board of her. We have never been able to find any but unsatisfactory accounts of her operations before Tripoli, and the other Barbary States. A complete and impartial history of the movements of our several squadrons in those seas from 1803 to the present moment, would not only prove extremely interesting, but as a matter of record would be invaluable. We sincerely hope some competent person may be found who is willing to undertake it.

About twelve years since the Constitution was hove out and completely examined at the navy yard in Charlestown, when her timbers, &c., were found to be in remarkable good order, a fact which, after twenty-five years wear and tear and hard service, redounds not a little to the credit of the old fashioned mechanics of Boston.

In her actions with the Guerriere and Java she mounted 54 guns, and 52 when engaged with the Cyane and Levant, her armament being 30 long 24 pounders on the main deck and 24 32 pound carronades on the upper deck. Her loss in the action with the Guerriere was killed and wounded, 14; with the Java, 34, and with the Cyane and Levant, 14 more—total, 62.—The Guerriere's loss, killed, wounded, and missing, was 103; the Java's 161; Cyane's, 38; Levant's 39—total, 341, or in the proportion of five and a half to one. The prisoners were nearly one thousand.

The dry dock into which old Iron-Sides is now about to be taken, as well as the one which has recently been completed at Norfolk, is undoubtedly one of the most splendid specimens of stone masonry to be found in the world.

We have heard it spoken of by intelligent travellers, who have visited most of the naval depots in Great Britain, France and Russia, as by far surpassing any thing of the sort they had ever before witnessed. Indeed no expense has been spared by the government to render these magnificent public works as complete and perfect in every respect as possible. They were planned and have been constructed under the superintending care of Col. Loammi Baldwin, a gentleman who, for skill and science, has no superior in the country. The Delaware 74 was probably taken into the dock at Norfolk on Monday last; and should the President arrive here to-day, as is expected he will, the Constitution will probably be hauled in to-morrow afternoon, or at farthest on Monday next. T.

[*From the Pittsburg Gazette.*]

THE CAPTURE OF FORT DU QUESNE.—We received the following account of some incidents which occurred on the day of the taking possession of this place, by General Forbes, from an esteemed friend, to whom it was related by Captain Craighead, who commanded a company of Provincials on that day.

On the evening of the 24th of November, 1758, General Forbes encamped 12 miles from this place. During that day he had received intelligence that the French commandant was preparing to abandon Fort Du Quesne. The defeat of General Braddock, only three years before, was too recent to be forgotten, and of course operated as a salulary hint to General Forbes, not to advance rashly. The intelligence, therefore, even if believed, was not communicated to the troops.

On the morning of the next day, 25th November, 1758, the army advanced from their encampment—the provincial troops in front, followed by a body of highlanders.

Upon their arrival at the rising ground, just beyond where the turnpike gate now stands, they entered upon an Indian race path, upon each side of which a number of stakes, with the bark peeled off, were stuck into the earth, and upon each stake was fixed the head and kilt of a Highlander, who had been killed or taken prisoner at Grant's defeat. The provincials being front, obtained the first view of these horrid spectacles, which it may readily be believed excited no very kindly feelings in their breasts.—They passed along, however, without any manifestation of their violent wrath. But as soon as the Highlanders came in sight of the remains of their countrymen, a slight buzz was heard in their ranks, which rapidly swelled, and grew louder and louder. Exasperated not only by the barbarous outrages upon the persons of their unfortunate fellow soldiers who had fallen only a few days before, but maddened by the insult which was conveyed by the exhibition of the kilts, and which they well understood, as they had long been nicknamed the "petticoat warriors" by the Indians, their wrath knew no bounds.

Directly a rapid and violent trampling was heard, and immediately the whole corps of highlanders, with their muskets abandoned and broadswords drawn, rushed by the provincials, foaming with rage, and resembling, as Captain Craighead coarsely expressed it, "mad boars engaged in battle," swearing vengeance and extermination upon the French troops, who had permitted such outrages. The march was now hastened—the whole army moved forward after the Highlanders, and when they arrived somewhere about where the canal now passes, the Fort was discovered to be in flames, and the last of the boats, with the flying Frenchmen, were seen passing down the Ohio by Smoky Island. Great was the disappointment of the exasperated Highlanders at the escape of the French, and their wrath subsided into a sullen and relentless desire of vengeance.

POETRY.

The following random rhymes, written in pencil on the back of a letter—probably by some steamboat passenger, waiting for the night-boat, were picked up in the baggage-house of the Westpoint landing, and, for the want of a better designation, are communicated to the New-York American, under the title of

WESTPOINT BY MOONLIGHT.

I'm not romantic, but upon my word,
There are some moments when one can't help feeling
As if his heart's chords were so strongly stirred
By things around him, that 'tis vain concealing
A little music in his soul still lingers
Whene'er its keys are touched by Nature's fingers:

And even here, upon this settee lying,
With many a sleepy traveller near me snoozing,
Thoughts warm and wild are through my bosom flying
Like founts when first into the sunshine oozing;—
For who can look on mountain, sky, and river,
Like these, and then be cold and calm as ever?

Bright Dian, who, Camilla-like, dost skim yon
Azure fields—Thou who once earthward bending
Didst loose thy virgin zone to young Endymion
On dewy Latmos to his arms descending—
Thou whom the world of old on every shore,
Emblem of thy sex, *Triformis* did adore—

Tell me—where'er thy silver barque is steering,
By bright Italian or soft Persian lands,
Or o'er those island-studded seas careering,
Whose pearl-charged waves dissolve on coral strands—
Tell me if thou visitest, thou heaveuly rover,
A lovelier spot than this the wide world over?

Doth Achelöus or Araxes flowing
Twin-born, from Pindus, but ne'er-meeting brothers—
Doth Tagus o'er his golden pavement glowing,
Or cradle-freighted Ganges, the reproach of mothers,
The storied Rhine, or far-famed Guadalquiver,
Match they in beauty my own glorious river?

What though no turret gray or ivied column
Along these cliffs their sombre ruins rear?
What though no frowning tower or temple solemn,
Of despots tell and superstition here—
What though that mouldering fort's fast-crumbling walls
Did ne'er enclose a baron's bannered halls—

Its sinking arches once gave back as proud
An echo to the war blown clarion's peal
As gallant hearts its battlements did crowd—
As ever beat beneath a vest of steel,
When herald's trump on knighthood's haughtiest day
Called forth chivairic host to battle fray:

For here amid these woods did He keep court,
Before whose mighty soul the common crowd
Of heroes who alone for Fame have fought
Are like the Patriarch's sheaves to Heav'ns chos'n bowed—
He who his country's eagle taught to soar
And set those stars which shine o'er every shore.

And sights and sounds at which the world have wondered
Within these wild ravines have had their birth—
Young Freedom's cannon from these glens have thundered
And sent their startling echoes o'er the earth;
And not a verdant glade or mountain hoary
But treasures up within the glorious story.

And yet not rich in high-souled memories only,
Is every moon-touched headland round me gleaming,
Each cavernous glen and leafy valley lonely,
And silver torrent o'er the bald rock streaming:
But such soft fancies here may breathe around,
As make Vaucluse and Clarens hallow'd ground.

Where, tell me where, pale Watcher of the Night—
Thou that to love so oft hast lent its soul,
Since the lorn Lesbian languished 'neath thy light,
Or fiery Montagu to his Ju iet stole—
Where dost thou find a fitter place on earth,
To nurse young love in hearts like theirs to birth?

But now bright Perl of the skies descending,
Thy pearly car hangs o'er yon mountain's crest,
While Night more nearly now each step attending,
As if to hide thy envied place of rest,
Closes at last thy very couch beside,
A matron curtaining a virgin bride.

Farewell! Though tears on every leaf are starting,
While through the shadowy boughs thy glances quiver,
As of the good when Heavenward hence departing,
Shines thy last smile upon the placid river.
So—could I fling o'er glory's tide one ray—
Would I too steal from this dark world away. H.

[*From Mrs. Hale's Magazine.*]

THE SWEDISH GIRL.

"Previous to the departure of Baron de Stael from Sweden, he was enamored of his second cousin, a beautiful girl, whom he had promised to marry; but after the offers received by him from the Neckar family, he wrote to inform her of the peculiar circumstances in which he was placed, and that his union with a lady whom he did not love, would be the means of raising his family from poverty and obscurity. His cousin, without any other answer, returned him his marriage promise stained with her tears, and in seven weeks she was a corpse."

"Even to *pause* on such a thought!
How could it cross his mind!
Vain honors *traffic'd* for and bought,
With happiness resigned!
And love like mine cast meekly by,
At cold ambition's call!—
My heart, be calm!—why should I sigh?
Tears, tears, why will ye fall?
The Swedish girl should scorn to stand
'Tween him and his adopted land.

For him what could I not have borne,
What wo or poverty!
And rich in love, have smiled in scorn,
When heartless wealth rolled by.
I would have urged him up the steep,
Where hangs the noblest crown
Honor may gain, or virtue keep—
An honest man's renown!
Soothed him when yielding to his toils,
And brightened each success with smiles.

Yet why thus linger o'er a dream
That my fond spirit bound,
But lent my soul no cheering beam
To light the darkness round!
Well, be it so;—I may not speak
What stirs within my heart;
The fettered spirit soon will break
Through all things, and depart:
Yet 'twould be sweet again to bless
The object of past tenderness!

Ay, take thy bride, the gifted one,
And glory in her fame!
And when, pervading in the sun,
Her genius lights *thy* name,
Forget, amid its dazzling rays,
How dim thine own appears;
Nor think upon the heartfelt praise
Was thine in former years,
When mingling love, and hope, and pride,
With her now coldly thrown aside.

Ay, wed another—wed the great!
Gain wealth, but with it *care!*
Soon shalt thou feel the galling weight,
And mourn each glittering snare
That wiled thee from thy plighted vow,
From first and unfeigned love;
And bade thee to a *stranger* bow,
A stranger's *bounty* prove!
Madness! that one so loved by me,
Should ever so degraded be!

It may not be! I cannot ask
Earth's happiness for one
Who hath imposed the bitterest task,
That woman's pride has done.
I'll curse not, though I may not bless
The idol of my youth,
But, in my *wreck* of happiness,
I'll prove unfaltering truth.
And, blotted thus with tears, return
The pledge I would, but cannot spurn!"

And such is woman's love! not even pride,
That oft quells passion in its fiercest tide,
This high souled, injured Swedish girl could save,
Fair spring wove garlands o'er her early grave.

MOINA.

TRY ME.

Long, too long, I've waited dearest,
Why, oh why, deny me?
If my constancy thou fearest,
Take me, love, and try me.

See the crystal tear is glowing,
One bright smile will dry it;
Doubt not, when 'tis easy knowing,
Try it, dearest, try it!

Joys when brightest still are fleetest,
Haste, dear maid, they're flying,
Wedded love, the fondest, sweetest,
May be had for trying.

Now I see thy heart relenting,
Dearest I defy thee;
Eyes and cheeks alike consenting,
Maiden, shall I fly thee?

Hopes and vows thus fondly meeting,
Dearest, do not chide them:
They who say Love's joys are cheating,
Never thus have tried them!

MARRIAGES.

On Monday evening last, at Harlem Heights, by the Rev. Dr. Bogart, Col. AARON BURR, to Mrs. ELIZA JUMEL.

Tuesday morning, by the Rev. Dr. KNOX, JOSEPHUS GRANGER, to A. JANE, daughter of Dr L. Haight, Esq. all of this city.

On Tuesday last, by the Rev. Dr. McAuley, P. C. OAKLEY, of Ogdensburg N. Y., to Miss SARAH A. DODGE, daughter of Dani. Dodge, Esq. of this city.

On Tuesday morning last, by the Rev. Wm. Parkinson, GEO. G. RYERSON, Esq. of New Jersey, to ANNA MARIA, daughter of Rosewell Graves, M. D. of this city.

On Saturday evening, the 29th June, by the Rev. Dr. Phillips, HENRY N. CRUGER, Esq. of Charleston, South Carolina, to HARRIET, daughter of the late George Douglass, of this city.

On the evening of the 28th, at Christ Church, by the Rev. Dr. Lyell, Mr. HENRY W. CLAPP, of the firm of Palmer & Clapp, to Miss ANNA C. daughter of the late Capt ROBERT B. HILLIARD.

On Thursday last, in St Thomas' Church, by the Rev. Doctor Hawks, WILLIAM PETERS, to CHRISTIANA A. JACKSON.

On Tuesday, 25th instant, at Phillipstown, by the Rev. Mr. Sunderland, Mr. T. S. SHEPARD. of this city, to Miss ELIZABETH JENNET, daughter of JUDGE GARRISON, of the former place.

At Bedford, Westchester Co., N. Y., on Wednesday evening, 26th June, by the Rev. Jacob Green, J. W. TOMPKINS, Esq. of White Plains, to Miss MARY J., daughter of the late Jotham Smith, Esq. of the former place.

At Syracuse, Onondaga county, on Friday evening last, by Rev. J. W. Adams, E. W. LEAVENWORTH, Esq. to MARY E. daughter of Joshua Forman Esq.

[At Poughkeepsie, on Tuesday morning, by the Rev. Francis M. Kip, GEORGE L. MIDDLEBROOK. to ELEANOR H. K., adopted daughter of Charles Tremler.

DEATHS.

On 29th ultimo, after a long illness WILLIAM ELLIOTT HUGER, aged 27 years, son of Judge Huger, of South Carolina.

On Thursday afternoon, GARRAT NOEL BLEECKER, in the 65th year of his age.

On Saturday morning, Mr. JOHN M. SOUTHART, in the 39th year of his age.

On Monday afternoon, after a lingering illness, Susan Frost, in the 43d year of her age, widow of the late Stephen Frost.

On Friday morning, Mr. JAMES VAN BEUREN, an old and respectable citizen, lumber merchant, in the 69th year of his age.

On Friday afternoon, 21st inst. Mrs. ELIZABETH OWENS, in the 24th year of her age.

This morning, at 2 o'clock, Mr. JOHN RUTHVEN, in the 80th year of his age.

Yesterday, Joseph Pell, aged 28 years.

This morning, in the 69th year of her age, Mrs. ANN ROGERS.

Last evening, SARAH, the wife of Joseph Jennings.

This morning, June 26th, after a lingering illness, in the 91st year of his age, RYNIER SUYDAM, Esq.

On Friday morning last, at her residence at Yonkers Mrs. RACHEL ROBERT, aged 90 years.

At Moscow, on Friday last, Jellis Cuite, Esq. aged about 52.

In Lyons, Mrs. Sarah Hovey, aged 21.

In Canandnigua, on the 16th inst. Mrs. Laura Brewer, wife of Alonzo Brewer, Esq. aged 34.

At Gouverneur, St. Lawrence Co., on the 23d ult. Horatio K. Kneeland, aged 26.

At China, Genessee co. on the 5th inst. the Rev. Wm. Lyman, in his 69th year.

At Raleigh, Mr. Benson Card, aged 101 years, the oldest Inhabitant.—Has been married to his wife, still living, 70 years.

At Cantonment Gibson, on 1st May, Massey Logan, of Lawrence county, a Ranger in Capt. Bean's Company.

On Monday, June 10, at the residence of Col. John Williams, in the vicinity of Knoxville, Tenn., the Hon. NATHANIEL W. WILLIAMS, of Smith county, for many years one of the Judges of the Circuit Court in Tennessee.

At Charleston, S. C., the Rev. ALLSTON GIBBES, Assistant Minister of St. Philip's Church, an efficient and faithful servant of the Church, always active and diligent in attention to her interests.

At Rankin, Miss., on a tour of travel through the U. States, WASHINGTON ROMAINE, Attorney at Law, aged 33 years and 6 months, son of BENJAMIN ROMAINE, Esq. of this city.

At Baton Rouge, on the 6th of June, of Cholera, in less than six hours after being attacked by it, ROBERT KANE MORRIS, son of Thomas Morris of this city, and grand son of Robert Morris, Financier of the United States during the revolutionary war, and one of the signers of American Independence.

At New Orleans, on the 6th of June, of the Cholera, Mrs. MARY, wife of G. W. ESTES, aged 19 years, of Jefferson county, New-York.

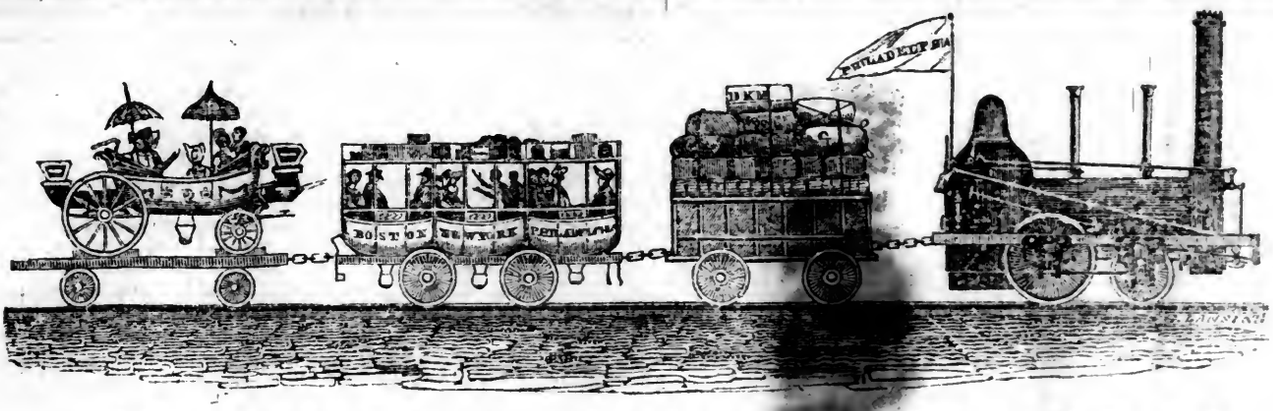
Also, the Rev. James F. Hull, late Rector of Christ Church.

On board the steamboat Mount Vernon, June 13, THOMAS YEATMAN, Esq. of the banking house of Yeatman, Woods & Co. of Nashville. Mr. Yeatman left Nashville with his family with the intention of proceeding to Philadelphia, and a day or two after his departure he was attacked by Cholera, and in a about thirty hours after the attack, expired with perfect resignation and composure, in the 45th year of his age.

Mr. Yeatman was a native of Pennsylvania, and settled in Nashville about the year 1809, where by a course of prudence, industry, and enterprize, he acquired an ample fortune, and enjoyed the enviable reputation of being one of God's noblest works, 'an honest man.' Nashville, by the prevailing epidemic, has lost some of her most estimable and valuable citizens, but amongst them there is none whose loss will be more deeply felt, than the subject of this notice.—[Nashville Republican.]

On the 2d of June, at sea, on board the brig Plymouth, Capt. Daggett, while on her voyage from Leghorn to New York, Wm. E. RAPELJE, Esq. of Fishkill, Dutchess county.

On the 19th May last, at Bradford, Eng. in the 70th year of her age, Mrs. WOODHEAD, relict of the late Mr. Matt'w Woodhead, and mother of J. & T. Woodhead. of this city.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JULY 13, 1833. [VOLUME II.—No. 28.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 13, 1833.

The description of Mr. Brown's mode of moving houses, taken from the forthcoming number of the Mechanics' Magazine, and published in this number of the Journal, will be found interesting, we have no doubt, to most of our readers. Within the last twelve years he has moved about 900 houses, of which number about 400 had brick fronts, and 40 were entirely of brick.

We are gratified to learn that the friends of Railroads in Ohio are progressing with their most important works. The Erie and Mad river Railroad, when completed, will greatly facilitate the transaction of business, as well as enhance the value of property in that section of the state through which it passes.

[From the Sandusky Clarion.]

Lake Erie and Mad River Railroad.—Information has been received in town that the engineers have completed their survey; and we suppose that a report may be expected soon. If the report be favorable, as we think there can be little doubt that it will, we should think that a speedy commencement of this important work would be advisable, and from the information contained in the subjoined extract of a letter to a gentleman in this town, it would seem that the present is a favorable time for re-opening the books of subscription.

Extract of a letter from a gentleman at the eastward to his friend in this town:

"I noticed in the Clarion since you left home, that the engineers are on the proposed route of the Lake Erie and Mad River Railroad. This summer will be as favorable a time to obtain subscriptions to the capital stock as there can be. Money is said to be plenty; confidence in the utility of railroads increasing, and the stock of all of them rising. The stock of the Saratoga Railroad, which was down to about par last fall, is now 20 per cent. above par. The Schenectady Railroad stock, which was last winter as low as six or seven per cent. above par, is now 40 per cent. above par, as you will see by the papers. Mr. E. G., who returned from Charleston, South Carolina, a few days since, says that the Charleston and Hamburgh Railroad stock, which has always been much depressed, rose 20 per cent. in the course of three weeks before he left; 70 miles of which (about half of the whole distance) has been completed a few months, and has cleared twelve per cent. on its cost. If a railroad from Charleston, 70 miles into the interior, will pay twelve per cent., what will a railroad from Sandusky to Dayton, in Ohio, pay on its cost? I should say six times twelve per cent. On the whole, if the books for subscription to the stock of the Mad River Railroad are opened in due time, I cannot but think a sufficient amount will be readily subscribed to effect an object so highly important to the city and State of New-York, as well as to the State of Ohio, and the other States south and west of it."

The following letter, from the Elizabethtown (N. J.) Journal, refers to a subject in which the city of New-York, in common with the country at large, is deeply interested. The other letter referred to we will publish in our next.

Extension of the Elizabethtown and Somerville Railroad.—We have been favored with the following extracts of letters received from gentlemen of the first respectability; the one extensively engaged in and intimately acquainted with the manufacture of iron,—the other residing in Luzerne county, Pennsylvania, possessed of the best means of information, in the correctness of whose opinions great confidence may be placed.

May 29, 1833.

"The information I am able to give in answer to the queries you have suggested, is that there are several routes of contemplated railroads diverging from the great coal formation in Lackawana Valley. The first is the Lackawana Railroad, extending to the east-north east. The second is the Legget's Gap Railroad, extending to the north. The latter said to be the best adapted to the continuation of the Susquehanna and Delaware Railroad, it is to run a pretty direct route to the state line and terminate near the termination of the Chemango Canal, a state work now in progress in New-York. Another, and perhaps the best extension of the Delaware and Susquehanna Railroad, is from Pittston, up the Susquehanna river towards the western lakes. On this route we meet, near the mouth of Tawanda river, large beds of *bituminous* coal, said to be of the first quality, now used considerably, and some transported down the Susquehanna river, and thence in both a south-western and north-eastern direction. They are already known to some extent; much information is still wanting on this subject: the time, however, is fast approaching when it will be had, because the material will be wanted, whether these great highways are made or not, the manufacturing interests of this country demanding this article extensively. We are aware that to Great Britain it is all important as a fuel for manufacturers as well as farmers; indeed, without it England and Wales would, perhaps, long since have become dependencies of other states; she now manufactures of iron and all the other metals more than all the rest of Europe together: having but little water power, her magic power is created and sustained by this very important article, *bituminous coal*. I think we can foresee the time when this substance must be resorted to in New-York, New-Jersey, and Pennsylvania, for manufacturing purposes, and even for fuel. In the vicinity of the coal formations are large masses of iron ore. Indeed, no country is, perhaps, better adapted for the manufacture of iron than northern Pennsylvania.

"When this project of a connected railroad from the Hudson, opposite New-York, to Pittston on the Susquehanna, with its probable extension to the north and west, is once fully known to an enlightened public, I am persuaded it must succeed. No work now projected possesses equal intrinsic value, accommodating so many and such extensive interests, connecting by the nearest practicable route the most important commercial city of the Union with the great western waters. W. H——."

The following extract of a letter received from a friend residing at Avoylle Ferry, on Red River, La., dated June 10th, gives a faint idea of the alarm which existed there on the appearance of the Cholera in its vicinity:

"Our country is in a perfect panic. The Cholera made its appearance 10 or 15 days ago, on the plantations in the Parish of Rapide, first near Alexandia, and has extended over a large part of it. It has not affected every plantation in its course; some large plantations with, say 200, or upwards, of slaves on it, and not a single case. The disease is said to be violent, and the mortality greater than usual. It is, so far, confined to the slaves, and almost universally to negro men. I have heard of but one white person, (except passengers from steamboats,) that is Mrs. Thomas, wife of Major Isaac Thomas, who died with it suddenly on Friday last. The Parish of Avoylle continues healthy—not a case has occurred in it, except a few from steamboats. Yours, &c. P. G. V."

[For the American Railroad Journal.]

Mr. Editor: Sir—Your patience seems likely to become tried by the numerous communications offered for publication in your Journal on the subject of the "Guard Rail"; the contest, however, is not kept up by men *who have examined* that description of rails, in full size for use, and who require to witness *practical results* before they will hazard an *opinion as to merits: all* such persons who have examined it, are not only satisfied as to *practicability* in manufacture, but of its *utility* in the construction of *permanent* railroads. They could not be other than convinced of its practicability in manufacture—*it has become self evident*: castings being already made of various lengths, from *eight feet* downward, with the wrought iron rail *incased*, and of the most PERFECT DESCRIPTION of castings. The contest is kept up, then, by whom? By men whose interests make *manifest* that they feel interested in the success of, or *biassed in favor of, other descriptions of rails*, and to such an extent that any improvement announced which bears a semblance of interfering with *their* favorite, must be assailed by foul means, if there is no prospect of success by fair means. The communication which calls for this reply appeared in your Journal of the 8th June, signed by Uriah A. Boyden. Mr. Boyden, in his apparently inflexible determination to *oppose*, SPECULATIVELY, that which has ALREADY BECOME ESTABLISHED PRACTICALLY, wanders from that prudential course which characterises writings by their delineation of sound argument and judicious conclusions.

I have neither time to devote to, or inclination to notice minutely, that description of writings; neither do I see any use in explaining, or of pointing out errors, to that description of writers; for Mr. Boyden in his last communication remarks, that "he has found none of that inconsistency of his (Mr. Sullivan's) statements with his own, (Mr. Boyden's,) which Mr. Bulkley thinks or endeavors to make it appear there is." I propose, therefore, at this time, *again* to allude to that point of *inconsistency*: and also to show that Mr. Boyden, in his *last* communication, admits of *known perversion* in his *first* communication; and I will also further show, that he has in his last communication embodied *absurdities* most gross.

* * * * * *

In review, therefore, I will first quote the following words, contained in his communication, wherein he stated, that "*Mr. Bulkley, in the first part of his reply to me, said he would show that my statements are inconsistent with each other.* This he has not done. I now call on him to redeem his pledge, by quoting the passages which are at variance." I deny having written any such words: he applies them to himself, and they are *original* with himself. The *inconsistencies which I alluded* to in his *first* communication, I trust, were *clearly shown* to the satisfaction of every *consistent* reader. I would no longer take for granted the *correctness* of words quoted, by such a writer; the words *I did state* are of entirely *different import*. I will repeat the words used in my first communication on the said subject of inconsistency, which are as follows, viz. "U. A. B., is sincere in his statements, is not only actuated by erroneous impressions, but his statements manifest a want of consistency in allusion to the *subject*, and a want of consistency compared with a previous statement on the same side of the subject, made by Mr. S., which was also published in this Journal." As to the *subject* matter to which I alluded, it is *predicated* on a *thing accomplished*; on *practical results*; *his* remarks were *theoretical*, and were inconsistent in allusion to the subject, *practically*; the wrought iron rods, *instead* of being "nearly or quite torn asunder," appearing as perfect in form and strength, after having been *incased* in *cast iron*, as before they were so used. Any *difference* in contraction and expansion, if there be any difference in contraction from high temperature, becomes accommodated the *one* to the *other*, while the rail is in its *heated state*, so that rails containing the wrought iron rod, whether incased with *one eighth* of an inch or *an inch and a half* of cast iron, are as perfect as castings without a wrought rod: is it not then *inconsistent* in its allusion to the *subject*, to attempt to *theorise* away *practical* results?

His statements, also, as I remarked, were *inconsistent* with the *statements of Mr. Sullivan*, when *each* and *both* were striving for the *same point*—hostility to the "Guard Rail": for when alluding to the effect of *incasing wrought iron rods* with *cast* iron, the one, after *premising reasons* for his *conclusions*, says, "hence the wrought iron bar may be nearly or quite *torn asunder* without any extraneous force being applied to the rail"—while the other says, it will be "loose in the bore;" I therefore quote enough of their *own* words to *show* that they are not only inconsistent with *each other*, but that *both* are wrong in their thoughts as to practical results, as will appear by the foregoing paragraph, or on examining rails, *in perfect form for use*; and rails of that description, and rails with the *wrought rod exposed* by the purposely breaking of the cast iron, are now *publicly exposed for examination*.

Mr. Boyden, in his last communication, *denies* having stated in his first communication *any thing like the idea* that *wrought* iron bars would be so closely bound that they could not *slip* in the cast iron. It appears, however, from his conclusions stated, very like the *idea* that the wrought rod could *not slip*, as it would require a *strong hold* to *tear* it "*nearly or quite asunder*, without any extraneous force being applied to the rail."

But, as I before remarked, it does slip, if slipping be necessary to effect the object; and that, too, while both are in a *heated state*, the one becomes so accommodated to the other as to render castings *perfect*. The very great *contraction of cast iron* between its heated and cooled state, would, among *theorisers*, present *difficulties* in preparing *moulds* in such a manner as to bring the *various points* in intricate castings to their proper place for use; yet, what *seemed* a *difficulty* in theory, is not so *practically*.

It is undoubtedly *impracticable* to lay down any *accurate* scale for determining the contraction and expansion of wrought iron or of cast iron *generally*, or of any uniform difference between different descriptions of iron at different temperatures: iron made from some description of ore, being in its nature comparatively porous, other descriptions more consolidated, some comparatively hard, other descriptions soft, brittle or flexible; difference in the nature of metals causes difference in the extent of their contraction and expansion, so that an experiment made on *one* description of iron is no *certain* example for another or other descriptions: it is, however, sufficiently *near* for all practical purposes; as, for instance, Mr. Boyden quoted several experiments from English publications, as follows: viz. experiments at a difference of temperature between 22 and 32 degrees; *cast iron*, one experiment, 0011094 of its length; another experiment on cast iron, 00111 of its length; malleable iron, 001258: thus, there is a difference in the results between the two experiments of cast iron, consequently a greater difference between *one* experiment than the *other*, compared with the malleable iron; and, perhaps, if twenty experiments were made by different persons, without reference to the results of each other, the result of each would differ from the others; it is true the difference may be small, as in the above-mentioned experiments, yet it is sufficient to know that there can be no *certain* rule for any change of temperature, and the more particularly for the *various* changes from, say 32 up to 20,000 and upwards; hence the necessity of relying on *practical* results. Besides, the *difference* he has alluded to, between cast and malleable iron, is scarcely more than imaginary; it does not exceed, in a foot in length, one *eighth part* of an eighth of an inch: so much, therefore, for speculative objections, when in *practice* an *inch rod*, a foot long, while in its *heated state*, as in the manufacture of "Guard Rails," would not only *bear being drawn one eighth part of an eighth of an inch*, but it might be drawn down to more than a thousand feet in length, to the size of a small wire, without affecting its texture, instead of "*nearly or quite tearing it asunder*," according to Mr. Boyden's views of tearing iron speculatively.

Mr. Boyden states that in his first communication on this subject, he "*endeavored* to represent the *truth* fairly, without the least *false* coloring." Endeavor, indeed! when in his *last* communication he admits a *known prevarication* in his *first*, as will fully appear in the course of my remarks.

At the commencement, I remarked that I would show that Mr. Boyden had embodied in his *last* communication absurdities most gross. *

* * * *

* * * * Alluding to the *object in question*, Mr. Boyden closes a sentence with these words, viz. "the chief arguments which were at first urged in support of it, are now known to *every* intelligent engineer to be groundless." The expression bears on the face of it an *absurdity*; because, it is not to be presumed that one engineer out of a hundred, or a thousand, has any knowledge whatever of the arguments at first, or last, urged in support of it; besides, engineers and others, men of science, *cautious and prudent*, to avoid hasty and *wrong* conclusions, after *critical* examinations in its practical form for use, *approve of it fully*.

I said his absurd remark, last above quoted, was intended for *effect*: if it have *not* the effect intended, it *has* the effect of indicating the *description* of basis, upon which the mind of its writer is actuated, in aiming at conclusions. Therefore, as to the *thoughts* of such a writer, as to "editions" of rails, &c. they are unworthy a consideration. In reply to his first communication, I stated wherein this rail differed from other descriptions of rails, yet the same point is again bleudedly introduced into his last communication: he, most probably, at the same time, knowing or believing, according to the best of his information, that there has been no attempt prior to my own for *incasing* wrought iron within cast iron, so as to *protect* the wrought iron on *all sides* from exposure to *corrosion*, and at the same time to secure or guard the *lower edge* of the *cast* iron against cracking; or, if by any means *cracked* crosswise, to secure its segments, on the same *principle* that the segments of an arch are secured from falling by its abutments. It is true there are other patent rights of the same improvement, but they are predicated on my *own specification*, and on my own account in Europe; and *none* by any other person, in this country or Europe, embracing the *points of improvement* above alluded to, which, with other points, are particularly embraced in my specification.

Mr. Boyden states, that "when malleable iron was first used for rails, it was not known *exactly* how large the rails should be to bear the insistent loads, and that, to ascertain this, rails were made of various sizes: some were so light that they *bent*, which *solved the problem*, so that it is now known what size they should be to support a load of a given weight, knowing the distance between the supports. In some *instances*, he adds, *heavier loads* have been transported over the roads than the rails were *designed* to bear, which injured them." This

is a *difficulty* which *all* railroads will forever be *liable to*; and I have recently been informed, from good authority, that the like difficulty has existed, and does exist in action to an important extent, upon the *rails* of malleable iron, upon a famous modernly constructed railroad in England, notwithstanding the *previous* solving of such *problem*.

I stated in the foregoing, that Mr. Boyden, in his last communication, admitted of known prevarication in his first. There is, perhaps, no *single* object in this country, or in England, in which greater expenditures are proposed—none from which greater benefits are anticipated—than that of *railroads:* hence its *importance* in every point of view. And consequently, the importance of *designating* between the *opinion of a man* who makes up his mind *hastily*, and in *opposition to credibly asserted* actual *observation of results*, and the *opinion of a man* who has become *famous for impartiality*, and respectful reference to *observations* of results by others; and of this last description of persons, no writer upon the subject of railroads, perhaps, ranks higher than *Mr. Wood*. Hence, to attribute *harsh expressions to him*, is not only injustice to *him*, but tends to deceive readers, by leading them to believe they have the *opinion* of an *impartial man*, when in point of *fact* it is only the opinion, *shown by the expression itself to be*, of a passionately partial man. Mr. Boyden himself well knows the character of Mr. Wood, and says, in one part of his communication, "I will again quote *Mr. Wood, as I know of no better authority* on this subject."

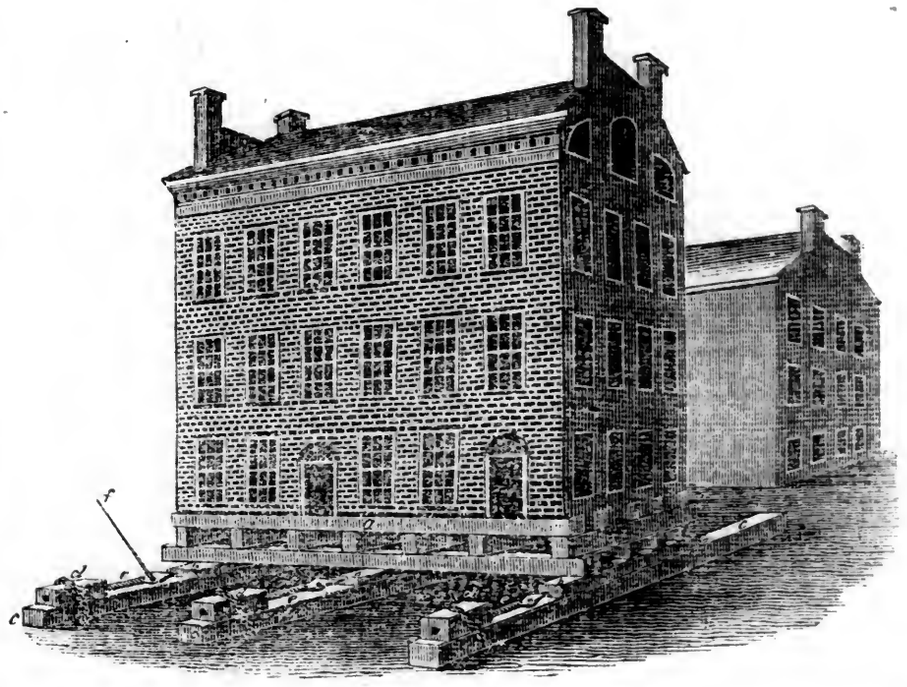
Now I will come to the point I have alluded to. In Mr. Boyden's *first* communication he stated, in order to counteract what I had *quoted* from *English publications*, in reference to the upper surface of malleable iron being liable to destruction, "partly in consequence of the great weight of the wheels, which, being rolled upon the rails, extends the lamina composing their upper surfaces, and at length causes those surfaces to break up in scales." Mr. Boyden, I say, to *counteract this* (declared to be) *practical result*, stated, in his first communication, as follows: "There has now been sufficient experience in the use of malleable iron rails to put this subject to rest;" and added, "*Mr Wood*, in the second edition of his Treatise on Railroads, page 45, *speaks thus*—'It has been said by *some engineers*, that wrought iron rails exfoliate, or separate, in their lamina, on that part which is exposed to the pressure of the wheel: this *I pointedly deny, as I have closely examined rails* which have been in use for many years, and on no part are such exfoliations to be seen.'"

Well knowing that Mr. Wood made no such hasty and apparently inconsiderate declaration, I called his, Mr. Boyden's, attention to it, presuming he had made an *error* in *attributing* such expressions to *Mr. Wood*. And in his *last communication*, instead of admitting it to have been an error, he remarked—"*I knew* it was a quotation from Stephenson."

I forbear further reply in detail, except on one point, viz.: Mr. Boyden, in his first communication, concluded a sentence in these words—"It seems cast iron wears off about five times as fast as wrought iron;" and in my reply, I stated that "a man who would pen a sentence of the above description for public inspection, *might* excuse himself by saying he was unacquainted with the nature of metals;" and added, "It is generally well known that *malleable* iron is comparatively so *soft* that a common file will reduce it to fragments; whereas cast iron, if cast on a chill, (and such was declared to be the intention,) is of consistency nearly or quite equal in *hardness* to steel, upon which a file seems to make no impression." And in his last communication he attempts to substantiate his previous statement; but it appears to me to be a point, the common sense relative to which can be determined without any reference to books, or experiments which may or may not have been made with a special view to some specific interested object.

It is generally well known that the wearing away of rails is caused by an object or objects which come in *contact*, chafing and fretting off fragments. Any individual who may provide himself with the two descriptions of iron, and a file, can easily determine which of the two kinds, with equal labor, can be fretted away "five times" as fast as the other. A malleable iron rail may, comparatively speaking, be quickly divided with a common fine-toothed saw; whereas a full-sized *hard cast iron rail*, (and no others have been proposed,) would probably resist the action of fifty or five hundred such saws in succession. It was, no doubt, from this view of the subject, as to comparative *hardness*, that Mr. Wood, in his treatise, first American and second English edition, p. 147, predicated his remarks as follows: "It is considered of paramount importance in the construction of a railroad, to form it of such materials as *combine* strength and durability with economy; *cast iron*, while its *hardness* presents a surface that opposes little obstruction to the wheels of carriages, forms a substance which is also *very durable*, and *resists* the action of the wheels *with great effect*;" and adds, "its brittleness forms the *only* source of *reasonable* objection." This *brittleness*, the only reasonable objection, was the cause of my improvement in *incasing a malleable iron rod* in the *lower edge* of the rail; by which it becomes denominated the "*Guard Rail*," and, as I have before remarked, I have now rails eight feet long, perfect in form, with wrought iron rods through the *lower* edge, from end to end, upon which ten tons on a single bearing has been applied, supports *eight feet* apart, without affecting the rail; and the founder in this city, who made the experiment, gave, as his opinion, that *twenty tons* at a single bearing, would not affect them. *These rails, with various others, are subject to inspection:* a more particular description of which will be found in the American Railroad Journal, Vol. 2, No. 14, which description was made pursuant to various experiments, and predicated on practical results; and nothing has appeared to vary the view of it, as there expressed, in any one particular. I am, respectfully, yours.

R. BULKLEY.



Mr. Simeon Brown's Method of moving Brick Buildings. [Communicated by the Inventor for the Mechanics' Magazine.]

REFERENCES—*a a*, timbers placed in different directions, according to the construction of the building, so that it may be perfectly secure; *b b b*, the slides; *c c c*, the ways, on which the slides move; *d d d*, the pumps, (so named,) secured by chains to the ways, *c c c*, and containing the female screws, which are each provided with a shoulder, pressing against the end of the pump; *e e e*, the propelling screws, which are severally acted upon by a lever, *f*.

MR. SIMEON BROWN, Eastern Hall, Manhattan Island, has, by the simple apparatus as shown in the engraving, removed several brick houses, varying from one to three stories high. As we know that many people are quite incredulous on this subject, we subjoin a list of some few tenements that have been moved by Mr. B. in this city.

The first *brick* house Mr. Brown moved was situated at 85 Maiden lane; it is three stories high, and the size is 55 feet by 22. A short time afterwards he lowered Richmond Hill Theatre, a brick building, the wall 8 inches thick, size 50 feet by 42, and moved it a distance of 68 feet. Shortly afterwards seven brick houses, at one time and by one set of apparatus, in Monroe street, each 24 feet by 40; the numbers of the houses are 118, 120, 122, 124, 126, 128, and 130. Then nine brick houses, 25 feet by 40, situated in Avenue D, all raised 5 feet 2 inches, by one operation; and a three story brick house, 58 feet by 25, in Monroe street. The Church now situated in Sixth street, Greenwich Village, he moved a distance of 1,100 feet, with the steeple, clock, pews, and all fixtures; no damage was done, not even so much as breaking a square of glass in either of the windows.

Mr. Brown informs us that, during the last 12 years, he has moved about 900 buildings, 400 of which had brick fronts, and about 40 were entire brick buildings.

The following description of the operation Mr. Brown has handed us for insertion: it is from the fertile pen of Capt. Basil Hall, and is in every particular correct.

"Every one has heard of moving wooden houses; but the transportation of a brick dwelling is an exploit of a different nature. I shall describe simply what I saw, and then tell how the details were managed. In a

street which required to be widened, there stood two houses much in the way, their front being twelve feet too far forward. These houses, therefore, must either have been taken down, or shifted back. Mr. Brown undertook to execute the less destructive process. They were both of brick, and built together, one being forty feet deep, and twenty-five feet front; the other thirty-two feet deep, and twenty-two feet front. They were of the same height, that is to say, twenty-two feet from the ground to the eaves, above which stood the roof and two large stacks of brick chimneys; the whole formed a solid block of building, having two rows of six windows each, along a front of forty-seven feet by twenty-two. This was actually moved in a compact body, without injury, twelve feet back from the street. I watched the progress of the preparations on the 25th of May with great interest; but unfortunately, just as the men were proceeding to the actual business of moving the screws, I was obliged to run off to keep an appointment with the Mayor and Corporation; and when I came back, three or four hours afterwards, the workmen had gone away, after moving the building thirty inches—which fact I ascertained by measurements of my own. On the next day, with equal perversity of fate, I was again called off to join a party going to New-Jersey; and on my return two days afterwards, I had the mortification to find the work completed. The houses were now exactly nine feet and a half from the position in which I had left them a few days before.

"It would be tedious, perhaps, were I to give a very minute description of the whole process; but it is so simple, that it may, with a little attention, be understood in a general way even by persons not much accustomed to such subjects, and may possibly be useful to those who are familiar with them.

"The first object is to place a set of strong timbers under the house, parallel to, and level with the street, at the distance of three feet apart, extending from end to end of the buildings, and projecting outwards several feet beyond the gable end walls. The extremities of these timbers are next made to rest upon blocks of wood, placed on the ground quite clear of the walls on the outside. Then by means of wedges driven between the timbers and the blocks, they are made to sustain a great part of the weight of the ends of the house. When this is done, the foundation of the end walls may be removed without danger, as they now rest exclusively on the timbers, the ends of which, as I have described, lie on solid blocks.

"I shall describe presently how the above operation of inserting the timbers is performed; but if for the present we suppose it done, and the house resting on a sort of frame-work, it is easy to conceive that a set of slides, or what are called in dock-yards, ways, on which ships are launched, may be placed transversely under these timbers, that is, at right angles to them, so as to occupy the very place where the foundations of the end walls once stood. It is necessary to interpose between these ways or fixed slides, and the aforesaid timbers, a set of cradles, similar in their purpose to the apparatus of the same name on which ships rest when launched, to which final process of ship-building, by-the-bye, this whole operation bears a close analogy. These cradles are long smooth beams lying along the top of the ways, and in the same line with them; their under surfaces in contact with the ways, and the upper made to bear against the cross timbers which support the house. The object, at this stage of the business, is to bring the whole weight of the house upon these cradles, and, consequently, upon the ways which support them. If this be done, it follows that the ends of the timbers, formerly described as resting on the blocks, will no longer be supported at the same places. This change of the point of support is effected by driving in wedges between the timbers and the cradles; and it will readily be seen that these wedges have the two-fold effect of forcing the cradles down upon the ways, and at the same time of raising up the timbers which support the house, and consequently, in a very small degree, the house itself. The ends of the timbers now rest no longer on the blocks, which are removed, and the house, supported upon the cradles and the ways, is ready for being moved, as soon as the front and back walls have been taken away.

"Suppose all this done, there is nothing required but to apply screws, placed horizontally in the street, and butting against the cradles. On these being made to act simultaneously, the cradles, and consequently the frame which they support, together with the house on its back, move along.

"Such is a general account of the process. I shall now mention how the various difficulties, most of which I dare say will have suggested themselves in the foregoing account, are overcome in practice.

"The horizontal supporting timbers, already described as being placed parallel to the street, and nearly at the same level with it, are introduced one by one in this way. A hole is blocked out in each of the end walls, just above the ground, and large enough to admit a squared beam, say fifteen inches each way, of which the ends project beyond the gable walls about a couple of feet. A firm block of wood is then placed under each of these ends, and wedges being driven underneath, the beam is raised up, and made to bear against the upper parts of the holes. Thus the inserted timber completely supplies the office of the dislodged portions of the masonry. Another pair of holes is then made, and a second timber introduced, and so on till they are all inserted, and firmly wedged up. The distance at which these are placed must depend upon the weight of the wall. In the case I witnessed the houses were of brick, and the timber stood at the distance, I should think, of three feet apart. All this being done, the intermediate masonry, forming the foundation, may be gradually removed, and a clear space will be left under the supported walls for the reception of the ways.

"There are two more precautions to be attended to; these ways must all be coated with tallow, in a layer of at least half an inch thick, so that the wood of the cradles may never come in contact with them. Some device must also be adopted to prevent the whole affair, house and all, from sliding laterally off. This, Mr. Brown prevents, by cutting along the top of one of the ways a deep groove, into which is fitted a correspondent feather, as it is called, of the superincumbent cradle. This being made to work easy, and well greased, the direct motion is not retarded.

"I have said nothing all this time of the front and back walls; but it will easily be understood how these may be made to rest, like those at the ends, on timbers inserted under the house at right angles, to the first set. The whole of the supporting frame-work is tied so firmly together by bolts, that there is not the slightest bending or twisting of any part of the building.

"When at last the house has reached its destination, a new foundation is built, and the whole process being inverted, the timbers are withdrawn one by one; and such is the security of these operations, that no furniture is ever removed from the houses so transported. The inhabitants, I am told, move out and in as if nothing were going on. This, however, I did not see.*

"Mr. Brown was once employed to remove a house from the top to the bottom of a sloping ground; and, as no additional impulse from screws was here required, he resolved to ease the building down, as sailors call it, by means of a tackle. Unfortunately, about the middle of the operation, the strop of one of the blocks broke, and the operator, who was standing on the lower side of the building, was horrified by the apparition of the house under weigh, and smoking, by its friction, right down upon him. With that vigorous presence of mind, which is compounded of thorough knowledge, and a strong sense of the necessity of immediate action, and without which courage is often useless, he dashed a crow-bar, which he happened to have in his hand at the time, into a hole accidentally left in one of the ways, and leaping on one side watched the result. The momentum of the enormous moving body was so great that it fairly drove the iron bar, like a cutting instrument, for a considerable distance through the fibres of the timber. The main point, however, was gained, by the house being arrested in its progress down the hill; and the able engineer, like an officer who has shown himself fertile in resource, reaped more credit from the successful application of a remedy to an evil not anticipated, than if all had gone smoothly from the commencement."

* We have been credibly informed that, during the operation of moving the house situate at 85 Maiden lane, the Mayor and Corporation, to the amount of 150 individuals, were in the house and partook of refreshments. Also, that, when the church before alluded to was moving, a clergyman delivered a discourse on science, as connected with religion, to a congregation of between 300 and 400 persons.—[Ed. Mec. Mag.]

Wooden Rails for Railroads. By Mercator. To the Editor of the American Railroad Journal.

Sir,—The usefulness of your journal as a medium of intelligence on the subject of railroads becomes more and more apparent, when reflecting on the subject of the numerous millions contemplated to be expended in the construction of railroads in this country. In allusion to the important article of *rails*, persons of *inexperience on the subject*, either as to their own observations, or information derived from observations of others: to such persons the article of *wood*, as well on account of its great strength, as the facilities with which it can be procured in this country, are reasons which seem very naturally to impress their ideas that it should have a preference for that object. A similar idea prevailed in England while projectors of railroads were inexperienced on the subject of railroads; but on perusal of recent English publications, we observe among their sentences such words as these, "*since wooden rails have been abandoned in this country.*" Wooden rails

abandoned!!! would be indeed a surprising idea to inexperienced persons above adverted to; and the *natural conclusion* is, that such abandonment was for *cause*. The probable *principal* cause may be considered as observable in the *necessary situation* in which rails are placed, being nearly on a line with the surface of the earth, exposed to the *moisture* of the earth. In the last number of your Journal a communication appeared from Mr. J. L. Sullivan, on the subject of *preserving* wooden rails in railroads from rapid decay. He states that he has before explained his ideas on this subject, namely, in the year 1829; but does not inform us of any *practical results* during the long interim.

Mr. S. states a well known fact, "That in making railroads with timber, the posts or piles are liable to decay earliest at the surface, or a little above and below the *surface* of the ground, because the effect of heat and moisture there combine"; and adds, "that to guard the post from this effect, I prevent the contact of earth with this part by means of *stone* laid *close around it*; and to keep the *rain* out from among them, I set them in water lime mortar, or in Roman cement, applying it to the wood as well as stones; I also use sometimes, in the upper stratum, especially, a cement made of pitch and lime, when the kind of timber is congenial, pitch being adhesive and lime indestructible. The stone," he adds, "keeps the wood cool, the *cement* keeps it *dry*." This extract seems particularly allusive to *posts* or *piles*; the *decay* of *rails*, however, laid near the surface, is probably co-equal with posts or piles.

Mr. Sullivan not having fortified his explanation with any statement of *practical results*, it is presumable that his specification is predicated upon a theoretical view of the subject. Mr. Sullivan has most undoubtedly taken an erroneous *view* of the subject: as to pitch, if placed in a damp situation below the surface, it is of but short, a few months, duration. This may be observed upon a vessel's bottom, used either in fresh water or salt. Wood cannot be kept dry in a wet or damp situation, by the application of cement of common lime, *water lime*, or *Roman cement*: all three of them are *conductors* of water by *capillary attraction*; so that if a piece of *wood* were covered with any given thickness of such cement, and placed in water, it would be found that the wood would become absorbed in water, conducted to it through the cement, and with such a coating would be more liable to decay than without it, by reason of its retaining dampness when wet, longer than if it had no such close covering. The experiment may be easily made by making a ball of cement; and, after perfectly dry, place it in a dish and apply water in contact with the lower surface of the ball, and it will be found that the cement ball will absorb of water to the extent of about two-fifths of the bulk of the ball, whether of common lime, water lime, or Roman cement; cement is at the same time so far a *check* to the passage of water, as to be useful in the building of canal locks, &c.

As to *comparative* practical results on that subject, the removals of numerous buildings in this city to make room for improvements, gives good opportunity for observation. It is well known, that when a foundation wall is laid, the *sleepers*, so called, for the first floor, are usually placed upon the upper part of the wall, and filled in between the sleepers with stone or bricks, and lime mortar, or cement, in contact with the ends of sleepers or beams, being in *effect* as to *combination*, similar, or nearly so, to the proposition of Mr. Sullivan; and what is the result? The result is that the *ends* of the sleepers on the ground floor are usually found to be quite decayed, so far as surrounded by cement, if in a *damp situation*. It may be said that this is too vague to be relied upon, as some buildings remain many years before removed, and the time at which the hidden ends become decayed consequently matter of uncertainty: it was, however, particularly observed at the ends of the street floor sleepers of the *Arcade*, which was taken down, between Maiden lane and John street, in this city, a short time since. The main part of the sleepers were comparatively nearly as fresh in appearance as new, having been in use only some five or eight years, while the *ends* of the sleepers, surrounded with cement of lime, were of consistency and color of snuff; so that that part of them must have been divested of strength in a comparatively short proportion of the time the building stood; and I think no better reason can be given than that those ends were *retained* in a *damp state*, when wet, *longer* than they would have been if exposed to the atmosphere. But the policy of *using* posts or piles, is questionable; except it be to overcome local difficulties, as in marshy ground. A gentleman who passed over the Charleston Railroad remarked to me that, upon that part *elevated upon piles*, the side, apparently waving, motions were such as to remind him of the motion experienced in a vessel passing over waves.

P. S.—Since writing the above, I accidentally met the person who acted as superintendant in pulling down the *Arcade* above alluded to: who, on inquiry, informed me that it was *seven years* from the time it was built to the time it was pulled down; that the ends of the sleepers placed upon the foundation wall were imbedded, and the ends incased with stone, bricks and mortar, so that the *earth* could not come in contact with the *timber*; but where the *earth* came in contact with the *wall opposite* to the timbers, the *ends* of the beams were completely gone to the consistency of dust.

Knowing it to be your purpose to elicit and disseminate *facts* deemed to be tending to benefit the cause you have espoused, "public improvement," the foregoing is communicated.

MERCATOR.

SIMPLIFIED APPLICATION OF STEAM.—At a meeting of the Paris Academy of Arts and Sciences, held on the 7th January, a memoir was read, in which M. Pelletan treated of the dynamic effects of a jet of steam, and the means of applying it, in a simple and cheap way, to the purposes of the useful arts. 'A jet of steam,' says the author, when thrown into a cylindrical conduit, or into a pipe filled with air, imparts the active power with which it is endued to the column of air, without any other loss than that occasioned by the friction in the conduit, or pipe.'

His detail of the results, which have already ensued from his discovery, are deserving of attentive notice. A jet of steam issuing through an orifice of a millimetre, (.03937 of an inch) under a pressure of five atmospheres, possesses a velocity of five hundred and fifty-nine metres, (1084 3-8 feet,) per second; it consequently moves at the same rate of velocity as a bullet discharged from a gun.

But this enormous velocity is, in its simple form, of no practical benefit, inasmuch as it cannot be converted into a useful agent; when, however, the steam has been enabled to impart motion to a quantity of atmosphere, the velocity, it is true, is diminished, but the mass set in motion is increased; and by this operation, the active power of the jet of steam is susceptible of general application.

The elastic force of steam has hitherto been employed under pressure, by the aid of machines, which are necessarily complicated, and involve a serious loss of power from their bulkiness and friction: but steam, acting immediately by its own power, can be made to effect its objects in machines of so simple a construction, that a steam engine of one man's power may henceforth be worked by a common fire.

Mr. Pelletan remarks, that the force of steam, so applied, may be brought directly in aid of the machine, and will enable him to double and treble his daily gains, instead of its powers being limited, as hitherto, to filling the coffers of great capitalists at a compound ratio.

The same jet of steam, when applied to the purpose of increasing the draft of furnaces, enables the proprietor to reduce their diameter to two inches, even where a large furnace is in question, to lead the smoke in any direction which may suit him best, and to make use of the whole heat produced. By means of this jet, a vacuum may be effected at will, in any given space, however considerable it may be, and permanently maintained, not only at very small cost, but through the medium of an apparatus of the simplest construction. This process is of ready application wherever evaporation or desiccation are to be effected. Acting upon a column of air, the jet supplies the simplest and most efficacious mode which can be adopted for creating blasts in forges, furnaces, &c.

It appears the inventor claims priority in this important discovery, inasmuch as he communicated the properties of the jet in a paper addressed to the Academy in 1829, and he is tenacious of the claim in consequence of the later application of the jet in impelling steam carriages in England.—[Athenæum.]

THE RAILROAD.—The stock of this company has taken another rise, and several sales have been effected within the past two days at ONE HUNDRED AND FIVE DOLLARS per share, at which rate they are now in brisk demand.

The road has been used in a continued line to the inclined plane from Charleston, and from the inclined plane to Hamburg, by a hand car, running on the wooden rail, the iron for which is now conveying, and we shall soon have the satisfaction of announcing a junction—the ironing of 22 miles being all that is now required to complete it.

A passenger arrived from the inclined plane on Saturday, having travelled 120 miles on the road.—[Charleston Patriot, July 2d.]

Equal quantity of Pot Ashes obtained from the same quantity of Ashes. By R. M. W.

[For the New-York Farmer.]

MR. FLEET,—I very much doubt the possibility of obtaining two tons of Pot-Ash by any new process from the same quantity of raw ashes. I am well aware that our ashes are often thrown out of the leaches, before the strength is entirely exhausted, but, in a well regulated pot-ash, it is usual to water the leaches as long as they will color or taste the lies, after which they are emptied. Now the only question with me is, whether soft water properly applied will dissolve all the alkali, and, if so, I cannot but believe that we shall work the leached ashes in vain. A patent was obtained some years ago for working over leached ashes, but it was soon abandoned, and the expense exceeded the profit. It is true some names are mentioned that ought to give some confidence in this project, but I conceive that the men must have been mistaken. That ashes may be increased in bulk and weight, by adding limestone, sand and salt, is very certain, but it is evidently an adulteration, and no increase of alkali; and it is easily detected when proper tests are applied.

R. M. W.

Babbage on the Economy of Manufactures.

[Continued from page 405.]

[The following is the conclusion of Art. 133, together with the other articles that were omitted, and which the reader will perceive should have been inserted immediately after the words—"The holes for the rivets were punched by hand-punching with presses, and the 1680 holes"]

which each tank required, cost seven shillings. The Navy Board, who required a large number, proposed that he should supply forty tanks a week for many months. The magnitude of the order made it worth while to commence *manufacturer*, and to make tools for the express business. Mr. Maudslay, therefore, offered, if the Board would give him an order for two thousand tanks, to supply them at the rate of eighty per week. The order was given: he made tools, by which the expense of punching the rivet-holes of each tank was reduced from seven shillings to nine-pence; he supplied ninety-eight tanks a week for six months, and the price charged for each was reduced from seventeen pounds to fifteen.

ON THE INFLUENCE OF VERIFICATION ON PRICE.

134. The money price of an article at any given period is usually stated to depend upon the proportion between the supply and the demand. The average price of the same article during a long period is said to depend, ultimately, on the power of producing and selling it with the ordinary profits of capital. But these principles, although true in their general sense, are yet so often modified by the influence of others, that it becomes necessary to examine a little into the disturbing forces.

135. With respect to the first of these propositions, it may be observed that the cost of any article to the purchaser includes, besides supply and demand, another element, which, though often of little importance, is in many cases of great consequence. The cost, to the purchaser, is the price he pays for any article, added to the cost of verifying the fact of its having that degree of goodness for which he contracts. In some cases the goodness of the article is evident on mere inspection; and in these cases there is not much difference of price at different shops. The goodness of loaf-sugar, for instance, can be discerned almost at a glance; and the consequence is, that the price of it is so uniform, and the profit upon it so small, that no grocer is at all anxious to sell it: whilst, on the other hand, tea, of which it is exceedingly difficult to judge, and which can be adulterated by mixture so as to deceive the skill even of a practiced eye, has a great variety of different prices, and is that article which every grocer is most anxious to sell to his customers. The difficulty and expense of verification are, in some instances, so considerable, as to justify the deviation from well established principles. Thus it has been found so difficult to detect the adulteration of flour, and to measure its good qualities, that, contrary to the maxim that *government* can generally purchase any article at a cheaper rate than that at which they can manufacture it, it has been considered more economical to build extensive flour-mills, (such as those at Deptford,) and to grind their own corn, than to verify each sack purchased, and to employ persons in continually devising methods of detecting the new modes of adulteration which might be resorted to.

136. Some years since, a mode of preparing old clover and trefoil seeds by a process called "*doctoring*" became so prevalent as to excite the attention of the House of Commons. It appeared in evidence before a committee, that the old seed of the white clover was *doctored* by first wetting it slightly, and then drying it with the fumes of burning sulphur; and that the red clover seed had its color improved by shaking it in a sack with a small quantity of indigo; but this being detected after a time, the *doctors* then used a preparation of logwood, fined by a little copperas, and sometimes by verdigris; thus at once improving the appearance of the old seed, and diminishing, if not destroying, its vegetative power already enfeebled by age. Supposing no injury had resulted to good seed so prepared, it was proved that, from the improved appearance, its market price would be enhanced by this process from five to twenty-five shillings a hundred weight. But the greatest evil arose from the circumstance of these processes rendering old and worthless seed, in appearance, equal to the best. One witness tried some *doctored* seed, and found that not above one grain in a hundred grew, and that those which did vegetate died away afterwards; whilst about eighty or ninety per cent. of good seed usually grows. The seed so treated was sold to retail dealers in the country, who, of course, endeavored to purchase at the cheapest rate, and from them it got into the hands of the farmers; neither of these classes being at all capable of distinguishing the fraudulent from the genuine seed. Many cultivators, in consequence, diminished their consumption of the article; and others were obliged to pay a higher price to those who had skill to distinguish the mixed seed, and who had integrity and character to prevent them from dealing in it.

137. In the Irish flax trade, a similar example of the high price paid for verification occurs. It is stated in the report of the committee—"That the natural excellent quality of Irish flax, as contrasted with foreign or British, has been admitted." Yet from the evidence before that committee, it appears that Irish flax sells, in the market, from 1*d.* to 2*d.* per pound less than other flax of equal or inferior quality. Part of this difference of price arises from negligence in its preparation, but a part also from the expense of ascertaining that each parcel is free from stones and rubbish to add to its weight: this appears from the evidence of Mr. J. Corry, who was, during twenty-seven years, Secretary to the Irish Linen Board:

"The owners of the flax, who are almost always people in the lower classes of life, believe that they can best advance their own interests by imposing on the buyers. Flax being sold by weight, various expedients are used to increase it; and every expedient is injurious, particularly the damping of it,—a very common practice, which makes the flax afterwards heat. The inside of every bundle (and the bundles all vary in bulk) is often full of pebbles, or dirt of various kinds, to increase the weight. In this state it is purchased, and exported to Great Britain. The natural quality of Irish flax is admitted to be not inferior to that produced by any foreign country; and yet the flax of every foreign country, imported into Great Britain, obtains a preference among the purchasers, because the foreign flax is brought to the British market in a cleaner and more regular state. The extent and value of the sales of foreign flax in Great Britain can be seen by reference to the public accounts; and I am induced to believe, that Ireland, by an adequate extension of her flax tillage, and having her flax markets brought under good regulations, could, without encroaching in the least degree upon the quantity necessary for her home consumption, supply the whole of the demand of the British market, to the exclusion of the foreigners."

138. The lace trade affords other examples; and, in inquiring into the complaints made to the House of Commons by the frame-work knitters, the committee observe, that "It is singular that the grievance most complained of one hundred and fifty years ago, should, in the present improved state of the trade, be the same grievance which is now most complained of; for it appears, by the evidence given before your committee, that all the witnesses attribute the decay of the trade more to the making of fraudulent and bad articles, than to the war, or to any other cause." And it is shown by the evidence, that a kind of lace called "*single-press*" was manufactured, which was only looped once, and which, although good to the eye, became nearly spoiled in washing by the slipping of the threads; that not one person in a thousand could distinguish the difference between "*single-press*" and "*double-press lace*;" and that, even workmen and manufacturers were obliged to employ a magnifying glass for that purpose; and that, in another similar article, called "*warp lace*," such aid was essential. It was also stated by one witness, that

"The trade had not yet ceased, excepting in those places where the fraud had been discovered; and from those places no orders are now sent for any sort of Nottingham lace, the credit being totally ruined."

139. In the stocking trade similar frauds have been practised. It appeared in evidence, that stockings were made of uniform width from the knee down to the ankle, and being wetted and stretched on frames at the calf, they retained their shape when dry; but that the purchaser could not discover the frand, until, after the first washing, the stocking appeared to hang like a bag about his ankles.

140. In the watch trade, the practice of deceit, in forging the marks and names of respectable makers, has been carried to a great extent both by natives and foreigners; and the effect upon

[For the matter that should have been inserted here, see page 405, commencing at the 9th line from the end, at the words "our export trade."]

142. There are few articles which the public are less able to judge of than the quality of drugs; and when they are compounded into medicines, it is scarcely possible, even for medical men, to decide whether pure or adulterated drugs have been employed. This circumstance, concurring with an injudicious mode adopted in the payment for medical assistance, has produced a curious effect on the price of medicines. Apothecaries, instead of being paid for their services and skill, have been remunerated by being allowed to place a high charge upon the medicines they administer, which are confessedly of very small pecuniary value. The tendency of such a system is to offer an inducement to prescribe more medicine than is necessary; and, in fact, even with the present charges, the apothecary, in ninety-nine cases out of a hundred, cannot be fairly remunerated unless the patient either takes, or pays for, more physic than is really necessary. The apparent extravagance of the charge of eighteen pence for a two-ounce phial* of medicine is obvious to many who do not reflect on the circumstance that the charge is, in reality, for the payment of professional skill. As the same charge is made by the apothecary, whether he attends the patient or merely prepares the prescription of a physician, the chemist and druggist soon offered to furnish the same commodity at a greatly diminished price. But the eighteen pence charged by the apothecary might have been fairly divided into two parts, three pence for medicine and bottle, and fifteen pence for attendance. Now the chemist, although he has reduced the price of the apothecary's draught, from thirty-three to forty-four per cent., yet realizes a profit of between two and three hundred per cent. on the ten pence or shilling he charges for the same compound. This enormous profit has called into existence a multitude of competitors; and in this instance the impossibility of verifying has, in a great measure, counteracted the beneficial effects of competition. The general adulteration of drugs, even at the extremely high price at which they are retailed as medicine, enables those who are imagined to sell them in an unadulterated state to make large profits, whilst the same evil frequently disappoints the expectation and defeats the skill of the most eminent physician.

It is difficult to point out a remedy for this evil without suggesting an almost total change in the system of medical practice. If the apothecary were to charge for his visits, and to reduce his medicines to one-fourth or one-fifth of their present price, he would still have an interest in procuring the best drugs, for the sake of his own reputation or skill. Or if the medical attendant, who is paid more highly for his time, were to have several pupils, he might him-

* Apothecaries frequently purchase these phials at the old bottle-warehouses at ten shillings per gross, so that when their servant has washed them the cost of the phial is nearly one penny.

self supply the medicines without a specific charge, and his pupils would derive improvement from compounding them, as well as from examining the purity of the drugs he would purchase. The public would derive several advantages from this arrangement. In the first place, it would be greatly for the interest of the medical practitioner to have the best drugs; it would also be his interest not to give more physic than needful; and it would also enable him, through some of his more advanced pupils, to watch more frequently the changes of any malady.

143. The principle that *price*, at any moment, is dependent on the relation of the supply to the demand, is true to the full extent only when the whole supply is in the hands of a very large number of small holders, and the demand is caused by the wants of another set of persons, each of whom requires only the same very small quantity. And the reason appears to be, that it is only in such circumstances that a uniform average can be struck between the feelings, the passions, the prejudices, the opinions, and the knowledge, of both parties. If the supply, or present stock in hand, be entirely in the possession of one person, he will naturally endeavor to put such a price upon it as shall produce by its sale the greatest quantity of money; but he will be guided in this estimate of the price at which he will sell both by the knowledge that increased price will cause a diminished consumption, and by the desire to realize his profit before a new supply shall reach the market from some other quarter. If, however, the same stock is in the hands of several dealers, there will be an immediate competition between them, arising partly from their different views of the duration of the present state of supply, and partly from their own peculiar circumstances with respect to the employment of their capital.

144. Again, if the commodity itself is of a perishable nature, such, for example, as a cargo of ice imported into the port of London from Norway a few summers since, then time will supply the place of competition; and, whether the article is in the possession of one or of many persons, it will scarcely reach a monopoly price. The history of *cajeput oil*, during the last few months, offers a curious illustration of the effect of opinion upon price. In July of last year (1831) cajeput oil was sold, exclusive of duty, at 7*d.* per ounce. The disease which had ravaged the east was then supposed to be approaching our shores, and its proximity created alarm. At this period, the oil in question began to be much talked of as a powerful remedy in that dreadful disorder; and in September it rose to the price of 3*s.* and 4*s.* the ounce. In October there were few or no sales: but in the early part of November, the speculations in this substance reached their height, and between the 1st and the 15th it realized the following prices: 3*s.* 9*d.*, 5*s.*, 6*s.* 6*d.*, 7*s.* 6*d.*, 8*s.* 9*d.*, 10*s.*, 10*s.* 6*d.*, 11*s.* After the 15th of November, the holders of cajeput oil were anxious to sell at much lower rates; and in December a fresh arrival was offered by public sale at 5*s.*, and withdrawn, being sold afterwards, as it was understood, by private contract, at 4*s.* or 4*s.* 6*d.* per ounce. Since that time, 1*s.* 6*d.* and 1*s.* have been realized: and a fresh arrival, which is daily expected, (March, 1832,) will probably reduce it below the price of July. Now, it is important to notice that, in November, the time of greatest speculation, the quantity in the market was held by *few* persons, and that it frequently changed hands, each holder being desirous to realize his profit. The quantity imported since that time has also been considerable.*

145. The frequent speculations in oil, tallow, and other commodities, which must occur to the memory of most of my readers, were always founded on the principle of purchasing up all the stock on hand, and agreeing for the purchase of the expected arrivals; thus proving the opinion of capitalists to be, that a larger average price may be procured by the stock being held by few persons.

* I have understood that the price of camphor, at the same time, suffered similar changes.

ON THE INFLUENCE OF DURABILITY ON PRICE.

146. Having now considered the circumstances that modify what may be called the momentary amount of price, we must next examine a principle which seems to have an effect on its permanent average. The durability of any commodity influences its cost in a permanent manner. We have already stated, that what may be called the *momentary price* of any commodity depends upon the proportion existing between the supply and demand, and also upon the cost of verification. The *average price*, during a long period, will depend upon the labor required for producing and bringing it to market, as well as upon the average supply and demand; but it will also be influenced by the *durability of the article manufactured.*

Many *things* in common use are substantially consumed in using: a phosphorus match, articles of food, and a cigar, are examples of this description. Some things after use become inapplicable to their former purposes, as paper which has been printed upon; but it is yet available for the cheesemonger or the trunk-maker. Some articles, as pens, are quickly worn out by use; and some are still valuable after a long-continued wear. There are others, few, perhaps, in number, which never wear out; the harder precious stones, when well cut and polished, are of this latter class; the fashion of the gold or silver mounting in which they are set may vary with the taste of the age, and such ornaments are constantly exposed for sale as second-hand, but the gems themselves, when removed from their supports, are never so considered. A brilliant, which has successively graced the necks of a hundred beauties, or glittered for a century upon patrician brows, is weighed by the diamond merchant in the same scale with another which has just escaped from the wheel of the lapidary, and will be purchased or sold by him at the same price per carat. The great mass of commodities is intermediate in its character between these two extremes, and the periods of respective duration are very various. It is evident that the average price of those things which are consumed in the act of using them, can never be less than that of the labor of bringing them to market. They may, for a short time, be sold for less; but under such circumstances their production must soon cease altogether. On the other hand, if an article never wears out, the consequence will be, that its price may continue *permanently below* the cost of the labor expended in producing it; and the only consequence will be, that no farther production will take place: its price will continue to be regulated by the relation of the supply to the demand; and should that at any after time rise, for a considerable period, above the cost of production, it will be again produced.

147. Articles become old from actual decay, or the wearing out of their parts; from improved modes of constructing them; or from changes in their form and fashion, required by the varying taste of the age. In the two latter cases, their utility is but little diminished; and, being less sought after by the classes who have hitherto employed them, they are sold at a reduced price to a class of society rather below that of their former possessors. Many articles of furniture, such as well-made tables and chairs, are thus found in the rooms of those who would have been quite unable to have purchased them when new; and we find constantly, even in the houses of the more opulent, large looking-glasses which have passed successively through the hands of several possessors, changing only the fashion of their frames; and in some instances even this alteration is omitted, an additional coat of gilding saving them from the character of being second-hand. Thus a taste for luxuries is propagated downwards in society; and, after a short period, the numbers who have acquired new wants become sufficient to excite the ingenuity of the manufacturer to reduce the cost of supplying them, whilst he is himself benefitted by the extended scale of demand.

There is a peculiarity in looking glasses with reference to the principle just mentioned. The most frequent occasion of injury to them arises from accidental violence; and the peculiarity is, that, unlike most other articles, when broken they are still of some value. If a large mirror is accidentally cracked, it is immediately cut into two or more smaller ones, each of which may be perfect. If the degree of violence is so great as to break it into many fragments, these smaller pieces may be cut into squares for dressing-glasses; and if the silvering is injured, it can either be re-silvered or used as plate-glass for glazing windows. The addition from our manufactories to the stock of plate-glass in the country is annually about two hundred and fifty thousand square feet. It would be very difficult to estimate the quantity annually destroyed or exported, but it is probably small; and the effect of these continual additions is seen in the diminished price and increased consumption of the article. Almost all the better order of shop fronts are now glazed with it. If it were quite indestructible, the price would continually diminish; and unless an increased demand arose from new uses, or from a greater number of customers, a single manufactory, unchecked by competition, would ultimately be compelled to shut up, driven out of the market by the permanence of its own productions.

OF PRICE AS MEASURED BY MONEY.

148. The *money price* at which an article sells furnishes us with comparatively little information, if we compare distant intervals of time and different countries; for gold and silver, in which price is usually measured are themselves subject to variations, like all other commodities; nor is there any invariable standard by which such comparisons can be made. The average price of a certain quality of various manufactured or raw produce has been suggested as a permanent standard of price; but a new difficulty then presents itself: for the improved methods of producing such articles render their *money price* extremely variable within very limited periods. The annexed table will afford a striking instance of this kind of variation within a period of only twelve years.

Prices of the following articles at Birmingham in the undermentioned years.

DESCRIPTION.		1818.		1824.		1828.		1830.	
		£	s. d.	£	s. d.	£	s. d.	£	s. d.
Anvils	per cwt.	5	0 0	4	10 0	4	0 0	3	15 0
Awls, polished, Liverpool	per gross	0	12 0	0	10 0	0	9 0	0	8 0
Bed Screws, 6 inches long	per gross	0	12 0	0	10 0	0	9 0	0	8 0
Bits, tinned, for Bridles	per gross	0	12 0	0	10 0	0	9 0	0	8 0
Bolts, for doors, 8 inches	per dozen	0	2 0	0	1 10	0	1 6	0	1 4
Bosses, for Carpenters' work, 13 Units	per set	0	2 0	0	1 10	0	1 6	0	1 4
Buttons, for Coats	per gross	0	12 0	0	10 0	0	9 0	0	8 0
Buttons, small, for Waistcoats, &c.	per gross	0	6 0	0	5 0	0	4 6	0	4 0
Candlesticks, brass, 6 inches	per pair	0	2 0	0	1 10	0	1 6	0	1 4
Curry Combs, six barred	per doz.	0	12 0	0	10 0	0	9 0	0	8 0
Drawing Pens	per doz.	0	2 0	0	1 10	0	1 6	0	1 4
Gun Locks, single locker	each	0	2 0	0	1 10	0	1 6	0	1 4
Hammers, Shoe, No. 6	each	0	2 0	0	1 10	0	1 6	0	1 4
Hinges, cast brass, 2 inches	per dozen	0	2 0	0	1 10	0	1 6	0	1 4
Knobs, brass, 2 inches, for Commodes	per dozen	0	2 0	0	1 10	0	1 6	0	1 4
Latches, for doors, bright finish	per dozen	0	2 0	0	1 10	0	1 6	0	1 4
Locks, for doors, iron tips, 6 inches	per dozen	0	2 0	0	1 10	0	1 6	0	1 4
Nail Rods, 6 and 7 inches, Cuttlers	per cwt.	0	2 0	0	1 10	0	1 6	0	1 4
Shovel and Tongs, the best	per pair	0	2 0	0	1 10	0	1 6	0	1 4
Spurs, Steel, plated	per pair	0	2 0	0	1 10	0	1 6	0	1 4
Table Forks, tinned	per doz.	0	2 0	0	1 10	0	1 6	0	1 4
Tongs, Chafing	per pair	0	2 0	0	1 10	0	1 6	0	1 4
Trays, Japanned Tea, Pattern, No. 4	each	0	2 0	0	1 10	0	1 6	0	1 4
Vices, for Blacksmiths, &c.	per cwt.	0	2 0	0	1 10	0	1 6	0	1 4
Wire, Iron, No. 6	per cwt.	0	2 0	0	1 10	0	1 6	0	1 4
Wire, Brass	per lb.	0	2 0	0	1 10	0	1 6	0	1 4

I have taken some pains to assure myself of the accuracy of the above table: at different periods of the years quoted the prices may have varied; but I believe it may be considered as a fair approximation. In the course of my inquiries I have been favored with another list, in which many of the same articles occur; but in this last instance the prices quoted are separated by an interval of twenty years. It is extracted from the books of a highly respectable

house at Birmingham; and the prices confirm the accuracy of the former table, so far as they relate to the articles which are found in that list.

DESCRIPTION.		Prices of 1812 and 1832. 1812. £.	s.	d.	1832. £.	s.	d.	Reduction per cent. since 1812.
Anvils	per cwt.	4	6	0	3	11	0	21
Awls, Liverpool blades,	gross	3	0	0	2	0	0	33
Candlesticks, iron, plain,	-	-	-	-	-	-	-	-
Bed screws, 6 inch square head, screwed,	gross	1	16	0	1	4	0	25
——— flat head,	gross	3	8	0	2	12	0	33
Curry Combs, 6 barrel,	dozen	0	10	3	0	6	9	40
——— 8 barrel,	dozen	0	13	6	0	8	0	41
——— patent, 6 barrel,	dozen	0	15	0	0	9	0	40
——— 8 barrel,	dozen	0	19	0	0	11	6	42
Fire irons, iron head, No. 1.	dozen	1	4	0	0	15	0	35
——— No. 2.	dozen	1	0	0	0	13	0	35
——— No. 3.	dozen	0	16	0	0	10	6	34
——— No. 4.	dozen	0	12	0	0	8	0	33
Gun-Locks, single roller,	each	0	2	6	0	1	6	40
Locks, 11 brass, port. pad,	each	0	3	6	0	2	0	43
——— 21 inch 3 keyed till-locks,	each	0	5	0	0	3	0	40
Shoe Tacks,	gross	0	2	0	0	1	3	37
Spoons, tinned, iron, table,	gross	2	0	0	1	4	0	33
Stirrups, com. tinned, 2 bar,	dozen	0	9	0	0	6	0	33
Trace Chains, iron,	cwt.	2	6	0	1	11	0	33

I cannot omit availing myself of this opportunity of calling the attention of the manufacturers, merchants, and factors, in *all* our manufacturing and commercial towns, to the great importance, both for their own interests, and for that of the population to which their capital gives employment, of collecting with care such averages from the actual sales registered in their books. Nor, perhaps, would it be without its use to suggest, that such averages would be still more valuable if collected from as many different quarters as possible; and when the amount of the goods from which they are deduced, together with the greatest deviations from the mean, are given; and that if a small committee were to undertake the task, it would give great additional weight to the information. Political economists have been reproached with too small a use of facts, and too large an employment of theory. If facts are wanting, let it be remembered that the closet-philosopher is unfortunately too little acquainted with the admirable arrangements of the factory; and that no class of persons can supply so readily, and with so little sacrifice of time, the data on which all the reasonings of political economists are founded, as the merchant and manufacturer; and, unquestionably, to no class are the deductions to which they give rise so important. Nor let it be feared that erroneous deductions may be made from such recorded facts: the errors which arise from the absence of facts are far more numerous and more durable than those which result from unsound reasoning respecting true data.

149. The great diminution in price of the articles here enumerated may have arisen from several causes: 1. *The alteration in the value of the currency.* 2. *The increased value of gold in consequence of the increased demand for coin.* The first of these causes may have had some influence; and the second may have had a very small effect upon the two first quotations of prices, but none at all upon the two latter ones. 3. *The diminished rate of profit produced by capital, however employed.* This may be estimated by the average price of three per cents. at the periods stated. 4. *The diminished price of the raw materials out of which these articles were manufactured.* The raw material was principally brass and iron, and the reduction upon it may, in some measure, be estimated by the diminished price of iron and brass wire, in the cost of which articles, the labor bears a less proportion than it does in many of the others. 5. *The smaller quantity of raw material employed, and perhaps, in some instances, an inferior quality of workmanship.* 6. *The improved means by which the same effect was produced by diminished labor.*

In order to afford the means of estimating the influence of these several causes, the following table is subjoined:

Average Price.	1812. £.	s.	d.	1818. £.	s.	d.	1824. £.	s.	d.
Gold, per ounce - - -	4	15	6	4	0	0	3	17	6½
Value of currency per ct.	79	5	3	97	6	10	100		
Price of 3 per ct. consols		59¼			78½			93⅝	
Wheat, per qr. - - -	6	5	0	4	1	0	3	2	1
English pig iron, at Birmingham - - - - -	7	10	0	6	7	6	6	10	0
English bar iron, do. -		. .		10	10	0	9	10	0
Swedish bar iron, in London, excluding duty of from 4*l.* to 6*l.* 10*s.* per ton - - - - -	16	10	0	17	10	0	14	0	0

Average Price.	1828. £.	s.	d.	1830. £.	s.	d.	1832. £.	s.	d.
Gold, per ounce - - -	3	17	7	3	17	9½	3	17	10½
Value of currency per ct.		100			100			100	
Price of 3 per ct. consols		86			89¾			82½	
Wheat, per qr. - - -	3	11	10	3	14	6	2	19	3
English pig iron, at Birmingham - - - - -	5	10	0	4	10	0	.	.	.
English bar iron, do. -	7	15	0	6	0	0	5	0	0
Swedish bar iron, in London, excluding duty of from 4*l.* to 6*l.* 10*s.* per ton - - - - -	14	10	0	13	15	0	13	2	0

The most influential of these causes has, undoubtedly, been the invention of cheaper modes of manufacturing. The extent to which this can be carried, and yet a profit be realized at the reduced price, is truly astonishing, as the following fact, which rests on good authority, will prove. Twenty years since, a brass knob for the locks of doors was *made* at Birmingham; the price at that time, being 13*s.* 4*d.* per dozen. The same article is now *manufactured*, having the same weight of metal, and an equal, or in fact a slightly superior finish, at 1*s.* 9½*d.* per dozen. One circumstance which has produced this economy in the *manufacture* is, that the lathe on which these knobs are finished is now turned by a steam-engine; so that the workman, relieved from that labor, can make them twenty times as fast as he did formerly.

150. The difference of price of the same article, when of various dimensions—at different periods, in the same country—and in different countries—is curiously contrasted in the annexed table.

Comparative Price of Plate Glass, at the Manufactories of London, Paris, and Berlin.

Height.	Breadth.	London. 1771. £.	s.	d.	1794. £.	s.	d.	1832. £.	s.	d.
Inches.	*Inches.*									
16	16	0	10	3	0	10	1	0	17	6
30	20	1	14	6	2	3	2	2	6	10
50	30	24	2	4	11	5	0	6	12	10
60	40	67	14	10	27	0	0	13	9	6
76	40	.	.	.	43	6	0	19	2	9
90	50	.	.	.	84	8	0	34	12	9
100	75	.	.	.	275	0	0	74	5	10
120	75	.	.	.	.	.	.	97	15	9

Height.	Breadth.	Paris. 1825. £.	s.	d.	Berlin. 1828. £.	s.	d.
Inches.	*Inches.*						
16	16	0	8	7	0	8	11
30	20	1	16	10	1	10	6
50	30	9	4	5	8	13	0
60	40	22	7	5	21	18	6
76	40	36	4	5	35	2	11
90	50	71	3	8	.	.	.
100	75	210	13	3	.	.	.
120	75	354	3	2	.	.	.

The price of silvering these plates is twenty per cent. on the cost price for English glass; ten per cent. on the cost price for Paris plates; and twelve and a half on those of Berlin.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the months of February and May, 1833—(*Lat.* 31.10 *N., Lon.* 91.59 *W. nearly.*)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date. 1833.	*Thermometer.* Morn.	Noon.	Night.	*Wind.*	*Weather. Remarks, &c.*
Feb'y 1	41	60	56	calm	clear—river rising half an inch a day
" 2	52	56	54	..	.. —cloudy evening
" 3	46	58	59	NE	.. —calm evening
" 4	42	64	62	calm	.. —peas up
" 5	43	58	61	..	..
" 6	52	61	56	..	cloudy all day
" 7	41	60	60	..	.. morning—clear day
" 8	37	66	64	..	clear—white frost
" 9	11	67	66	..	.. —lettuce, full large heads
" 10	47	68	66	..	.. morning—cloudy evening
" 11	57	73	71	..	cloudy morning—clear evening
" 12	62	70	70	S—high	.. —at night heavy rain
" 13	50	60	60	NW	clear
" 14	45	43	42	NE, morn'g	cloudy—rain all day—calm evening
" 15	40	43	45	calm	.. .. —heavy showers
" 16	52	60	61	..	.. —river rising one inch a day
" 17	48	58	60	..	.. —showers
" 18		56		..	..
" 19		64		..	clear
" 20	50	58	56	NW—high	..
" 21	48	59	61	calm	..
" 22	52	60	59	..	cloudy
" 23	56	62	61	..	.. —ram and thunder
" 24	51	58	48	NW—high	clear—cloudy evening
" 25	38	52	52	calm	cloudy
" 26	47	60	56	E—light	.. —evening calm and rain
" 27	56	63	62	calm	.. —light showers all day [river risen this month 2 ft. 8 in.
" 28	66	75	70	S—high	.. —gale in the evening and night—at midnight wind S—a severe gale—
May 1	66	70	70	SE—strong	.. —light showers
" 2	63	71	73	calm	.. —heavy showers—night calm and clear
" 3	66	72	66	..	.. —light thunder showers—evening wind S and light
" 4	65	80	72	..	clear morning—evening heavy thunder showers—wind S and strong
" 5	63	80	71	..	.. .. SE, light
" 6	66	82	72	..	.. .. —night thunder and light showers
" 7	68	77	71	..	cloudy—evening light showers—wind SE
" 8	69	79	70	NE—light	.. —heavy rain at night and calm
" 9	66	78	70	..	.. —rain, and in evening light showers
" 10	68	82	72	calm	.. morning—evening heavy thunder showers
" 11	66	81	71	..	clear—evening light showers and heavy thunder
" 12	67	78	72	..	.. — .. heavy showers from S—thunder severe and at night
" 13	68	73	73	..	cloudy— .. .. .. —rain severe—Red River falling
" 14	67	80	77	..	clear all day
" 15	66	85	78	..	.. ..
" 16	71	81	76	..	.. ..
" 17	69	83	78	..	.. —evening wind S
" 18	72	82	72	S—light	cloudy evening—thunder shower from NW, severe
" 19	70	84	80	calm	clear
" 20	70	83	79	SW	.. —at night a gale from W—thunder and rain severe
" 21	68	82	72	W, morning	cloudy—calm evening
" 22	71	75	70	SE	.. —rain and thunder heavy all day and night
" 23	68	80	73	W, morning	clear—calm evening
" 24	69	81	73	calm	.. —light flying clouds all day
" 25	68	76	80	..	..
" 26	70	77	80	..	..
" 27	72	87	80	..	..
" 28	75	86	80	SW—light	..
" 29	72	79	73	S, morning	cloudy—rain and thunder severe in evening
" 30	72	84	79	calm	.. morning—clear day } Red River has fallen this month 4½ inches,
" 31	72	82	80	S	—evening clear } and is now 8 inches below high water mark

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Fortnight ending July 8th 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
June25	6 a. m	63	29·60	NW	moderate	sw / NW	cloudy —fair
	10	66	29·62	WNW—W	fresh	W by S	fair
	2 p. m.	70	29·62	WNW	..	..	..
	6	64	29·71	..	..	..	..
	10	60	29·75	..			cloudy
" 26	6 a. m.	59	29·80	NW—E	light	SW by N	rainy —rain
	10	62	29·82	E—WNW	faint	sw by w / WNW	fair —cloudy
	2 p. m.	62	29·80	N	..	..	cloudy —fair
	6	61	29·82	..	..	..	fair
	10	60	29·90	..	..	..	cloudy —fair
" 27	6 a. m.	61	29·91	W by S	moderate	WSW	fair
	10	66	29·98	WNW	..	..	..
	2 p. m.	70	30·03	..	..	..	..
	6	66	30·05	NW	..	..	..
	10	63	30·09				..
" 28	6 a. m.	58	30·11	NE	faint	..	..
	10	66	30·15	WSW	..	..	..
	2 p. m.	75	30·10	SSW	light	..	cloudy
	6	70	30·09	S	faint	..	.. —rain
	10	66	30·09				fair
" 29	6 a. m.	61	30·14	N	light	WNW	..
	10	68	30·15	NE	..	..	..
	2 p. m.	73	30·14	WSW	..	..	..
	6	72	30·11	SW	..	..	..
	10	68	30·13	..	..	..	..
" 30	6 a. m.	67	30·14	..	..	..	..
	10	72	30·19	..	..	..	..
	2 p. m.	80	30·12	S	moderate	..	..
	6	75	30·09	..	..		clear
	10	70	30·08	SW	..		..
July 1	6 a. m.	70	30·07	..	..	..	fair
	10	78	30·05	..	..	..	..
	2 p. m.	85	30·01	SSW—S	..		clear
	6	81	29·98	S—SSW	light	NNW	fair—haze strip at WNW
	10	78	30·00	SSW	moderate		clear
" 2	6 a. m.	72	29·96	SW	..	WSW / SW	cloudy, (low foggy scuds)—fair
	10	80	29·96	..	..	..	fair [bany at 5
	2 p. m.	86	29·80	S	..	..	.. —heavy rain at Al-
	6	74	29·76	S & variable	..	..	.. —cloudy at west—
	10	73	29·84	SW	light	WSW	cloudy—rain [rain at 8
" 3	6 a. m.	68	29·88	E	..	SW	.. ..
	10	68	29·83	NNE	moderate	.. / NE	rain
	2 p. m.	66	29·87	..	..	.. / S	.. —cloudy
	6	66	29·87	WNW	light	SW / NW	cloudy
	10	65	29·90		..	SW	fair
" 4	6 a. m.	62	29·96	WSW	..	WNW	.. with scuds fr WNW
	10	70	30·05	..	..	..	.. .. ..

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 4	2 p. m.	76	30·06	WSW	light	WNW	fair, with scuds fr WNW
	6	72	30·06	..—NW	..	..	..
	10	63	30·10	NW	..	..	.. with scuds from NW
" 5	6 a. m.	63	30·20	NNW	..	NW	.. .. ..
	10	72	30·24	..	moderate	WSW / NW	.. .. ..
	2 p. m.	78	30·22	NW—WNW	..	NW	.. .. ..
	6	75	30·20	WSW	..	..	..
	10	68	30·21	..	..		..
" 6	6 a. m.	63	30·23	SW	..	W by S	..
	10	72	30·25	..	..	..	..
	2 p. m.	80	30·20	S	..	..	..
	6	76	30·16	..	..	..	..
	10	70	30·10				cloudy —rain
" 7	6 a. m.	70	30·01	WSW	..	..	.. —fair
	10	77	30·02	SW—SSW	..	W by S / WSW	fair
	2 p. m.	83	29·98	.. by N	..	..	.. —cloudy
	6	80	29·93	..	..	..	cloudy – fair
	10	74	29·94	..	light	W	fair
" 8	6 a. m.	70	29·90	SW	..	WSW	..
	10	73	29·90	WSW	moderate	W by S / WSW	.. [at 4 45
	2 p. m.	87	29·84	..	..	..	.. –cloudy at 3–showr
	6	82	29·80	SW	..	SW	cloudy
	10	77	29·79	..	..	..	..

Average temperature of the week ending July 1st, 68°.17.
Do. do. do. 8th, 73°.03.

Arithmetical mean of the thermometer for the month of June, 66.58.

Maximum height of the barometer in June, 30.28 in.—Minimum, 29.62 in.—Range 0.66 in.

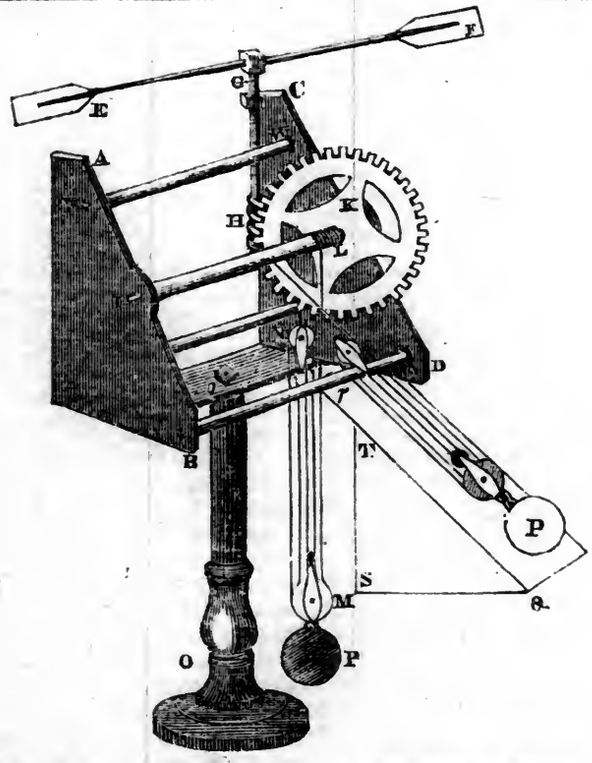
The observations of surface winds for June are as follow: From the North-Eastern quarter, including N. 15—from the South-Eastern, including E. 3?—from the South-Western, including S. 45—and from the North-Western, including W. 47.

The observations of the highest current of clouds have been as follow: From the North-Eastern quarter, 0—from the South-Eastern, 1—from the South-Western, 40—and from the North-Western, 68.

The prevalence of North-Westerly winds, both at the surface and in the upper current, have been greater than has been observed in any month during the present year. An unusual quantity of rain for the month of June has also fallen.

On the 2d day of June, tornadoes, hail-storms, and thunder-storms, appeared at various places in different parts of the United States. In the states of Maryland and Pennsylvania the most violent of these appeared in the afternoon; in the state of New-York and in New-England, in the evening. On the night previous a heavy tornado occurred in Illinois. Since that period, storms of this character have occurred in a few instances, particularly on the 17th, when a most severe tornado passed over Delaware county.

The heavy rain which fell in this city on the evening of the 24th June was some hours later in its occurrence in the eastern parts of Long Island Sound, as appears by the reports of the Providence steamboats. During this rain the wind was from E&E. being a direction nearly opposite to the progress of the rain. Heavy rain also fell at Cincinnati on the 23d and on the morning of the 24th, which may have been connected with that which fell here on the night of the 24th



A MACHINE IN WHICH ALL THE MECHANICAL POWERS ARE UNITED.—The preceding figure represents a machine in which all the simple mechanical powers are combined.—It consists of a frame A B C D, fastened upon the stand O *o* by the nut *o*, and kept together by the pillars V W and B *q*. The piece E F is first fitted to the frame, having vanes, E F, which may be either moved by the wind, or by a cord fastened at F. This part represents the lever, whose fulcrum is G. A perpendicular axis G A is joined to this lever, and carries the endless screw H, which may be considered as a wedge. This endless screw works in the teeth of the wheel K, which is the wheel and axle; and when K is turned round, it winds upon the axle I L the cord L M, which, passing round the tackle of pulleys M N, raises the weight P. In order to include the inclined plane in this combination, we must add the plane R Q *r q*, and make it rest on the ground at Q R, and on the pillar B *q* at *q r*. When the weight P is placed on this plane, the power will be farther increased in the ratio of Q T to T S. The power gained by this combination will be found, by comparing the space described by the point F with the height through which the weight rises in any determinate number of revolutions of F.

"The contract for the bridge over the Potomac has at last been signed by the Secretary of the Treasury on the part of the government. It binds the contractors to make the bridge for $1,150,000, equal to about one third of the sum which I have estimated it will cost. The contractors are of Pennsylvania."—[Jour. of Com.]

NEW-YORK AMERICAN.

JULY 6, 8, 9, 10, 11, 12—1833.

LITERARY NOTICES.

THE WHIGS OF SCOTLAND, OR THE LAST OF THE STUARTS—a historical Romance. 2 vols. J. & J. HARPER, N. Y.—This is the production, we presume, of an American—sprung from the race whose sufferings and heroism are the chief theme of its pages, and to whose descendants the work itself is dedicated. It is certainly indicative of very considerable talent, though not, as we should judge, of talent practised in this particular walk of literature. The incidents and plot are confused and inartificial—and dialogues abound too much. It is safer and easier generally to relate what it is desired to communicate, than to let the actors tell their own story, each in his appropriate character and language. The Scotch dialogue is too frequently introduced—not always naturally either—but rather as if the author were intent upon proving his legitimacy, as a Scots descendant, by his familiarity with the tongue of his sires. Notwithstanding these objections, this is a work which will be read and remembered, and which will dispel some of the attractions thrown around the character of Claverse, by the pen of Scott, and dissipate some of the prejudices derived from the same source against the uncourtly and austere Whigs.

MEMORANDA OF A RESIDENCE AT THE COURT OF LONDON, by RICHARD RUSH. 1 vol. 8vo. pp. 460. Philadelphia: CAREY, LEA & BLANCHARD.—Mr. Rush, as most of our readers know, was for eight years, from 1817 to 1825, the American Minister at the Court of St. James, and was then recalled to be made Secretary of the Treasury at home. His opportunities therefore were the very best; and the time he spent in England—an element more necessary in the formation of an accurate judgment of the English society and nation than of almost any other—sufficient to enable him to correct many of the errors and preconceived opinions with which Americans too frequently visit that country. Under these circumstances we need hardly add that Mr. Rush has made a most interesting book—in which, mingling an account of official negociations with personal anecdote, and general views of the society he sees, he presents a very captivating view of England. We could have wished that he had continued his memoranda—for those now published scarcely extend beyond the first year of his residence. Perhaps he may yet do so; at any rate, we are sure the welcome which his countrymen will give to this volume will afford him a fair motive for continuing the subject. Of the style of the work, our readers cannot fail to have formed a favorable opinion from the extracts published by us some week or two ago, taken from the London Literary Gazette; and we have marked other extracts for future publication which will confirm this opinion. At present and for the present we dismiss this volume with commendations of the good style in which it has been got up by its Philadelphia publishers. A book, however interesting, becomes more readable in such type and on such paper as those of the volume before us.

ANTHON'S NEW EDITION OF LEMPRIERE'S CLASSICAL DICTIONARY: 2 vols. 8vo. N. Y. G. & C. & H. CARVILL.—This is a remarkable publication, and one which does great honor to the German industry, and German scholarship—and German in both these connexions means most elaborate and extensive—of the editor, the Jay Professor of Greek and Latin in Columbia College. It is in fact almost a new work, preserving the original form and general arrangement adopted by Lempriere, but enlarged to twice the original size, notwithstanding that much is omitted that was immaterial—such as mere names of individuals or places unconnected with any historical incident, or peculiar characteristic—in the work of *Lempriere*, and a good deal in descriptions of mythological personages and others, that should never have been printed in pages destined for the use of young persons. Indeed, these two bulky volumes may be said to furnish a complete Compend of Classical Antiquity—of the geography, the habits, the literature, and the commercial and economic usages of the people known under this general designation—as well as the personal narratives of all the distinguished individuals among them all, who have come down to the present times in the records of those so long past. All scholars, and all who desire to be so, will have frequent occasion to consult these pages, and to be grateful for the labor which has collected in them the results of researches, that few have either the ability or the industry to make. Nor must the publishers, who proposed to the editor to undertake this work pretty much upon his own terms, go without due commendation for their liberality, and for the accuracy with which the book is printed.—Altogether it is a scholarlike and most creditable publication.

PHRENOLOGY IN CONNEXION WITH THE STUDY OF PHYSIOGNOMY; by J. G. Spurzheim; 1 vol. 8vo; *Boston*, MARSH, CAPON & LYON.—This is a curious and entertaining book, and to those who repose but little faith in the science of which it treats, will prove in more ways than one instructive. The illustrations of the study are chiefly drawn from celebrated characters, and much learning as well as judgment is displayed in making the application. We proceed at once to give an instance in passing, adding afterwards such remarks as occur to us. The following observations are accompanied with the portraits of the two celebrated characters of the French Revolution to which they refer:

Danton and Malesherbes.—It is much to be regretted, in a phrenological point of view, that many of the individuals who displayed great mental energies during the French revolution, are represented, in their portraits, either with perukes or long hair, which prevents their cerebral organization from being distinctly seen. The difference between the two heads represented in this plate is, however, conspicuous enough. In fig. I, Danton, the upper part of the forehead is flat, and the head generally is broad rather than high; it is particularly large laterally above the ears; the organs of benevolence and of veneration are small; those of the reflective powers but moderate. In fig. 2, Malesherbes, on the contrary, all these cerebral parts are strongly marked; the whole head is very elevated, and much higher than it is broad.

Now Danton was renowned for his strong animal feelings, for his audaciousness, impetuousity, and vehement elocution; for his bold conceptions, and violent means of execution; but at the same time his incapacity as a leader, under trying circumstances, as the director of such a desolating tempest as the French revolution, is admitted.

Malesherbes, on the other hand, was a philosopher, in private life as well as at the head of the government, in prosperous and adverse circumstances, in easy and difficult situations. He was devoid of all party spirit, without ambition, unostentatious, and the foe alike of despotism and of licentiousness, by whatever name entitled; but he was the friend of truth, reason, moderation, and peace; the admirer of benevolent and generous sentiments. His speeches are rare models of truth unfolded without any mixture of dissimulation, without any of the false coloring of exaggeration, and without any tinge of irreverence. They abound with sound reasoning, and shew frequent traces of unobtrusive firmness and of respectful sincerity. The grandeur of soul with which he bore his proscription, and the magnanimity he displayed in defending the unfortunate Louis XVI. of France, at the expense of his life, are facts generally known and universally admired.

How is it possible to overlook the influence of the brain on the manifestations of the mind! Is it not lamentable to see so little care taken to preserve specimens of the principal of nature's works; I mean, of the real celebral configuration of those who excel or are eminent in any way?

"By using these means," observes our author, "more will be done in advancing the knowledge of man, than has hitherto been effected by all the learned societies, and all the schools of philosophy that ever existed." One can credit this, and stillthink that no great advances will ever be made in that branch of knowlodge, which, while all others have been progressive, we imagine pretty much in the same state as when Theophrastus wrote his characters three centuries before the Christian era.

The name of *Oberlin*, the excellent pastor of "Five Villages among the Voguesian Mountains," is familiar to our readers, as they may recollect having repeatedly within the last two years, met with some observations regarding him in these columns. Spurzheim's comments upon his head will be read with interest:—

Fr. Oberlin, Pastor of Five Villages among the Voguesian Mountains.—This is an extraordinary head, a form that a phrenologist loves to contemplate. There is little brain at the basis, whilst all the upper and front regions are unusually large. The posterior sincipital portion being also in great proportion, independence of mind, steadiness and perseverance in every pursuit and undertaking, will be prominent features in the exalted moral and religious character indicated by the rest of the head. Self-esteem will here become dignity, benevolence and veneration be blended with, and made inseparable from wisdom. In a word, such a cerebral organization approaches in excellence the idea which phrenologists are apt to form of that of Jesus.

This model of christian piety found the inhabitants isolated in five different villages, poor, ignorant, agitated by heinous passions, and without the most necessary means of comfortable existence. But by laboring unremittingly he, by degrees, succeeded in changing their wretched condition. He taught them to cultivate potatoes, flax, and such vegetables as succeeded best in light and sandy soils. He laid out a nursery, in order to supply the peasants with trees of various kinds, and showed them the advantages they would reap by attending to their cultivation. He gave instruction to the children himself, teaching the younger to read, write and calculate; while he lectured to the more advanced in age, upon the cultivation of fruit trees, the principles of agriculture, and the noxious and useful qualities of the planta which the country produced. He particularly accustomed them to order and cleanliness.

The good pastor, with his parishioners at his back, actually worked at the formation of convenient ways from one village to another, and of a good and ready communication with the great road leading to Strasburg. To this city he sent children to become artisans, suen as tailors, shoe-makers, smiths and carpenters a female to learn midwifery, and a promising youth to study medicine and surgery. He himself had some knowledge of the healing art, used the lancet in cases of necessity, and preserved the most necessary remedies in his house, which he distributed as he thought they were required. He devoted his talents, labors, and whole life to the welfare of his flock, he persuaded a benevolent family, Legrand, to favor his philanthropic views, and to transfer their manufactory of ribbons from Basle to his parish, and to furnish employment to the people.

Besides his vast care of all worldly concerns, he paid the greatest attention to moral and religious instruction, which he enforced in the most effectual manner by deeds as well as words. He ended a law suit in which the parish had been involved for many years, and he brought good will and mutual love to dwell with his flock, instead of discord. He well deserves the title *father*, which his parishioners have given him. Their love and gratitude, surely will not terminate with his existence, and the good he has done will live long after he is dust.

The lithographic portrait which accompanies this character, is that of a venerable man of seventy, with a high furrowed forehead, a long flowing beard, and altogether of a most patriarchal aspect. The face, however, does not want decision, and one might almost think the brow, which is heavy, somewhat too stern for the gentle character of the other features.

These historical illustrations of Phrenology are of course very striking; but we do not think they possess the particular interest which attends the immediate application of its laws to obscure individuals by Spurzheim himself. Many instances of these are given in the biography of that individual by Mr. Ca-

pen, which forms the first part of the work. Some of these relish not a little of the marvellous, as we will give our readers an opportunity of judging by making some further extracts from the work with additional comments, upon another occasion. *

Observations on Insanity; by J. G. Spurzheim, M. D. with an Appendix, by A. Brigham, M. D. Boston, Marsh, Capin & Co.—There is hardly a study which possesses the interest like that of the intellectual phenomena attending a deranged state of the mind; and it is a branch of inquiry upon which, if we mistake not, Dr. Spurzheim is thought to have thrown more light than almost any modern investigator. The anatomical and physiological investigations incident to his favorite study of Phrenology, having given him unusual opportunity of observing the functions of the brain, and tracing the effects of disease upon its different parts, the result is before us in a work, whose acute observation, clear, methodical arrangement, and happy illustrations, will recommend it at least to the general reader, if not to the practitioner of medicine. The bases of his doctrines Dr. Spurzheim claims for himself and Gall as discoverers; but he does not hesitate to avail himself very liberally of the labors of others, of Dr. Rush's admirable work particularly, in enforcing and impressing them upon his readers.

Too much praise cannot be given to the publishers of this edition of Spurzheim's writings—(there is also another volume accompanying the two we have noticed, containing the answer of the great Phrenologist to objections made to his doctrines in Great Britain,) for the very handsome style in which they are printed and got up, though it is a matter of some regret that the edition had not been made uniform. *

Emma, a Novel, by Miss Austin; 2 vols.; Carey, Lea & Blanchard.—As we repeatedly, before Mess. Carey & Lea commenced the republication of these old favorites of novel readers on the other side of the water, took occasion, when noticing newer works, to recommend Miss Austin's excellent novels for reprint, we recur with pleasure to each successive one that now comes before us. *Emma* in interest is decidedly inferior to the rest; but, though wanting in incident, and having neither any very striking scenes or characters to recommend it, it is still admirably written, and has that same truth to nature which distinguishes the other fictions of the same author. Unless it be Miss Edgeworth, we can call to mind no writer who could have made up so amusing a book from the every day characters and idle gossip of a country village. Still we cannot bring ourselves to like the admired heroine of this novel, and we rather think that Miss Austin failed in drawing the character of Emma, which is evidently a favorite with her, and which is meant for a very complete portrait. She is meant for a very sensible, well educated and high principled girl, but with a good deal of attraction about her; such a one as should have stopped Cœlebs on his travels, before they were well begun. But she is in fact a cold, conceited pattern-woman, with just susceptibility enough to flirt with a stranger on a week's acquaintance, and find out that she is in love with a man, whom she had known all her life, when on the point of losing him. She is amiable, because her inclinations are studied by all around her; and those inclinations are generally reasonable, because her character wants the vivacity to prompt extravagance, and the best one can say about her is that she is natural. That is one of the thousands of her sex that Nature, Art & Co. manufacture to order, and exhibit at watering-places, and other matrimonial bazaars for all well-disposed gentlemen of a certain age in search of a wife. She is a very safe woman,—such, as if one had been betrothed in his cradle, he might perhaps compound for as a companion for life, but such as, in spite of all her beauty and accomplishments would never inspire half the passion that her weak but fond and pretty little companion "Harriet" might create in even the most sensible man. It's a shame, however, to quarrel with a woman who thus backs every word we are saying against her. "There is no charm equal to tenderness of heart," said Emma to herself. "There is nothing to be compared to it. Warmth and tenderness of heart, with an affectionate, open manner, will beat all the cleverness of head in the world for attraction." [So it will. Who likes an intellectual doll. It is but a little better than a complexional one.] "It is tenderness of heart which makes my sister so generally beloved. I have it not, but I know how to prize and respect it. Harriet is my superior in all the charm and felicity it gives," &c. &c. and more in the same strain; proving how completely the fair speaker sympathizes with us in our opinion of herself. This seems a narrow view of a book, to treat of a single character only; but we have spoken sufficiently of the work in general terms, and we must say a word or two about the conception, which Miss Austin has embodied in Emma.

To be brief it is time thrown away upon such heroines: they do very well in their way in real life—to make a Lady Byron or Donna Inez of—but they have no business in books, except among the supernumeraries. They are uninteresting, because you know how they will act under every possible circumstance or situation; and they are uninstructive, because they illustrate no principle in character or education.—There are two objects, we conceive, in delineating the heroine of a work of fiction, which should be ever kept in view. The one is to show the force of character over circumstances, and the other to prove the effect of education in modifying the natural disposition. There must be a struggle of some kind, an occasional conflict between principle and passion, to constitute a forcible moral lesson.

We subjoin a few specimens of Miss Austin's entertaining way of treating common place subjects:

A School—not a seminary, or an establishment, or any thing which professed in long sentences of refined nonsense, to combine liberal acquirements with elegant morality upon new principles and new systems—and where young ladies for enormous pay might be screwed out of health and into vanity—but a real, honest, old-fashioned Boarding-school, where a reasonable quantity of accomplishments were sold at a reasonable price, and where girls might be sent to be out of the way and *scramble* themselves into a little education, *without any danger of coming back prodigies.*

Just observation:—

The older a person grows, the more important it is that their manners should not be bad—the more glaring and disgusting any loudness, or coarseness, or awkwardness becomes. *What is passable in youth, is detestable in latter age.*

Touching community of feeling:—

"My poor dear Isabella," said he, fondly taking her hand, and interrupting, for a few moments, her busy labors for some one of her five children—"how long it is, how terribly long since you were here! And how tired you must be after your journey! You must go to bed early, my dear—and I recommend a little gruel to you before you go. You and I will have a nice basin of gruel together. *My dear Emma, suppose we all have a little gruel.*"

A fresh acquisition to village society:—

A week had not passed since Miss Hawkins's name was first mentioned in Highbury, before she was, by some means or other, discovered to have every recommendation of person and mind; to be handsome, elegant, highly accomplished, and perfectly amiable: and when Mr. Elton himself arrived to triumph in his happy prospects, and circulate the fame of her merits, there was very little more for him to do than to tell her Christian name, and say whose music she principally played.

Aspect of a country town:

While she was still hanging over muslins and changing her mind, Emma went to the door for amusement. Much could not be hoped from the traffic of the busiest part of Highbury;—Mr. Perry walking hastily by, Mr. William Cox letting himself in at the office door, Mr. Cole's carriage horses returning from exercise, or a stray letter-boy on an obstinate mule, were the liveliest objects she could presume to expect; and when her eyes fell on the butcher with his tray, a tidy old woman travelling homewards from shop with her full basket, two curs quarreling over a dirty bone, and a string of dawdling children round the baker's little bow window, eyeing the gingerbread, she knew she had no reason to complain, and was amused enough; quite enough still to stand at the door. A mind lively and at ease can do with seeing nothing, and can see nothing that does not answer. *

We are much in arrears in our notices of books received: but they shall have their turn.

FOREIGN INTELLIGENCE.

The Caledonia from Liverpool brings London papers to the 1st June. The European accounts by her are quite pacific. The Belgian question is settled so far as that all hostilities are to cease, and every thing is to be restored to the footing before the *quasi* war—to await the decision of a final and definitive settlement to be negotiated under the auspices of Austria and Prussia. Thus has ended where it began, this absurd interference of Europe in what may in some sense be called a private quarrel between Holland and Belgium. Protocols without number, of five Powers, preceded the armed intervention of France and England; and after the useless shedding of much blood at Antwerp, the capture of many vessels at sea, the interruption of commerce by embargoes, Protocols under the sanction of *two*, instead of *five* Powers, are again to be resorted to.

In the East there is also peace, the Commander of the Faithful having yielded to the last demand of his rebel Egyptian vassal—for the cession of Adana—so that, until Russia is quite ready to consummate her plans of reducing the Porte itself to be her vassal, there will be tranquillity in that quarter.

In Belgium, there had been partial disturbances connected with political heats, and in the north of France, in the coal region about *Valenciennes* the colliers had turned out for wages we presume, and were to be suppressed according to invariable usage in France, whether under citizen, imperial, or Philippine sway,—by the bayonet.

The royal brothers of the house of Braganza are still in *statu quo*. *Pedro* beseiged, but boasting,—and now possibly with more reason than heretofore—*Miguel* beseiging by proxy, and meanwhile persecuting, incarcerating and executing here and there, unbelievers in his divine right.

In England, the storm of domestic strife is lowering. The manly tone of English thinking has, it is to be feared, been so far perverted, in a portion at least of the public mind, as to justify the Coroner's jury in their verdict in the case of *Cully*, the policeman. This verdict was indeed set aside by the Court, but the indication afforded by its approval any where, is one of disaster to England. The negro emancipation question was under discussion in the House of Commons; and the plans of the ministry, somewhat modified, but in no essential feature altered, would undoubtedly be carried. It is the voice of the people and of the government, against which the struggles of the West Indian interest will be powerless.

Berlin, May 14.—The negotiations which have just been opened here upon the Belgo-Dutch question proceed with activity. Plenipotentiaries Extraordinary are expected here from Russia and Austria to take part in it. This diplomatic assembly may assume the character of a Congress to terminate a difference which may at any moment disturb the peace of Europe. It is not yet known whether England and France will send Ministers to it.

"It seems that new fears are entertained respecting the maintenance of tranquility in Poland. The Russian government has received information from Paris, that a conspiracy has been formed to make a fresh attempt at revolutionizing that country. It is

even said that letters have been intercepted, in which a plot has been discovered against the life of the Emperor Nicholas. This last report wants confirmation. The Emperor Nicholas has postponed his journey abroad, because the affairs of the East require his presence at St. Petersburgh.

TURKEY.

PARIS MAY 28.—The Government have received dispatches from Constantinople, dated the 8th inst. from which it appears that the Sultan had, three days before, yielded to Ibrahim the contested territory of Adana. Lord Ponsonby, the British Ambassador, arrived at Constantinople on the first of May. Count Orloff, the Russian Ambassador Extraordinary and Commander-in-Chief of the Russian expedition, landed at Bujukdere on the evening of the 5th. The following is an act of Amnesty, dated May 6, granted by the Porte to all the authorities of Asia Minor, and establishes the cession made to Mehemet Ali and Ibrahim of the Pachalics of Syria and the Government of Adana:—

Order addressed to the Viziers, Mirimirans, Mollahs, Cadis, Naibs, Musellims, Vaivodes, Ayams, Notables, and other functionaries of the different parts of Anatolia.

The assurance of fidelity and devotedness given me at length by the Governor of Egypt, Mehemet Ali Pacha, and his son, Ibrahim, having been acceptable to me, I have granted them my imperial benevolence. The governments of Crete and Egypt have been confirmed to Mehemet Ali, and in compliance with his earnest desire, I have granted to him the departments of Damascus. Tripoli, Syria, Seyde, Safed, and Aleppo, the district of Jerusalem and Napploose, with the conducting of the Pilgrims, and the command of Djidda. His son, Ibrahim Pacha, has acquired a new title to the Cheik-al-Haram of Mecca and the district of Djidda; I have also acquiesced in his demand of the department of Adana, with the title of Mohassil. Following the equity, humanity, and clemency with which God has endowed me, I order all persons in authority in the different parts of Anatolia to refrain from pursuing the Notables and inhabitants, and to bury all past events in oblivion. You, on your part, will announce my generous intentions to all who are in authority under you; you will endeavour to assure the public mind on this subject, and you will endeavour to obtain prayers in favor of my august person from the people, whose welfare God has entrusted to my hands. It is in order to make you acquainted with these things that I have issued the present firman, in conformity with my hatti scheriff. You will, therefore, make known my sovereign will to all whom it may concern, and you will obtain their prayers in my favor. Be careful that you comply with it without molesting any person whomsoever, contrary to my supreme desires."

THE AMERICANS, BY AN AMERICAN IN LONDON, is the title of a volume recently published in London, of which the Spectator of that city thus speaks:

THE AMERICANS.—"Save us from our friends!" Mr. Colton might have spared himself all this trouble. This work is a foolish but elaborately lively volume about Mrs. Trollope and Captain Hall. All "scandal about Queen Elizabeth." The American in London ought to be above such dirty work as exploding the calumnies of poor Mrs. Trollope, and the not less antiquated *Quarterly Review*.

All that was required on this occasion had long since been done by the friends of America in England; and had it been left undone, a thousand such volumes of laborious gayety as this of Mr. Colton would have left the matter *re infectâ*. He might simply have contented himself with the remarkable success of Mr. Stuart's work on the United States, joined to the reflection that the only charm of that book was its truth.

Parliamentary returns have been just printed of the number of American and British ships entered inwards into the port of Liverpool from New York from the first of January, 1832, which present the following statement:—American ships 68, tonnage 35403: British ships 23, tonnage 7178. There were imported into Liverpool last year from the United States 682,038 bales of cotton, of which number 375,567 bales were imported in American, and 206,471 bales in British ships.

A loan for the State of Alabama has recently been negotiated, to the amount of 3,500,000 dollars, bearing an interest at 5 per cent. from the 6th inst., a portion of which is about to be introduced into this market by Messrs. Thomas Wilson & Co., at the price of 96 per cent. One of the conditions of the contract is, than the loan shall not be paid off earlier than the year 1863. The price of 96 in London, at the present rate of exchange between the two countries, is equivalent to about 104 in New York, which forms, therefore, the real rate at which the loan is taken. The dividends will be made payable either in London or in New York, at the option of the holders of the stock. Besides Alabama, several other States of the American Union, as New York, Pennsylvania, Louisiana, Mississippi, Ohio and Virginia, have separate debts, and, so far as the prices are any criterion which the shares in them bear in this country, they all enjoy a considerable share of credit.

Great excitement appears to prevail in the island of Jamaica in consequence of two duels. Mr. Beaumont, a member of Assembly, and an opposer of the violent acts of the friends of slavery, received two challenges—one from Mr. Stamp, whom he shot, the second from Major Gen. Robertson, whose fire he received, but declined returning, and the parties left the ground satisfied.

[*From the Journal of Commerce.*]

LATE AND IMPORTANT FROM MEXICO.—We are indebted to a friend for Vera Cruz papers to the 14th June inclusive, received by an arrival at N. Orleans. They bring intelligence of a formidable *attempt to revolutionize the government*, which so far succeeded that President Santa Anna was taken prisoner, though he afterwards effected his escape, and made good his retreat to Puebla, where he arrived on the night of the 12th-13th.

It appears that a revolutionary party was first organized at or near Morelia, 200 or 300 miles west of the capital, the object of which was to prevent encroachments upon the Catholic religion. Santa Anna took a body of troops and marched against them; but when arrived near the scene of the insurrection, they all mutinied under the direction of Gen. Arista, made Santa Anna prisoner, and put him in confinement.—He afterwards escaped to Puebla, as will be seen below. The result will be, from all we can gather, that Santa Anna will regain his authority.

SUMMARY.

HOLT'S HOTEL has another attraction added to it, which the following paragraph from the Gazette will explain:

Mr. Holt.—This enterprizing individual, having for the last six months experienced in his mammoth house, all that he could wish by way of patronage, is now likely to realize his wishes in procuring a supply of pure water, not only for his own establishment, but for the lower part of the city. Late on Saturday afternoon, his drill, having passed through 510 feet of rock, the surface of which was 130 feet below the ground, (making a total depth of 640 feet) sunk suddenly into a depth of water of 2 feet.) If he proceeds no farther all his wishes and expectations will be satisfied. This news equals in importance to the citizens of New York anything which has been received from Europe by the Caledonia.

Col. Thayer arrived in this city yesterday from West Point, he comes to direct the construction of the fortifications for the defence of this harbour, involving an expenditure of rising $1,200,000. The completion of these works will add to the many obligations the country already owes him for his long and successful direction of the useful institution, the superintendance of which he has just resigned.—[Boston Daily Advertiser.]

A party of 300 men, belonging to Andover, N. H. recently started out on a hunting excursion. They started seven bears, but succeeded in capturing one only, for the want, says the Concord Statesman—"of *more* men and better order."

The extraordinary number of 15 vessels were lost this spring in going to Quebec, from various ports in Great Britain. Of this number, 10 were sunk or lost in the ice, 3 went ashore, 1 was struck by a heavy sea, and sunk, and 1 was abandoned. The number of lives lost was 215.

COLONIZATION SOCIETY.—The sum of $166 83 cts. was collected on Sunday morning in St. Thomas Church, for the benefit of the American Colonization Society, after an eloquent and appropriate discourse by the Rev. Dr. Hawks.

The Portland Advertiser, in noticing the arrival of Jack Downing in that city, represents him as a strange looking man, with big whiskers, full face, dark eyes, short legs, and a thick body. Major Downing informed the editor, there being so many about the country stealing his name, he only knew himself by a scar on the left arm.

Mr. Lucas Knapp, of the town of Austerlitz, has a team of dogs, with which he is in the habit of riding out daily. The dogs are but about fourteen months old, and the last December, when the roads were bad, they traveled from the residence of Mr. K. (who is a cripple) to Winchester, Conn., a distance of *sixty miles*, in one day, drawing him in a small wagon which he has for that purpose. He returned by the same novel conveyance in the same space of time.—[Columbia Sentinel.]

(*From the Washington Globe of Tuesday.*)

We regret to learn from Arkansas, that the rains have brought upon that young and thriving Territory a devastation like that which marked the overflowing of the Ohio last year. The misfortune is, that danger does not subside with the floods. The great overflow of waters in this hot season of the year, brings, as a consequence, diseases as fatal to human existence, as the deluge itself to vegetable life. Pestilence and famine both now threaten the Territory.

Extract of a letter from Little Rock, Ark., dated June 19, 1833:

"I regret to inform you, that nearly all the settlements upon the Arkansas river have been destroyed by the freshet, and that much distress will be suffered in consequence, by our own citizens, as well as by the Quapaw Indians. The corn crops upon the river have been ruined, and vast bodies of improved lands have been entirely washed away. The mud and water will render all the river lands which are left, unfit for cultivation for at least one year; and indeed I fear this Territory has sustained an injury, from which it will take several years to recover."

The steamboat Yellow Stone, Capt. A. G. Bennett, returned on Friday last from her voyage up the Missouri, with a rich cargo of skins of various kinds for the American Fur Company. The crew were all in fine health and spirits. The Yellow Stone ascended the Missouri to the mouth of the river from which she derives her name. We understand that the Assinaboin, the other boat belonging to the same company, proceeded still higher up, and will probably go to the head of steamboat navigation.—[St. Louis Republican.]

AMERICAN INSTITUTE.—We are requested to state that the sixth annual fair of the American Institute will be held in this city next October for three days, beginning on the 15th. Premiums will be awarded as usual, and articles intended to be entered for premiums should be delivered by the 14th of October.

Manufactory.—We are pleased at the feeling which is about to take hold of the citizens of this State in relation to manufactures. A steam engine has just been made in Pittsburgh for a cotton manufactory which is about to be put into operation in Greensborough. We are anxious to see it succeed, together with many others, not only of its kind, but also of divers other branches of home industry and enterprize. Manufactures will take a start here after a while, and then we shall hear less about *robbery* and oppressions for the benefit of the north.—Then we shall see some unprincipled politicians fall into their old track, and hear them assert that they were always favorable to manufactures. The country will soon find out the utility of manufactures, after they have seen their practical effects, and then know who were labouring for the best interests of the State.—[Salisbury N. C. Journal.]

The last number of the Courtland (Alabama) Herald contains an elaborate description of that town and vicinity, from which the following brilliant extract is taken:

"The pearly mountain stream BIG NANCE, rapidly flows and encircles the town on two sides, the margins and commons of which afford the finest rural retreats imaginable amidst a thousand flowerets gay and songs of sporting birds arrayed in plumage fine as rainbow's tints."

Diamond cut Diamond.—A six-foot Vermonter lately entered a store on one of our principal wharves, in search of employment. He could do any kind of *chore*, he said, and boasted much of his strength. "Stout as you are," said the clerk, "I'll bet $10 you cannot carry that bag of salt (pointing to a very large one) twice across this store and back again and *never* lay it down. The Yankee stood for a moment scratching his head and gazing at a rope with a hook at its end which dangled through a scuttle, and then accepted the wager. He shouldered the bag with the utmost ease, carried it twice backward and forward, and then hung it upon the hook aforesaid. "Mister," said he, "I guess I'll trouble you for that are ten. I didn't lay it down—I *hung it up*." The clerk, much to his dissatisfaction, handed over the money, and the Vermonter left the store, saying, "catch a weasel asleep! Not so bad a days work. Better than chopping logs!" etc.—[Boston Galaxy.]

Lake Winnapisiogee.—The first attempt to navigate this Lake by Steam, was made on the 4th inst. when it was crossed by the steamboat Belknap. New lines of stages have been established at each extremity of the Lake, and an active and valuable communication between the lower and upper part of New Hampshire, and a portion of Vermont is anticipated as the result.

Pensacola, June 20.—*Loss of the Brig Ontario.*—The brig Ontario, Captain Whittlesey, of and from New York, bound to this port, with a cargo of lime for the fort at the mouth of our harbor, was discovered on the 10th inst. when about 140 miles from the land to be on fire. All efforts to save her were immediately made, but without success. She succeeded in reaching the land, and consequently no lives were lost. Her sails and a few small articles were saved. We understand the property was partly insured.

The stock of the new Whaling Company in Poughkeepsie was all subscribed during the opening of the books at that place on Monday last. The enterprize and capital of the towns on the Hudson are seeking a new source of investment and profit. Hudson led the van in this trade, with great success; and Newburgh and Poughkeepsie have followed the example promptly, and with an equal prospect of pursuing it to advantage. They have all our best wishes for an extended commerce in this as in other respects, and for prosperous returns.—[Albany Argus.]

Arrival of the Brandywine.—The U. S. frigate *Brandywine*, 44, Commodore James Renshaw, arrived at this port yesterday from the Mediteranean, ane last from Mauleria, in 37 days—officers and crew all well. The following is a list of the officers attached to the Brandywine: James Renshaw, Commander; Lieuts. J. L. Saunders, Alexr. Slidell, Chas. C. Turner, and Murray Mason; W. H. Norland, passed Midshipman; Bailey Washington, Surgeon; Geo. Clymer, Assistant do.; John B. Cutting, Acting Master; Thos. S. English, Capt. of Marines; F. A. Armisted, Lieut. do.; E. C. Canning, Schoolmaster. Midshipmen—R. P. Welsh, G. F. Emmons, W. F. Barr, C. F. M'Intosh, R. A. Cassin, J. C. Fraham, John J. Thurston, W. Craney, D. M'. Dougal, A. W. Brevort, J. Alden, John I. Williams, W. G. H. Robertson, J. L. Ring.—John Raynolds, Boatswain; Nathan B. Pede, Sailmaker; Chas. Boardman, Carpenter; Thos. Riley, Gunner; J. D. Gibson, Purser's Steward. *Passengers.*—Lieut. Saml. W. Le Compte, and A. G. D. Brown.

[*From the Washington Globe of July 4, Extra.*]

The President, accompanied by the Vice President and Secretary of the Navy, his Private Secretary, and Col. Earl, arrived in this city at 10 o'clock this morning. After reaching Concord, he found that his strength would not enable him to undergo a repetition of the labors which the various engagements he had made, would require of him. And the effect of further exposure to the North-Eastern winds, it was feared, might prove permanently detrimental to his constitution, after his indisposition at Boston.—He was, therefore, under the necessity of giving up his journey, without going to Portland, in Maine, which he intended to have made the termination of his tour at the North.

The President left Concord, for Washington, on Monday, the 1st instant, after breakfast, and reached this city at 10 o'clock this morning, accomplishing a journey of 474 miles in three days. His strength has recruited considerably since his return. The ordinary fatigue of a journey in the stages, relieved by the repose obtained in the steamboats and rail road cars, was found light in comparison with the personal exertion necessary to sustain him throughout a succession of days, in exchanging salutations and greetings with the immense number of his fellow citizens who thronged to meet him. He would have found it impossible to have borne up so long under the fatigue, but for the inspiring animation imparted by the enthusiastic kindness of his countrymen.

A Novel Case.—Cheng and *Yang*, the Siamese twins, have been tried in Trumbull county, Ohio, for an assault and battery commited on an old and respectable citizen. The defendants plead guilty, and were *eac h* fined five dollars and cost. The case is stated in the Warren News Letter, of July 2.—It is strange that where the offending party is one, by an indissoluble and natural bond, that they should be severed in judgment. It is a new precedent.

Rencontre.—We have received a letter from a friend in Charlottesville, (Va.) giving the particulars of a very unpleasant and personal rencontre between W. C Rives, of the U. S. Senate, and Thomas W. Gilmer, of the House of Delegates, which occurred at that place on the 1st. The matter will probably be made the subject of publication by both parties; but we abstain from saying more at present, than that Mr. R accused Mr. G. of some insincerity, which the latter repelled—that upon their meeting, one attempted to thrust his hand in the other's face, which was repelled by the use of a horsewhip, &c. The Court being in session they were immediately summoned before it, and both bound over to keep the peace in the sum of a thousand dollars.—[Alexandria Gazette.]

Tornado at St. Louis, (Mi.)—A letter of Friday, 23th ult., furnishes the following account of a remarkable hurricane in St. Louis:—"Last evening about 9 o'clock, we were treated to a regular hurricane, passing through town diagonally. The rear chimnies, parapets, fire walls, &c., of almost every store on the north of Main street, and the front work of those on the South side, are demolished. On the hill some 20 or 30 houses are laid low, others are unroofed, and with both gable ends blown out. In many instances whole sides are gone; trees are uptorn; steamboats driven from their moorings with loss of upper works. Our store is the centre tenement of a building of three stories, divided by high fire walls, and covered with lead. All this is swept off. Masses of lead, weighing at least 200 lbs., were stripped from it, and lodged on buildings over the way. By being on the spot we have avoided damage, although our roof is a complete riddle. Only one life, as yet, is known to be lost."

The Cholera in Cuba appears, according to accounts in the Journal of Commerce of Wednesday—evidently however, written under great excitement—to be still very fatal, having spread far and wide among the plantations, and carrying off the slaves by hundreds. In the cities it had disappeared, at least as an epidemic.

Mr. Webster arrived at Pittsburg on the evening of the 4th. The members of the bar of that city had a previous meeting, at which they resolved to wait in a body upon that distinguished American Statesman and Jurist.

The territory of Arkansas contains a population of about 41,000.

On the 1st July, between 4 and 5 P. M. in lat 32 1-2, long. 77, a bird known by the name of a Booby, flew on board the brig Evelina, arrived recently from New Orleans. It had attached to its neck a piece of leather containing the following words: "Cape Florida bearing W. S. W., distant 20 miles, 1 Booby took my departure from the ship Plato, Colligan, master, from New Orleans bound to Havre, 11 ds out, all well. Passengers, Dr. Rigaud, lady, 2 children and servant.—July 1st, 1833." On the reverse side was inscribed—"Mrs. Colligan is well and hearty."—Allowing the above to have been dated correctly the bird must have travelled nearly 400 miles in 8 or 9 hours.—[Cour. & Enq.]

New Havre Packet.—The ship launched on Saturday and intended as one of the second line of Havre packets, is named, in complement to the city, "*Utica.*" The Mayor and Council of that city having been invited to be present at the launch, were represented by a deputation consisting of Aldermen Mann, Miller, Hart and Griswold. These gentlemen were launched in the ship—Alderman Griswold doing the honors of the "christening."

In the afternoon the deputation met the owners at Niblo's Hotel, when Alderman Mann presented for the use of the ship, an elegant suit of colors, in remarking to Capt. Depeyster that,

"In the name and behalf of the citizens of Utica, permit us to present to you a suit of colors for the use of the splendid packet ship to which has been given the name of their city, and to tender to you and the owners their thatks for the compliment which has been paid them. The model of elegance of the Utica displays the great perfection of Naval Architecture, and her spacious accomodations and costly constructions evidence the liberal and enlarged spirit of enterprize for which the citizens of this commercial emporium have been long pre-eminently distinguished.

"Accept, sir, the best wishes of the body we represent, that the "Utica" may perform many prosperous voyages, and return laden with the wealth of foreign climes as a reward to her enterprising owners for the efforts they are making to advance the commercial prosperity of our country."

Captain Depeyster and the owners could not but be gratified by the attention that had been paid to them by so respectable a body—the more gratified that it was unexpected, and he replied to the address of Alderman Mann,—that

"The colors would, as the gift of the patriotic citizens of an enterprizing and flourishing city in the bosom of our great State, be ever regarded by him and by his crew, as incentives to zeal in their profession and badges of attachment to the Constitution and of fidelity to the Union. As the representative of the Corporation of the city of Utica, I tender to you and it my sincere thanks and that of the owners, for these emblems of commercial enterprize and of national honor, trusting that wherever the "Utica" may proudly bear them, they may trace a progress as prosperous as has been the onward march to wealth and to greatness of the city of her name.

After the presentation, the company partook of a dinner prepared in Mr. Niblo's best style, Ald'n Mann of Utica, presiding, and his honor the Mayor of this city acting as Vice President.

[*From the Boston Centinel of yesterday.*]

The Sea Serpent.—A party of 80 to 100 ladies and gentlemen embarked yesterday morning in the Steamer Connecticut, for the purpose of taking an excursion in the lower harbor, with the expectation of getting a view of His Serpentine Majesty. About 12 o'clock, when the steam boat was half way between Nahant and the Graves, the monster was seen approaching. A number of gentlemen took the small boat and made directly for it, but unfortunately did not run upon the animal as was intended, owing to a little mismanagement in rowing. The Serpent came within an oar's length of the boat, and without appearing at all alarmed or uneasy, took a slight curve towards the steamboat, passed under her stern within fifty or sixty feet, and then disappeared. We understand it was the opinion of those in the small boat that he might easily have been struck, but unfortunately there was no harpoon on board. At this time his motion was not undulating as has sometimes been stated, but rather like the movement of an eel or common water snake. It has been reported that there have been three or more of these strange creatures seen lately, one of which is supposed to be 150 feet long. The one seen yesterday, was from 60 to 70 feet in length. We would recommend some of our sporting friends who are skilled in the management of a whale boat, and use of the harpoon, to make an attempt upon the liberty of this marine monster, and there is but little doubt he might be taken.

The foregoing account is furnished by a gentleman who was one of the passengers, and had a good opportunity to see the serpent from the small boat, and whose certificate is annexed. This statement in its material bearings is also corroborated by several other gentlemen with whom we have conversed, who were on board the steamer. The excursion of yesterday, has afforded a much better opportunity of seeing this strange animal, than has occurred for years, and it is not inconsistent with the whole tenor of the statements that have been made at different times by great numbers of persons for the last fifteen years, since a monster of this description was first announced in our waters, it is admitted on all hands that the appearance of a marine animal of this description, would be still more extraordinary, if so many witnesses should be so grossly deceived, as would be the case, if no such animal had appeared. One or the other of these extraordinary difficulties is presented for the belief of the public, and we are of opinion that it would not require so great a stretch of credulity to believe in the existence of such an enormous Sea Serpent, as to believe that so many persons could be so grently deceived. We learn that a gentleman fired at him with a musket from the Steamer, but without effect. The shot was given before he had approached so near the Steamer as he did a few minutes afterwards. The first thing that attracted the attention of those who were in the Steamer, was a peculiar appearance in the water at a distance, supposed to be occasioned by a shoal of small fish that he was apparently pursuing. Three distinct appearances of this kind were observed at the same time afar off, and the Steamer made for one of them, in pursuit of which the serpent appeared to be. It is therefore inferred by some of the passengers that there are three of the strange animals, as has been before stated.

We the undersigned, passengers on board the steamboat Connecticut, do hereby testify that we were in the small boat which put off from the steamboat, and approached within ten feet of a *Sea Monster*, which passed under our bow at a very rapid rate.—As near as we can judge from the view we had of him, his head resembled that of a pickerel. His head only appeared on the surface; as to the length of it, it is impossible to determine. The motion was not like that of the porpoise, but resembled that of a common snake.

Benj. H. Norton, Jas. W. Hale, Wm. Tewksbury, Jr. Sam'l. S. Williams, Geo. W. Proctor, *Passengers.*

Thomas Purcell, James Gahagan, *Oarsmen.*

INTERESTING TO WHALEMEN.—The Daily Advertiser of Wednesday has a communication in relation to the new colony of Floriana, recently established on one of the Gallipagos Islands, on the Western coast of Peru, which contains interesting information for Whalemen in the Pacific Ocean. The Gallipagos are laid down on the equator, between 82 and 92 degrees West Longitude, about 200 miles from the coast of Peru.

"This Island, which is known in the chart by the name of Charles Island, has been given by the Government of the Ecuador, to a company composed of five persons, Messrs. Joseph Villasmil, Ignacio Hernandes, Juan Garces, Joaquin Villasmil, and Lorenzo Bark.

On the 21st of January 1832, Ignacio Hernandes, Joaquin Villasmill, and Lorenzo Bark, sailed for Guayaquil, to take possession of and deliver the Island to the Commissioners of the Company, Villasmill and Bark, Hernandes being fully authorized by Government to that effect. Bark remained on the Island with the first settlers. Since then, others have been sent, and by this time there are on the Island 70 married men, and about 200 persons in all. Small plantations, producing every vegetable needed by whalers, are getting up; and ere long they will find water and wood on the sea shore. With these great advantages, there is no doubt the Island will be the rendezvous of most of the whale ships in the Pacific, and must flourish rapidly.

The ships will be subject to no charges of any kind, and on the contrary every means will be employed to facilitate their views, and combine their interests with those of the inhabitants.

We have these particulars from respectable persons acquainted with Mr. Joseph Villasmil, of New Orleans, Director of the Enterprise, and Governor of the Island; and we have no belief that he will ever deviate from the line of conduct he has traced for himself; the only one which, he is perfectly aware, can insure the progress of the settlement, and his own personal reputation, so highly compromised in so delicate an enterprise. Mr. Villasmil is an American, who, though he has resided in a foreign country for many years, entertains the strongest affection for his own, (the United States,) and has gained, by great services rendered to the cause of Independence of South America, and a spotless conduct, that of the country where he resided. He is of a mild disposition, very polite without affectation, and there is no doubt that the settlement, under his patronage, will be a great resort for our whale ships. He is a man of middle age, understands different languages, and the necessary solid information to carry his project to a happy and honourable conclusion. Pecuniary compensations are beneath his sentiments; he aspires at others more flattering than gold, and will in all probability obtain them."

Delaware and Hudson Canal.—The Kingston Sentinel states that the shipment of coal on the Hudson and Delaware canal is brisker than ever, and that 54 vessels departed from the Rondout, all loaded with coal during the week ending 22d ult. These vessels were chiefly from the Eastern ports. The whole number of boats which arrived at tide water, Eddyville, from the 15th to the 22d of June was 308, of which 226 were coal boats, with 6,341 tons of coal. Cleared during the same week, 260 boats.

The Honesdale Inquirer describes a new style of fishing, which was first tried during the late freshet. As a raft pitched over a dam across the Lackawaxen, below that borough, the forward end, as is usual, ploughed under water, and when it arose and the water drained off, about twenty-five suckers were seen flouncing on the timber, and were easily secured.

Clouds of *locusts* have lately made their appearance in Arkansas. In the forests, their course is marked, by the wilted and sallow leaves of the young and tender branches which have been perforated by them for the deposit of their eggs.

Insurance.—The Supreme Judicial Court in session in this city, on Wednesday last, decided in the case of William Eager vs. the Atlas Insurance Company, that in the adjustment of Insurance losses, the old materials, when any remain, should be deducted from the aggregate of loss, that is, before one third new for old is deducted, thereby confirming their decision in the case of Brooks vs. the Oriental Insurance Company in Essex, and conforming to the law and the practice which has for many years obtained in New-York.

The effect of this rule is to give the insured one third of the old materials, or in other words, not to deduct from so much as is found to be the value of the old materials applied to the repairs of the vessel one third as for new, as has been the operation of the practice.—[Boston Daily Adv.]

The Weavil.—The Ballston Spa Gazette mentions that the weavil has commenced his destructive operations on the wheat in that county—and that in some wheat fields of 60 acres, where there was every promise of an abundant yield—there will not be sufficient to pay the farmer for harvesting. It is said, that by sowing lime on the heads of wheat when the dew is on, will drive the weavil from the fields.

Distressing Case.—Saturday's report of the season 'down East,' is confirmed to-day by a letter from Thomastown, Me., in which the writer says:—"It has rained almost incessantly for six weeks. I am afraid we shall not raise *a single radish*,—that troubles me very much."—[Boston Mer. Journal.]

QUEBEC, JUNE 28—A new instance of American enterprize and industry occured here this week. A Mr. Baird, of the State of Maine, who has a patent for bee-hives and who keeps a great number of bees, and of course *trades* in them, arrived in Quebec with hives, which he sold to the amount of between 2 and 300 dollars cash. He had brought some during the winter, in his boxes or hives, in a torpid state, and found a good sale; but it seemed more difficult to remove them in the summer season; their busy and active period. Mr. Baird, however, travelled during the night, and set his bees out during the day to feed and continue their work, which they did with their usual activity and regularity. He was about twelve nights on the journey, by the Kennebec road, and brought the whole of his hives to Quebec in good condition without loss.

Great Speed.—On Tuesday morning last, the steamboat Robert Morris made the trip from this city to New Castle in two hours and a quarter. The distance is forty miles. The same boat came hither yesterday from New Castle in the same time. This was done without any particular effort.—[Philadelphia paper.]

MISCELLANY.

THE HOSPICE OF ST. BERNARD.—Our readers will be interested, we are sure, in the communication published to day relative to an American benefaction to this ancient and solitary station—the discovery, by an American traveller, one of our fellow-citizens, of anthracite coal, in the vicinity of this monastery, and and the subsequent transmission, from home, of one of *Nott's Stoves*, in which to consume it, have been the means, it will be perceived, by the letters of the Senior Resident, Barras, of securing the blessing of abundant warmth to the pious brotherhood who pass their lives amid eternal snows, for the cause of pious humanity.

[COMMUNICATED FOR THE NEW-YORK AMERICAN.]

The Hospice of the Great St. Bernard is among the choicest spots of interest to the European traveller. The unpaid labors of the good monks and their co-workers, the noble dogs of the hospital, are familiar to all those who take pleasure in the records of deeds of benevolence. It is pleasing to learn by recent advices from that dreary region, that these pure hearted devotees, to whom humanity itself stands debtor, are likely to enjoy henceforth a little more of human comfort than they have heretofore done, and, what adds to our pleasure, that it will be through the instrumentality of our own fellow citizens. A few circumstances of their condition will make what we allude to better understood. This Hospice occupies, as is well known, the most elevated practicable pass of "the High Alps," where, at an elevation of 8000 feet from the level of the sea, has been constructed amid precipices of rock and ice, a rough bridle pass for the convenience of travellers, connecting the Pays de Vaud with Savoy and the neighboring parts of Italy. In this gorge stands the Hospice of St. Bernard, on the edge of a frozen lake, the highest inhabited spot in Europe, and a great deal too high, as all visiters will testify, for human endurance—unless supported as these good fathers are, and have been for these six hundred years, by the united enthusiasm of religion and benevolence. To give warmth to this frozen mansion, situate amid eternal ice and snow, and in a temperature which often falls to the zero of Fahrenheit even in summer, would seem to be "a sine qua non" of residence in it, and yet, from the expence of fuel, is utterly beyond the scanty and precarious means of the establishment,—all the fuel hitherto consumed by them, consisting of small faggots of wood, brought up on the backs of mules, over a broken, rocky ascent of 25 miles from the valley below. The result has been, that the whole supply of their fuel, beyond what was needed for cooking, has been reserved to warm their shivering or frozen guests, in the "travellers' rooms," while they themselves have been content to pass their lives in a freezing temperature within doors as well as without, between naked stone walls, on bare stone floors, without curtains, carpets or fire. Such have been their comforts. It is pleasing now to contemplate a warmer picture.

In the summer of 1830 a traveller from our city, during a short abode at the Hospice, whose friendly walls received him and his family just in time to save them from one of their perilous snow storms, had the good fortune to light on the discovery that among the mineral products of the adjoining height was an anthracite coal, though of very inferior quality. Having no means of burning such an incombustible fuel, this discovery led to immediate directions for the erection of a grate for that purpose, but, as it proved, with partial success; and subsequently, on his return, to the remitting to them better plans and models, and eventually, through the liberality of a few to whom the story was told, to the transportation to the Hospice itself of one of Dr. Nott's admirable stoves of a large size, with all things appertaining to its immediate use. The following extracts of letters from the Hospice relate to the progress of the experiment, and conclude with the most satisfactory statement of its complete success, and that "the joy of the brethren knows no boundary."

ST. BERNARD, JULY 19, 1831.

Dear Sir:—I often think of your short visit to our abode, and of the good instructions you gave us on the method of burning Anthracite. We continue the experiments, and we intend to put up grates soon.

BARRAS, Chan. Reg.

ST. BERNARD, 5TH SEPTEMBER, 1831.

Sir:—I scarcely know how to thank you, dear Sir, for the kind and obliging letter with which you have honored us, accompanied by valuable descriptions and models of grates, that will be of the greatest use to us: I beg you to accept our sincere thanks for them. According to the instructions you gave us a year ago, I had a grate put up in the parlour chimney; it has succeeded well; there are, however, still some improvements to be made after your model, and, thanks to you, we hope to succeed in it entirely.

A few days after your departure from our Hospice a year ago, I was in great danger of being lost in a tempest on our mountain. Three persons perished at a short distance from me. God was graciously pleased to prolong my days; I ought to be very grateful to Him, and endeavor to live for His service.

Your very obedient servant,

BARRAS, Chan. Reg.

ST. BERNARD, FEBRUARY 20th, 1833.

Much Honored Sir:—The Hospice of St. Bernard will always preserve a lively remembrance of the interest which you take in its prosperity. I assure you, and I beg you also to assure your friends, that there is no member of our congregation, who is not very grateful for the benefits which our Hospice has received, and is yet to receive, by your generous offer of a furnace to burn Anthracite: it will be very valuable to us, by enabling us to warm the house economically, and will be a great relief to suffering beings, for the distance of five leagues (25 miles) from the woods, their scarcity, and the difficulty of transportation, obliged us to practice the strictest economy. The Anthracite, as you know, is so near, that it can be transported without expense—but we were in want of the means of making it burn. This furnace, then, will be a monument which will perpetuate the generosity and the devotion of our friends in America, to the poor travellers across the "High Alps," by the great St. Bernard. Gratitude will owe these benefits to that pious sentiment, which so deeply interests the friends of humanity in the unfortunate.

Your humble servant, BARRAS, Chan. Reg.

ST. BERNARD, APRIL 26, 1833.

Sir:—The experiment made by Mr. Saynisch, on the burning of the Anthracite in the furnace that you had the kindness to send to us, was crowned with the most complete success. We have now only to thank you, and beg you to be the interpreter of our sentiments of deep gratitude, to the generous benefactors who have united with you in kindness to us.

Your very humble servant,

BARRAS, Chan. Reg.

The following is an extract from the gentleman above alluded to, a scientific traveller and friend, who was fortunately at the Hospice on its arrival.

Hospice St. Bernard, 26th April, 1833.

My dear sir—It is with the greatest gratification and pleasure that I can communicate to you the fulfilment of your wishes to erect the stove which you had the kindness to send to the St. Bernard. In this time of the year, when the snow reaches Lydde, 4 miles below St. Pierre, it was with the utmost difficulty for me to bring it up. Till Lydde, it was brought on wagon; from there I took six men, who brought it in pieces to the summit. The construction was very difficult, because several pieces were broken when I opened the case. * * * Notwithstanding all this I succeeded to burn the coal, which is more a plumbago than anthracite. Since yesterday the stove is in full operation, and the joy of the brethren has no boundary. They remember you and your dear family with the greatest gratitude. To-morrow I shall go down with the Maronier and the dogs, because the weather is very stormy, and the snow enormous. Your most obedient servant,

* * * * L. Saynisch.

P. S. I hope you will excuse my good English, my Dictionary is 6000 feet below.

Account, rendered to those concerned, of money received and expended.

Cr.		Dr.	
Ed. Laight, Esq.	$10	Bill of stove,	$25
W. Moore,	10	Remitted to Martigney,	
Fred. Prime,	10	to pay the expense of	
Miss Douglass,	10	getting up mountain,	10
J. McVickar, (balance)	18	Transport from Havre to Martigney, per bill,	
		De la Roche, &c.	23
	$58		$58

The thanks of the Monks of the Hospice are hereby presented to the above named gentlemen, and also to Messrs Nott & Co. who liberally put their stove at cost price; Messrs Bolton, Fox, & Livingston, in whose vessel it went freight free to Havre; and to Messrs. DeRhum, Isselin & Moore, who kindly undertook the charge of its safe remission to Martigney.

[*From the New Monthly Magazine.*]

THE DEATH OF HOFER.

"*Florence, Jan.* 20.

"Dear Lady ——:

"Do not you already begin to repent that you commanded me to write to you on my return to Italy? I passed two entire months in Germany, and like the people. Of the country you know as much as I do—people who paid more attention to it have described it better than I could. In passing I saw Waterloo—an ugly game, played badly both by loser and winner. At Innspruck I entered the church in which Andreas Hofer is buried. He lies under a plain slab, on the left, near the door. I admired the magnificent tomb of bronze, in the centre, surrounded by heroes, real and imaginary. They did not fight tens against thousands—they did not fight for wives and children, but for lands and plunder—therefore they are heroes! My admiration of these works of art was soon satisfied,—which, perhaps, it would not have been in any other place. Snow, mixed with rain, was falling, and was blown by the wind upon the tomb of Hofer. I thought how often he had taken advantage of such weather for his attacks against the enemies of his country, and I seemed to hear his whistle in the wind. At the little village of Landro—(I feel a whimsical satisfaction in the likeness of the name to mine)—the innkeeper was the friend of this truly great man—the only great man that Europe has produced in our days, excepting his true compeer Kosciusko. By the order of Bonaparte, the companions of Hofer, eighty in number, were chained, thumbscrewed, and taken out of prison in couples, to see him shot. He had about him one thousand florins, in paper currency, which he delivered to his confessor, requesting him to divide it impartially among his unfortunate countrymen. The confessor, an Italian, who spoke German, kept it, and never gave relief from it to any of them,—most of whom were suffering, not only from privation of wholesome air, to which, among other privations, they never had been accustomed, but also from scantiness of nourishment and clothing. Even in Mantua, where, as in the rest of Italy, sympathy is both weak and silent, the lowest of the people were indignant at the sight of so brave a defender of his country led into the public square to expiate a crime unheard of for many centuries in their nation. When they saw him walk forth, with unaltered countenance and firm step before them—when, stooping on the ground which was about to receive his blood, they heard him, with unfaltering voice, commend his soul and his country to the Creator,—and, as if still under his own roof, a custom with him after the evening prayer, implore a blessing for his boys and little daughter, and for the mother who had reared them up carefully and tenderly thus far through the perils of childhood,—finally, when in a lower tone, but earnestly and emphatically, he besought pardon from the Fount of Mercy for her brother, his betrayer,—many smote their breasts aloud; many, thinking that sorrow was shameful, lowered their heads and wept; many, knowing that it was dangerous, yet wept too. The people remained upon the spot an unusual time; and the French, fearing some commotion, pretended to have received an order from Bonaparte for the mitigation of the sentence, and publicly announced it. Among his many falsehoods, any one of which would have excluded him forever from the society of men of honor, this is perhaps the basest; as, indeed, of all his atrocities, the death of Hofer, which he had ordered long before, and appointed the time and circumstances, is, of all his actions, that which the brave and virtuous will reprobate the most severely. He was urged by no necessity—he was prompted by no policy: his impatience of courage in an enemy, his hatred of patriotism and integrity in all, of which he had no idea himself, and saw no image in those about him, outstripped his blind passion for fame, and left him nothing but power and celebrity.

Believe me, dear Lady ——, your very obliged and obedient servant, Walter S. Landor.

[*From the Cherokee Phoenix.*]

Murder of Christian Indians on the Muskingum.—A little more than half a century ago, there was at Gnadenhutten, on the Muskingum, a settlement of Christian Moravian Indians, who took no part in the prevailing wars, and were so peaceable they

"Lived unknown
'Till persecution dragged them into fame
And chased them up to heaven."

Many persons who adopted the sentiments long before advanced in a sermon, by a worthy clergyman of Boston, that the Indians were Canaanites and should be completely exterminated, were indignant because the Governor of Pittsburgh had released several friendly Indians that had been unjustly imprisoned. One hundred and sixty met at Wheeling and Buffalo and proceeded to Gnadenhutten with more than the malice of Satan when he entered Eden. Upon their arrival they professed much sympathy and friendship for the unsuspecting Indians whom they said, they had come to escort to Pittsburgh where they should be protected from their enemies. They possessed themselves of their guns and hatchets, which they promised to return at Pittsburgh. In this the brethren acquiesced and thought they saw in it the protecting hand of God.

A number of the strangers expressing a desire to see Salem another christian settlement, they were accompanied by some of the brethren. There also, they professed much friendship and easily prevailed upon the Indians to return with them. On the way they entered into much spiritual conversation, for they pretended to be very religious. Suddenly they were seized, bound, and deprived of even their pocket knives, and when they arrived at Gnadenhutten, they found brethren there in the same condition. The murderers then held a council to determinate how they should put them to death. Some wished to burn them alive, but it was resolved to scalp them; and a messenger was sent to tell them that as they were christian Indians they might prepare themselves in a christian manner, for they must all die the very next day. In vain they appealed to God for their innocency. It was enough that they were Indians. Their doom was irrevocably fixed. Neither bloodless hands—nor sincere hearts—nor father's entreaty, nor mother's tears, nor the inoffensiveness of infancy moved the hearts of those determined to do the work of death.

The last night these pious natives spent on earth, was employed in praying, and encouraging each other to remain faithful unto the end; and in confessions, and expressions of forgiveness and love.

When the morning arrived the murderers expressed great impatience to commence the work of carnage. The brethern declared they "were ready to die, having commended their immortal souls to God who had given them divine assurance in their hearts that they should be with him forever."

Immediately after this the defenceless victims were bound two and two together with ropes, and led into two houses which their murderers had prepared and denominated slaughter houses, and there scalped and pierced with swords so that the blood flowed in streams into the cellars. Thus sixty-two adults, and thirty-four children were butchered, in cold blood. Only two escaped, one having been scalped lay among the corpses as dead, till the murderers retired, the other being concealed in the cellar of one of the slaughter houses.

How often do parents fill the minds of their children with recital of murders committed by Indians, thus creating toward that unfortunate and much injured people an aversion as lasting as life. Let such think of Muskingum and be silent. While we tell of their cruelties, they can tell more deeds of one that much better befit a Turk than those who profess to have "drunk the sigh of Calvary."

Great Skill in Musketry.—We were conversing with an acquaintance from the back woods, some time since, who appeared to be much elated with his exploits as a sportsman. After listening patiently to several stories of considerable magnitude, which he related with some gout, we inquired whether he ever happened to shoot a wild turkey? "Why not ezackly," said Jonathan, very gravely, "not ezackly: but father and I *felled a tree across the track of one only week afore last!*"

POETRY.

A VOICE FROM MOUNT AUBURN—THE NEW CEMETERY NEAR BOSTON.

BY MISS GOULD.

A voice from Mount Auburn! a voice!—and it said:
"Ye have chosen me out as a home for your dead;
From the bustle of life to have rendered me free;
My earth ye have hallowed—henceforth I shall be
A garden of graves, where your loved ones shall rest;
O, who will be the first to repose on my breast?

"I now must be peopled from life's busy sphere;
Ye may roam, but the end of your journey is here.
I shall call! I shall call! and the many will come
From the heart of your crowds to so peaceful a home.
The great and the good, and the young and the old,
In death's dreamless slumbers, my mansions will hold.

"To me shall the child his loved parent resign;
And, mother, the babe at thy breast must be mine!
The brother and sister for me are to part,
And the lover to break from each tie of the heart.
I shall rival the bridegroom, and take from his side,
To sleep in my bosom, his beautiful bride.

"And sweetly secure from all pain they shall lie
Where the dews gently fall, and the streams ripple by,
While the birds sing their hymns amid air-harps that sound
Thro' the boughs of the forest trees whispering around,
And flowers bright as Eden's at morning shall spread,
And, at eve, drop their leaves o'er the slumberer's bed.

"But this is all earthly! while thus ye enclose
A spot where your ashes in peace may repose—
Where the living may come and commune with the dead,
With God and his soul, and with reverence tread
On the sod, which he soon may be sleeping below:
Have ye chosen the home where your spirit shall go?

"Shall it dwell where the gardens of Paradise bloom,
And flowers are not opening to die on the tomb?
With the song of an angel, a vesture of light,
Shall it rise in a world free from shadow and blight:
Where the waters are pure, from a fount never sealed,
And the secrets of heaven are in glory revealed?

"A day hastens on—and an arm then shall break
The bars of the tomb—the dread trump shall awake
The dead from their sleep in the earth and the sea,
And, 'render up thine!' shall the sound be to me!
Prepare for that hour, that my people may stand
Unawed by the scene at the Judge's right hand."

In Rome's best days, imperial pride
To a palm tree the serpent tied,
And falsely on a medal stamp'd it,
"*Nemo antea religanit.*"—[Augustus.]

Editor of the New-York American:

Sir:—Not hearing from the Sea Serpent lately, I have taken the liberty to send you a rough Peter Pindaric dialogue, between a worthy son of "*Down* East" and that monstrous monster.

Scene—a sea-coast.

Jonathan. Hail mighty monster of the deep,
Described by Job, though not of late,
Come near, O! let me have a peep,
And then go back, thy voyage relate.

Sea Serp't. Your invitation is quite kind,
Relations quick their likeness find,
So we are call'd a slippery race,
And Ocean is our feeding place.

Jonathan. Now *jist me if I hurt your skin,*
Your form and length I wish to know,
And when that's done, off you may swim,
Leviathan's great strength to show.

Sea Serp't. We both were born on fish to feed,
Of my great skin you have no need:
Perhaps you might this hide strip off,
And boil my blubber on the wharf.

Jonathan. I'll swear by all my wooden bowls,
By all my onions, all my cheese,
By all the *cod* that swim these shoals,
My only object is to please.

Sea Serp't. Jonathan! your quick invention,
Can, without the least contention,
Make a likeness quite as easy,
For the Museum, and to please ye. D. F. 2.

MARRIAGES.

On Friday, 28th ul. inst. by the Rev. Dr. Pelton, Mr. JOHN JOSEPH LAMONTAGNE CHARBAUD, to Miss MATILDA L., daughter of Capt. Joshua Geer, all of this city.

On Saturday evening, at St. Clement's Church, by the Rev. L. P. Bayard, GEORGE F. R. youngest son of the late Gen. Gabriel Johnston, of England, to CECILIA HELENA, youngest daughter of the late T. B. Durand, Merchant of this city.

On Wednesday evening, 3d instant, by the Rev. Dr. M'Elroy, WILLIAM CODMAN, to MARTHA ANN, daughter of the late W. H. Gilley.

On Wednesday evening, 3d July, at Burlington, N. J. by the Right Rev. Bishop Doane, Mr. JOSEPH CROSKEY, to Miss MARIA TERESA, daughter of the late John William Macomb, Esq.

On Wednesday evening, July 3, by the Rev. Mr. Hughes, at St. John's Church, Philadelphia, JOSEPH R. CHANDLER, Esq., Editor of the U. States Gazette, to MIS. MARIA H., daughter of Benjamin Jones, all of that city.

DEATHS.

On Tuesday, 2d instant, WASHINGTON, infant son of THOMAS and MARIA BLOOMER.

In this city, 6th instant, EMMA FIELDS, infant daughter of Mr. Charles Porter.

Saturday morning, 6th instant, of a lingering illness, Mr. WILLIAM GAMBLE, in the 47th year of his age.

On the 5th instant, of consumption, CHRISTOPHER HUMME, in the 72d year of his age.

This morning, Mrs. ASTOR, widow of Henry Astor, deceased, in the 70th year of her age.

Miss ELIZABETH ADAMS.

On Tuesday afternoon, Mr. RICHARD COLLIE, in the 49th year of his age.

On Tuesday evening, ALEXANDER DIVER, aged about 43, after a short but severe illness.

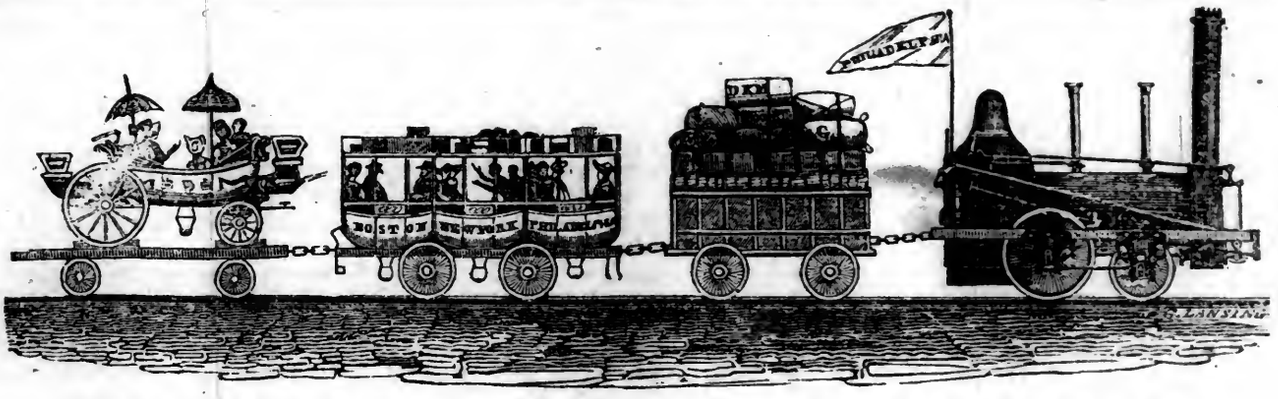
Last evening, after a lingering illness, THOMAS WARING STEELE, aged 29 years.

Suddenly, at Mobile, on the 26th June, HENRY A. ELLIS, a native of this city, and son of John F. Ellis, Esq aged 32 years. His death was occasioned by a fall from his horse

On board the U. S. ship Vandalia, at sea, ALBERT KRUSTNER, Esq. in the 29th year of his age. This gentleman was a native of Leipsic, Saxony, where his relations reside, and had been established several years in the City of Mexico as a merchant, of the firm of Dupont, Krustner & Co.

At Flushing, Long Island, on the afternoon of second day, 8th inst. PHEBE S., aged 23 years, wife of Wm. L. Jenkins, and daughter of Jos. S. Shotwell.

In Surry, N. H., on Tuesday, 2d instant, widow PATIENCE FIELD, consort of Deacon Moses D. Field, aged 85 years.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 33 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JULY 20, 1833. [VOLUME II.—No. 29.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 20, 1833.

Erratum.—In the communication of R. Bulkley, published in the last number of the Railroad Journal, page 434, in the 11th line from the bottom of the second column, for "between 22 and 32 degrees," read "between 212 and 32 degrees."

We are indebted to John B. Jervis, Esq. late Engineer of the Mohawk and Hudson, and of the Schenectady and Saratoga Railroads, for a description, with drawings, of his Railroad Waggon Wheel, which, we have no doubt, will be found highly valuable to Railroad Companies. The trifling addition of material and weight would seem by no means in comparison with the beneficial results from its use.

Mechanics' Magazine.—The June number of the *Mechanics' Magazine* will be ready for delivery on the 22d. This number has been delayed several days beyond its usual time of appearance, but in every other respect it is superior to the numbers which have preceded it. It contains eighty pages of letter-press, including a preface and copious index of the volume, with engravings, among which is a very good likeness, accompanied by an interesting memoir of the late Eli Whitney, Esq. the inventor of the *Cotton Gin*,—the greatest *labor-saving* machine, perhaps, with the exception of the steam engine, that was ever invented by man. The other engravings are mostly illustrations of new and useful inventions. This, the sixth number, completes the first volume of the *Mechanics' Magazine, and Register of Inventions and Improvements:* a work, it is admitted by competent judges, of much merit and utility, which was undertaken by the editor of this Journal, a few months since, without a single subscriber. Twelve hundred copies were printed of the two first numbers, and so great has been the call for it, that the entire edition, with the exception of about one hundred copies, of those two numbers, is disposed of; so encouraging indeed has been the reception of, and so great the demand for, the work, that the three last have been, and the future numbers will be, *stereotyped*, and the *first* numbers will be reprinted and stereotyped in a short time, so that any demand which may be made for the work can be promptly supplied.

We were not prompted to this enterprize so much by a prospect of immediate success, as by a knowledge of the want of such a publication, as a medium through which the numerous new inventions and improvements of the day might come before the public in such a shape as to be fairly understood, and a reliance upon the good sense and patronage of those for whose use the work is designed. Thus far, at least, we have not been disappointed; and for the future we can only say, that our best efforts shall be made to render the Mechanics' Magazine all that we have promised, and all that may *reasonably* be expected at a price so low.

The terms are $3 per annum in advance, for twelve monthly numbers of 64 pages each; and if any of our friends can aid us in its circulation they will do us a favor, equal, even, to that of circulating the Railroad Journal—the omission to do which, no friend of ours, or of Internal Improvements, will be guilty of.

The *memoir* of Mr. Whitney has been transferred to the columns of this Journal, and it will richly repay those for reading it who require an occasional reference to such a specimen of noble perseverance, to induce them to press forward to the attainment of eminence and high respectability. One of the most excellent traits in the character of Mr. Whitney was his perseverance—a fixed purpose to accomplish whatever he undertook. The ungenerous course pursued towards him by those States which were so immensely benefitted by his invention, did not dishearten, although it well nigh ruined him. He, unlike most other men of great mechanical powers, directed his efforts to a single object until it was attained. He may well be taken as a model by the thousands of young men who are left to be architects of their own fame.

At a meeting of the Stockholders of the Brooklyn and Jamaica Railroad Company, held in Brooklyn, the following gentlemen were chosen Directors :—

Eliphalet Weekes,	Robert Schuyler,
John A. King,	Elihu Townsend,
Nathan Shelton,	Samuel Smith,
James Herriman,	Abner Chichester,
James Foster,	Van Wyck Weekes,
Charles Hoyt,	Joseph W. Allen.
Charles F. Moulton,	

At a subsequent meeting of the Directors, held at Jones's Buildings, New York, *Eliphalet Weekes* was elected President, *Robert Schuyler* Secretary, and *Elihu Townsend* Treasurer.

We learn that the boiler of the steam engine of the Dry Dock Company burst yesterday morning. Two persons were scalded, and the engineer was thrown out of doors, but was only slightly injured. This explosion is said to have been caused by the gradual dropping of water for a length of time from the tank above, on to that part of the boiler which gave way, and which was thereby corroded and weakened.—[Mercantile & Adv.]

Accident.—A workman on the Providence Railroad while in the act of charging a rock with a blast on Wednesday was blown—not sky high—but about thirty feet above *terra firma*, from which elevation he descended without serious injury.—[Bost. Atlas.]

Steam Boiler Deposits.—*Institution of Civil Engineers, April* 3.—In the case of the saline deposition, which accumulates in boilers during sea-voyages, it was mentioned as the usual practice merely to blow off a portion of water from the boiler, according as it becomes saturated. In short voyages of three or four days, this is found sufficient for the purpose; but for vessels crossing the Atlantic, or on other long voyages, a more efficient plan has been resorted to, by attaching an apparatus to the engine which pumps out brine from the bottom of the boiler, at the same time throwing in a quantity of clear water equal to what is abstracted. The degree of saturation is indicated by means of an attached thermometer: 218 degrees Fahr. being the boiling point of clean sea water in a steam engine boiler, a range is allowed from that to 227 degrees, which marks the limit of saturation admissible for a steam boiler to be worked with safety.—[Ath.]

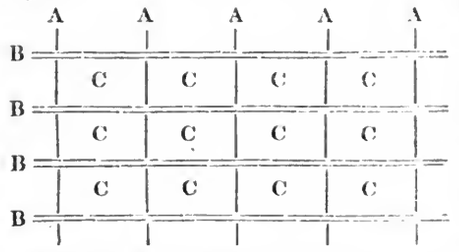
A New Invention in Road-making, with the Use of Timber. By JOHN HARTMAN. To the Editor of the American Railroad Journal.

SCOTTSVILLE, Albemarle Co., Va. July 1, 1833.

DEAR SIR,—Not having the pleasure of a personal acquaintance, but being assured by the Editor of the Virginia Farmer, that you will take pleasure in noticing an invention in road-making with the use of timber, which, thus far, is considered as very valuable, I take the liberty of asking your attention to it.

The plan is one which is capable of demonstration, and will be found valuable in timbered countries, particularly where stone is not plenty; and where it is, and timber is equally so, and interest is allowed on the difference of cost, I have no hesitation in saying, that the use of timber will be preferable, either for flat or hilly countries.

I will give you a rough diagram and description, and then say a word more upon the subject.



The lines A represent good locust, cedar, oak, or other timber, of 10 or 12 inches diameter, of lengths to suit the road, laid across it, say 8 or 10 feet apart, rough, for the rails B to lie on, which should be good lasting timber, of from 15 to 20 inches diameter, sawed through the centre, with the edges hewed off, leaving a surface of from 10 to 15 inches, (further experiment must prove which is best, a wide or narrow rail,) bedded, and pinned or bolted down upon the sills A, and, upon the out edge of each, spike on scantling, say three inches square, as guides for the wheels, or upon each edge of the rails or timbers B, forming a groove for the wheels. I however consider the first plan best; then fill up the spaces C level with, or rather above, the rails B, for the horses; the wheels, of course, to run upon the rails B. When two tracks are put down, the space between them must also be filled level, so as to admit waggons, stages, carriages, &c. to pass from one track to the other, when necessary, as no impediment will present itself but the scantling, and that only on one side, which would amount to nothing, nor would the occasional crossing of this scantling injure it, as it would rarely or ever occur twice in the same place.

You see it is quite a simple plan. I will mention some of the advantages it offers for a new road, over M'Adamized, and particularly on hill sides. In the construction of a new road there is no necessity for grubbing, low cutting is quite sufficient. These timbers are put down in the surface of the ground; then, by cutting a ditch on each side of the road, to obtain earth enough to fill up the horse path or way, between the rails, which should be well rammed, or packed down, by a machine just invented for that purpose.

The elevation given, and the fact that it must be kept in shape, or together, by the timbers, which, with the side drains, will guarantee a good road, even in a marsh, for it is a known fact that it is the wheels of carriages and waggons, and not the horses' feet, which are so destructive to roads, by following always the same track, hence the collecting of water in them, and mud-holes. On hill sides the plan will be admirable, requiring the hills only to be levelled, either by large rough stones, where they are found plenty, as they frequently are on mountains, or timber may be substituted on the lower side, with a little digging on the other. You have the frame level; the earth then taken out on the upper side of the rail, to carry the water off, will fill up the track for the horses, which gives a perfectly smooth road, with less labor and expense generally than would be necessary for a single track of common turnpike, and no fear of its cutting up or wasting away by every rain. The side rails you see will effectually prevent the water from washing the road; and you see the facilities this plan gives for crossing gullies, forming culverts, &c. A double track can be put down, depending upon the convenience and cost of timber, and filled with earth for from 8 to $1200 a mile, which is but little above the average cost of shaping or throwing up a road of earth alone, 20 feet wide. Bear in mind, too, that 15 feet is wide enough for this plan, whilst, to M'Adamize, it must be, for a double track, from 30 to 40, which forms a heavy item of the expense, and the delay in M'Adamizing should not be forgotten, for the earth must settle before the stone is put on it.

I wish you to give this an insertion in the Railroad Journal, with such remarks as you may think proper. I ask, however, to reply to any objections that may be started. We know, from experience, that the timbers will not *wear* out, and that they *must last* as long as in *railroads*. The design is for common waggons and carriages.

There is no doubt but it will be immediately tried upon a turnpike, connecting the James River at this place with Staunton in the Valley, a distance of 44 miles, instead of M'Adamizing. I have found in the last two weeks, in a journey to Washington City and Baltimore, that, without an exception, and amongst the number several of the most intelligent and practical men found there, including several superintendants of graduation and construction of the Baltimore and Ohio Railroad, and Cumberland roads, being practical engineers, and not an individual but had the very best opinion of it, or feared its not being very valuable for collateral roads. I have no doubt that it will prove a great acquisition to the internal improvement of our country, and give great facility for the speedy transportation of the mails in winter.

I have secured a patent right for the use of it, which I will dispose of to companies or individuals upon good terms.

It is thought generally that timbers will last better to have them burnt or charred, instead of taking the bark off.

Yours, most repectfully,

JOHN HARTMAN.

The Trial Chronometers at the Royal Observatory. [From the London Nautical Magazine.]

One of the first objects of peace in all civilized countries is the advancement of the arts and sciences; and of the numerous acquisitions which they have made in England during the last few years, the perfection of the chronometer is not the least important. The consequence and value of this machine to a country so "essentially maritime" as Great Britain, has justly obtained it the attention and patronage of Government; and for the last ten years its improvement has become the object of national reward. In fact, the sum of £500 has been annually expended with this design, in the purchase of the best chronometers that the country can produce. Previous to the year 1828 that sum had been divided into £300 and £200, for the purchase of the two best chronometers; but since that time it has been distributed among the three best, in the proportion of £200, £170, and £130, according to their respective qualities. We shall see that this measure has been attended with salutary effect, for, while it has encouraged the art of constructing the chronometer, it has secured the best of them for the use of the Royal Navy. It has also excited an honorable competition, which has been the means of bringing them to their present perfect condition: one which, until some fresh discovery takes place in their construction, does not seem likely to be surpassed. Another good effect has attended this measure on the part of government. Until the establishment of trial chronometers at the Royal Observatory, the public had no criterion to guide them in deciding on their merits, and consequently their proportional value. Until the absolute daily rates were published in their regular monthly forms, as they are found by comparison at the Observatory, the dark ages of the chronometer may be said to have prevailed: for a veil of darkness hung over the performance of this invaluable machine, and all was uncertainty and conjecture respecting it. The fame of a solitary one now and then broke through this spell, and we heard of its making the land to a mile; but this was considered a *rara avis*, and the owner of it fortunate in his possession. Even Government knew nothing about it, for it was not satisfactorily established what constituted a good chronometer. But, by the rigid trial which they undergo, the good were soon distinguished from the bad, and the state of the art in this country was quickly ascertained.

In 1822 the system of the trial chronometers at the Royal Observatory was established, and in order to ascertain the condition of the art, a reward of £300 and £200 was offered by the legislature for the two best chronometers. Notice was published, that any chronometers might be sent to the Royal Observatory, on trial, for the reward, provided that they were the property of the depositor, and that he was a chronometer maker by profession. As might be expected, chronometers rushed in from every quarter; for, on referring to the printed monthly reports of the Observatory, we find no less than thirty-one were deposited; and it is to be presumed, that those who sent them were their makers, whose names they severally bore.

The result of the first trial was, that, according to the method of deciding on their qualities, the trial number of one, Barraud's, No. 957, was 11,29 seconds, while that of Pennington, 155, was 12,87 seconds: results very different from those of the present day, but sufficient to show the condition of the art.

We will here take the opportunity of showing the method by which the merits of a chronometer are decided by what is termed its trial number: a method which we believe was proposed by the late Dr. Young, being

the result of an extensive mathematical reasoning.

The trial number is derived from the following formula; and the superiority assigned, accordingly, to the smallness of this number.

Put R=the greatest *mean monthly* rate, per diem.
r=the least do. do.
R′=the greatest daily rate in each month.
r'=the least do. do.
n=No. of months trial.
Make $(R'-r')=z$
And put z, z', z'', z''', &c., for each successive month. The Trial No. then is

$$2(R-r)+\frac{1}{n}\times(z, z', z'', z''',) \text{ &c.}$$

$$=2(R-r)+\frac{\Sigma(R'-r')}{n}$$ where Σ denotes the successive sums of z, z', z'' &c.

That is, by taking the difference of the greater and lesser mean monthly rate, and multiplying the same by 2, and adding thereto the mean of the monthly extreme variations.

EXAMPLE.

	Mean Rate	Extreme Variation.
1830, October	—0s,59	0s9
November	—0,54	2,1
December	—0,85	2,0
1831, January	—0,67	1,8
February	—0,58	1,1
March	—0,54	1,1
April	—0,31	1,2
May	—0,76	2,0
June	—0,95	1,3
July	—1,01	1,9
August	—0,82	1,4
September	—0,69	1,5
Mean		1,53
Greater rate in July		1s,01
Lesser do. in April		0, 31
Difference		0, 70
Difference × 2		1, 40
Mean of Extreme Variation		1, 53
Trial Number		2, 93

Thus instituted, the annual trials proceeded regularly at the Observatory; and at the commencement of the 6th trial, in July, 1827, a notice was given, that "No chronometer is to be entitled to the first premium if the trial number shall exceed six seconds, nor to the second if the trial number shall exceed ten seconds. This at once shows that it had been tolerably well ascertained what were the limits to be allowed to a good chronometer. We have seen that 11s,29 and 12s,87 had been the trial numbers of the two first best chronometers, and we now find it determined that six seconds was to be the trial number for the first prize; and that unless the second chronometer came within ten seconds, it was not to be entitled to a premium; both of which limits were within those of the best at the commencement.

In the trial of 1828, the distribution of the whole sum of £500, into three portions, took place in the manner we have before observed, and the trial numbers were respectively established as follows:

For the 1st premium of £200, not exceeding 5 seconds—2d, £170, not exceeding 6 seconds—3d, £130, not exceeding 7½; showing a reduction of one second in the trial number for the first premium—of four seconds in that for the second—and for the third, a number two and a half seconds less than that which had been first established for the second.

In November, 1831, at the commencement of the tenth annual trial, the limits of the trial numbers for obtaining the premiums were again reduced, and established as follows: For the 1st, not exceeding 3½ seconds—2d, not exceeding 4½ seconds—3d, not exceeding 6 seconds. Thus making the third rate chronometer as good as the second of the former trials; the trial number of the second within half a second of that of the first in the former trials; and the trial number of the first a second and a half less than the first of the preceding trials. This alone furnishes us with a tolerable criterion to judge of the state of the art in 1831, compared with what it was in 1821.

The tenth annual trial has just terminated, and we find a still further reduction in the trial numbers, which now stand as those established for the eleventh trial. They are as follows: For the 1st, not exceeding 2½ seconds—2d, not exceeding 3½ seconds—3d, not exceeding 4½ seconds; showing another reduction of one second on the two first, and a second and a half on the limits of the third trial number. It might be asked, can these limits be attained by a chronometer? To which we may reply, that they have been; and if the first should not be reached, Government will be no loser, as it will still have the best chronometer, and the maker will obtain a handsome reward.

We shall now lay before our readers the following table, showing the prize chronometers since the first establishment of the trials, the names of their makers, their trial numbers, and the number of chronometers deposited at the Observatory to compete for the prizes at the commencement, and the number left at the end, of each annual trial.

Year.	Premiums.	Makers' Names and Residences.	Number of Chronometer.	Trial Number.	Actual extreme variation in twelve months.	Extremes of Thermometer.	Number of Chronometers. Deposited for Trial.	Left at the end of the Trial.
1823.	First	Mr. Barraud, Cornhill	957	11s29	3.86	25 to 80	31	18
	Second	Mr. Pennington, Camberwell	154	12.87	5.13			
1824.	First	Mr. Murray, Cornhill	816	4.44	1.11	34 to 70	36	18
	Second	Mr. Cathie, Kirby street, Hatton Garden	1512	6.84	1.83			
1825.	First	Mr. Widenham, East street, Red Lion square	929	5.44	1.80	36 to 70	31	9
	Second	Mr. French, Royal Exchange	1640	6.12	1.85			
1826.	First	Mr. French, Royal Exchange	20-3912	2.62	0.61	25 to 82	48	13
	Second		975	3.46	0.99			
1827.	First	Messrs. M'Cabe & Strachan, Cornhill	167	4.68	1.50	29 to 79	59	16
	Second	Mr. Young, Islington	78	5.65	2.00			
1828.	First	Mr. Guy, Radnor street, City road	1410	4.41	1.41	35 to 78	58	25
	Second	Mr. Young, Islington	85	4.52	1.23			
1829.	First	Mr. Dent, 43 King street, Long Acre	114	2.27	0.54	29 to 73	79	26
	Second	Mr. Carter, Tooley street	131	3.80	0.79			
	Third	Mr. Molyneux, 44 Devonshire st., Queen Sqr.	943	4.00	1.28			
1830.	First	Mr. Baker, 6 Angel Terrace, Pentonville	865	3.59	0.98	28 to 80	57	23
	Second	Mr. Carter, Tooley street	137	4.04	1.09			
	Third	Mr. Murray, Cornhill	640	4.31	1.13			
1831.	First	Mr. Cotterell, 163 Oxford street	311	2.93	0.70	27 to 78	73	29
	Second	Mr. Frodsham, Change Alley	2	3.65	0.86			
	Third	Mr. Webster, 43 Cornhill	665	3.73	0.89			
1832.	First	Mr. Molyneux	1038	2.82	0.67	39 to 78	62	23
	Second	Mr. Young	110	2.97	0.82			
	Third	Mr. Webster	695	3.09	0.86			

A glance at the foregoing table will show the truth of our observation on setting out—that a degree of perfection has been attained in the construction of the chronometer, which is not likely to be surpassed until some further discovery be made in it. This must be directed to the balance-spring, and what is termed the "compensation" in the balance-wheel, or the allowance for change of temperature, in which the whole art of chronometer-making now lies. Mr. Arnold's escapement has rendered that part of the construction as complete as can be desired at present, although it is said not to be adopted by our neighbors, the French; and his new lever compensation is a material improvement on those of the circular construction, although the latter display a depth of ingenuity, and acquaintance with the principles of the art, which can only result from many years' application to it.

Many ingenious and highly interesting experiments have been made on these parts of the chronometer, with the view of leading to some discovery respecting them—an account of which we hope to give our readers in some future numbers of our work. Mr. Arnold has already had twelve chronometers deposited at the Royal Observatory, during the last six months, for the purposes of experiment, by the permission of the Lords Commissioners of the Admiralty; and as a proof of his zeal for bringing the chronometer to perfection, he is anxious to place the sum of £100 in the hands of a public board, to be the reward of any *practical* maker who will simplify and improve the performance of the machine.

[*From the Elizabethtown Journal.*]

EXTENSION OF THE ELIZABETHTOWN AND SOMERVILLE RAILROAD.

Luzerne Co. 10th May, 1833.

"I proceed to answer your inquiries, and give such information as I possess upon the several subjects to which you have directed my attention—as to bituminous coal. Formations of this coal are known to exist in Bradford county and Tioga county, but neither the extent nor the depth of the strata is yet ascertained. Wood abounding, the inhabitants of Bradford county have not sought this coal for fuel, and there being little demand for it, either domestic or foreign, interest, the prime mover of most things, was wanting to induce the investigation. No bed has, I believe, been regularly opened in Bradford county. In the north-east angle of Tioga county, some bituminous coal has been raised, under the influence of the wants of a part of western New-York, and towards which part of the public works of that State are now progressing. The nearest bituminous coal to Pitteton is distant about 70 miles, almost directly upon the waters of the Susquehanna, on the waters of the Tawanda creek, and at the northern base of Burnet's mountain.

"As to the communications extending still farther to the north and west, calculated to increase the amount of transportation or travel, upon the Susquehanna and Delaware Railroad, there are several authorized public works, extending from the line of the Susquehanna and Delaware Railroad at Pittston, and above it, necessarily tending to produce that effect; one is the Legget's Gap Railroad, a law for which passed at the session of our legislature previous to the last; the line of this road unites with

the Susquehanna and Delaware Railroad in the valley of the Lackawana, near Centreville, about 12 miles north-east of Pittston. From thence the proposed route of this road runs to the great bend of the Susquehanna, above Binghamton, about 50 miles. This would bring the Susquehanna at the great bend within 108 miles of the Delaware, at the water gap. I forward you a report made on this line in 1832, by Mr. Seymour, a competent engineer. From the point whence this strikes the Susquehanna at the great bend, a line of railroad may be run, at an easy grade of about three feet descent in a mile, to Binghamton. Here we meet with the Chenango canal, now authorized to be constructed at the expense of the State of New-York, a work of great magnitude and extent, penetrating into the heart of the empire State, and forming a connection with the Erie Canal. Our interest continues much higher up the north-east branch, which will be evident on an examination of a map of New-York; but I confine myself in this to the authorized or completed public works with which we are at once connected.

"Another extension of the Susquehanna and Delaware Railroad, bearing farther to the north-west, is the Susquehanna river Railroad. An act passed the legislature of Pennsylvania, at its last session, authorizing the governor to incorporate a company to construct a road along the margin of the Susquehanna, on the west side, from a short distance below Wilkesbarre, to the line of our State, near Tioga Point: thus virtually abandoning the North Branch Canal by the State, and establishing the head-quarters of the Pennsylvania works at the dam, on the Lackawana, a little above Pittston. For some of the many reasons for which the Susquehanna and Delaware Railroad ought to be made, this river railroad will be made; at least such is my decided belief. There are overruling interests, which, when understood, will secure the stock's being subscribed. This river line may be graded from Pittston to the State line, above Tioga, (about 86 miles,) at about two and a half feet elevation per mile. From this to Owego, (say 20 miles farther,) nearly equal facilities exist. Here would be a connection with the Owego and Ithaca Railroad, now nearly completed: and the communication would be extended from thence by the Cayuga lake, to an intersection with the Erie Canal, forming a splendid line of works, penetrating the very centre and the most beautiful part of the State of New-York—a connection of itself of sufficient importance to command the admiration of every friend to the improvement of our common country. Proceeding still farther up the north-east branch of the Susquehanna, a railroad may be graded with nearly equal facility to Binghamton, at the entrance of the Chenango canal—forming an available connection with that improvement, in case the shorter route by the Legget's Gap Railroad should be delayed or fail in its execution.

"Returning to Tioga Point, we find the same facilities for a more western extension. Ascending the Chemung or Tioga river, (the north-western branch of the Susquehanna,) with a little higher grade, but on the finest ground for a railroad, at about 20 miles from the Tioga Point, we reach Newtown. Here we meet with the Newtown or Elmira canal, connected with the Crooked Lake canal, and also with the Seneca lake, and come in connection for the third time with the Erie canal.

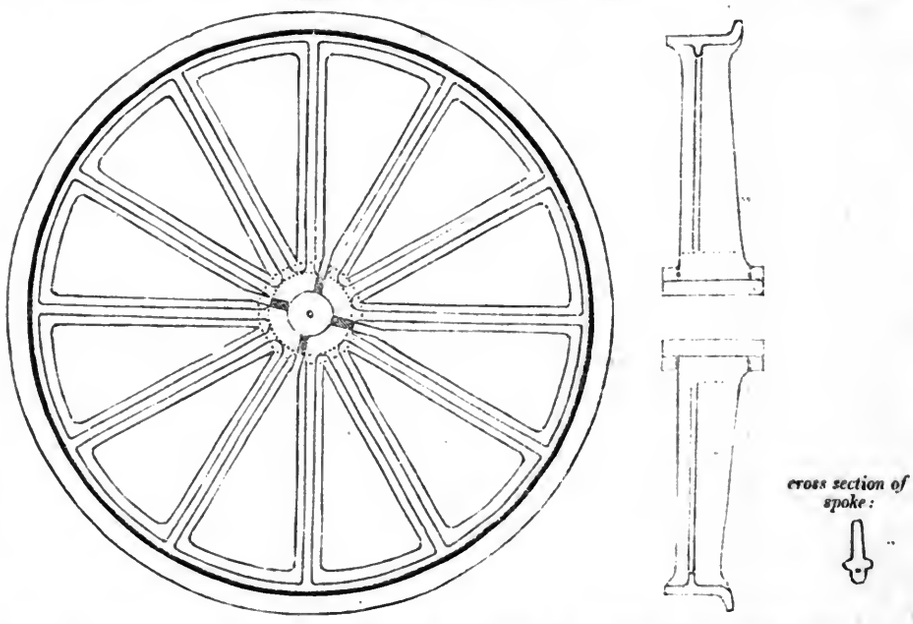
"From Newtown, a canal is about being extended still farther up the Tioga river, intended, as I understand, to facilitate the transportation of bituminous coal, from the deposites south of the Pennsylvanian line to the western part of the State of New-York.

"From Pittston to Tioga Point, from Tioga Point to Owego and Binghamton, and from Tioga Point to Newtown, the grade is so easy, that on a well-constructed railroad, with locomotive power, a few hours travel would connect these points. Tioga Point I have always looked upon as the key of nearly all western New-York. And I have ever believed the natural, as well as artificial, communications connected with this point, destined in the progress of events to bring into and lead through Pennsylvania a great part of the rich products of their most fertile region.

"An early connection of the Susquehanna and Delaware Railroad with Tioga Point, by means of the Legget's Gap or river railroad, would enable it to take charge of a great portion of the Susquehanna trade, to the Delaware at least, and a great portion of it would pass on through New-Jersey to the city of New-York. This trade will probably treble in amount on the completion of these communications. In passing the eye over the map of western New-York, from Tioga Point, no intelligent observer can, I think, fail to be convinced, that to that point all the products of a wide range of fertile and populous territory must surely come, and that if all or any of these are ever to find their way to their own great commercial capital, they must do so by the Pittston, Water Gap, Belvidere, and Elizabethtown Railroads.

"Little has yet been said of the public travel, and of the revenue to be derived from passengers. This item, under present prospects, ought surely to be taken into view. Will not this line of communication, by the Elizabethtown and Somerville, and Susquehanna and Delaware Railroads, if extended, as it is now pretty evident it will be extended, by a continued line of railroad into western New-York, surpass all other routes for the accommodation of travel, and become the most desirable line for passengers, from the city of New-York and the New-England sea-board, to the Falls of Niagara, to Lake Erie, and to the whole western region?

"On this subject we may, I think, with confidence appeal to facts, unchangeable in their nature, and ask those who would consider this line of railroad, with a view to test its merits, to examine the maps, and particularly a map of western New-York, as a map more particularly showing the whole line, the large map of New-Jersey, &c. &c. This, with the facts made known by the Pennsylvania engineers, relative to the north branch of the Susquehanna river, the plan and facilities of the authorized improvements, the report of Captain Beach on the Susquehanna and Delaware Railroad, the accompanying statements of the Commissioners, and the report of the engineers upon the line from Belvidere, via Clinton, Somerville, and Elizabethtown, to New-York, will afford a view of the outline of this interesting project, from which I think its merits cannot fail to be duly appreciated. H. W. D.



Improved Wheel for Railroad Waggons. By J. B. Jervis. To the Editor of the American Railroad Journal.

Utica, July 2, 1833.

Sir,—The annexed drawing is a copy of the plan of a railroad waggon wheel, which I made last year for the Saratoga and Schenectady Railroad Company. The several views given in the drawing will sufficiently explain the plan.

The great importance of obtaining the most perfect plan of a cast iron wheel for railroad waggons will, I presume, render any apology for introducing this subject to your notice unnecessary.

Lightness, a good chill for hardening the face of the rim and flange with adequate strength, all judiciously combined, constitute the important requisites of a good wheel. The broad form required for the track of the rim renders it impracticable to give the metal the best form for strength to resist pressure in the direction to which it is exposed; and the lateral strain to which the wheel is exposed, requires the spokes to be made very broad in proportion to the quantity of metal they contain, which is unfavorable for strength to resist the vertical strain. The plan generally adopted has been to rely on giving thickness to these parts.

The economy of cast iron wheels, over all that have been sufficiently tested, renders it important to obtain the greatest practicable perfection in their construction. In the plan I first made for the Mohawk and Hudson Railroad Company, the rim and spokes were made on the plan annexed, with the exception of the feather, and a trifling variation in the flange. The wheels carried each from three-fourths to seven-eighths of a ton, and were run at a speed of from ten to twenty miles per hour. At high speed they occasionally failed, but proved to be a safe wheel at ten miles per hour. They were run at an average speed of fourteen miles per hour, which in the course of one year broke about 25 per cent. of the stock. I mention this to show the comparative superiority of the new plan in point of strength, while the only essential variation is in the feather on the spokes, and on the underside of the rim. This addition, so important to the strength, has increased the weight of the wheel from 255 lbs. to 275 lbs., making only 20 lbs. dif-

ference. This plan has been adopted for all the wheels on the Saratoga Railroad, and all the wheels subsequently obtained for the Mohawk and Hudson Railroad have been on the same plan. A few have recently been procured on the Mohawk and Hudson, which are a modification of this plan, and which experience may prove advantageous. They have been nearly a year in use on both roads, and not a single wheel in the passenger carriages have failed. An imperfect wheel in a tender waggon broke, which is the only instance of failure on this plan. The test they have undergone has proved, I think, satisfactorily, that they are a safe wheel for the load before mentioned, moving at a speed of fifteen miles per hour. They have often been run under that load at a speed of twenty miles, and in some instances at twenty-five miles per hour. Experience has shown that when a speed of fifteen miles per hour is taken as the general rate of travelling, it will frequently happen that a velocity of twenty miles will be made. In providing strength it is therefore necessary to keep this in view.

The diameter of the wheel is three feet. I made a plan of a wheel two and a half feet in diameter, in which the feather was adopted for the Rochester Railroad Company. They have had the wheels in use nearly one year, and, though the planw as quite light, no instance of failure has occurred.

Should further experience confirm what has thus far proved highly favorable, it will hardly be necessary to resort to the more expensive plans of wood and wrought iron for wheels, when an average speed of fifteen miles per hour will be adequate to the demands of the business to be done; and which may be taken in general as a fair business calculation.

On a railroad judiciously located and constructed, a locomotive steam engine may move at this speed with ease, safety, and economy. With proper attention it will be easily kept in order for regular work.

Respectfully, your obedient servant,

JOHN B. JERVIS.

P. S.—The new Locomotive for the Saratoga and Schenectady road is at work, and in a few days you may expect from me some account, according to promise. In the mean time, I hope you will not publish any of the irresponsible notices that may be made of it.

On the Protection of Timber when used in Railways. By J. L. SULLIVAN. To the Editor of the American Railroad Journal.

SIR,—The objections of "Mercator" to a method I suggested of protecting timber when used in railways are obviated by merely giving the true explanation of the accidents he adduces in doubt of its efficacy. If he should suggest a better method, and will advocate it under his proper signature, it will certainly be very acceptable.

The explanation of the decay of the sleepers of the "Arcade," in seven years instead of forty, is that they were not only in an *unventilated* place, but in contact with green mortar of *common lime*. Now, as my suggestion was not the use of common lime alone, no more need to be said: but this would not be sufficiently satisfactory to one so indiscriminating. The use of lime in making mortar always supposes the progressive process of re-crystalization, which takes a long time—(in ancient Rome, mortar was notused until two yearsold,)—and *during this process it attracts moisture from the atmosphere:* and, of course,would impart moisture to any dryer substance in contact with it, so that it must be bad building to surround the end of a sleeper with it.

Common lime was proposed in my specification to be used only in combination with a resinous substance, pitch, or tar, for the purpose of forming a hard adhesive defence. Nor was it theory alone, but practice in other arts, that suggested it in this. It is not indeed usual, but I have known this mixture used between the sheathing and bottom of vessels, where it makes at first a very soft, but afterwards a very hard coat, when the lime, taking up the water in the tar, becomes re-crystalized. Hence I supposed it would have the same properties in any other situation. It is thus from analogy and principle that improvements are always suggested *before trial;* indeed, there is no time for *trial* of things that *time alone* can try. The *test* has been in the experience of analogous circumstances.

The method also proposed the use of hydraulic lime and fragments of stone to form a defence of the post at and near the surface of the ground, or a little below and above it. Now it is well known that *this lime recrystalizes quickly—that is, it sets* in about a fortnight. But if it were, as "Mercator" suggests, rolled up in a ball and placed in a plate of water, it is probable it would, while green, absorb among its particles some water. In building walls of locks, the water is not let in till the mortar has had time to set. Why, then, should it not set among fragments around a post?

He says that Roman cement and pitch will absorb water by "capillary attraction." This is rather absurd, and actually contrary to experience. We line cisterns with Roman cement; and pitch would be of no use on the bottom of vessels, if it *transmitted* water. These effects cannot take place in this way, because neither of them are of fibrous texture.

How then shall we account for the short duration of pitch on the bottoms of vessels? It will not adhere to them at all, unless the surface be dry. It may not be perfectly so, unless the vessel is a new one; and in time the planks become water-soaked or damp from the inside, and the pitch may thus be gradually dislodged by the interposition of wetness; or, it may be supposed to be *worn off by the friction* of the water the vessel glides through, while the pitch on her upper works remains firm.

Let us then suppose a railway resting on posts deep enough set not to be hove by frost, and the top first covered with a water-proof cement and capped with the rail-bearer, and defended at the surface of the ground in the above mentioned manner, or, perhaps still better, by the use of the *mineral fusible cement*,—can it be doubted that the posts would not last longer than if this precaution were not taken?

Do we not thus prevent one of the causes that must combine to hasten decay in that part?

It is true, the post will, in the ground, be in a damp situation, but its *lower part is cooler* than at the surface; and any natural wetness in the timber either evaporates above, or settles down to the bottom of it. If, by a good choice of wood, and a little care, we make the posts last three or four times as long as otherwise, it is no small advantage. Cedar or locust are expensive and not always at command; and even these will, with precaution, retain size and strength.

The use of posts as a support was also intended to allow the *bearing timbers to be raised* so much from the ground that the air would circulate freely under them, and the water run off. For the common practice of laying these timbers on embedded cross-sleepers *brings them in contact* with the ground, and hastens decay, besides other disadvantages of this mode of foundation, liable to arise from unequal resistance in a bed of earth soft in the spring of the year.

Perhaps it was for these and like considerations, that Maj. Douglass recommended, in his report and estimate for the Jamaica Railway, the use of *posts*. He did not, indeed, suggest precautions at the surface, because, perhaps, as locust abounds or cedar can be had cheap, it was not thought necessary. It is likely that when this kind of timber is used, and a pile-driver employed to set them in two rows, this will be deemed better practice than cross-sleepers.

Your correspondent asks for practical results: he may have yet to learn that improvements, of much more pretensions than this, often wait a long time for the public attention and favor, till those who are most interested feel the want and seek the remedy.

If it be true that, in this country, where timber is cheap and iron dear, (the very reverse of the case in England,) we must in some situations have timber railways, then, to make them durable and to *avoid the causes of premature decay*, especially, will be for the interest of stockholders and the public.

J. L. SULLIVAN.

VOCAL CLOCK.—"On Monday, April 27, 1762," says Wesley in his Journal, "being at Lurgan, in Ireland, I embraced the opportunity which I had long desired, of talking with Mr. Miller, the contriver of that statue, which was in Lurgan when I was there before. It was the figure of an old man standing in a case, with a curtain drawn before him, over against a clock, which stood on the opposite side of the room. Every time the clock struck he opened the door with one hand, drew back the curtain with the other, turned his head, as if looking round on the company, and then said with a clear, loud, articulate voice, "past one," or "two," or "three," and so on. But so many came to see this (the like of which all allowed was not to be seen in Europe), that Mr. Miller was in danger of being ruined, not having time to attend to his own business. So as none offered to purchase it, or reward him for his pains, he took the whole machine to pieces."

USEFUL DISCOVERY.—A machine has been invented and put in operation, in Philadelphia, for napping hats by steam. The editor of the Philadelphia Inquirer recently witnessed the performance of this machine in a hat manufactory, and speaks in high terms of its capabilities. The beauty and superiority of the work are at once admitted by all who have examined it. It is not stated whether or not the process is more rapid than by the old method; but it is held to turn out a much better article, as the napping process requires very hot water, and steam applied to the same purpose may be many degrees hotter than boiling water. The invention is thought to be a very useful one.

Memoir of the Life of Eli Whitney. [From the American Journal of Science and Arts.]

Eli Whitney was born in Westborough, Worcester county, Massachusetts, December 8, 1765. The paternal ancestors of Mr. Whitney emigrated from England among the early settlers of Massachusetts, and their descendants were among the most respectable farmers of Worcester county. His maternal ancestors, of the name of Fay, were also English emigrants, and ranked among the substantial yeomanry of Massachusetts. A family tradition respecting the occasion of their coming to this country may serve to illustrate the history of the times. The story is, that about two hundred years ago, the father of the family, who resided in England, a man of large property and great respectability, called together his five sons, and addressed them thus: "America is to be a great country: I am too old to emigrate to it myself, but, if any of you will go, I will give him a double share of my property." The youngest son instantly declared his willingness to go, and his brothers gave their consent. He soon set off for the New World, and landed at Boston, in the neighborhood of which place he purchased a large tract of land, where he enjoyed the satisfaction of receiving two visits from his venerable father.

Indications of Eli's mechanical genius were developed at a very early age. Of his early passion for such employments his sister gives the following account: "Our father had a work-shop, and sometimes made wheels of different kinds, and chairs. He had a variety of tools, and a lathe for turning chair-posts. This gave my brother an opportunity of learning the use of tools when very young. He lost no time, but as soon as he could handle tools he was always making something in the shop, and seemed not to like working on the farm. On a time, after the death of our mother, when our father had been absent from home two or three days, on his return he inquired of the housekeeper what the boys had been doing? She told him what B. and J. had been about. But what has Eli been doing? said he. She replied, he had been making a fiddle. 'Ah!' (added he despondingly,) 'I fear Eli will have to take his portion in fiddles.' He was at this time about twelve years old. His sister adds, that his fiddle was finished throughout, like a common violin, and made tolerably good music. It was examined by many persons, and all pronounced it to be a remarkable piece of work for such a boy to perform. From this time he was employed to repair violins, and had many nice jobs, which were always executed to the entire satisfaction, and often to the astonishment, of his customers. His father's watch being the greatest piece of mechanism that had yet presented itself to his observation, he was extremely desirous of examining its interior construction, but was not permitted to do so. On Sunday morning, observing that his father was going to meeting, and would leave at home the wonderful little machine, he immediately feigned illness as an apology for not going to church. As soon as the family were out of sight, he flew to the room where the watch hung, and, taking it down, he was so delighted with its motions, that he took it all in pieces before he thought of the consequences of his rash deed; for his father was a stern parent, and punishment would have been the reward of his idle curiosity had the mischief been detected. He, however, put the work all so neatly together, that his father never discovered his audacity until he himself told him many years afterwards."

When Whitney was fifteen or sixteen years of age, he suggested to his father an enterprize which was an earnest of the similar undertakings in which he engaged on a far greater scale in later life. This being the time of the Revolutionary War, nails were in great demand, and bore a high price. At that period nails were made chiefly by hand, with little aid from machinery. Young Whitney proposed to his father to procure for him a few tools, and to permit him to set up the manufacture. His father consented, and he went steadily to work, and suffered nothing to divert him from his task until his day's work was completed. By extraordinary diligence he gained time to make tools for his own use, and to put in knife blades, and to perform many other curious little jobs, which exceeded the skill of the country artisans. At this laborious occupation the enterprising boy wrought alone, with great success, and with much profit to his father, for two winters—pursuing the ordinary labors of the farm during the summers. At this time he devised a plan for enlarging his business and increasing his profits. He whispered his scheme to his sister, with strong injunctions of secrecy; and requesting leave of his father to go to a neighboring town, without specifying his object, he set out on horseback in quest of a fellow laborer. Not finding one so easily as he had anticipated, he proceeded from town to town, with a perseverance which was always a strong trait of his character, until, at the distance of forty miles from home, he found such a workman as he desired. He also made his journey subservient to his improvement in mechanical skill, for he called at every work-shop on his way, and gleaned all the information he could respecting the mechanic art.

At the close of the war the business of making nails was no longer profitable; but a fashion prevailing among the ladies of fastening on their bonnets with long pins, he contrived to make those with such skill and dexterity that he nearly monopolized the business, although he devoted to it only such seasons of leisure as he could redeem from the occupations of the farm, to which he now principally betook himself. He added to this article the manufacture of walking canes, which he made with peculiar neatness.

In respect to his proficiency in learning, while young, we are informed that he early manifested a fondness for figures, and an uncommon aptitude for arithmetical calculations, though, in the other rudiments of education, he was not particularly distinguished. Yet, at the age of fourteen he had acquired so much general information as to be regarded, on this account, as well as on account of his mechanical skill, as a very remarkable boy.

From the age of nineteen, young Whitney conceived the idea of obtaining a liberal education; but being warmly opposed by his step-mother, he was unable to procure the decided consent of his father until he had reached the age of twenty-three years But partly by the avails of his manual labor, and partly by teaching a village school, he had been so far able to surmount the obstacles thrown in his way, that he had prepared himself for the Freshman class in Yale College, which he entered in May, 1789. As we are soon to accompany Mr. Whitney beyond the sphere of his domestic relations, we may mention here that he finished his collegiate education with little expense to his father. His last college bills were indeed paid by him, but the money was considered as a loan, and for it the son gave his note, which he afterwards duly cancelled. After the decease of his father he took an active part in the settlement of his estate, but generously relinquished all his parsimony, for the benefit of the other members of the family.

The propensity of Mr. Whitney to mechanical inventions and occupations was frequently apparent during his residence at college. On a particular occasion, one of the tutors happening to mention some interesting philosophical experiment, regretted that he could not exhibit it to his pupils, because the apparatus was out of order, and must be sent abroad to be repaired. Mr. Whitney proposed to undertake this task, and performed it greatly to the satisfaction of the Faculty of the College.

A carpenter being at work upon one of the buildings of the gentleman with whom Mr. Whitney boarded, the latter begged permission to use his tools during the intervals of study; but the mechanic being a man of careful habits, was unwilling to trust them with a student, and it was only after the gentleman of the house had become responsible for all damages, that he would grant the permission. But Mr. Whitney had no sooner commenced his operations than the carpenter was surprised at his dexterity, and exclaimed, "there was one good mechanic spoiled when you went to college."

Soon after Mr. Whitney took his degree, in the autumn of 1792, he entered into an engagement with a Mr. B. of Georgia, to reside in his family as a private teacher. Mr. Whitney had scarcely set his foot in Georgia, however, before he was met by a disappointment which was an earnest of that long series of adverse events which, with scarcely an exception, attended all his future negociations in the same State. On his arrival he was informed that Mr. B. had employed another teacher, leaving Whitney entirely without resources, and without friends, except in the family of General Greene, of Mulberry Grove, near Savannah, with whom he had accidentally formed an acquaintance in his journey into Georgia. In these benevolent people, however, his case excited much interest, and Mrs. Greene kindly said to him, 'My young friend, you propose studying the law; make my house your home—your room, your castle—and there pursue what studies you please.' He accordingly commenced the study of law under that hospitable roof.

Mrs. Greene was engaged in a piece of embroidery, in which she employed a peculiar kind of frame called a *tambour*. She complained that it was badly constructed, and that it tore the delicate threads of her work. Mr. Whitney, eager for an opportunity to oblige his hostess, set himself at work, and speedily produced a tambour frame made on a plan entirely new, which he presented to her. Mrs. Greene and her family were greatly delighted with it, and thought it a wonderful proof of ingenuity.

Not long afterwards, a large party of gen-

tlemen came from Augusta and the upper country, to visit the family of Gen. Greene, consisting principally of officers who had served under the General in the Revolutionary army. Among the number were Major Brennen, Major Forsyth, and Major Pendleton. They fell into conversation upon the state of agriculture among them, and expressed great regret that there was no means of cleaning the green seed cotton, or separating it from its seed, since all the lands which were unsuitable for the cultivation of rice would yield large crops of cotton. But until ingenuity could devise some machine which would greatly facilitate the process of cleaning, it was in vain to think of raising cotton for market. Separating one pound of the clean staple from the seed was a day's work for a woman; but the time usually devoted to picking cotton was the evening, after the labor of the field was over. Then the slaves, men, women, and children, were collected in circles, with one, whose duty it was to rouse the dozing and quicken the indolent. While the company were engaged in this conversation, "Gentlemen," said Mrs. Greene, "apply to my young friend, Mr. Whitney—he can make any thing." Upon which she conducted them into a neighboring room, and showed them her tambour frame, and a number of toys which Mr. Whitney had made, or repaired, for the children. She then introduced the gentlemen to Whitney himself, extolling his genius, and commending him to their friendship. He modestly disclaimed all pretensions to mechanical genius; and when they named their object, he replied that he had never seen cotton or cotton seed in his life. Mrs. G. said to one of the gentlemen, "I have accomplished my aim. Mr. Whitney is a very deserving young man, and to bring him into notice was my object. The interest which our friends now feel for him, will, I hope, lead to his getting some employment to enable him to prosecute the study of the law."

But a new turn, that no one of the company dreamed of, had been given to Mr. Whitney's views. It being out of season for cotton in the seed, he went to Savannah, and searched among the warehouses and boats until he found a small parcel of it. This he carried home, and communicated his intentions to Mr. Miller, who warmly encouraged him, and assigned him a room in the basement of the house, where he set himself at work with such rude materials and instruments as a Georgia plantation afforded. With these resources, however, he made tools better suited to his purpose, and drew his own wire, (of which the teeth of the earliest gins were made,) an article which was not at that time to be found in the market of Savannah. Mrs. Greene and Mr. Miller were the only persons ever admitted to his work-shop, and the only persons who knew in what way he was employing himself. The many hours he spent in his mysterious pursuits afforded matter of great curiosity, and often of raillery, to the younger members of the family. Near the close of the winter the machine was so nearly completed as to leave no doubt of its success.

Mrs. Greene was eager to communicate to her numerous friends the knowledge of this important invention, peculiarly important at that time, because then the market was glutted with all those articles which were suited to the climate and soil of Georgia, and nothing could be found to give occupation to the negroes, and support to the white inhabitants. This opened suddenly to the planters boundless resources of wealth, and rendered the occupations of the slaves less unhealthy and laborious than they had been before.

Mrs. Greene, therefore, invited to her house gentlemen from different parts of the State, and, on the first day after they had assembled, she conducted them to a temporary building, which had been erected for the machine, and they saw, with astonishment and delight, that more cotton could be separated from the seed in one day, by the labor of a single hand, than could be done in the usual manner in the space of many months.

The individual, however, who contributed most to incite Whitney to persevere in the undertaking was *Phineas Miller*, Esq. Mr. Miller was a native of Connecticut, and a graduate of Yale College. Like Mr. Whitney, soon after he had completed his education at college, he came to Georgia as a private teacher, in the family of General Greene, and after the decease of the General, he became the husband of Mrs. Greene. He had qualified himself for the profession of law, and was a gentleman of cultivated mind and superior talents; but he was of an ardent temperament, and therefore well fitted to enter with zeal into the views which the genius of his friend had laid open to him. He had also considerable funds at command, and proposed to Mr. Whitney to become his joint adventurer, and to be at the whole expense of maturing the invention until it should be patented. If the machine should succeed in its intended operation, the parties agreed, under legal formalities, "that the profits and advantages arising therefrom, as well as all privileges and emoluments to be derived from patenting, making, vending, and working the same, should be mutually and equally shared between them." This instrument bears date May 27, 1793, and immediately afterwards they commenced business under the firm of *Miller & Whitney*.

An invention so important to the agricultural interest (and, as it has proved, to every department of human industry,) could not long remain a secret. The knowledge of it soon spread through the State, and so great was the excitement on the subject, that multitudes of persons came from all quarters of the State to see the machine; but it was not deemed safe to gratify their curiosity until the patent right had been secured. But so determined were some of the populace to possess this treasure, that neither law nor justice could restrain them; they broke open the building by night and carried off the machine. In this way the public became possessed of the invention; and before Mr. Whitney could complete his model and secure his patent, a number of machines were in successful operation, constructed with some slight deviation from the original, with the hope of evading the penalty for violating the patent-right.

As soon as the copartnership of Miller & Whitney was formed, Mr. Whitney repaired to Connecticut, where, as far as possible, he was to perfect the machine, obtain a patent, and manufacture, and ship for Georgia, such a number of machines as would supply the demand.

His return to Georgia was, however, delayed until April. The importunity of Mr. Miller's letters, written during the preceding period, urging him to come on, evinces how eager the Georgia planters were to enter the new field of enterprize which the genius of Whitney had laid open to them.

"Do not let a deficiency of money, do not let any thing, (says Mr. Miller,) hinder the speedy construction of the Gins. The people of the country are almost running mad for them, and much can be said to justify their importunity."

The general resort of the planters to the cultivation of cotton, and its consequent production in vast quantities, the value of which depended entirely upon the chance of getting it cleaned by the gin, created great uneasiness, which first displayed itself in this pressure upon Miller and Whitney, and afterwards afforded great encouragement to marauders upon the patent right, who were now becoming numerous and audacious.

The *roller gin* was at first the most formidable competitor with Whitney's machine. It extricated the seeds by means of rollers, crushing them between revolving cylinders, instead of disengaging them by means of teeth. The fragments of seeds which remained in the cotton, rendered its execution much inferior in this respect to Whitney's gin, and it was also much slower in its operation.

But a still more formidable rival appeared early in the year 1795, under the name of the *Saw Gin*. It was Whitney's gin, except that the teeth were cut in circular rims of iron, instead of being made of wires, as was the case in the earlier forms of the patent gin. The idea of such teeth had early occurred to Mr. Whitney, as he afterwards established by legal proof. But they would have been of no use except in connection with the other parts of his machine; and, therefore this was a palpable attempt to evade the patent right, and it was principally in reference to this that the law-suits were afterwards held.

In March, 1795, in the midst of these perplexities and discouragements, Mr. Whitney went to New-York on business, and was detained there three weeks by an attack of fever and ague, the seeds of which had been sown the previous season in Georgia. As soon as he was able to leave the house, he embarked on board a packet for New-Haven. On his arrival at this place, he was suffering under one of those chills which precede the fever. As was usual on the arrival of the packet, people came on board to welcome their friends, and to exchange salutations, when Mr. Whitney was informed that, on the preceding day, his shop, with all his machines and papers, had been consumed by fire. Thus suddenly was he reduced to absolute bankruptcy, having debts to the amount of four thousand dollars, without any means of making payment. Mr. Whitney, however, had not a spirit to despond under difficulties and disappointments, but was aroused by them to still more vigorous efforts.

Mr. Miller also, on hearing of this catastrophe, manifested a kindred spirit. The letters written by Mr. Whitney on the occasion we have not been able to obtain: but the reply of Mr. Miller indicates what were the feelings of both parties. It may be of service to enterprising young men, who meet with misfortunes, to read an extract or two:

"I think with you (says Mr. M.), that we ought to meet such events with equanimity. We have been pursuing a valuable object by honorable means; and I trust that all our measures have been such as reason and virtue must justify. It has pleased Providence

to postpone the attainment of this object. In the midst of the reflections which your story has suggested, and with feelings keenly awake to the heavy, the extensive injury we have sustained, I feel a secret joy and satisfaction that you possess a mind in this respect similar to my own—that you are not disheartened—that you do not relinquish the pursuit—and that you will persevere and endeavor, at all events, to attain the main object. This is exactly consonant to my own determinations. I will devote all my time, all my thoughts, all my exertions, and all the money I can earn or borrow, to encompass and complete the business we have undertaken; and if fortune should, by any future disaster, deny us the boon we ask, we will at least deserve it. It shall never be said that we have lost an object which a little perseverance could have attained. I think, indeed, it will be very extraordinary, if two young men in the prime of life, with some share of ingenuity, with a little knowledge of the world, a great deal of industry, and a considerable command of property, should not be able to sustain such a stroke of misfortunes as this, heavy as it is."

While struggling with these multiplied misfortunes, intelligence was received from England, which threatened to give a final blow to all their hopes. It was, that the English manufacturers condemned the cotton cleaned by their machines, on the ground that the staple was greatly injured.

At this time (1796) Miller and Whitney had thirty gins at eight different places in the State of Georgia, some of which were carried by horses or oxen, and some by water. A number of these were standing still for want of the means of supplying them. The company had also invested about $10,000 in real estate, which was suited only to the purposes of ginning cotton. All things now conspired to threaten them with deep insolvency.

We have before us a letter written by Mr. Whitney, dated Oct. 7th, 1797, from which it will be seen what was the state of his affairs, and of his feelings, at this period: "The extreme embarrassments (says he) which have been for a long time accumulating upon me, are now become so great that it will be impossible for me to struggle against them many days longer. It has required my utmost exertions to exist, without making the least progress in our business. I have labored hard against the strong current of disappointment, which has been threatening to carry us down the cataract, but I have labored with a shattered oar, and struggled in vain, unless some speedy relief is obtained."

However, brighter prospects seemed now to be opening upon them, from the more favorable reports that were made respecting the quality of their cotton. Respectable manufacturers, both at home and abroad, gave favorable certificates; and retailing merchants sought for the cotton cleaned by Whitney's gin, because it was greatly preferred by their customers to any other in the market. This favorable turn in public opinion would have restored prosperity to the company, had not the encroachments on their patent right become so extensive as almost to annihilate its value.

In April, 1799, Mr. Miller writes as follows: "The prospect of making any thing by ginning in this State is at an end. Surreptitious gins are erected in every part of the country; and the jurymen at Augusta have come to an understanding among themselves, that they will never give a cause in our favor, let the merits of the case be as they may."

Many of the planters of South Carolina having expressed an opinion, that, if an application were made to their legislature by the citizens to purchase the right of the patentees for that State, there was no doubt that it would be done to the satisfaction of all parties. Accordingly Mr. Whitney repaired to Columbia, taking the city of Washington in his way, where he was furnished with very obliging letters from President Jefferson and Mr. Madison, then Secretary of State: testimonials which, no doubt, were of great service to him in his subsequent negociations. Soon after the opening of the session of the legislature in the month of December, 1801, the business was regularly brought before the legislature, and a joint committee of both Houses appointed to treat with the patentees.

We subjoin an extract of a letter addressed at this time by Mr. Whitney to his friend Stebbins, both as a statement of the particulars relating to the contract, and as evincive of the feelings of the writer:

"Columbia, S.C., Dec. 20, 1801.

"Dear Stebbins,—I have been at this place a little more than two weeks, attending the legislature. They closed their session at ten o'clock last evening. A few hours previous to their adjournment, they voted to purchase, for the State of South Carolina, my patent right to the machine for cleaning cotton at fifty thousand dollars, of which sum twenty thousand is to be paid in hand, and the remainder in three annual payments of ten thousand dollars each. This is selling the right at a great sacrifice. If a regular course of law had been pursued, from two to three hundred thousand dollars would undoubtedly have been recovered. The use of the machine here is amazingly extensive, and the value of it beyond all calculation. It may, without exaggeration, be said to have raised the value of seven-eighths of all the three southern States from fifty to one hundred per cent. We get but a song for it in comparison with the worth of the thing; but it is securing something. It will enable Miller and Whitney to pay all their debts, and divide something between them. It establishes a precedent, which will be valuable as it respects our collections in other States, and I think there is now a fair prospect that I shall in the event realize property enough to render me comfortable, and in some measure independent."

In December, 1802, Mr. Whitney negociated a sale of his patent right with the State of North Carolina. The legislature laid a tax of two shillings and sixpence upon every saw* employed in ginning cotton, to be continued for five years, which sum was to be collected by the sheriffs in the same manner as the public taxes; and after deducting the expenses of collection, the avails were faithfully paid over to the patentee. At that time the culture of cotton had made comparatively little progress in the State of North Carolina, but in proportion to the amount of interest concerned, this compensation was regarded by Mr. Whitney as more liberal than that received from any other source.

While these encouraging prospects were rising in North Carolina, Mr. Goodrich, an agent of the company, was entering into a similar negociation with the State of Tennessee. The importance of the machine began to be universally acknowledged in that State, and various public meetings of the citizens were held, in which were adopted resolutions strongly in favor of a public contract with Miller and Whitney. Accordingly the legislature of Tennessee, at their session in 1804, passed an act laying a tax of thirty-seven and a half cents per annum on every saw for the period of four years.

But while a fairer day seemed dawning upon the company in this quarter, an unexpected and threatening cloud was rising in another. It was during Mr. Whitney's negociation with the legislature of North Carolina that he received intelligence that the legislature of South Carolina had annulled the contract made with Miller and Whitney the preceding year, had suspended payment of the balance (thirty thousand dollars) due them, and instituted a suit for the recovery of what had already been paid to them.

The ostensible causes of this extraordinary measure, adopted by the legislature of South Carolina, were a distrust of the validity of the patent right, and failure on the part of the patentees to perform certain conditions agreed on in the contract. Great exertions had constantly been made in Georgia to impress the public with the notion that Mr. Whitney was not the original inventor of the cotton gin, somebody in Switzerland having conceived the idea of it before him; and especially that he was not entitled to the credit of the invention in its improved form, in which saws were used instead of wire teeth, inasmuch as his particular form of the machine was introduced by one Hodgin Holmes. It was on these grounds that the Governor of Georgia, in his message to the legislature of that State in 1803, urged the inexpediency of granting any thing to Miller and Whitney.

Popular feeling, stimulated by the most sordid motives, was now awakened throughout all the cotton-growing States. Tennessee followed the example of South Carolina in suspending the payment of the tax laid upon cotton gins, and a similar attempt was made at a subsequent session of the legislature of North Carolina, but it wholly failed, and the report of a committee offering a resolution, that "the contract ought to be fulfilled with punctuality and good faith," was adopted by both branches of the legislature.

There were also high minded men in South Carolina, who were indignant at the dishonorable measures adopted by their legislature of 1803, and their sentiments had impressed the community so favorably with regard to Mr. Whitney, that at the session of 1804 the legislature not only rescinded what the previous legislature had done, but signified their respect for Mr. Whitney by marked commendations.

At this time a new and unexpected responsibility devolved on Mr. Whitney, in consequence of the death of his partner, Mr. Miller, who died on the 7th December, 1803.

Mr. Whitney was now left alone to contend singly against those difficulties which had for a series of years almost broken down the spirits of both the partners. But the favorable issue of the affairs of Mr. Whitney in South Carolina during the subsequent year, and the generous receipts that he obtained from the avails of his contracts with North Carolina, relieved him from the embarrassments under which he had so long groaned, and made him in some degree in-

* Some of the gins had forty saws.

dependent. Still, no small portion of the funds thus collected in North and South Carolina was expended in carrying on the fruitless, endless law-suits in Georgia.

In the United States Court, held in Georgia in December, 1807, Mr. Whitney obtained a most important judgment, in a suit brought against a trespasser of the name of Fort. It was on this trial that Judge Johnson gave the decision in his favor, to which we have before alluded.

This favorable decision, however, did not put a final step to aggression. At the next session of the United States Court, two other actions were brought, and verdicts for damages gained, of two thousand dollars in one case, and one thousand and five hundred dollars in the other.

The influence of these decisions, however, availed Mr. Whitney very little, for now the term of his patent right was nearly expired. More than sixty suits had been instituted in Georgia before a single decision on the merits of his claims was obtained, and at the period of this decision, thirteen years of his patent had expired.

In 1798, Mr. Whitney became deeply impressed with the uncertainty of all his hopes founded upon the cotton gin, notwithstanding their high promise, and he began to think seriously of devoting himself to some business in which superior ingenuity, seconded by uncommon industry, qualifications which he must have been conscious of possessing in no ordinary degree, would conduct him by a slow but sure route to a competent fortune; and we have always considered it indicative of a solid judgment, and a well balanced mind, that he did not, as is frequently the case with men of inventive genius, become so poisoned with the hope of vast and sudden wealth as to be disqualified for making a reasonable provision for life, by the sober earnings of frugal industry.

The enterprize which he selected in accordance with these views was the manufacture of arms for the United States. He accordingly addressed a letter to the Hon. Oliver Wolcott, Secretary of the Treasury, and through his influence obtained a contract for ten thousand stand of arms, amounting (as the price of each musket was to be thirteen dollars and forty cents) to one hundred and thirty-four thousand dollars—an undertaking of great responsibility, considering the limited pecuniary resources of the undertaker. This contract was concluded on the 14th of January, 1798, and four thousand were to be delivered on or before the last day of September of the ensuing year, and the remaining six thousand within one year from that time, so that the whole contract was to be fulfilled within a little more than the period of two years: and for the due fulfilment of it, Mr. Whitney entered into bonds to the amount of thirty thousand dollars. He must have engaged in this undertaking resolved "to attempt great things," without stopping to weigh all the chances against him, for as yet the works were all to be erected, the machinery to be made, and much of it to be invented; the raw materials were to be collected from different quarters, and the workmen themselves, almost without exception, were yet to learn the trade. Nor was it a business with which Mr. Whitney himself was particularly conversant. Mechanical invention, a sound judgment, and persevering industry, were all that he possessed, at first, for the accomplishment of an enterprize which was, at that time, probably greater than any man had ever undertaken in the State of Connecticut.

The site which Mr. Whitney had purchased for his works was at the foot of the celebrated precipice called East Rock, within two miles of New-Haven. This spot, (which is now called Whitneyville), is justly admired for the romantic beauty of its scenery. A waterfall of moderate extent afforded here the necessary power for propelling the machinery. In this pleasant retreat Mr. Whitney commenced his operations with the greatest zeal; but he soon became sensible of the multiplied difficulties which he had to contend with. A winter of uncommon severity set in early, and suspended his labors; and when the spring returned, he found himself so little advanced that he foresaw that he should be utterly unable to deliver the four thousand muskets according to contract. At the end of the first year after the contract was made, instead of four thousand muskets, only five hundred were delivered, and it was eight years, instead of two, before the whole ten thousand were completed. The entire business relating to the contract was not closed until January, 1809, when (so liberally had the government made advances to the contractor) the final balance due to Mr. Whitney was only 2,450 dollars.

In the year 1812, he entered into a new contract with the United States to manufacture for them fifteen thousand stand of arms; and in the mean time he executed a similar engagement (we know not how extensive) for the State of New-York.

It should be remarked, that the utility of Mr. Whitney's labors, during the period of his life which we have now been contemplating, was not limited to the particular business in which he was engaged. Many of the inventions which he made to facilitate the manufacture of muskets, were applicable to most other manufactures of iron and steel. To many of these they were soon extended, and became the nucleus around which other inventions clustered; and at the present time some of them may be recognized in almost every considerable workshop of that description in the United States.

In the year 1812, Mr. W. made application to Congress for the renewal of his patent for the cotton gin. In his memorial he presented a history of the struggles he had been forced to encounter in defence of his right, observing that he had been unable to obtain any decision on the merits of his claim until he had been *eleven years* in the law, and *thirteen years* of his patent term had expired. He set forth, that his invention had been a source of opulence to thousands of the citizens of the United States; that, as a labor-saving machine, it would enable one man to perform the work of a thousand men; and that it furnishes to the whole family of mankind, at a very cheap rate, the most essential article of their clothing. Hence, he humbly conceived himself entitled to a further remuneration from his country, and thought he ought to be admitted to a more liberal participation with his fellow citizens in the benefits of his invention. Although so great advantages had been already experienced, and the prospect of future benefits was so promising, still, many of those whose interest had been most promoted, and the value of whose property had been most enhanced, by this invention, had obstinately persisted in refusing to make any compensation to the inventor. The very men whose wealth had been acquired by the use of this machine, and who had grown rich beyond all former example, had combined their exertions to prevent the patentee from deriving any emolument from his invention. From that State, in which he had first made and where he had first introduced his machine, and which had derived the most signal benefits from it, he had received nothing; and from one State had he received the amount of *half a cent per pound* on the cotton cleaned with his machines in one year. Estimating the value of the labor of one man at twenty cents per day, the whole amount which had been received by him, for his invention, was not equal to the value of the labor saved *in one hour* by his machines then in use in the United States.

Notwithstanding these cogent arguments, the application was rejected by Congress. Some liberal minded and enlightened men from the cotton districts favored the petition; but a majority of the members from that section of the Union were warmly opposed to granting it.

In the midst of these fruitless efforts to secure to himself some portion of the advantages which so many of his fellow citizens were reaping from his ingenuity, his armory proceeded with a sure but steady pace, which bore him on to affluence. For the few following years he occupied himself principally in the concerns of his manufactory, inventing new kinds of machinery, and improving and perfecting the old.

In January, 1817, Mr. Whitney was married to Miss Henrietta F. Edwards, youngest daughter of the honorable Pierpont Edwards, late Judge of the District Court for the State of Connecticut. The fond and quiet scenes of domestic life, after which he had long aspired, but from which he had been debarred by the embarrassed or unsettled state of his affairs, now spread before him in the fairest light. Four children, a son and three daughters, added successively fresh attractions to the family circle. Happy in his home, and easy in his fortune, with a measure of respectability among his fellow citizens, and celebrity abroad, which might well satisfy an honorable ambition, he seemed to have in prospect, after a day of anxiety and toil, an evening unusually bright and serene.

In this uniform and happy tenor, he passed the five following years, when a formidable malady began to make its approaches, by a slow but hopeless progress, which at length terminated his life.

From the 12th November, 1824, his sufferings became almost unremitted, until the 8th January, 1825, when he expired,—retaining his consciousness to the last, closing his own eyes, and making an effort to close his mouth.

In his person, Mr. Whitney was considerably above the ordinary size, of a dignified carriage, and of an open, manly and agreeable countenance. His manners were conciliatory, and his whole appearance such as to inspire universal respect. Among his particular friends no man was more esteemed. Some of the earliest of his intimate associates were also among the latest. With one or two of the bosom friends of his youth he kept up a correspondence by letter for thirty years, with marks of continually increasing regard. His sense of honor was high, and his feelings of resentment and indignation occasionally strong. He could, however, be cool when his opponents were heated; and

though sometimes surprized by passion, yet the unparalleled trials of patience which he had sustained did not render him petulant, nor did his strong sense of the injuries he had suffered in relation to the cotton gin impair the natural serenity of his temper.

But the most remarkable trait in the character of Mr. Whitney, aside from his inventive powers, was his *perseverance;* and this is the more remarkable, because it is so common to find men of great powers of mechanical invention defective in this quality. Nothing is more frequent than to see a man of the most fertile powers of invention run from one piece of mechanism to another, leaving the former half finished; or if he has completed any thing, it is usual to find him abandon it to others, too fickle to pursue the advantages he might reap from it, or too sensitive to struggle with the sordid and avaricious, who may seek to rob him of the profits of his invention.

It would be difficult to estimate the full value of Mr. Whitney's labors without going into a minuteness of detail inconsistent with our limits. Every cotton garment bears the impress of his genius, and the ships that transported it across the waters were the heralds of his fame; and the cities that have risen to opulence by the cotton trade must attribute no small share of their prosperity to the inventor of the cotton gin. We have before us the declaration of the late Mr. Fulton, that Arkwright, Watt, and Whitney, (we could add Fulton to the number), were the three men who did most for mankind of any of their contemporaries; and, in the sense in which he intended it, the remark is probably true.

The following observations of a distinguished scholar and statesman, elicited in consequence of a recent visit to the cemetery of New-Haven, evince the estimation in which Mr. Whitney's name is held, by one who is fully capable of appreciating his merits. After alluding to the monument of Gen. Humphreys, who introduced the fine woolled sheep into the United States, the stranger remarks: "But Whitney's monument perpetuates the name of a still greater public benefactor. His simple name would have been epitaph enough, with the addition, perhaps, of 'the inventor of the cotton gin.' How few of the inscriptions in Westminster Abbey could be compared with that! Who is there that, like him, has given his country a machine—the product of his own skill—which has furnished a large part of its population, 'from childhood to age, with a lucrative employment: by which their debts have been paid off; their capitals increased; *their lands trebled in value.*' It may be said, indeed, that this belongs to the physical and material nature of man, and ought not to be compared with what has been done by the intellectual benefactors of mankind—the Miltons, the Shakspeares, and the Newtons. But it is quite certain that any thing short of the highest intellectual vigor—the brightest genius—is sufficient to invent one of these extraordinary machines. Place a common mind before an oration of Cicero and a steam engine, and it will despair of rivalling the latter as much as the former; and we can by no means be persuaded, that the peculiar aptitude for combining and applying the simple powers of mechanics so as to produce these marvellous operations, does not imply a vivacity of the imagination, not inferior to that of the poet and the orator. And then, as to the effect on society, the machine, it is true, operates, in the first instance, on mere physical elements, to produce an accumulation and distribution of property. But do not all the arts of civilization follow in the train? and has not he, who has trebled the value of land, created capital, rescued the population from the necessity of emigrating, and covered a waste with plenty—has not he done a service to the country, of the highest moral and intellectual character? Prosperity is the parent of civilization, and all its refinements; and every family of prosperous citizens added to the community, is an addition of so many thinking, inventing, moral, and immortal natures."

On Mr. Whitney's tomb is the following inscription:

ELI WHITNEY,
The inventor of the Cotton Gin.
Of useful science and arts, the efficient
patron and improver.
In the social relations of life, a model of excellence.
While private affection weeps at his tomb,
his country honors his memory.
Born December 8, 1765.—Died January 8, 1825.

NEW-YORK AMERICAN.

JULY 13, 15, 16, 17, 18, 19—1833.

LITERARY NOTICES.

OBSERVATIONS ON PROFESSIONS, LITERATURE, MANNERS, AND EMIGRATION, IN THE UNITED STATES AND CANADA, by the REV. ISAAC FIDLER: N. Y. J. & J. HARPER.—The *Rev. Isaac* came hither from England in 1832, a radical in politics, and a disappointed churchman. He knew a great deal of Hebrew, Sanscrit, and Arabic, and very little of the world; and therefore reasoned very logically and wisely, that if in an old rich country—where time and means are abundant for acquiring every sort of knowledge—his stock of Eastern languages could not find a market, there could be no reason to doubt that in a comparatively new country, and in the midst of a really working and ever active population, absorbed for the most part in providing for the material wants of life, they would be in ready demand. Upon this syllogism he emigrated, and soon made the discovery, that as his premises were erroneous, so were his conclusions; and that the man who came among us to teach Sanscrit for a living, would fare almost as well as a breeches-maker might among kilted Highlanders.

The *Rev. Isaac*, therefore, very soon retraced his steps, converted by his great horror of American democracy—and, above all, their insensibility to his merits—into a warm admirer of his own country, and almost into a believer in the possibility of rising in the church without patronage. We have before at times quoted passages from this book, sufficient to show its general ill-informed and splenetic judgments concerning every thing American. We mark a single one only to-day, to shew into what hands the clerical radical fell, on his arrival in this city:

The person at whose house we had taken lodgings was an Englishman, a painter, who informed me that he had lived some years in Liverpool; but from the heavy weight of rates, tithes, and taxes, he had not been able to gain a living. He still had a shop there, and intended to return if the reform bill should pass. He so often spoke with contempt and bitterness of kings, nobility, priests, and taxes, that it was evident at once under what denomination he might be classed. He was a radical, a gambler, a frequenter of Tammany Hall, and of the lowest society. I blushed to think that such a person and myself should have entertained similar sentiments on such a subject. He had gone to America to improve his condition, but had not found that improvement realized. He hated, and cordially railed at the American people, their manners, and the prejudices they entertained against the English. His wife, a most worthy and industrious woman, told us, that had her husband been industrious and careful, they might have saved money, and been independent, but that they could, with the same means, have been much more comfortable in Liverpool.

After we were somewhat settled, I found time to look around me, and consider what was passing. It seemed to me probable, that there was as much distress in New York, in proportion to the population, as in London. We saw and relieved several beggars in the streets of that city. The number, also, of paupers who were relieved by charity, was very great. I think the excessive charges for house rent and fuel must be severely felt by persons of slender means. There must be a great want of capital among coal and wood merchants, or a total absence of proper regulations. Sufficient fuel had not been provided to supply the regular consumption of the city; and its value became so enhanced in consequence, as to be almost out of the reach of the poor. The coals we consumed were double the price of what coals had cost in the summer. The coal-merchants had promised, before the winter commenced, that they would supply the people at summer prices. But promises are slight obligations, when put in competition with interest. We paid for coal at the rate of seventeen dollars a ton. While in England, we thought forty shillings a chaldron a high price; but in New York they were twice that sum.

SCOTT'S WORKS, Vol II,—comprising the seven numbers already published of Conner & Cooke's cheap edition—constitutes a very handsome volume indeed, large 8vo. Seven such will complete the work.

ON THE ADAPTATION OF EXTERNAL NATURE TO THE PHYSICAL CONDITION OF MAN, &c. &c. BY JOHN KIDD, M. D. &c. Regius Professor of Medicine at Oxford. Philadelphia, CAREY, LEA, & BLANCHARD—This is the second of the Bridgewater Treatises, that of Professor *Whewell*, on Astronomy and General Physics, noticed in this paper some weeks ago, being the first. The design of all these treatises, of which there are to be eight, is, as most of our readers doubtless remember, to elucidate, in compliance with a provision in the will of the late Earl of Bridgewater, "the Power, Wisdom, and Goodness of God, as manifested in the Creation." In order to stimulate adequate talent to undertake the work, *eight thousand pounds* were appropriated by the noble and reverend testator, to be paid for it, leaving to the author, moreover, the whole benefit to be derived from the sale of his writings. Whether wisely or not, it may yet be too early to determine, it has been deemed proper to divide the subject into eight parts, assigning £1000 to each. Hence the volume now before us. As a separate and popular treatise, embodying a train of facts, rather than entering into any controversial discussion, and pointing out skillfully, and often unexpectedly, evidences of the adaptation of the external world to the organization, wants, and powers of man,—it is certainly well executed, and fulfils satisfactorily its design. It is, too, so wholly free from scientific *pretension*, though written with full and well-considered knowledge, that it will attract many readers, whom an array of learned terms might have discouraged. It is a volume that may be read with satisfaction, even after Paley's comprehensive and admirable Natural Theology.

GREENBANK'S PERIODICAL LIBRARY, No's 1 to 7. *T. K. Greenbank*, No. 9, Franklin Place, Philadelphia.—This is the title of an octavo work in pamphlet form, issued weekly at $5 per annum. It consists of Voyages, Travels, History, Biography, Select Memoirs, popular science, personal adventures, Poems, &c. &c., each No. containing 48 pages, and the whole, when bound in volumes at the end of the year, making a collection of 2500 pages; thus constituting a work which, if well selected, can only be rivalled in cheapness by the handsome edition of the Waverley Novels now publishing by Messrs. Conner & Cooke, of this city, another number of which has just appeared. Among the subjects of the numbers before us, we find Hazlitt's Travels in Europe—the History of Peter the Great—Mr. Lambe's admired Essays under the title of Elia—and "the History and Trials of Henry Pestalozzi," with copious extracts from his works, illustrative of his

plan of Education—and lastly, a brief Memoir of Korner, the German poet, written by his father.

The history of this interesting character, though he left four volumes of writings upon a variety of subjects behind him, when he died at the early age of two and twenty, is but little known to the English reader, except through the poetry of Mrs. Hemans. It is well that a name so associated with deeds of valor and patriotic song, and that is dear to idolatry to every German heart, should be more familiar to our ears; and we therefore, though shrinking from thus mutilating the well told story of his romantic life, before us, venture upon a compendium of a Memoir which has given us almost thrilling pleasure in the perusal.

Carl Theodore Korner, born 23d Sept. 1791, was the son of a Saxon counsellor of appeals, who seems early to have appreciated the remarkable character of his son, even though his early childhood was not distinguished by that precocity of knowledge which, in some instances, so gratifies the vanity of parents. "Tenderness of heart, and strong affection for those who had won his love, united with singular firmness and strength of mind, and very quick and lively powers of fancy," are mentioned as the distinguishing features of his character at a very early period of his life. To these we may add, that a sentiment of piety, or, as phrenologists would term it, *veneration*, seems early to have been a marked quality of his natural disposition; and even when in extreme youth, and full of boyish vivacity, he conceived the idea of "a pocket-book for Christians," which was to consist of historical treatises, spiritual sonnets, and passages from scripture illustrated with engravings; a great part of which plan he actually executed while pursuing his academical career at Fryburgh. The eventful part of Korner's life commences about the age of 19, when, after leaving college, we find him at Vienna, full of youthful life and spirit, associating with Humboldt and Sclegel, and devoting his mornings to assiduous study; while his evenings were passed in the best society which that refined capital affords. His varied acquirements and high accomplishments here received their last finish; and the hopes of his judicious father, in placing the gifted youth "on a distinguished point where his mental horizon would be extended, and his inclination to advancement and to perfection incited and encouraged," were fully accomplished in the advancement made by Korner in general knowledge and reputation. He who had so energetically availed himself of every opportunity of studying books and men, became an author himself, and made the living world the test of his powers The nature of his early studies, the habits of the last few months of his life, and the distinctions attending success as a dramatic writer at Vienna, with, perhaps, some strong prepossessions for the course of Schiller, with whom he was a favorite protegé at ten years of age, determined Korner to write for the stage.

His first essays, says his biographer, consisted of two one-act pieces, in Alexandrines—the Bride, and the Green Domino, which were both received with much applause. A farce called the Night-watch was also very successful. Korner now began to attempt subjects of a passionate and tragic nature, which had ever possessed great attractions for him. A tale of Heinrich von Kleist's was, with some alterations, worked up into a drama in three acts, called Toni. Soon after followed a terrific tragic piece, in one act, called the Expiation. He now considered himself prepared to venture on the production of the Hungarian Leonidas, Zriny. This was followed by an appalling drama, called Hedwig, and a tragedy called Rosamund, taken from English history. His last dramatic work of a serious kind, Joseph Heyderich, was founded on a real incident, the self-sacrifice of a brave Austrian subaltern officer, who devoted his own life to save that of his lieutenant. He still found time, notwithstanding these works, to produce three small comic pieces, the Cousin from Bremen, the Officer of the Guard (Wacht-Meister,) and the Governess; also two operas, the Fisher-girl, or Hatred and Love; and the Four Years' Post (der vierjahrige Posten,) as well as several small poems, and he also concluded an opera commenced some time before, the Miners (Die Bergknappen.) Part of an opera which he had written for Beethoven, The Return of Ulysses, was also ready, and he had, likewise, prepared a multitude of plans, both of small and large pieces. It would not have been possible to accomplish all this in the short space of fifteen months, had he not possessed great facility of composition, which he had acquired by his numerous early exercises. The collecting the historic materials, and sketching the plan, was what cost him most time; and, as an example of his rapidity, he was able to write a large work in the space only of a few weeks of entire seclusion and uninterrupted exertion. A summer's residence at Doblingen, an agreeable village near Vienna, afforded every facility of this kind.

His productions experienced, on the whole, a reception far beyond his expectations. The public feeling showed itself the most enthusiastically at the first representation of Zriny. The author was called to appear before the audience in person, an honor altogether unusual in Vienna. But the single voices of certain critical judges, the favorable opinion of the judicious few, was yet more gratifying to his feelings. The friendly judgment of Goethe reached him from afar; and, by his influence, the Bride, the Green Domino, and the Expiation, were brought out at Weimar, with particular care and with eminent success.

Korner was now, at the age of twenty, where most literary men have been contented at arriving, with an additional score of years upon their heads. Wealth, or at least a competency, was, as well as reputation, his; he received an official appointment from the Government, in consequence of the public approbation that attended his literary efforts, and everything seemed to combine to make his lot most enviable; while he still preserved that steadiness of soul which is both the companion and the guardian of magnanimity, and keeps the soaring mind from being chained down to the height of fame it has first won, by fixing its eagle ken upon the loftier elevations yet to be attained.

"The world of joy, (says the father of Korner) by which he was now surrounded, and in which he soon found himself at home, excited in him feelings of accordant kind. Far from being enervated by it, his ardent nature received a new impulse; all his faculties were excited: and the objects of his emulation were constantly placed higher. And no instructive, warning, or exciting voice was ever heard in vain, when it had once gained his esteem, whether by intellect, knowledge and experience, or by the charms of female accomplishment. In this manner he was much indebted, not only to the intimacy of Humboldt, and of Schlegel, but also to the elegant society which met at the house of the celebrated female poet, Caroline Pichler, and of Madame de Pereira. But it was to be attributed to a softer sentiment, that of love, that the faculties of his youth were preserved, unweakened, amid the perils of a seducing capital. A lovely being, as if sent by Heaven as his guardian angel, enchained him, both by the charms of beauty and of soul. Korner's parents came to Vienna, approved and blessed the choice of their son, and rejoiced in the effects of a noble and inspiring sentiment.

Love and literary distinction had now fully crowned this favored youth; but his soul panted for more. Martial glory had ever been a slumbering passion in his romantic bosom; and the cry of his oppressed country kindling the feelings of patriotism he possessed to an enthusiastic degree, called out the sentiment in all its ardor; and after the battle of Asperia, which he celebrated in a martial ode, nothing could restrain him.

"Germany rises!" he wrote to his father: "the Prussian eagle by the beating of her mighty wings, awakes, in all true hearts the great hope of German freedom. My poetic art sighs for my country—let me not prove myself her unworthy son. Now that I know what happiness can ripen for me in this life—now that the star of fortune sheds on me its most cheering influence—now is this a sacred feeling which animates me?—this mighty conviction that no sacrifice can be too great for that greatest mortal blessing, our country's freedom! A great age requires great souls, and I feel, within thyself, the facul-ty of being as a rock amid this concussion of the nations. I must go forth—I must oppose my daring breast to the waves of the storm. Could I, think you, stand aloof, contented to celebrate with weak inspiration the success of my conquering brethren? I am aware that you will suffer much anxiety.—My mother too will weep—may God be her comfort!—I cannot spare you this trial. That I simply offer my life is of little import; but that I offer it, crowned as it is with all the flowery wreaths of love, of friendship and of joy,—that I cast away the sweet sensations which lived in the conviction that I have caused you no inquietude, no anguish,—this indeed is a sacrifice which can only be opposed to such a prize!"

There is nothing extant in any language to surpass the tenderness and heroism of this letter. Had it been lost by any accident, the brightest link in the dazzling chain of his life had been lost. It is from knowing not only the real worth of the offering which Korner made to his country, but the value which he himself put upon it, that we can appreciate his noble sacrifice to duty and patriotism. The following is a translation of his farewell address to his affianced bride:

Farewell, farewell!—with silent grief of heart
I breathe adieu, to follow duty now;
And if a silent tear unbidden start,
It will not, love, disgrace a soldier's brow.
Where'er I roam, should joy my path illume,
Or death entwine the garland of the tomb,
Thy lovely form shall float my path above,
And guide my soul to rapture and to love!

O hail and bless, sweet spirit of my life,
The ardent zeal that sets my soul on fire;
That bids me tak a part in yonder strife,
And for the sword, awhile, forsake the lyre.
For, see thy minstrel's dreams were not all vain
Which he so oft hath hallow'd in his strain;
O see the patriot strife at length awake!
There let me fly, and all its toils partake.

The victor's glorious wreath shall bloom more bright
That's pluck'd amid the joys of love and song,
And my young spirit hails with pure delight
The hope fulfill'd which it hath cherish'd long.
Let me but struggle for my country's good,
E'en though I shed for her my warm life blood,
And now one kiss—e'en though the last it prove—
For there can be no death for our true love.

Theodore Korner left Vienna on the 15th March, 1813, and arrived at Breslau just as Major Lutzow was forming the free corps which afterwards became so much distinguished under his name. The recommendations Korner had brought from Vienna to the most influential persons in the army, procured him a cordial reception in this gallant band; and entering as a private trooper, he so devoted himself to the service that he was soon elected a lieutenant by his comrades. Lutzow's free corps were solemnly consecrated in the village church of Zobten, a choral hymn written by Korner being sung upon the occasion, and the clergyman administering to each member an oath to die for his country—"a consecration to death," as Korner calls it, which sunk deeply into his poetic mind, and perhaps suggested that forboding of his early fate which prompted some of his noblest verses, and sent him into battle with the stern zeal of one doomed of Heaven. The life of a partisan officer must have been Elysium to the adventurous and romantic spirit of Korner, as he and his bold comrades, like "Marion and his men," or, to go nearer home, like Schiller's band of robbers, would sally from the forest upon his country's invaders, and, by the music of his own war-hymns, charge upon the astonished foe. They who witnessed the effect produced by the German minstrels here in singing the following fine battle-song of Korner, can imagine how, in scouring the country, it must have rung from the throats of a thousand troopers:

Lutzow's Wild Chase.

Who' is it that beams in the bright sunshine.
Ar echoes yet nearer and nearer?
And see! how it spreads in a long dark line,
And hark! how its horns in the distance combine
To impress with affright the hearer!
And ask ye what means the daring race?
This is—Lutzow's wild and desperate chase!

See, they leave the dark wood in silence all,
And from hill to hill are seen flying;
In ambush they'll lie till the deep nightfall.
Then ye'll hear the hurrah! and the rifle ball!
And the foe will be falling and dying!
And ask ye what means their daring race?
This is—Lutzow's wild and desperate chase!

Where the vine boughs twine, the Rhine waves run,
And the foe thinks its waters shall hide him;

But see, they fearless approach the shore,
And they leap in the stream, and swim proudly o'er,
And stand on the bank beside him!
And ask ye what means the daring race?
This is—Lutzow's wild and desperate chase!

Why roars in the valley the raging fight,
Where swords clash red and gory?
O fierce is the strife of that deadly fight,
For the spark of young Freedom is newly alight,
And it breaks into flames of glory!
And ask ye what means the daring race?
This is—Lutzow's wild and desperate chase!

See yon warrior who lies on a gory spot,
From life compelled to sever;
Yet he never is heard to lament his lot,
And his soul at its parting shall tremble not,
Since his country is saved forever!
And if ye will ask at the end of his race,
Still 'tis—Lutzow's wild and desperate chase!

The wild chase, and the German chase
Against tyranny and oppression!
Therefore weep not, loved friends, at this last embrace,
For freedom has dawn'd on our lov'd birth-place,
And our death shall ensure its possession!
And 'twill ever be said from race to race,
This was—Lutzow's wild and desperate chase!

The hand that traced these spirit-stirring lines, was also a complete master of the sword; and while painting, music, and dancing, in each of which he excelled, had not been neglected in Korner's education, he was also thoroughly skilled in horsemanship, a capital swimmer, and much practised in rifle-shooting. Such a soldier, with animal spirits that never tired, must have been the life of the corps of which he was a member, and, indeed, he was appreciated accordingly, as his commander made him adjutant to the regiment, for the express purpose of having one so valued near his own person. The promotion nearly cost him his life, as the following account by his biographer, of the peril encountered by that portion of the regiment to which Korner thus became attached, and which, separated from the rest, upon particular duty, fully shows:

The gallant troop acquired considerable renown, and harassed the enemy much, especially by cutting off his communications. A plan was in consequence laid by the French Emperor for the extirpation of the corps, that, as a deterring example, no man should be left alive. The armistice, concluded at this moment, afforded an opportunity for putting it in practice. (The Duke of Padua, it is observable, particularly profitted by this armistice; for being shut up in Leipzing by generals Woronzow and Czernichef, with the co-operation of two battallions of the Lutzow infantry, he was only saved by this cessation of hostilities.)

Major von Lutzow had received official information of the armistice at Plauen. With out expecting to meet with any opposition, he chose the shortest route to rejoin the Infantry of his corps, having received the most confidental assurances of safety from the enemy's commanding officers, and proceeded along the high road, without interruption, to Kitzen, a village in the neignborhood of Leipzig; but hear he found himself surrounded and menaced by a very superior force. Theodore Korner was despatched to demand an explanation, but' instead of replying, the commander of the enemy struck him with his sword; and it being now twilight, a general attack was made on the three squadrons of the Lutzow cavalry before they had drawn a sabre. Several were wounded and taken, and others dispersed in the surrounding country; but Major von Lutzow himself was saved by the assistance of a squadron of Uhlans, who being in advance with the Cossacks, formed the vanguard, and consequently were not assailed at the same moment. He reached with a considerable body of his troops, the right bank of the Elbe, where the infantry of his corps and a squadron ofits cavalry were already collected.

Kornor received the first blow, which he was not prepaired to parry, as he approached close to the enemy's commanding officer to deliver his message without drawing his sabre, and was thus severely wounded in the head: the second blow only inflicted a slight injury. He fell back, but speedily recovered himself, and his spirited steed bore him in safety to a neighboring wood. He was here occupied, at the first moment, with the asststance of a comrade, in binding up his wounds, when he perceived a troop of the enemy, who were in pursuit, riding towards him. His presence of mind did not forsake him, but turning towards the woods he called with a loud voice, "Fourth squadron,—Advance!"—His stratagem succeeded—the enemy were appalled, drew back, and thus afforded him time to conceal himself deeper in the wood. It had now become dark, and he found a place in the thicket where he could remain undiscovered.

The pain of the deeper wound became very severe, his strength was exhausted, and his last hope was gone. It was in this extremity that he composed the beautiful sounet, of which the following is a translation:

Farewell to Life.

Written in the night of the 17th and 18th of June, as I lay, severely wounded and helpless in a wood, expecting to die.

My deep wound burns;—my pale lips quake in death,—
I feel my fainting heart resign its strength,
And reaching now the limit of my life,
Lord, to thy will I yield my parting breath.

Yet many a dream hath charmed my youthful eye:
And must life's fairy visions all depart?
Oh surely no, for all that fired my heart
To rapture here, shall live with me on high.

And that fair form that won my earliest vow,
That my young spirit prized all else above,
And now adored as freedom, now as love,
Stands in seraphic guise, before me now;

And as my fading senses fade away,
It beckons me, on high, to realms of endless day.

This beautiful requiem was not, however, the last verses Korner was destined to write. His bleeding and senseless body was found by some peasants, and after being partially restored by their kindness, he was removed to Carlsbad; and, recovering from his wounds in a few months, he hastened back to his companions in arms, to meet the glorious fate which his prophetic soul had always whispered should crown his fortunate career. We give the account of his last moments without abridgment.

"Major von Lutzow had determined on conducting, in person, a part of the cavalry of his corps in an attack on the enemy's rear, which was to take place on the 28th of August. Towards evening they arrived at a place of refreshment provided for the French; the troops made use of it, and after two hours rest continued their march to atwood near Rosenberg. Here they concealed themselves while waiting the return of a scout, who was to bring them intelligence of the readiest way to a camp of the enemy which was badly guarded, at the distance of a couple German miles (stunden). In the mean time some Cossacks, who were placed on the look-out on a neighboring eminence, perceived a transport of ammunition and provisions, escorted by two companies of infantry. It was immediately determined to attack them, and the enterprise proved perfectly successful. Major von Lutzow ordered the Cossacks (about one hundred horse) to head the attack, and took half a squadron to fall on the flank of the enemy, leaving the remaining half where they were, in order to cover the rear. He himself led the assault made on the flank, and Korner acted as adjutant by his side. An hour previous to this, and during the rest in the wood, Korner produced his last poem, "The Sword Song." He had written it in his pocket-book in the dawn of the 26th of August, and was actually engaged in reading it to a friend when the signal for the attack was made.

On the high road from Gadebush to Schwerin, close to the wood which is situated about half a mile (halbe-stund) from Rosenberg, the action took place. The enemy were more numerous than had been supposed, but after a short resistance they fled, not having been cut off in sufficient time by the Cossacks, across a small plain to the neighboring grove of underwood. Among those who pursued them most boldly was Korner; and here it was he met with that glorious death which he had so often anticipated, and celebrated with so much enthusiasm in his poems!

The tirailleurs, who had quickly found a rallying point in the low wood, sent, from thence, on the pursuing cavalry a shower of balls. One of these struck Korner in the abdomen, after having passed through his horse's neck; it wounded the liver and spine, and deprived him of speech and consciousness. His countenance remained unchanged, and evinced no trace of any sensation of pain. Nothing was neglected that could tend to save him; his friends immediately raised him up; and of the two who hastened to assist him, through the continued fire on this point, one followed him about half a year after, who may be placed among the most noble and accomplished youths who were inspired, and who have inspired others, in the sacred cause—the noble Friesen. Korner was carefully carried to a neighbouring wood, and was delivered to the care of a skilful surgeon, but all human help was vain!

The action, which, after this loss, so universally regretted, took a very sharp direction, was speedily brought to a conclusion. The Lutzow cavalry pressed forward, like enraged lions, into the underwood, and all who could not escape were shot, sabred, or taken. The small but dear sacrifice of this day, which consisted, beside Korner, of Count Hardenberg, a very promising and interesting young man, and a Lutzow yager, required now a worthy burial. The remains of the three valiant fallen soldiers were placed upon a carriage, and conducted in the van with the prisoners, and with the transport that was captured. The French troops, who had hastened forward, did not venture immediately to follow the train, as they occupied much time in scouring the wood, in which they suspected that troops were lying in ambush.

Korner was interred under an oak, near a mile-stone on the road from Lubelow to Dreikrug, near the village of Wobbolin, which is about a mile from Ludwigslust. He was buried with all the honours of war, and with all the marks of esteem and love of his deeply-affected brethren in arms.

Among those friends who covered his tomb with turf, there was one named von Barenhorst, a noble and accomplished youth, who found it impossible to survive such a death; and a few days after, being placed on a dangerous post in the battle of Goehrde, he threw himself on the enemy with these words: "Korner, I follow thee; (Korner Ich folge dir;") and fell, pierced with many balls!

The *sister* of Korner died shortly after of a broken heart for the loss of her brother, and was buried in the same grave.

Thus when it had only shone for two and twenty summers, went out the light of one of the noblest souls that ever moved in the ranks of war;—thus was quenched one of the most glorious spirits that ever gave its breath to song. For scarcely since the young king of Israel led the anthems of triumph over the mockers of his country's God, subdued by his boyish arm, has the world witnessed the combination of early genius and chivalric heroism that met in Carl Theodore Korner.

SUMMARY.

Madrid, May 28.—With profound grief we announce to our readers the death of Mr. Charles S. Walsh, Secretary of Legation of the United States at this Court. This gentleman had been some time ill; till at length, having exhausted all the resources of medical science, he determined to try the effects of a change of air. Accordingly he left town, accompanied by his physician and a faithful attendant, in order to proceed to Valencia; but his sickness overcame him on the way, and he was obliged to stop at Quintanar de la Orden, where he fell a victim to the violence of a confirmed consumption. What makes the affliction more grievious, is the fact that he was cut off in the bloom of life, being not more than 32 years of age, and in the midst of a distinguished career.

The deputy of the Minister of the United States, who arrived at Quintanar soon after the death of Mr. Walsh, made arrangements for the celebration of funeral honors, with all the respect and decorum which time and circumstances would permit. There was no want of co-operation on the part of the authorities, civil and ecclesiastical; and he was interred (conformably to the intentions of said Minister) with all the honors due to his rank. Under this sad bereavement it may serve to console the family of this gentleman, to know that nothing has been omitted to prolong his life; that he was surrounded with all the aids which science and friendship could dictate, and that he died *recognized by the Church as a Christian Catholic.*

A few days since, as the President of the Ithaca and Owego Rail Road, in company with John Randel, Jr., the engineer in chief, and an assistant engineer, were traversing a part of the road, a thunder shower come on. The former person took refuge from the storm, in a shop, while the engineer and his assistant went on further, and sheltered themselves in a barn. While these persons were there, a flash of lightning struck the barn, knocked down the two gentlemen last mentioned, and killed a man and horse standing very close at their side.—[Albany D. Adv.]

[*From the Montreal Gazette, 13th inst.*]

The Honorable Mr. Cass, Secretary of War of the U. States, accompanied by the Honorable Isaac Hill, U. S. Senator for the State of New Hampshire, and Lieut. Prentiss, of the U. S. Army, returned from Quebec yesterday in the St. George steamer, took up their residence at the Exchange Coffee House, and proceeded this morning by the Upper Canada Stages on their way to the Falls of Niagara, &c. It is to be regretted that the short stay made by the Secretary of War, as well as the strict privacy which he maintained both here and at Quebec, should have prevented

his receiving the attentions of (which he seemed so studiously to avoid) the citizens of both places would have felt happy in bestowing upon this distinguished ornament of the present American Cobinet.

Large Guns.—The largest guns ever fired are the Turkish cannon at the Dardanelles, the diameter of which is two feet three inches, and a stone shot from which struck the Windsor Castle, of 98 guns, and cut her mainmast almost in two, and nearly knocked her two decks into one. Our young midshipmen used to crawl into these guns on their hands and knees. A gun almost as large was found at Algiers. But the largest shot of any sort ever fired by Europeans, was that from the new mortar used by the French at Antwerp. This shell was two feet in diameter, and weighed when empty, 916 lbs. It contained 99 lbs of powder, and its total weight was consequently 1,015 lbs.—The mortar from which it was discharged, weighed 3,700 lbs. and the gunpowder to load it was 30lbs.—This was really prodigious. We must add, that at the Dardanelles, one of the great Turkish shot struck the bows of that magnificent ship the Royal George, and wonderful to relate, that one shot alone nearly sunk her. According to the Baron de Tot, the weight of the Turkish shot was 1,000 lbs, and the charge of gun powder 330 lbs.—[London pa.]

College of Physicians.—The fifth public assembly took place on Monday evening. The literary attraction of the evening was an elegant paper, from the pen of Sir Henry Halford, and read by himself, "On the deaths of certain eminent persons of antiquity," from which the audience were given to understand that Sylla, the Dictator, died of an abscess; Flaccus of pleurisy: and Pomponius Atticus, of dysentery, after having left off food and physic. The paper went into an interesting and amusing parallel between the poisoning of Britannicus by Nero, and that of Sir Theodosius Boughton by Donellan, in our own country, about half a century ago, both deaths having been produced by laurel water; and, in conclusion, the last 10 days of Alexander were described with as much minuteness as if the Macedonian hero had been a patient of the favourite physician of George the Fourth.

The President has recognized Charles Augustus Heckscher as Consul of the Duke of Mecklenburg Schwerin. Also, George Follin as Vice-Consul of Mexico for the port of Philadelphia.

Department of State, July 8.—Information has been received from our Consul, George Moore, Esq. at Trieste, that a Light House has been erected on the extremity of the Teresian Mole, which forms the southwestern side of the harbor of the city. The light is elevated about one hundred and thirty feet above the water, and may be seen from the deck of a vessel at the distance of thirteen miles. In order to distinguish it from all others on the coast, the light is made to intermit, so as to appear for half a minute, then disappear for the same length of time alternately.

Navy Department, July 8.—The fleet Surgeon in the Mediterranean, under date of April 4, on board the frigate United States, writes:

But one death from sickness has occurred in the squadron for three months, which was on board this ship, being the first victim of disease since leaving America.

No death has occurred in either the Constellation or the John Adams during the last three months.

Industry.—Man must have occupation or be miserable. Toil is the price of sleep and appetite, of health and enjoyement. The very necessity which overcomes our natural sloth is a blessing. The whole world does not contain a prior or a thorn which divine mercy could have spread. We are happier with the sterility, which we can overcome by industry, then we could have been with spontaneous plenty and undounded profusion. The body and the mind are improved by the toil that fatigues them.—The toil is a thousand times rewarded by the pleasure which it betows. Its enjoyments are peculiar.—No wealth can purchase them, no indolence can taste them. They flow from the exeriions which they repay.

Destructive Fire.—A correspondent at Watertown, Jefferson county, announces the following unwelcome intelligence.

"We have this morning added to the list of our heavy calamities by fire and flood, the loss of the large cotton factory of Messrs. L. Becbee & Co. It was discovered to be on fire about 11 o'clock this morning, (Sunday, 7th July,) and so rapid was the progress of the destroying element, that in less than an hour, the entire pile of buildings was a heap of ruins. But very little of the property which the building contained was saved. Raw cotton, manufactured goods, and the extensive and valuable machinery, all went together. The loss is from 150 to 200,000 dollars.

This factory was one of the most perfect and extensive in the state. It was built of stone, five stories high, and of great value, aside from the large capital invested in it.

In addition to the above, the Jefferson Reporter, extra, of the 7th inst. states, that the fire was supposed to have been caused by spontaneous combustion, and that but $25,000 was insured.—[Albany Argus.]

A copper mine has recently been discovered near Honesdale, Pa. which is likely to prove an extensive and permanent source of wealth to the owner. The ore is said to be of excellent quality. A mine of iron ore has recently been found in Sandy Creek township, Mercer county, in a neighborhood possessing great advantages in timber and water power.

India Rubber Table Cloths.—We have recently seen, and have in our possession, a sample of a new and superior kind of covers for tables and stands. They are manufactured by Samuel Steele & Co, Woodbury, Ct. They are composed of cotton, with a composition of India rubber, &c. varnished and bronzed in an elegant manner. They cost but little more than the common oil cloth, and are much superior both for beauty and durability. One very important quality which they possess over any oil covers, is their elasticity, as they can be doubled in every possible manner, without breaking or injuring the composition of which they are made.—[Danbury Her.]

Dr. Scudder, of this city, has invented a torpedo, with which he is determined to destroy the Sea Serpent. He has secured a patent for his invention, and intends to start for Nahant this morning. The same weapon, the Doctor thinks, will be useful to whalemen, and others who are in pursuit of large fish.—[Gazette.]

Patriotism of the Clergy during the Revolutionary War.—Two minister's sons, in the County of Essex, whose fathers were out in the great struggle for American liberty and independence, met not long since. After talking over some of the events of that period, one says to the other, "I believe my father did more than any other minister in the State."—"How so?" says the other, "what did he do?"—"Why, he sent three sons into the field." The other replied, "My father did more; he went himself, and took four with him."—[Salem Gaz.]

The Sea Serpent seems to have a great predilection for the fashionable watering-places. After making Nahant his place of summer resort for the last few years, it appears by a correspondent of the Journal of Commerce of this morning, that he has lately been whisking his tail in the surf of Long Branch; and it is said, that among the attractions of the new Hotel now "in erection" at Rockaway, is to be a curiously contrived verandah towards the sea, for the especial purpose of watching the gambols of his snakeship. Having brought his family with him upon this visit, the amiable traveller may be expected to remain for some time, and give us all more or less an opportunity of cultivating their interesting acquaintance. Should one of the animals be caught alive,—as we see no reason why they should not, as the row-boat, which was within twenty feet of the largest, might, with some adroitness, have thrown a coil of rope over his head, and let the steamboat at hand tow him ashore,—he might be lodged to advantage in the Corporation Reservoir, at the head of Broadway; or kept, if unruly, in the admirable Eclcase which Mr. Holt has provided for such attenuated figures, when needing a straight jacket. In the mean time, as the Soë Ormen, as the Norwegians call it, is likely to succeed Black Hawk as the lion of the day, it may be well to take a retrospective glance at his biography, which is thus given in the Boston Mercantile Journal, edited by Mr. Thatcher, of some literary celebrity:

The earliest account of an animal of this general description is furnished by Pantoppidon, Bishop of Bergen in Norway, and author of an old Natural History, in the first editions of which is a picture of the serpent. This gives him a *mane*—an appearance doubtless caused by his rapid motion through the water.—He says, it lay on the water, when it was calm; and when it moved, parts of the back were to be seen in the line of the head. The color was dark brown, variegated with light spots or streaks. The animal appeared regularly many years off the Manor of Nordland, in *July and August*, where all the inhabitants were familiarly acquainted with him, though the Bishop doubted the whole story for a long time. He represents the length to have been 600 feet, and the size that of two hogsheads!—a statement which furnishes rather curious food for discussion. It was at least an immense exaggeration of the ignorant peasants and fishermen.

The Bishop also cites a letter, dated 1751, from a Captain in the Sweedish Navy, De Ferry, relating to a snake seen by him near Molne, on a calm hot day in August, 1746. He fired at it, on which it immediately sunk. Observing the water to be red, he supposed he had wounded it. The head, he relates, was like that of a horse—and of a grayish color—the mouth was quite black and very large. He also mentions the bright mane. The eyes were black, and there were seven or eight thick folds, about six feet, distance from one another. This letter was sworn to before the Bergen magistrates.

In 1804, Allen Bradford, Esq. then of Maine, addressed a letter to J. Q. Adams, then Secretary of the American Academy, transmitting documents to show that a large sea-serpent had been seen in and about Penobscot Bay. The Academy laid them aside, and they first appeared in Silliman's Journal, in 1820. One was a letter from the Rev. Mr. Cummings of Sullivan, Maine, dated August 1803; and another was dated August, 1804. The animal was seen by Mr. Cummings, his wife, daughter, and another lady, as they were on their passage to Belfast, between Cape Rosoi and Long Island. It was in the month of July; the sea was calm; there was very little wind; and the first appearance of the Serpent was near Long Island. Mr. C. supposed it to be a large shoal of fish, with a seal at one end of it; but he wondered *the seal should rise out of the water so much higher than usual;* as he drew near, they discovered the whole appearance to be one animal in the form of a Serpent. *He had not the horizontal, but an ascending and descending serpentine motion.* This account also refers to the description given by other persons of similar animals.

A letter of March, 1781, from Capt. Little, of our Navy, to Mr. Bradford, states that in May, 1780, as he was lying in Broad Bay (Penobscot,) in a public armed ship, he discovered at sunrise, a large Serpent, coming down the bay on the surface of the water.—The cutter was manned and armed; he went himself in the boat; and when within 100 feet of the Serpent, the marines were ordered to fire on him; but before they could make ready, he plunged into the water.—He was not less than 45 to 50 feet long; the largest diameter of his body was supposed to be 15 inches; and his head, nearly the size of that of a man, he carried four or five feet out of water. He wore every appearance of a Black Snake. He was afterwards pursued, but they never came nearer to him than a quarter of a mile. A Mr. Joseph Kent, of Marshfield, says Capt. Little, saw a like animal at the same place in the year 1751, which was longer and larger than the main boom of his sloop, of 85 tons. He observed him within ten or twelve yards of his vessel.

The declaration of Eleazar Crabtree is then given, who lived at Fox Island, in the Bay of Penobscot, in the year 1777 and 1773. He has frequently heard of a sea-monster frequenting the waters near the shore; and doubting the fact, he went down one day upon receiving information from a neighbor, that he was then in the sea near his house. He saw a large animal in the form of a Snake, lying almost motionless in the water, about 500 feet from the bank where he stood. His head was about four feet above the surface; he appeared a hundred feet long; and he supposed him to be three feet in diameter. Many other inhabitants, upon whose veracity he could depend, had also declared to him that at other times they had seen such an animal.

After some other and equally strong testimony added to the above, we come down to the year 1815, when one of these monsters was seen off Plymouth, in the month of June, by several reputable witnesses; and from that time to the present his continued visits to the eastern coast have been witnessed by so many persons of high respectability, and testified to upon oath publicly administered, that though the *Horse Mackerel* taken by the Boston party cruizing for the Sea Serpent, brought his existence for a while into discredit, no reasonable person can now pretend to doubt it. Those wishing for further details on the subject, are referred to Gray & Bowen's edition of Buffon.

THE GIRARD COLLEGE.

MR. BIDDLE'S ADDRESS on laying the foundation stone of the Girard College near Philadelphia, on the 4th inst. and which is published below, will be read with interest and admiration. The topics so judiciously selected and eloquently enforced by the speaker, are of public concernment and general application; for although the immediate objects of the bounty of Mr. Girard are to be selected from the single state of Pennsylvania, the effects of that bounty will be felt throughout our whole land in the race of thoroughly educated men, who will be thus rescued from the sufferings, exposures and temptations of orphanage. For it cannot be too often repeated, nor too urgently enforced, that in our land, and with our free institutions, more than any where else, is education both a duty and power; and they only are the true friends of the people, who strive in all ways for their solid instruction—disdaining to minister to their passions or their prejudices, but seeking always to appeal to, and when opportunity offers to enlighten, their understanding.

ADDRESS,

By NICHOLAS BIDDLE, ESQ., Chairman of the Trustees of the Girard College for Orphans, pronounced by request of the Building Committee, on the occasion of laying the corner stone of the edifice, July 4th, 1833.

FELLOW CITIZENS:—We have now witnessed the laying of the corner stone of the Girard College for Orphans. That stone, simple, massive and enduring, fit emblem of the structure to be reared from it, and of the man whose name it bears, has been deposited in its final resting place. The earth received it.—To-morrow the earth will cover it. Ours are the last eyes which shall look upon it, and hereafter it will lie in its silent repose, unmoved by all the revolutions of the changing world above it.

And yet from out that depth is to rise the spirit which may more influence the destiny of ourselves and our children, than all else the world now contains. The seed that has been planted is of the tree of knowledge—that growth which gives to existence all that renders it attractive—flowers for our early youth—fruits in maturer life, and shelter for declining years. It is that knowledge, which, trampling down in its progress the dominion of brutal force, and giving to intellect its just ascendancy, has at length become the master power of the world. No people can now be distinguished, or prosperous, or truly great, but by the diffusion of knowledge—and in the stirring competition of the roused spirits of our time, the first glory and the highest success must be assigned to the best educated nation. If this be true in our relations abroad, it is far more true at home. Our institutions have boldly ventured to place the whole power of the country in the hands of the people at large, freed from all the great restraints which in other countries were deemed necessary. In doing this, their reliance is entirely on the general intelligence and education of the community, without which such institutions can have neither permanence nor value. Their brilliant success has hitherto justified that confidence, but as our population becomes concentrated into denser masses, with more excited passions and keener wants, the corrective influence of instruction becomes daily more essential. The education then of the people which elsewhere is desirable or useful, becomes with us essential to the enjoyment, as well as to the safety of our institutions. Our general equality of rights would be unavailing without the intelligence to understand and to defend them—our general equality of power would be dangerous, if it enabled an ignorant mass to triumph by numerical force over the superior intelligence which it envied—our universal right to political distinction, unless the people are qualified for it by education, becomes a mere abstraction, exciting only an abortive ambition. While, therefore, to be uneducated and ignorant, is in other countries a private misfortune, in ours it is a public wrong; and the great object to which statesmen should direct their efforts is to elevate the standard of public instruction to the level—the high table land—of our institutions. It is thus that this day has been appropriately chosen for the present solemnity.

It is fit that the anniversary of that day when our ancestors laid the broad foundations of our public liberties—on that day when our countrymen, throughout this prosperous empire, are enjoying the blessings which these institutions confer,—we, in our sphere of duty, should commence this great work, so eminently adapted to secure and perpetuate them.

This truth no man felt with a deeper conviction than our distinguished fellow citizen, whose history and whose design in founding this institution, may aptly occupy, for a few moments, our attention.

Of these, now that the tomb has dissipated all the illusion which once surrounded them, we can speak with the impartiality of history; and here, on this chosen spot, the scene of his future fame, we may freely bestow on his memory the homage which his unassuming nature would have shunned while living.

We all remember, and most of us knew him.—Plain in appearance, simple in manners, frugal in all his habits, his long life was one unbroken succession of intense and untiring industry. Wealthy, yet without indulging in the ordinary luxuries which wealth may procure—a stranger to the social circle—indifferent to political distinction—with no apparent enjoyment except in impelling and regulating the multiplied occupations of which he was the centre,—whose very relaxation was only variety of labor, he passed from youth to manhood, and finally to extreme old age, the same unchanged, unvarying model of judicious and successful enterprize. At length, men began to gaze with wonder on this mysterious being, who, without any of the ordinary stimulants to exertion, urged by neither his own wants, nor the wants of others,—with riches already beyond the hopes of avarice, yet persevered in this unceasing scheme of accumulation; and possessing so much, strove to possess more as anxiously as if he possessed nothing. They did not know that under this cold exterior, and aloof in that stern solitude of his mind, with all that seeming indifference to the world and the world's opinions, he still felt the deepest sympathy for human affliction, and nursed a stronger, yet a far nobler and wiser ambition, to benefit mankind, than ever animated the most devoted follower of that world's applause. His death first revealed, that all this accumulation of his laborious and prolonged existence, was to be the inheritance of us and of our children,—that for our and their comfort, the city of his adoption was to be improved and embellished, and above all, that for their advancement in science and in morals, were to be dedicated the fruits of his long years of toil.

It required the self-denial of no common mind to resist the temptation of being himself the witness and the administrator of this bounty, and to have abstained from enjoying the applause of his grateful countrymen, who would have acknowledged with affectionate respect, the benefits which they derived from him. Yet even this secret and prospective munificence must have had its charm for a mind like his; and we may well imagine that the deep and retired stillness of his spirit was often soothed with the visions of the lastnig good, and perhaps, too, of the posthumous glory, which he was preparing. Such contemplations he might well indulge, for to few have they been so fully realized. From the moment that foundation stone touched the earth, the name of Girard was beyond oblivion. From this hour, that name is destined to survive to the latest posterity, and while letters and the arts exist, he will be cited as the man who, with a generous spirit, and a sagacious foresight, bequeathed, for the improvement of his fellow men, the accumulated earnings of his life. He will be remembered in all future times by the emphatic title with which he chose to be designated, and with which he commences his will,—a title by which we ourselves may proudly recognize him—as "Stephen Girard of the city of Philadelphia, in the Commonwealth of Pennsylvania, Merchant and Mariner"—the author of a more munificent act of enlightened charity than was ever performed by any other human being.

His, will indeed be the most durable basis of all human distinction—a wise benevolence in the cause of letters. The ordinary charity which feeds or clothes the distressed, estimable as it is, relieves only the physical wants of the sufferer. But the enlightened beneficence which looks deeper into the wants of our nature—which not merely prolongs existence, but renders that existence a blessing, by pouring into these recesses of sorrow the radiance of moral and intellectual cultivation—this it is which forms the world's truest benefactor, and confers the most enduring of all fame. His glory is the more secure, because the very objects of that benevolence are enabled to repay with fame the kindness which sustains them.

It is not unreasonable to conjecture that in all future times, there will probably be in existence many thousand men who will owe to Girard the greatest of all blessings, a virtuous education; men who will have been rescued from want and perhaps from vice, and armed with power to rise to wealth and distinction. Among them will be found some of the best educated citizens, accomplished scholars, intelligent mechanics, distinguished artists, and the most prominent statesmen. In the midst of their prosperity, such men can never forget the source of it, nor will they ever cease to mingle with their prayers and to commemorate with their labors, the name of their great benefactor. What human being can be insensible to the happiness of having caused such a succession of good through remote ages, or not feel that such applause is more grateful than all the shouts which ever rose from the bloodiest field of battle, and worth all the vulgar fame of a hundred conquests!

The general design and the resources of the institution are proportioned to its purposes, and characteristic of him who did nothing which he did not do well.

After the building shall have been completed, there will remain the annual income of two millions of dollars, now yielding $102,000, and if these funds should be inadequate for all the orphans applying for admission, the income of nearly all the remainder of the estate is to be appropriated to the erection of as many new buildings as his square in the city would have contained. So that in general, it may be stated with reasonable confidence, that when all the buildings are ready for the reception of the pupils, there will be available for the maintenance of the institution, an income of not less than one hundred thousand dollars, which may be increased to at least two hundred and twenty thousand dollars.

These ample funds are to be devoted to the maintenance and education of "poor male white orphan children." Of all the classes of human indigence there are none more helpless and none more entitled to our sympathies than these children of misfortune. They have lost their natural protectors. The arms which have hitherto embraced and sustained them, have been folded in death. They began life in comfort, perhaps in affluence; but now they stand alone, abandoned and helpless, to struggle against the world's coldness, with precarious means of subsistence, with no means of instruction, and treading on that narrow and slippery verge which too often separates want from crime. From this friendless condition they are rescued by the benevolence of Girard, who not merely provides the means of subsistence, but redressing the wrongs of fortune, raises them at once in the scale of being, and qualifies them to be useful members of that society which they would otherwise disturb or corrupt.

How wide the limits of that benevolence may be, it is impossible to conjecture. If the imperfection of language suggests a doubt as to the degree of destitution which makes an "orphan," the greater weakness of our nature forces upon us the melancholy inquiry,—What child is there who may not be a poor orphan? Who is there indeed among us whose children may not yet need the blessings of this institution? Let none of us in the confidence of prosperity deem his own offspring secure. Alas! all our prosperity is so vain and shadowy, and misfortune is so constantly in ambush to assail us, that it were presumptuous in any of us to suppose himself beyond the reach of vicissitudes, which would render such an institution the happiest refuge for his children. Yes, fellow citizens, this college is our own; the property of us all. It is intended to remedy misfortunes to which we are all equally liable. And it should be a source of great consolation to each of us, that if, in the ever varying turns of human life, misfortune should overtake, and death surprize us, they who bear our names, and are destined to be the fathers of our descendants, will here find a home where they may be prepared for future usefulness, and become in turn the protectors and support of their more helpless relatives.

Hereafter, thanks to the bounty of Girard, every father among us may, on his death-bed, enjoy the reflection, that although unprovided with fortune, there is secured to his sons that which is at once the means of fortune, and far better than the amplest fortune without it,—a good education. This consideration, if any such incentive were wanting, may serve to stimulate the sense of public duty in those who administer the institution, to render it worthy of their own children.

For this purpose happily, it is only necessary to fulfil the design of the founder, which provides ample means and expressly enjoins the employment of them, to give every kind of liberal and useful instruction.

They would much err, who, comparing this institution with any ordinary standard, regard it as an Alms House, or a Poor House, in which a certain number of pauper boys, housed together, to be kept

from harm, are to receive some hasty rudiments of instruction, and then to be thrust out on the world to make way for a similar swarm of unfortunate children. By no means. The comprehensive benevolence of Girard looked to a higher and better things. It is not a poor school, nor a charity school, nor a free school, in their ordinary acceptation. It is, as he denominates it, a "College." The peremptory prohibition that "no distinctive dress should ever be worn," reveals his purpose that these youths shall not be designated as objects of remark or contempt by their cotemporaries—that they shall be distinguished only by their conduct, and shall not wear the livery even of charity. The instruction too required, is of the highest character, embracing almost every thing worthy of being studied in the circle of human knowledge. "They shall be instructed," says he, "in the various branches of a sound education, comprehending reading, writing, grammar, arithmetic, geography, navigation, surveying, practical mathematics, astronomy, natural, chemical, and experimental philosophy, the French and Spanish languages—(I do not forbid, but I do not recommend the Greek and Latin languages)—and such other learning and science as the capacities of the several scholars may merit or warrant."

This excludes nothing—nay, it embraces every thing necessary to form a well educated man. How far this instruction is to be carried—whether when the degrees of talent and disposition come to be analysed, some are to be instructed up to the point of their appropriate capacity, while the more intelligent and more diligent are to be carried into the higher regions of science, are questions of future administrations, to be decided by experience. But it is manifest that all the means of education, thorough, perfect education, are to be provided; that every facility for the acquisition of knowledge should be at hand; nor is there any reason why the Girard College—liberally endowed beyond all example—should not be superior to any existing establishment, in the talents of its professors or the abundance of its means of instruction; and with the blessing of God, so it shall be. There shall be collected within these walls all that the knowledge and research of men have accumulated to enlighten and improve the minds of youth. It will be the civil Westpoint of this country, where all the sciences which minister to men's happiness, and all the arts of peace, may be thoroughly and practically taught. Its success will naturally render it the model for other institutions—the centre of all improvement in things taught no less than in the art of teaching them—the nursery of instructors as well as pupils;—thus, not merely accomplishing the direct benefit of those to whom its instruction extends, but irradiating by its example the whole circumference of human knowledge.

To this intellectual cultivation will be added that, without which all instruction is valueless, and all learning the mere ability for evil—that moral discipline which makes men virtuous and happy at their own firesides. "My desire is," says he, "that all the instructors and teachers in the college shall take pains to instil into the minds of the scholars, the pure principles of morality, so that on their entrance into active life, they may, from inclination and habit, evince benevolence towards their fellow-creatures and a love of truth, sobriety and industry." When this harmony between the heart and the understanding ceases, mere knowledge is a curse, and men become intellectual statues, with the perfect forms of manly exterior, but cold, and selfish, and worthless to the community which endures them. Our youth too will not fail to be deeply imbued with that enthusiastic devotion to republican government, and that knowledge of his public rights and duties, which should form the basis of the American character. It is thus that the founder strictly enjoins, "that by every proper means, a pure attachment to our republican institutions, and to the sacred rights of conscience as guarantied by our happy constitution, shall be formed and fostered in the minds of the scholars."

Nor need there be any dread that such an education will disqualify them for their pursuits in after life. In this country all pursuits are open to all men, nor need the umblest citizen despair of the highest honors of the republic. They err who suppose that because men are instructed, they may desert the ordinary walks of employment. There never can be such an over-education of the mass of the people. Men labor not for a want of knowledge, but for want of bread. The cultivation of the mind, like the cultivation of the soil, only renders it more productive, and knowledge becomes the best auxiliary to industry by rendering the laborer more intelligent and more ambitious to excel. The youths thus instructed will go forth into the various pursuits of life, many of which are in their nature mechanical; but they will begin with the disposition and the power not merely to excel in them, but to rise beyond them; and they will emerge from their workshops, as their countrymen Franklin, and Rittenhouse, and Godfrey, and Fulton did before them, reaching all the distinctions of the State which may be honorably won, by talents and character.

That the scene of so many blessings may be appropriate to them, it is intended to make this structure worthy of its great object;—worthy of the name of its founder, and of the city which he was so anxious to embellish. Among the sciences most needed in this country, where individual wealth is hastening to indulge its taste and where every state and city and country requires extensive public buildings, is architecture. Indispensable in the rudest forms of life, it becomes the highest ornament of the most enlightened. In every stage of its progress, the style of its public works displays the character of the nation which rears them. Disproportioned and grotesque among a coarse and unlettered people—in nations more advanced, often over-ornamented with the gaudy profusion and the caprices of tasteless wealth—it is only when sustained by the public spirit of a community at once enlightened and generous, that architecture attains its highest glory—a refined simplicity. Of that perfection it is proposed that this structure shall present a model, the equal at least of similar works in any other country, and not unworthy of the best days of antiquity—a structure which will at once gratify the honorable pride of every citizen of the United States, and form the best study for all the branches of industry connected with architecture.

The enjoyment of so many advantages devolves on us, fellow-citizens, the duty of great care and vigilance to preserve them.

After bestowing upon our city this rich inheritance, Girard adds this emphatic declaration. "In relation to the organization of the College and its appendages, I leave necessarily many details to the Mayor, Aldermen, and Citizens of Philadelphia, and I do so with the more confidence, as, from the nature of my bequests and the benefit to result from them, I trust that my fellow-citizens of Philadelphia will observe and evince special care and anxiety in selecting members for their City Councils and other Agents."

That the generous confidence with which he has thus committed to us the execution of his great designs, should never be betrayed, we owe equally to the name of the founder and to the interests of our posterity; as the whole value of this institution will depend entirely on the administration of it. For myself and my colleagues, to whom the high honor has been assigned of sharing in that administration, I can only say, fellow citizens, that we have assumed the trust with the deepest sense of its responsibility, and a determination to execute it in the spirit of enlightened benevolence which animated the founder; and we shall in our turn retire from it, with the hope that our fair city may always find successors who to equal zeal, add greater ability to serve it.

Under such auspices, we confidently trust that all the expectations of the founder will be realized. With this delightful anticipation, we now invoke the blessing of God on this great undertaking.

In the name of *Stephen Girard of the city of Philadelphia, in the Commonwealth of Pennsylvania, Merchant and Mariner*, we lay the foundation of this *Girard College for Orphans*. We dedicate it to the cause of CHARITY, which not only feeds and clothes the destitute, but wisely confers the greatest blessings on the greatest sufferers;

To the cause of *Education*, which gives to human life its chief value;

To the cause of *Morals*, without which knowledge were worse than unavailing; and finally,

To the cause of our *Country*, whose service is the noblest object to which knowledge and morals can be devoted.

Long may this structure stand, in its majestic simplicity, the pride and admiration of our latest posterity; long may it continue to yield its annual harvest of educated and moral citizens to adorn and to defend our country. Long may each successive age enjoy its still increasing benefits, when time shall have filled its halls with the memory of the mighty dead who have been reared within them, and shed over its outward beauty the mellowing hues of a thousand years of renown.

Sketch of the Proposed Building.

The College is located on a tract of land containing forty-five acres, formerly known by the name of Peel Hall, situated on the Ridge Road, 1 1-4 miles from the city. This estate was purchased from Mr. William Parker, by Mr. Girard, a short time before his death, for the purposes of the College.

The building is peripterial, being 160 feet front, by 217 feet on the flank, including the porticoes.

The columns are 6 feet in diameter at the base, and 54 feet 6 inches high, including capitals and bases.

The order is Grecian Corinthian, from the monument of Lysicratus, or Lantern of Demosthenes, at Athens.

The superstructure reposes on a casement, in the form of a truncated pyramid, composed of 12 steps surrounding the whole building. The passage between the columns and the walls of the cell is 15 feet.

All the columns, entablature, and pediment, are to be composed of white, and the cell of light blue marble. The floors, and stairways, are also to be composed of marble.

The vestibules are each 26 by 48 feet: they are ornamented with 16 rich Ionic columns, antæ, and entablature, supporting a ceiling embellished with lacunari.

Each story contains four rooms 50 feet square in the clear. The two rooms across the south end of the first story, are divided from each other by marble columns and entablature of the Corinthian order, so that they may be used as one room, for the purpose of exhibitions, &c.

The whole building is to be heated by means of furnaces placed in the cellar.

The college is located parallel with the city streets, fronting the south. The land at the base of the building is 26 feet above the reservoir on Fair Mount. The whole height of the edifice is 97 feet, making the elevation of the roof 123 feet above the said reservoir.

POETRY.

THE FATHERS VERSIFIED.

Mr. Moore in his *Travels of an Irish gentleman in search of a Religion*, says, "by way of keeping the virgin in good humor, as well with the fathers as with myself, I occasionally translated into verse some of the most florid passages which occur in these writers, and laid them, in double homage, at once, of poetry and piety, at her feet. With these half-tender, half-saintly strains, the lady was, as may be supposed, inexpressibly delighted. To the task of copying them out the most delicate crow-quills were devoted; and it was the first time, I dare swear, in the annals of gallantry, that the names of St. Basil, St. Gregory, and St. Jerome were fated to shine forth in the pages of a morocco covered album." Thus St. Chrysostom:

"Why come ye to the place of prayer
With jewels in your braided hair?
And wherefore is the house of God
By glittering feet profanely trod;
As if, vain things, ye come to keep
Some festival, and not to weep?
Oh! prostrate weep before that Lord
Of earth and heaven, of life and death,
Who blights the fairest with a word,
And blasts the mightiest with a breath.
Go! 'tis not thus in bright array
Such sinful souls would dare to pray.
Vainly to anger'd heaven ye raise
Luxurious hands where diamonds blaze,
And she who comes in broider'd veil
To weep her frailty, *still* is frail."

"The same homily furnished me with rather a curious passage, showing how just this saint's notions of female beauty, and how independent of the aid of ornament was its natural power in his eyes.

"'Behold,' thou say'st, 'my gown is plain,
My sandals are of texture rude;
Is this like one whose heart is vain—
Like one who dresses to be woo'd?'
Deceive not thus, young maid, your heart;
For far more oft in simple gown
Doth beauty play the tempter's part,
Than the brocades of rich renown;
And homeliest garb hath oft been found
When typed and moulded to the shape,
To deal such shafts of mischief round
As wisest men can scarce escape."

Saint Gregory of Nazianzum, who himself wrote poems, and was the only one of the fathers of the first four centuries who did so, is thus rendered:

"Let not those eyes whose light forbids
All love unholy, even learn to stray,
But safe within thy snowy lids
Like timid virgins in their chambers stay,
Keeping their brightness to themselves all day.
Let not those lips by man be won,
To breathe a thought that warms thy guileless breast;
But, like May-buds, that fear the sun,
Shut up in rosy silence, ever rest,—
Silence, that speaks the maiden's sweet thoughts best."

But St. Basil comes nearer Little's poems:

"There shines an all-pervading grace,
A charm diffused through every part,
Of perfect woman's form and face,
That steals, like light, into man's heart.
Her look is to his eyes a beam
Of loveliness that never sets;
Her voice is to his ear a dream
Of melody it ne'er forgets.
Alike in motion or repose,
Awake or slumbering, sure to win,
Her form, a vase transparent, shows
The spirit's light enshrined within.
Nor charming only when she talks,
Her very silence speaks and sings;
Love glides her pathway when she walks,
And lights her couch when she reclines.
Let her, in short, do what she will,
'Tis something for which man must woo her;

So powerful is that magnet still
Which draws all souls and senses to her."

This ancient is afterwards kept in countenance by a paraphrase of a modern Barlæus, a staunch Calvanist:—

"Now, perhaps, having taxed my poetical art,
To indite you this erudite letter,
You've enough of the sex, after all, in your heart
To like a few kisses much better.

"And in sooth, my dear Anne, if you're pretty as wise,
I might offer the gifts you prefer,
But that Barbara tells me with love in her eyes
I must keep all my kisses for her."

MARRIAGES.

July 9, at the Episcopal Church in Buffalo, by the Rev. Mr. Shelton, the Hon. Robert McPherson, to Miss Harriet Thompson, both of Black Rock.

In the Parish of Lapide, La. on the 2d of June, Capt. Richard Delafield, of the U. S. Corps of Engineers, to Miss Harriet Covington.

At East Bloomfield, on the 4th inst. by the Rev. Mr. Smith, Lieut. E. B. Birdsall, of the United States Army, to Miss Mary Wilcox, daughter of Doctor Wilcox, of the former place.

In Philadelphia, on the 3d inst. by the Rev. Dr. Bedell, Lieu. N. Sayre Harris, U S. A. to Elizabeth Callender, daughter of J. Andrews, Esq.

DEATHS.

On Sunday forenoon, 14th instant, after a protracted illness, Meinhard Kolster, Esq. a native of Hamburg, Germany, and partner of the house of Faerber & Kolster, of the city of Mexico.

Ot New Orleans, June 26, of the prevailing epidemic, Wm. V. Chandavoyne, formerly of this city, aged 33 years.

At Petersburg, Va. on the 8th inst., Francis G. Yancey, Esq. senior editor of the Petersburg Intelligencer.

NORTH-WESTERN RAILROAD.

☞ NOTICE—Books for subscriptions to the additional stock of "The Elizabethtown and Somerville Railroad Company," will be opened at William Craig's Inn, in Belvidere, on Monday the 29th day of July instant; at Israel Smith's, in Clinton, on the 30th; at Drake's Hotel in Newark, on the 31st; and at the Exchange, in the City of New-York, on the 1st 2d, and 3d days of August next, between 11 A. M. and 3 o'clock, P. M Additional stock required $300 000, in shares of $50 each—$5 on each share to be paid at the time of subscribing.

GARRET D. WALL,
THOMAS SALTER,
OLIVER W. OGDEN,
NATHANIEL SAXTON,
JOHN W. BRAY,
JOHN KINNEY, Jun.

Dated July 12, 1833.

BOOKS will also be opened at the same times and places for subscriptions to the stock of "The Susquehanna and Delaware Railroad Company." Capital required, $1,0 0,000—Shares $ 0each—$5 on each share to be paid at the time of subscribing.

HENRY W. DRINKER,
DANIEL STROUD,
WILLIAM HENRY,
JOHN COOLBAUGH,
A. E. BROWN,
STOCDEL STOKES,
DAVID SCOTT,
JAMES M. PORTER.

Dated July 10, 1833.

BOOKS will likewise be opened at the same times and places, for subscriptions to the stock of "The Legget's Gap Railroad Company." Capital required, $500 000—Shares $50 each—$5 to be paid at the time of subscribing.

HENRY W. DRINKER, and others,
Commissioners.

Dated July 10, 1833.

The above roads, the stock of which is now offered to the public in connexion with the New Jersey Railroad, form one continuous line of railroad communication from Jersey City, opposite New-York, through the Lackawanc Coal Region, to the North-east Branch of the Susquehanna, below the great bend, and the North Branch of the Susquehanna at Pittstown, at the mouth of the Lackawana creek, and head of the Pennsylvania Canal navigation.

The "New-Jersey Railroad" extends from Jersey City, through Newark and Elizabethtown, and New-Brunswick The "Elizabethtown and Somerville Railroad" extends from Elizabethtown, through Somerville, Clinton, and Mansfield, to Belvidere, on the Delaware. The "Susquehanna and Delaware Railroad" extends from Belvidere through the Delaware Water-Gap, Shroudsburgh, up the Pokono Brook, down Roaring Brook, to its junction with the Lackawana at Centreville, and down the Lackawana to Pittstown, on the North Branch of the Susquehanna. The "Legget's Gap Railroad" extends from Centreville, where the Delaware and Susquehanna Railroad enters the Lackawana Valley, through Legget's Gap across the South Branch of Tuckhannock to the mouth of Martin's Creek, up Martin's Creek to the head waters of Salt-lick Creek, and down Salt-lick Creek to the North East Branch of the Susquehanna, below the great bend.

By this line of Railroad, in addition to the advantage of an open communication at all seasons of the year, the inexhaustible coal deposite of the Lackawana are between 60 and 100 miles nearer the city of New-York than by any other route of artificial communication now contemplated or believed to be practicable. This is apparent on inspection of the maps of New-Jersey, Pennsylvania, and the large map of New-York: and comparison of this with other lines of communication. jy2—3t

TO DIRECTORS OF RAILWAY COMPANIES AND OTHER WORKS.

☞ An Engineer lately from England, where he has been employed in the location and execution of the principal railways in that country, wishes to engage with some company in the United States.

From his practical knowledge of the various kinds of motive power, both of stationary and locomotive engines, also the construction of railway carriages of many descriptions, he has no doubt that he would prove of efficient service to any company having works now in progress.

Letters addressed to W. E. G. 35 Wall street, or to the care of Wm. & F. Jacques, 90 South street, will be punctually attended to. Most satisfactory reference can be given. m11 tf

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

J8 ROGERS, KETCHUM & GROSVENOR.

☞ GRACIE, PRIME & CO., offer for sale, at 22 Broad street—

2 cases Gum Arabic		
20 do. Banish Smalts, EFFF		
10 do. Saxon do. do.		Reduced Duty
100 bags Saltpetre		
2 do. Gall Nuts; 20 tons Old Lead		
100 do. Trieste Rags, FF.		
6 boxes each 50 lbs. Tartaric Acid		
6 do. each 25 lbs. do. do.		
1 case 50 bottles Syrup de Vinaigre		
10 cases White Hermitage; 20 do. Cotic Rotie		
10 do. Dry St. Peray: 50 do. Bordeaux Grave		
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil		
8 bales Fine Velvet Bottle Corks		
100 do. Bourbon Cloves		
30 do. Molieres Almonds		
143 bundles Liquorice Root		
4 bales Goat Skins		
1 cask Red Copper, 1 do. Yellow do.		

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints
40 do. 3-4 and 6-4 colored and black Merinos
15 do. 5-8 colored and black Circassians
2 do. Silk Bandannas, black and colored
4 do. Italian Lustrings
3 do White Satteens
4 do. White Quiltings
10 do. Borrie's Patent Thread, No. 22 and 25
10 do. Super high col'd Madras Hdkfs, ent. to debenture
100 pieces Fine English Sheetings, for city trade
3 cases Cantoon Cords
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors
25 bales low priced pelo Blankets.

PAPER—

IMPERIAL AND ROYAL—From the celebrated Saugerties Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—21x35, 21½x36, 21x34½, 26x36, 26x37, 29x41, 27x38½, 21x38, 21x29, 21x28, 21x26, 21x27, 20x21, &c., &c.

Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.
5 cases each 1600 Sheets Colored Paper

2 do	do	do	do	do	superfine
2 do	do	do	fig.	do	do
3 do	do	do	plain	Gold	do
2 do	do	do	plain	Silver	do
2 do	do	do	Silver	do	with red figures
2 do	do	do	Gold	do	do
2 do	do	do	Red	do	Gold do
2 do	do	do	White	do	Silver do. A20

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new; among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street,
Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad,
Germant. and Norriet. Railroad
m1 1y

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN. Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May*, offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York,
January 29, 1833. F31 tf

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J32 6t corner of Maidenlane.

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

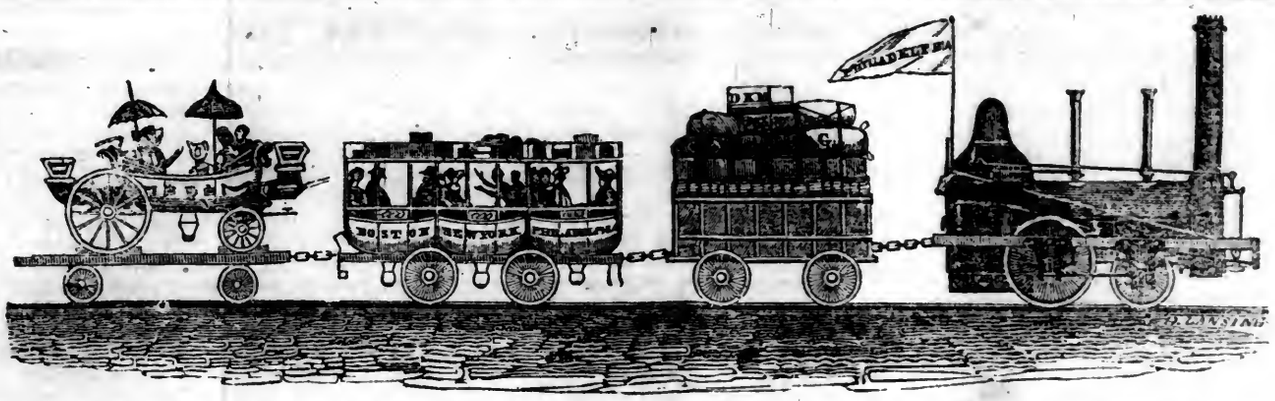
WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, JULY 27, 1833. [VOLUME II.—No. 30.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, JULY 27, 1833.

It may not be uninteresting to those of our friends who were so obliging as to furnish us with reports and other documents relative to the numerous railroads now in use, or in a course of construction, as well as those in contemplation, to learn that they have been received by the eminent gentleman in whose behalf we applied for them; nor will they be less gratified to know that we shall soon have the pleasure of laying before them the article on *Roads* and *Railroads*, prepared for the "Encyclopædia Metropolitana," by one of the most distinguished engineers of Europe, as they will learn by the following letter recently received from Liverpool.

LIVERPOOL, June 7, 1833.

To the Editor of the Am. Railroad Journal:

DEAR SIR,—I have to acknowledge the receipt of two copies of the first volume of your valuable and interesting publication; and one copy of the first nineteen numbers of the second volume, and shall expect in due course the duplicate numbers, and the others in progress of publication.

I am much gratified by your compliance with my request, and will in return furnish you with proofs of the article, *Road and Railroad*, when put in type, which will now be in the course of a few weeks, though I shall delay the printing as long as possible, that I may get the very latest information on the subject of the American Railways, &c.

I have also received the Reports, &c. upon the several principal Railroads enclosed in your packet, and I will take the earliest opportunity of reciprocating your politeness by sending you what I can on the subject of our public works in England.

Allow me to say, that any friend of yours coming to England with letters from you to me, shall meet every attention. I am engaged on most of the principal Railroads of this country and Ireland, and will be glad to afford any American engineer the information he may require.

I have the honor to be, dear sir, yours, with much esteem, CHARLES VIGNOLES,
Civil Engineer.

There are still several Railroads, relative to which we have received no account. We should be greatly obliged by such information from the engineers, or other officers of the companies, as will enable us to furnish Mr. Vignoles in time for his forthcoming publication. He desires, also, where it is convenient, a transverse and longitudinal section of the road.

We shall forward by the packet of the 1st of August such Reports, &c. as may have come to hand since the others were sent.

Our desire to obtain further information relative to the various roads from which we have not heard, will be, we trust, sufficient apology for publishing the above letter.

NEW-YORK AND ERIE RAILROAD.—The books for subscription to the stock of the New-York and Erie Railroad were opened in New-York week before last, and the requisite quantity of stock to commence the work was taken up. This road is to extend from the Jersey shore near New-York, touch a section of Pennsylvania, and run through the southern tier of counties of this State to Lake Erie. It will be a great thoroughfare for the transportation of produce, &c. from the west to New-York. It would seem like a Herculean undertaking to construct it, but the stock being taken, it will doubtless soon be commenced, and completed at no very distant day.

The above extract is from the Poughkeepsie Telegraph. The editor is, however, mistaken in saying that the New-York and Erie Railroad is to extend from the "Jersey shore near New-York, touch a section of Pennsylvania," &c. as the charter for this road expressly requires that it shall pass the entire distance in the State of New-York, as will be seen by the following extract from the charter:

Sec. 12. The said corporation shall not, at any point, connect the said single, double, or treble Railroad or ways, with any Railroad, either of the State of Pennsylvania or New-Jersey, or leading into either of the said States, without the consent of the Legislature of this State, on pain of forfeiting the powers and privileges conferred by this act.

NEW-YORK AND ALBANY RAILROAD.—By an advertisement in our paper for four weeks previous to the 17th instant, notice was given that books for subscription to the stock of the New-York and Albany Railroad Company would be opened in the cities of New-York, Albany, and Troy, for three days, ending on the 17th, and also at Payn's tavern, in the town of Amenia, in this county. Since the 17th we have inquired of several persons from the country whether any subscriptions have been made at Amenia, without receiving any definite information. Neither the New-York, Albany, or Troy papers have stated the amount subscribed in those cities. We, therefore, conclude that the books were opened without success, or if any subscriptions were made, the amount was so small that the city papers have not deemed it worth while to mention it.—[Poughkeepsie Telegraph.]

We learn, upon inquiry, that the stock for the road above referred to was not taken at the late opening of the books: it is believed, however, that it will be taken without much delay.

CUVIER.—It has been justly deemed one of the greatest advances in science, that the naturalist can now, on the discovery of a fossil tooth, merely by the examination of that seemingly unimportant relic, pronounce with certainty on the nature of the animal to which it belonged, the distinguishing features of its structure, and even the prominent characteristics of its nature and habits. That this has been done, and that too with animals which, like the mammoth and the mastodon, have long disappeared from the face of the earth—that we have been enabled to form in part a natural history of the world before the creation of man—we owe chiefly to Cuvier. The discovery of a few bones, which to our ancestors would merely have seemed testimonies of the reality of the existence of giants in the "good old days of Palmerin of England," and "Amadis of Gaul," has led in our times to an extension of the authentic history of nature, which we could hardly blame those who lived fifty or sixty years ago for regarding as wholly impossible.—[From an excellent Memoir of Cuvier in the Literary Guardian.]

NORTH CAROLINA.—The following, from the Raleigh (N. C.) Register, is indeed reviving. It shows that, notwithstanding the recent failure of the *Central Railroad* enterprize, North Carolina does not mean to let the subject rest. There will be found in the following list the names of some of North Carolina's most eminent sons, and it is much to be desired that the present effort may be crowned with better success than those which have preceded it.

Internal Improvement Convention.—In conformity to the invitation previously given through the public papers, a large number of Delegates from various parts of the State, assembled in Convention, in this city, on the recent Anniversary of American Independence, to take into consideration the subject of Internal Improvement, and to adopt such measures as might best promote its success. It may not, perhaps, be going too far, to say, that it was the most talented, respectable, and dignified body ever convened in North Carolina, for any purpose. Ample confirmation of the correctness of this assertion may be found in the list of the Delegates which we subjoin. It is, indeed, a truly gratifying and animating circumstance, to find that there is still so much of the spirit of State pride and patriotism among us, as to bring together, on such an occasion, and at so short a notice, so large a number of gentlemen, of different political views, to consult and co-operate for the public good. This fact alone proves conclusively that nothing is wanting to give an impetus to the cause of Internal Improvement in the State, but the general prevalence of a spirit of free inquiry into our resources and relative situation. To excite such a spirit was the great end and aim of the Convention, and no one who witnessed the zeal, nay, the enthusiasm which pervaded that body, can doubt that the design will be accomplished.

Having had the honor, however, to serve in the Convention, and desirous to create abroad no false impressions as to its character or deliberations, we prefer that the record of the proceedings should speak for itself. The Journal of the Convention, therefore, shall be given in detail to the public, in our next; but in the mean time, we think it our duty to subjoin a very brief account of the most prominent circumstances connected with it.

The Convention was organized at the Government House, on the afternoon of the 4th, by the appointment of his Excellency, DAVID L. SWAIN, as President, and of Gen. S. F. PATTERSON, of Wilkes, and CHARLES MANLY, Esq. of this city, as Secretaries. On taking the chair, the president made an appropriate address. The Counties having been called over alphabetically, the following Delegates, 118 in number, appeared and took their seats, viz.:

From Beaufort County—Z. W. Barrow.

Brunswick—F. J. Hill, Francis N. Waddell, J. Waddell, H. Y. Waddell.

Bladen—John Owen.

Craven—William Gaston, John H. Bryan, John F. Burgwin, Wright C. Stanly.

Chatham—Jona. Haralson, Abraham G. Kean, C. J. Williams, William H Harden, P. Le Messurier, Charles Lutterloh, H. S. Clark, Thomas Prince.

Cumberland—Robert Strange, John Haske, L. D. Henry, John H. Hall, E. J. Hale, E. Arnold, E. W. Wilkings, James Seawell, W. Waddill, Jun., Thomas L. Hybart.

Duplin—William Wright.

Franklin—James Farrier, Wood T. Johnson, Nathaniel R. Tunstall.

Granville—William M. Sneed, Spencer O'Brien, Thomas W. Norman, Thomas B. Littlejohn, Memucah Hunt.

Halifax—Jos. J. Daniel, Edm. B. Freeman.

Johnston—J. H. Smith, Bythan Bryon, Josiah O. Watson, Daniel Boon, Christopher Christophers, Reuben T. Sanders, John C Smith, James T. Leach, James Frilick.

Lenoir—Isaac Croom, Hardy B. Croom, Nathan B. Whitfield, and George Whitfield.

New-Hanover—William B. Meares, John D. Jones, Joseph A. Hill, Alexander MacRae, William J. Love, Thomas Hill, Patrick Usher, George H. McMillan.

Nash—Henry Blount, Stephen S. Sorsby, George Boddie, Jun.

Orange—Hugh Waddell, William J. Bingham, Professor Philips, Walter A. Norwood, Alexander Henderson, James H. Norwood, Frederick Nash, William A. Graham, John Scott, Samuel Childs, Cadwallader Jones, William F. Strudwick, James Mebane.

Sampson—Thomas J. Faison, H. C. Holmes, William Kirby, Ollen Mobley, Wm. Faison.

Wilkes—Samuel F. Patterson.

Wake—David L. Swain, George E. Badger, James Iredell, William McPheeters, William H. Haywood, Jun., William Boylan, Henry Seawell, George W. Haywood, Charles Manly, A. J. Lawrence, J. C. Stedman, Thomas Cobbs, Weston R. Gales, James Grant, Cyrus Whitaker, Johnston Busbee, Alfred Jones, Henry A. Donaldson, Henry Warren, Turner Pullen, John Y. Young.

Warren—John C. Green, Thomas Bragg, George Little, Joseph S. Jones, George M. Allen, Simmons Southerland, James Somerville.

Wayne—Arnold Borden, James B. Whitfield, John W. Sasser, H. M. Jeter, John Wright.

A Committee, composed of one member from each Delegation, was appointed, to whom were referred all matters of inquiry, with instructions to make a general report. This Committee made a detailed report on Friday afternoon, which elicited a most able, animated, and protracted discussion. After being modified in several particulars, it was adopted by a vote of 55 to 37, on Saturday afternoon about 4 o'clock. Nearly the whole of the debate which occurred in the Convention took place on a resolution reported by the Committee, which affirms that the true policy of the State requires that its funds should, in the first instance, be *exclusively* applied to providing the means of internal transportation, and in creating and improving markets, within her own limits. This resolution was opposed by Messrs. Iredell, Badger, Sneed, O'Brien, Graham, and Nash; and advocated by Messrs. J. A. Hill, Strange, Gaston, J. H. Bryan, Haywood, Henry, and Patterson.

The Report, as adopted, embraces substantially the following Resolutions:

1. That the condition of the State requires that a liberal system of Internal Improvement should be immediately organized and vigorously prosecuted.

2. That the Legislature ought to provide a fund, by loan, or otherwise, to enable the State to contribute substantial assistance in the prosecution of works of Internal Improvement.

3. That true policy requires that said fund should be appropriated, in the first instance, to build up markets in our own State.

4. That it be recommended to the Legislature to provide, by law, that the State shall subscribe for two-fifths of the Stock in any Company hereafter incorporated for the purposes of Internal Improvement, whenever the other three-fifths shall be paid, or secured to be paid, by individuals.

5. That the President shall appoint a Committee to prepare an Address to the people of the State, on the subject of Internal Improvement.

6. That the Proceedings of the Convention be laid before the Legislature at its next session.

7. That Committees of Correspondence be appointed in the several counties.

8. That it be earnestly recommended to the citizens of the several counties in this State to elect three Delegates from each county, to hold a Convention in the city of Raleigh, on the 4th Monday of November next, to deliberate further upon the subject of Internal Improvements.

To the passage of the third resolution, Mr. O'Brien, of Granville, entered a protest, which, agreeably to his request, shall appear in our next, when we publish the proceedings.

The Convention having got through with the business before it, and a resolution of thanks having been voted to the President for his impartial discharge of the duties of the Chair, that gentleman rose and delivered one of the most interesting and pertinent addresses which it has ever been our good fortune to hear. We shall not attempt a description of the vigorous arguments, the warm eloquence, or glowing imagery of the speaker. His mind seemed to pervade the assembly, and to control their feelings. It was our State—our whole State—and nothing but our State—her pride, her glory, her hopes and fears— hat was the life and soul, and pervading spirit of his eloquence.

TUSCUMBIA, COURTLAND, AND DECATUR RAILROAD.

ENGINEER'S OFFICE,
Tuscumbia, March 4, 1833.

To the President and Directors of the Tuscumbia, Courtland, and Decatur Railroad Company.

GENTLEMEN,—In pursuance of a resolution of your Board, passed the 12th February, I respectfully present my first annual report, detailing the operations in my department for the past year, under their proper heads, with such general observations, in view of the future, as seem to be of interest or importance to the Company.

THE LOCATION OF THE ROUTE.—Soon after my appointment as your principal Engineer, in March last, I proceeded to the definitive location of the First Division of the Railroad, extending from Main street in the town of Tuscumbia, to Town Creek, being a distance of 14 miles 62 chains and 75 links, or 14·784 miles.

Subsequently, in compliance with an order from your Board, the route was continued, and that part of the Second Division of the road, extending from the west bank of Town Creek, to the east bank of Big Nance, near the town of Courtland, was staked out, being a distance of 8 miles and 4 chains; making the whole distance from Main street in Tuscumbia, to the east bank of Big Nance, 22 miles 66 chains and 75 links, or 22·834 miles. The distance, in a straight line drawn from point to point, is 22 miles 25 chains and 29 links, or 22·316 miles. The distance of the route of the railroad exceeds the nearest distance between the points 41·46 chains, or 518·1000 of a mile, equal to 2¼ per cent. A table is annexed, marked A, exhibiting the length of straight line, the length of curved line, and the radius of curvature of the curves; from which it will be seen that the plan of the road consists of 27 straight lines, and 26 curves; that the total length of the former amounts to 19 miles 76 chains and 75 links, or 19·659 miles; and of the latter, to 2 miles and 70 chains, or 2 7-8 miles, and that the proportion of straight line to that of curved is as 7 to 1, nearly. Also, that the longest straight line is 2 miles and 22 chains in length, and that there is but one curve, on a less radius, than 1512 feet, which is on a radius of 1380 feet. This curve was laid off before the minimum of 1512 feet was adopted, and the difference being so inconsiderable, it was concluded not to change it.

A table is also annexed, marked B, exhibiting the rate of ascent or descent per mile, and the amount of ascent or descent, and length of each grade in feet; and the total ascent and descent; from which it will be seen, that the profile of the road consists of 116 plane surfaces, of which number 53 are horizontal; the remainder, namely 63, are more or less inclined to the horizon, ranging from 0 to 28 feet to the mile, which last has been observed as the maximum of inclination. From this table it will also be observed that the total rise of the ascending grades is 266·03-100 feet, and the fall of the descending 177·89-100. The difference is 88·14-100, being the amount in feet by which the point of present termination, on the east bank of Big Nance, is elevated above the grade of the road on Main street in Tuscumbia.

Maps and profiles of the route have been heretofore reported, and are now referred to.

Graduation and Masonry.—Under this head is embraced all the preparation of the ground which is necessary to the laying down of the railway. Your Board will remember that, in May last, the grading of that part of the First Division of the road extending from Tuscumbia to the connty line, was let to contract, and in October the grading of the remainder of the First Division, and the whole of the Second Division, extending to the town of Courtland, was also let, to Messrs. Aldridges, Warren and Davis, to be accomplished by the last day of November, 1833. The bridges over Town Creek and Big Nance have also been let to Mr. D. S. Goodloe; the former at $1930, and the latter at $900, exclusive of the masonry for the abutments, which is to be paid for at the rate of $4,25 per cubic yard. The work to be completed by the 1st of October next. The undertakers of the contract let in May are the following, viz.: Thos. Aldridge, jr. & Co. the whole of sections 1 and 2, and part of 3 and 4. Wm. Hudson, part of section 3. Messrs. Davis, Warren, and McMahon, part of sections 4, 5, and 6. Mr. John Gist, part of section 5.

The following table will show the quantity of work undertaken by each Contractor, the contract prices and amount:

	Section.	Excavation.	Embankment.	Total.	Price.	Amount.	Grubbing.	Masonry.	Remarks.	Contractor.
First Division	1 & 2	26890	9994	36714	11c.	4038 54				Aldridge's
	part 3 & 4	7763	8961	16024	"	1762 64				"
	" 3	2875	119	2994	"	329 34				"
	" 4	5928	4873	10801	"	1174 50				Hudson
	Sect. 5 part 6	3919	11307	15222	"	1560 66				Davis, Warren & Co.
		355	3046	3401	"	348 60				Do. & Gist.
Second Division	1, 2, 3 & 4			85156		9214 38				Davis, Warren & Co.
	Bal. 6	22421	10417	32838	10 83c.	3612 18				
	7 & 8	8159	9596	17755	11	1953 05				County line.
	5 & 6	15,564	29395	44959	"	4945 49	472	261		
				180708	10 915	19725 10	1958 50	805		
							169	153		Town Creek.
							617 50	391		

Note.—The slopes for embankments on the first Division were calculated at an angle of 45°, but that angle having been found too steep the work has been laid off at an angle of 34°, or 1¼ to 1, which will enhance the quantity of embankment to some extent, upon the final estimates.

From the above table the following results are deduced, viz.: That the quantity of excavation and embankment required to the county line is, 85,156 cubic yards, which at the contract prices amounts to $9214 38, equal to an average of 10 82-100 cts per cubic yard. The grubbing and masonry is estimated to cost $733, making the total expense of preparation for the reception of the rails $9,947 38, or an average of $962 96 per mile, and to complete the graduation of the road-bed, from Tuscumbia to the east bank of Big Nance, 180,708 cubic yards of excavation and embankment will be required, which will cost, at the contract prices, $19,725 10, being an average of 10 $\frac{91}{100}$ cts. per cubic yard. Grubbing and masonry, as estimated, will cost $2,063 50, which added to $19,725 10 is equal to $21,788 60, or an average of $954 21¾ cts. per mile. The bridges over Town Creek and Big Nance—the first 429 feet and the last 115¼ feet in length between the abutments, are contracted to be built for $2,830, exclusive of masonry—the masonry being estimated at $425.

The following will show the total cost of graduation, bridging, and masonry, from Tuscumbia to the point last above mentioned, being a distance of 22·834 miles, viz.:

180,708 cubic yards of excavation and embankment	$19,725 10
Grubbing and masonry	2,063 50
Bridges over Town Creek and Big Nance	2,830 00
Masonry for abutments	425 00
	$25,043 60

Average per mile, $1,096 76¾.

According to the contracts let in May last, the graduation to the County line was to have been accomplished by the first day of November—but difficulties have arisen, which were beyond the control of the agents of the Company, or the power of the contractors to overcome. Immediately after the contracts were let, the principal contractors, T. Aldridge, jr. & Co. and Davis, Warren, and McMahon, commenced operations upon their respective sections, with that energy and promptness, which, under ordinary circumstances, cannot but succeed in the accomplishment of its ends. But the work had not progressed far, when the contractors began to be impeded by land proprietors, at different points along the line, and it became necessary for them to shift from place to place, in order to keep what force they happened to have on hand at work.

It is believed, that had the difficulties mentioned not occurred, the grading of the road from Tuscumbia to the county line would have been accomplished within the time promised in the contracts.

The following statement will show about the amount of labor that has been done between the town of Tuscumbia and the county line, and also what remains yet to be done, viz.:

Thos. Aldridge, jr. & Co. have completed in excavations and embankments, say	34,600 yds.
Davis, Warren & Co.	20,000 do.
Mr. Gist has completed his	4,025 do.
Mr. Hudson has done about	2,000 do.
	60,625 yds.
There remains to be done by T. Aldridge & Co.	18,000 yds.
Davis, Warren, & Co.	7,600 do.
William Hudson	1,000 do.
	26,600 yds.

The grubbing and chopping may be said to be almost entirely done. Of masonry there remains something more than a proportion to be done, taken with the excavation and embankment. The bridges in overcovering Dry Creek yet remain to be done. The distance taken up by the work that remains to be done amounts to about 3½ miles.

Thus it appears that in point of distance, 6¾ miles is accomplished, while 3½ miles is yet to be done, or about two-thirds of the space between Tuscumbia and the county line may be said to be graded; and in point of labor required, nearly three-fourths is done. Quite lately, as your Board are apprised, the obstacle heretofore interposed by Capt. Jones has been done away by the verdict of a jury—and the contractors have entered upon the work with a considerable force. Messrs. Aldridges, Davis, and Warren, have united their forces, and will finish the grading as they progress towards the county line, so that the construction of the railway can immediately follow. Mr. Hudson is actively engaged on his contract, and will finish, if the weather permit, in a very short time.

The following certificates upon the Treasurer of the Company have been granted on account of work done towards the graduation of the road, viz.:

To Thos. Aldridge, jr. & Co. on account of excavations and embankments, grubbing and masonry	13,233 69
To Davis, Warren & McMahan, on account ditto	1,900 00
To John Gist upon a final estimate	469 63
To Wm. Hudson upon his contract	50 00
	$5,653 32

Construction of the Railway.—Under this head will be embraced the laying down of the sleepers, string pieces, and the iron rails, as also all the materials used in the construction of the railway.

Your Board will remember that in May last contracts were entered into at Courtland, for a sufficiency of sleepers and string pieces, to extend from Tuscumbia to the county line, a distance of 10 1-3 miles. These materials were stipulated to be delivered as follows: A quantity of sleepers, sufficient for one section of two miles, to be delivered by the 15th of August and a like quantity every 15 days thereafter till the contract should be supplied. Of string-pieces, a sufficiency for one section of two miles was to be delivered by the 1st day of September, and a like quantity in each two weeks thereafter, until the contract should be filled. But indications of a failure on the part of the contractors were observed before the time for compliance had arrived; and your Board being convinced of the fallacy of a reliance on those contracts, authorized a committee of three persons, (of whom your engineer was one,) to make other contracts to supply the whole, or any deficiency that might happen by reason of the non-compliance of the 1st contractors. The time being near at hand when the timbers were actually wanting, it was deemed advisable to engage as many persons in this business as could be induced to work at it. Accordingly a price was offered, viz.: 30 cents for cedar sleepers, 5 cents per foot for cedar string pieces, and four cents per foot for oak and poplar ditto, to be delivered upon the line, wherever directed. It was soon apparent that a sufficiency of sleepers would be obtained in pretty good time, but that the string-pieces did not come in so fast, owing, in a good measure, as is believed, to the difficulty of getting the proper quality of timber, and the extra skill required in preparing the same. There has been delivered upon the line, as appears from the Inspector's report, as follows viz.:

Cedar sleepers,	12,159	
Mulberry,	233	
	12,392	sleepers.
Cedar string-pieces,	17,356	feet
Oak, "	25,644	
Poplar, "	3,860	
Mixed parcels,	4,516	
	51,376	ft. strings.

There are about 10,000 feet of string timber, and about 1000 sleepers upon the line not yet inspected, which, when added, will make the quantity of 61,376 feet of strings, and 13,392 sleepers; which shows a deficiency at this time, between this and the county line, in strings, of 47,744 feet, and of sleepers, of 248. On account of this part of the work, certificates on the Treasurer to the amount of $6,145 41 have been granted, viz.: on account of sleepers and string-pieces 5,645 41, and on account of laying down do. $500.

About 5,000 bars of railroad iron have been received, which will be sufficient to lay the rails for about 6¾ miles, and a like quantity is daily expected, which will constitute a supply to reach some distance above the county line.

On the 16th day of July last, the following proposals were acceded to by our Board, for the construction of the Railroad from Tuscumbia to the county line, viz.: Thomas Aldridge, Jun. & Co. for the laying down the timbers, iron, &c. for the first section of two miles, at $1 85 per rod run; section No. 2, at $1 90, and section 3, at $1 95, and for filling in the

earth between the string-pieces ready to receive the gravel for the horse-path, and for the covering the ends of the sleepers outside of the strings, at the rate of 20 cents per rod, making an average of $2 10 per rod for the work stipulated to be done.

Messrs. Warren and Davis have undertaken the same description of work, upon sections 4, 5, and part of 6, at the rate of $2 19 per rod. The following statement will show the cost of construction of this portion of the road, viz.:

The first three sections, say 1920 rods, at - -	$2 10=4032 00
Sections 4, 5, and part of 6, say 1387 rods, at - -	$2 19=3037 53
Total for 10 1-3 miles.	$7069 53

7069 53 ÷ 3307 rods=$2 13 average per rod.

These undertakings were stipulated to be done by the 1st day of January, 1833; but from several causes the work has been retarded. The following brief statement will show how much of the work has been accomplished, and how much remains now to be done.

The sleepers are laid for a distance of about 3¾ miles, the string-pieces upon which are laid for a distance of 1 1-8 miles, and one half mile extending from Main street, in Tuscumbia, is laid with iron.

Thus it appears that upon about 6½ miles, nothing has been done towards the laying down of the superstructure of the road; that one half mile is finished; that upon 2 1-8 miles the sleeper and strings are laid; and that upon a little over two miles, the sleepers only are laid down. A specification is annexed, marked C. describing the mode of construction of the Railway in detail, in accordance with which the work now progressing is laid down. On the 9th day of October last the proposals of the Messrs. Aldridge, Warren & Davis, were accepted, and contracts entered into, for the construction of the remainder of the first division, and the whole of the second, extending from the county line, to the town of Courtland, at $2 10 per rod run—all to be completed by the last day of November next. The distance from the county line, to the east bank of Big Nance, is 12½ miles, equal to 4000 rods, which, at $2 10 per rod, will amount to $8,400. Contracts have also been entered into, for a full supply of sleepers and string-pieces, to be all of cedar, for the portion of the road from the county line to Courtland, to be delivered upon the line by the 1st day of September next—the sleepers at 30 cents, and string-pieces at $5 00 per hundred feet. These materials will cost, for 12½ miles, $11,550. The following will show the cost of construction from Tuscumbia to the county line, and also from the last named point to station 321, on the east bank of Big Nance, including every thing, except the gravelling of the horse-path:

65⅓ tons iron rails, at $51 per ton,	$3,470 00
11,875 lbs. spikes and joint plates, at $10½, - - - - - -	1,246 87
Ditching and turn-outs, - -	723 00
13,640 sleepers, at 30 cents, -	4,092 00
109,120 feet cedar and oak strings, at an average of say 4½ cents,	4,910 40
Constructing of road, and filling horse-path of earth and covering ends of sleepers, at $2 13¾ cents per rod, - - - - -	7,069 53
	$26,511 80

CONSTRUCTION FROM COUNTY LINE TO BIG NANCE.

Sleepers and string-pieces for 12½ miles, as before stated, - -	$11,550 00
200 tons iron, at $51, - - -	10,200 00
17,100 lbs. spikes and joint plates, at 10½, - - - - -	1,795 50
Ditches and turn-outs, - -	875 00
Construction of Railroad, &c. -	8,400 00
	$32,820 50

26,511 80 divided by 10,334 miles=$2,565 49¼ average per mile, to the county line, and 26,511 + 32,820 60 ÷ 22, 83 miles=$2,598 42 average per mile to Courtland.

SUMMARY.

The graduation, masonry, &c. from Tuscumbia to the county line, will cost - - - - - -	$9,947 38
The construction to the same point as above, - - - - -	26,511 80
Add for contingencies 10 per cent.	3,645 90
	$10,105 09
Average per mile, $3,880 88.	
Graduation, bridging, masonry, &c. from Tuscumbia to the east bank of Big Nance, - - -	$25,043 60
Construction to same point, -	59,332 30
Contingencies 10 per cent. - -	8,437 59
	$92,813 49
Average per mile, $4,064 70.	

Making the total cost of the Railroad to the county line, 10½ miles, $40,105 09, including 10 per cent. for contingencies; and the aggregate expense to the east bank of Big Nance, will be $92,813 49.

There has been paid to the contractors on account of the first portion, as follows, viz.:

On account of graduation, &c. -	$5,653 32
On account of sleepers and string-pieces, &c. - - - - -	6,145 41
	$11,798 73

Which being deducted from $40,105 09, leaves $28,306 36 to be paid in part, during the progress of this portion of the work and the balance will be due when it is finished. The contracts from the county line to Courtland being made on time, the following will be about the periods at which the payments will become due, viz.: between this and the 1st of October next, on the following accounts, viz.:

On account of graduation and construction. - - - - -	$3,000 00
For masonry of abutments to bridges,	425 00
For iron, say - - - - -	6,000 00
Sleepers and string-pieces, say -	2,000 00
Total to be paid by the 1st of Oct.	$11,425 00

The following between the 1st of October and the 1st of January, 1834:

On account of graduation, &c.	$8,000 00
" " iron, - - -	6,000 00
" " sleepers and strings,	2,000 00
" " joint plates, - -	1,800 00
	$17,800 00

The remaining balance of $23,483 40 will be due and payable, the one half on the 1st July, 1834, the other half on the 1st of January, 1835. Thus it appears provision is to be made for the payment of - - - - - $28,306 36 between this and 1st of June next.

This amount by 1st October next,	11,425 00
" " " January, 1834,	17,800 00
" " " July, 1834, -	11,741 70
" " " January, 1835,	11,741 70
" having been paid, - - -	11,798 73
Total sum of estimates, - -	$92,813 49

RAILROAD DEPOT.

Early last spring a site was selected for a Depot, at the termination of the Railway, at the Tennessee river. Contracts were immediately entered into for the different parts of the work, and the building commenced with the view, if possible, to have it accomplished by the 1st day of December last. But from various causes the work did not progress with that celerity that had been expected, and finally the winter and bad weather set in, since when much could not be done. The brick work has been up some time, and the carpenters are now engaged in finishing their part of the work. The inclined plane being nearly finished, and the floors nearly laid down, it is hoped that the house will in a few days be of use to the company for their receiving and shipping business, which has thus far been attended with much extra labor and expense. In regard to the plan and location of the warehouse, it will probably suffice to say, that it is located upon an elevated point of land near the junction of Spring Creek with the Tennessee river. The building is 75 feet, in a parallel direction with the river, extending back 60 feet, three stories high, the first of strong rubble masonry, the other two of brick work. The upper floor—being the one on a level with the Railroad—is elevated above high water mark 62.37 feet, and above the lowest water mark 85.75.

The front next the river is set back 105 feet, horizontal distance, from the edge of low water. An inclined plane is erected, passing from the edge of low water into the house, upon the second floor, and terminating upon the upper floor.

This inclined plane is designed to be worked by horse power, when proper gearing (the construction of which is in progress) shall have been erected back of the house for that purpose. For the present a wheel and axle will be used. A floating wharf will be constructed to accomodate itself to the inclined plane, at the different stages of the water in the river, along side of which boats will land and discharge their freight, to be elevated into the warehouse by means of the inclined plane. A memorandum, marked D. is annexed, containing some calculations and further explanations relative to the above.

The two lower stories of the house are expected to be used for the storage of cotton, which is received into the house by means of a schute, or schutes, and discharged again by another construction of the same kind, conducting the cotton to, and upon, the floating wharf above mentioned. The following certificates upon the Treasurer of the Company have been granted on account of the above described work, viz.:

To Manly H. Davis, for the stone work, - - - -	$1,397 56
" David S. Goodloe, for do. -	194 75
" C. C. Carlton, for do. - -	42 31
" S. J. & G. O. Ragland, for brick work, - - - -	500 00
	$2,134 62

The final estimates not having been made, it cannot be accurately ascertained what the whole cost of the work will amount to; but we shall be pretty near the truth in estimating it at $7,000.

(To be continued.)

Locomotive Steam Engine. By J. B. JERVIS.

To the Editor of the American Railroad Journal.

DEAR SIR,—The Locomotive Steam Engine for the Saratoga and Schenectady Railroad, of which I promised to give you some account, was put on the road the 2d inst. and has been in regular operation since, making usually two trips (equal 84 miles) per day, and carrying daily over the road about 300 passengers.

The Engine was made by George Stephenson & Co., at Newcastle, England. The boiler has tubular flues, on the same plan as all of recent construction at that establishment. The leading objects I had in view in the general arrangement of the plan of the engine, did not contemplate any improvement in the power over those heretofore constructed by Stephenson & Co., but, to make an engine that would be better adapted to Railroads, of less strength, than are common in England; that would travel with more ease to itself, and to the rail on curve roads—and would be less affected by inequalities in the rail,—than is attained by the arrangement in the most approved engines.

You are aware of the fact, that the Saratoga and Schenectady rail is constructed of timber, capped with an iron plate. This kind of road cannot be expected to bear as heavy weight on the wheels of its carriages as those that have an entire iron rail; and, in order

to obtain that degree of power which is desirable for an engine intended for high speed, it became an object to put the weight on six wheels, instead of four. Engines mounted on six wheels were constructed several years ago in England. The object was to distribute the weight on more points, to make them easier for the road than the four wheeled engines; for even with the iron rail, the heavier carriage is injurious to the road. There was a difficulty, however, in the practical operation on the plan adopted. The load was forced to bear at times very unequally on different wheels, owing to inequalities in the road, and having all their wheels under one frame, they did not work as well on curved roads as the four wheeled engines, which could be geared much shorter. In consequence mainly of these difficulties, the six wheeled engines were abandoned, and I believe no attempt has since been made in England to use more than four wheels.

In the Saratoga engine, I have adopted two distinct frames. One frame embraces four wheels in the same manner as a common waggon: these wheels are all small (32 inches) in diameter, and of uniform size: one end of the second frame is mounted on the third pair of wheels, which are the working wheels, and the other end is rested on friction rollers in the centre of the first frame, to which it is secured by a strong centre pin. The small wheels, with their frame, work on the road the same as an independent waggon; and being geared short, they go round a curve with as much ease as a common waggon, and being the leaders—they bring round the working wheels, and the large frame on which the whole machinery of the engine rests, with as much ease as practicable. By this method it will be seen the engine may pass a curve with the same ease as a common railroad carriage, having the same weight on the wheels. The machinery of the engine is not affected by the curve motion of the carriage. In order to give the four wheeled engine carriage as much facility as practicable in turning curves, the wheels have generally been placed near together, bringing the bracing points of the frame so near the centre, in a longitudinal direction, as to cause the inequalities of the rail to produce increased motion to the ends of the frame, and consequently to the engine and boiler which is connected with it. This, in the English engine belonging to the Mohawk and Hudson Company, was such as to render the motion very unfavorable to the engine, and severe on the road. By allowing the bearing points to be near the ends of the large frame, and resting one of these points on the centre of the small frame, as is done in the Saratoga engine, this difficulty is almost entirely remedied.

Th engine was set up at the shop of the Mohawk and Hudson Railroad Company, under the direction of Mr. Asa Whitney, the present superintendant of that road, and who has from its commencement had charge of the machine shop connected with it.

Thus far the engine appears to do all that was anticipated from it. No test has yet been made of its power; but, from the rapidity with which it generates steam, there appears no doubt of its performing all that it was calculated to do. It passes a curve without any more appearance of labor than a well geared common carriage. The principle of its arrangement does not admit of more strain coming on any one wheel than is assigned for its regular labor. The motion of the engine is highly satisfactory; it moves with almost as smooth and steady a motion as a stationary engine; it travels over the road in an elegant and graceful style.

I made a plan for a six wheeled engine for the Mohawk and Hudson road, which was completed and put in operation before I made the plan for the Saratoga engine. This engine proved satisfactory so far as regarded the principle of a six wheeled carriage, and was an important pioneer for the second plan. The superior ease with which this engine moved, both for its own machinery and the road, led to the determination to alter the English engine on the Mohawk road, so that it could be placed on a six wheeled carriage. As the engine was particularly arranged for four wheels, this could not conveniently be done in any other way than by communicating the power through the intervention of a bell-crank, which was very successfully done by Mr. Whitney. This engine is now working on six wheels, and the ease and smoothness of her motion, over that she had when on four wheels, is very striking.

The arrangement on six wheels does not admit of the wheels under the main frame being connected with those under the small frame; consequently, we can only obtain the adhesion of one pair of wheels. This, however, is hardly of any importance when high speed is wanted.

Should further experience confirm what the operations thus far appear to warrant, the plan of the Saratoga engine may be viewed as a valuable improvement. She has used for fuel a coke of inferior quality, made in New-York, with which she has worked very well. Yours, &c. J. B. Jervis.

Albany, 18th July, 1833.

Happiness.—Happiness does not so much depend upon our circumstances, as the agreement between them and our dispositions.

Gravity.—Gravity belongs more to the *ass*, than the horse; it oftener conceals ignorance than indicates knowledge.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

For the Fortnight ending July 22d, 1833, inclusive.

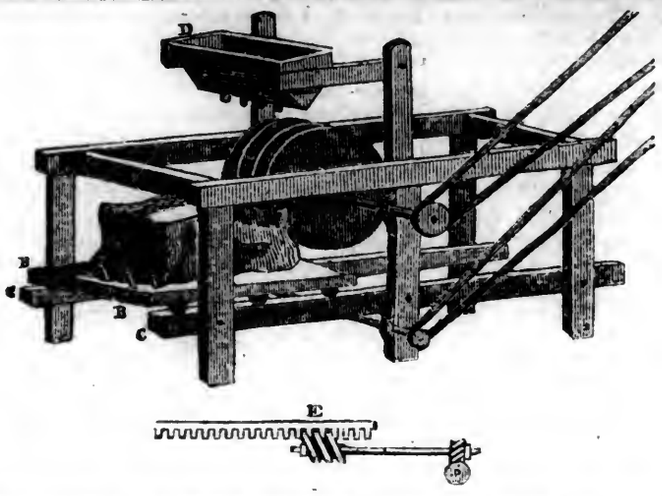
[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 9	6 a. m.	73	29.77	wsw–w b s	moderate	w by s	cl'dy-rainy–cl'dy-rainy
	10	78	29.80	w	..	sw by w / nw	roiny—cloudy
	2 p. m.	82	29.80	nw	..	.. / nnw	fair
	6	76	29.87	nnw	fresh	nnw	..
	10	66	29.98	..	moderate	..	clear
" 10	6 a. m.	63	30.05	..	..	wnw	fair, with haze fr wnw
	10	72	30.10	sw	.	..	.. .. ..
	2 p. m.	78	30.07	..	..	..	.. .. ..
	6	74	30.01	..	..	wsw	.. .. ..
	10	68	30.03	..	..	..	.. .. ..
" 11	6 a. m.	63	29.98	..	..	..	..
	10	74	29.95	ssw	..	..	..
	2 p. m.	81	29.85	s	..	..	..
	6	76	29.78	..	..	..	.. cloudy at nw
	10	72	29.78	..	..	..	thunder storm
" 12	6 a. m.	68	29.77	n	..	nw	fair scuds fr nw
	10	74	29.80	w	..	wnw	..
	2 p. m.	82	29.81	w by s	..	w	..
	6	80	29.87	..	..	..	.
	10	74	29.95	..	..	..	..
" 13	6 a. m.	70	30.04	ene	light	w by s	cloudy —fair
	10	76	30.06	e—sse	..	w	fair
	2 p. m.	81	30.06	sse	..	..	..
	6	79	30.03	..	..	.. / sse	.. light sea scuds fr sse
	10	74	30.04	..	..	sse	.. .. ..
" 11	6 a. m.	74	30.00	s	..	sw	..
	10	83	29.95	s—se	..	..	..
	2 p. m.	89	29.86	se—nw	strong	.. / s	.. thun. at 3–heavy thun. sho'r at 4½
	6	76	29.85	s—se	faint	wsw	cloudy–shower at 8½—rain
	10	73	29.83	..	..	..	[fair
" 15	6 a. m.	76	29.85	wsw	light	sw by w	fair
	10	78	29.90	w by s	moderate	.. / nw	..
	2 p. m.	82	29.88	..	fresh	.. / w	..
	6	74	29.90	..	..	sw	..
	10	70	29.93	..	..	..	..

Date.	Hours.	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
July 16	6 a. m.	62	29.96	wsw	fresh	sw	fair
	10	70	29.94	sw	moderate	..	..
	2 p. m.	77	29.93	..	..	..	..
	6	75	29.90	..	..	w	..
	10	71	29.90	..	..	..	..
" 17	6 a. m.	66	29.90	nnw	light		cloudy
	10	70	29.91	..	..	wnw	.. —light showers
	2 p. m.	75	29.93	nnw—w	..	w	fair
	6	72	29.98	wsw	faint	..	..
	10	69	30.02	..	..	..	..
" 18	6 a. m.	63	30.08	ssw	light	sw	..
	10	70	30.10	sw	..	w	..
	2 p. m	78	30.12	w	..	..	..
	6	73	30.13	nw	..	nnw	..
	10	68	30.20	..	..	nw	.. .
" 19	6 a. m.	62	30.22	nnw	moderate	w	..
	10	70	30.23	..	..	..	..
	2 p. m.	79	30.25	w	fresh	sw	.. atmosphere hazy
	6	74	30.19	se	..	nw	cloudy—light showers
	10	71	30.18	..	..	..	.. —hvy rain in the
" 20	6 a. m.	64	30.08	..	moderate	w	fair —cloudy [night
	10	66	30.09	ne	..	nnw	cloudy
	2 p. m.	73	30.10	..	..	nw / ne	.. –fair–scuds fr ne
	6	67	30.12	..	fresh	..	..
	10	67	30.12	..	..	..	..
" 21	6 a. m.	70	30.15	nw	moderate		fair–cloudy in the west
	10	73	30.15	n	..	n	cloudy
	2 p. m.	77	30.15	sw	..	..	fair
	6	74	30.10	se	..	nw	..
	10	70	30.10	wsw	light	wsw.	clear
" 22	6 a. m.	71	30.08	..	..	..	cloudy
	10	77	30.05	..	..	..	fair
	2 p. m.	89	30.01	..	..	nnw	..
	6	86	30.00	nw	..	..	..
	10	84	30.03	..	..		..

Average temperature of the week ending Monday, July 15th, 75°.17.

Do. do. do. do. 22d, 72°.40.



Specification of a patent for an improvement in the method of sawing Marble, and other stone, and cutting or working mouldings, or groovings, thereon, and polishing the same. Granted to Isaac D. Kirk, city of Philadelphia. [From the Journal of the Franklin Institute.]

References—A, The saws, or the moulding cylinder of soft cast iron; B, Carriage to support and carry forward the marble, or stone; C C, Rails on which the carriage travels; D, Hopper for sand and water; E, Apparatus for advancing the carriage.

To all to whom these presents shall come, be it known, that I, Isaac D. Kirk, of the city of Philadelphia, and state of Pennsylvania, have invented a new and useful improvement in the method of sawing marble and other stone, and cutting, or working, mouldings, or groovings, thereon, and polishing the same; the sawing being performed by means of an improved revolving, circular, metallic plate, smooth, or without teeth, upon the face, or edge, operating by friction with sand and water upon the material to be cut; and the moulding, or grooving, and polishing, being effected by means of the improved revolving moulding and polishing cylinder, or wheel, operating in cutting mouldings by friction with sand and water upon the surface to be wrought; and in polishing by friction, in like manner, with putty, buff, pumice-stone, or some other suitable material; viz. one or more circular metallic plates, smooth or not serrated upon the face, or cutting edge, (copper, or soft iron, are deemed preferable,) are securely fixed, vertically, upon a horizontal shaft, or spindle, of iron, of any required dimensions, passing through the centre of the plate, or plates, and supported at each end by a proper frame of wood, or of cast iron, upon which the shaft works. On one end of the shaft is a cog wheel to connect it to the moving power.

Where two or more plates are used on the same shaft, they are secured at the proper distance from, and parallel to, each other, by circular metallic bands of a thickness adapted to the intended thickness of the slab, or slabs, to be cut; which bands are fitted upon and around the shaft between the plates, or saws. Under the shaft, at the distance of a little more than the radius of the plates, or saws, is a carriage on friction rollers, or wheels, resting on a permanent railway, to support and carry forward the stone, or marble, to the plates, or saws; it is moved either by a rack and pinion, or by weights and pulleys. Over the saws is fixed a hopper, filled with sand and water, which is carried by a conductor leading from an aperture in its bottom, to the saws, at the point of their contact with the stone or marble. The plates, or saws, may be made of any required dimensions, and must be wrought to a uniform thickness throughout, with the cutting edge smooth, or not serrated, and either rounded, bevelled or flat. The improved moulding and polishing cylinder, or wheel, is of any metal, (cast iron is preferable for moulding, and some of the softer metals, and wood, for polishing,) and of any requisite dimensions, having the converse of the intended moulding, or grooving, either cast or turned upon its surface, or periphery, by means of which any series of mouldings, or groovings, can be wrought on a surface of marble, or stone, at one operation, and in like manner be polished. It is fixed upon a horizontal shaft passing through its axis, which is turned by a cog wheel connecting it to the power, and operates on the material to be wrought, by revolving vertically against its surface in contact with sand and water in cutting mouldings, and in contact with pumice-stone, buff, putty, or some other suitable material in polishing. A cylinder, having a regular smooth surface, is used in like manner for flatting, and for polishing a plain surface. The marble, or stone, is carried forward, and under the moulding and polishing cylinders, by a mechanical arrangement similar to that before described.

The polishing cylinder is similar in form to the above, and used in like manner with polishing powder, as putty, buff, &c. instead of sand, and is made of wood, or some of the softer metals.

The improvement claimed by said Isaac D. Kirk consists in the sawing of marble, or other stone, by means of a revolving, circular, metallic plate, smooth, or not serrated, on the face, or edge, and applied with sand and water, as is done with the straight saw; and also in making or forming upon the surface, or periphery, of a metallic or wooden cylinder, or wheel, the converse of the intended moulding, or grooving; by means of which, a series of mouldings, or grooves, can be wrought on a surface of marble, or stone, at one operation, with sand and water; and in like manner, polished with putty, buff, pumice-stone, or other polishing material.

ISAAC D. KIRK.

REMARKS BY THE EDITOR.—From the information which we have received relating to the above described machine, its invention appears likely to mark an important epoch in the art of working marble; this information has been derived from a gentleman of much intelligence, residing in Philadelphia, who relates only what he himself witnessed, as regards the operation of the machinery, and which we will give in his own words.

"I embrace," he says, "this opportunity of stating what I have seen of the practical operation of the experimental machinery erected here by the patentee; which, I will observe, was of very rude construction, and capable of great improvement in its application on a more extended scale. The saw used in these experiments was a circular copper plate of thirty-one inches in diameter, attached to a shaft working horizontally on a slight frame of wood, and turned by means of a band and whirl. I have seen this saw, worked by the power of *one man*, cut through a block of our hardest marble, one foot in length and depth, or one foot square, in thirty minutes; and with increased power I doubt not it might be done in much less time.

"I also, at the same time, saw the moulding wheel, of cast iron, work out mouldings on a slab of marble one foot in length, in one minute and a half, and have no doubt that the same could be done more rapidly with machinery less rudely constructed.

"The marble is left by the saw, as well as by the moulding wheel, or cylinder, in a state fit for polishing, without any preparatory chiselling, or rubbing down with sand; and the polishing is performed in the same manner as the moulding, and with equal or greater rapidity."

We are informed that in the sawing of large blocks of marble in the ordinary way, from six to eight square feet is accounted a good day's work; but that in the cutting of small blocks, a workman can rarely cut more than two or three feet. From the experiment above recited, it appears fair to conclude that ten times as much can be effected by Kirk's machinery, when operating on small blocks, and probably upon any which are not too large for the circular saw. This also, it may be observed, is not limited in its diameter by the same cause which limits those made of a single plate for sawing timber, namely, the expansion by heat, which causes the saw to buckle, an effect which will be prevented in the cutting of stone by the saw being kept constantly wet. The cost of a saw will be saved in the work performed by it in one or two days.

The letter from which we have quoted does not mention the width of the mouldings wrought by the revolving moulding wheel, but it appears likely that the saving of time in this usually slow operation will much exceed that effected in sawing.

We perceive by the records of the patent office, that Mr. Kirk has assigned his right to Mr. Richard S. Risley, of Philadelphia.

MANUFACTURE OF GLASS.—In the whole circle of manufactures there is not any thing more curious than the one that is depicted in the above engraving.* Materials, which appear of themselves but little fitted for any useful purpose, are blended together so as to form compounds of a new and entirely distinct character. Indeed, an uninitiated person looking at the sand, lead, and pearl-ashes, as they are prepared for the glass houses, would consider that nothing less than the wand of the enchanter could accomplish their change into a hard and crystalline body.

The ingredients usually employed in the

manufacture of glass, with their relative proportions, may be thus briefly described:

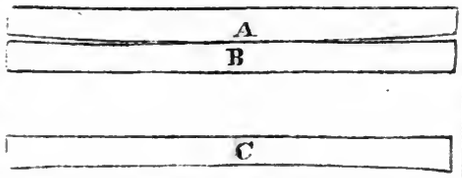
120	parts of	well washed white sand
40	"	purified pearl-ashes
35	"	litharge
13	"	nitre
1	"	black oxide of manganese.

When these materials are collected and properly proportioned, they receive a certain amount of calcination prior to their being placed in the melting pot. This operation is called *fritting*, and is performed either in small furnaces adjoining to the proper glass furnace, and heated by the same fuel, after its principal force has been expended on the glass pots, or else in ovens constructed for the purpose. The use of this preparatory process is to discharge all moisture from the ingredients, and to drive off the carbonic gas. This operation is performed gradually, and carried to the point of semi-vitrification. When the materials are sufficiently "fritted," they are thrown with clean iron shovels, through the side opening of the furnace, into the glass-pots, the fire having been previously raised to its greatest intensity. When filled, the opening is closed with wet clay, excepting a small hole for examining the interior of the furnace. The mass soon begins to heave, and exhibit a mass of liquid grandeur, like the waves of the ocean on fire. During this process, samples for examination are frequently brought out by the aid of an iron rod, and the glass becomes beautifully clear and transparent. The glass may now be considered as completely made, but it requires some time to cool down to the requisite working temperature. It should be just soft enough to yield with ease to any external impression, even to the force of the breath, when impelled against the glowing mass, and in that state it may be bent into any required form. Such, indeed, is its tenacity, that it may be rapidly drawn into a solid string, and wound on a reel, many miles in length. Having thus brought the glass to a state fit for what is technically called "blowing," we may introduce our readers into the workshop itself, which will be best done by the aid of a graphic illustration, and the engraved view at the head of this article will admirably answer the purpose. In the present season of the year the temperature of the blowing-house would shame the hottest portions of the torrid zone, and while we now write, we are laboring under the enervating effects of a visit, many hours back, when the thermometer stood at 140 degrees.

The workmen who are represented in the engraving are each engaged in one of the operations essential to the manufacture of a common drinking glass. For this purpose the operator takes a hollow tube, about four feet long, called a blowing iron, and dipping it into the melting-pot, turns it round till a portion of the glass adheres to the surface. He then holds it near the ground, so that the mass is extended by its own weight, and blows strongly into the tube. The breath penetrating the red hot mass enlarges it, and it becomes an elongated sphere of the requisite dimensions. To separate this globe from the iron tube, an assistant dips the end of a solid rod into the glass-pot, and bringing out at its extremity some of the melted glass, thrusts it immediately against the globe at the part directly opposite the neck, so that it may be firmly united. The workman then wets a small piece of iron with his mouth, and lays it on the neck of the globe, and it immediately cracks off, leaving the globe open at the neck. This is again introduced into the fire by the new bar of iron, and afterwards rounded on the rails of a sort of arm-chair. In order to detach the foot from the iron, moisture is again applied, and it drops off. There is a final process called *annealling*, which consists in raising the temperature in a separate oven, and afterwards allowing the glass to cool gradually; it is less likely to break.

Pliny attributes the invention of glass entirely to chance, and relates that it was first made in Syria by some mariners, who were driven on shore on the banks of the river Belus; and who having occasion to make large fires on the sands, burnt the *kali* which abounded on that shore; and that the alkali of the plant uniting with a portion of the sand on which the fire stood, produced the first stream of melted glass that had ever been observed.—[People's Magazine.]

* We think this description may be sufficiently understood by our readers without the engraving.



Straight Edges.—Among mechanics there are probably but few who do not appreciate the value of a good straight edge for ascertaining the correctness of their work, and I presume that a description of the method practised, and the theory upon which it is based, will be interesting. There are doubtless many that like myself have thought it absurd, even when told seriously, by good practical workmen, that it was impossible to make *one* straight edge, without making *three*, or that one plate of an air-pump could not be ground flat, unless three were ground at the same time.

When I inquired the reason of this, I could get no other explanation from my informant than that such was the fact. Although at that time I considered the idea ridiculous, I have since discovered that my friend was perfectly correct, and, had he been able to have stated the cause or theory, I feel assured I should have been convinced.

I am aware, in the formation of straight edges, that the size must depend much upon the work to which it is to be applied, yet some regard to the form and dimensions are advisable, as there is a certain proportion more suitable than any other. An eminent English writer (Dr. Birkbeck) observes upon this subject, that in England they are made of thin bars of steel, about one eighth of an inch thick, two inches broad, and should not exceed three feet in length, as they will otherwise be liable to bend.

Three such pieces should be prepared by planishing, and one edge of each made as straight as possible by the common means of filing and planing, when they are perfected by grinding them mutually with each other, fine emery and oil being added to assist the operation. They are finally to be finished with crocus martus, or a species of loam well washed, to separate it from any coarse siliceous particles.

By referring to the cut at the head of our article, we will attempt to show the necessity of making three, to produce one perfect straight edge, and also of repeatedly changing them at proper intervals until each edge is correct. Let A and B represent two steel bars prepared for grinding; let us then suppose the edge of A to be slightly convex, and that of B slightly concave, or nearly straight, then by grinding A and B together the two edges will meet, but will not be straight, because the convex bar A has ground the lower bar B more concave, and although the two edges come in close contact, yet the form is unchanged, and, however long the grinding should be continued, the object could never be attained.

But if we now take a third bar C, the edge of which may be either concave or convex; if concave, and we grind A and C together, the edges of B and C will then be similar, and if placed against one another, the difference will be doubled, and can readily be perceived; these two are then to be ground together, and thus the three edges being alternately and reciprocally ground together, they will mutually cut down and destroy each other's imperfections, and a perfect straight edge will ultimately be produced on all the three.

The same theory applies to the levelling of air-pump plates, and other flat surfaces in machinery where great nicety is required, and the best method of producing them is to proceed in the manner above described.—[Young Mechanic.]

Co-operative Laborers.—Many of our readers are no doubt aware that some well-intentioned men have been endeavoring for a long time to effect a great change in society, by establishing a new arrangement, called Co-operation, which assumes that the laborers should be at the same time the capitalists. There can be no sort of objection to this principle, when it is proposed to carry it into action without any prejudice to the existing laws of property; and, no doubt, many of the evils of our social state might be removed, were all persons concerned in the business of production to have a sort of proprietary interest in the commodities produced. The mistake of those who exclusively call themselves co-operatives, is that of assuming that the love of individual property can be got rid of by a very short process of reasoning, and neglecting to avail themselves of the many *practical* modes in which industry might be made more productive than at present, by a union of forces, in which the personal interests of every laborer would be dependent upon the success of the business in which he is engaged. There are many examples of such real co-operation already existing in the world, some of which we may mention, from time to time. We shall now state a few facts regarding the mode of navigating vessels in the Mediterranean, by men having a common proprietorship.

With the exception of some large ships that belong to wealthy merchants of Hydra, Spezzia, &c., chiefly employed in the corn trade in the Black Sea, nearly all the Greek vessels are navigated by men taking fixed shares of the profits or freights obtained. The captain has more shares than the common men, and so has the second in command, who is generally intrusted with the *contabiliti* or accounts. When the vessel is small and the voyage short, it is sometimes the custom for each individual to lay in his own wine and provisions; but the general practice is for the captain or the second to purchase a stock for the whole, the amount

of which is put on the debtor side of the account, and at the end of the voyage subtracted from the gains made: the distribution being fairly conducted during the voyage. The same system is found nearly all over the Mediterranean. The Neapolitans, the Sicilians, and the Genoese, rarely navigate in any other way.

The Italian captain has sometimes a share in the vessel, which proportionately increases his share in the profits. He is occasionally, though rarely, except when the craft is very small, the sole proprietor; but even in the latter case the men are engaged just in the same way. A small vessel called a "Bovo," or a "Paranza," of not more than sixty tons, not worth £150, is often held by as many as six or ten different proprietors.

From the town of La Torre dell' Annunziata, in the Bay of Naples, there is a coral fishery carried on. They sometimes fish about Sardinia, but the great place is on the coast of Africa, near Bona. They leave Naples in little fleets of four, six, or eight, open boats, and availing themselves of the fine summer season, venture right across the Mediterranean. These boats are navigated on the same principle. Sometimes the boat is the united property of the men in it, who give one of their number a larger share of the profit on account of his superior nautical skill or experience in the fishery. The abstemious manner in which these Mediterranean sailors, (Italians, Greeks, Sclavonians, Spaniards, Provençales, and all,) live is astonishing. Bread, *legumes*, olives, salt-fish, a little maccaroni, are their sole support. They scarcely ever taste meat.

A large portion of the shore boats that ply about the harbor at Smyrna are manned by Sclavonians, from about the Bocca di Cattaro, and by our subjects the Maltese. On an average each boat has two men; to them the boat belongs, and they divide their profits every evening. When an old boat is to be repaired, or a new one bought, the two partners club together; or sometimes, in the case of the purchase of a new boat, a third party is admitted, who receives a given share of what the boat makes.

In the Italian ships such of the sailors as have a little money are allowed to invest it in goods, and to carry these goods with them, disposing of them as they choose at the ports they touch at or are bound to. This is called the "*Paccotiglia*." Intelligent and prudent sailors often make more money this way than by their shares in freight.

Those who have attended to this system state that the sailors are deficient in discipline; but they also observe that, in proportion as the men are of a steady and intelligent character, this evil vanishes. It is no doubt true that *mutual* interests can only be properly understood by men far advanced in civilization. Ignorance is always selfish.

Bobbin-net Trade.—A very valuable sheet of "Facts and Calculations illustrative of the present state of the Bobbin-net Trade," has just been published by a Mr. Felkin, of Nottingham. The results which it presents are exceedingly curious and instructive. The capital employed in the trade is estimated to amount to £2,310,000; the number of persons—men, women, and children—to whom it gives employment, at 211,000. The quantity of raw cotton consumed in the trade annually is 1,600,000 lbs.—value, £120,000; this cotton is manufactured into yarn, and its value increased to £500,000; the yarn is then worked into 6,750,000 square yards of power-net, 15,750,000 square yards of hand-net, and 150,000 square yards of fancy net, worth altogether £1,826,245. Of raw silk there is also used about 250,000 lbs.—value £30,000; which, when thrown and worked into 750 square yards of silk net, becomes worth £65,625. The total quantity of cotton and silk bobbin-net, annually manufactured, is 23,400,000 square yards—value, £1,891,870. Of this, about one half is exported in a plain state; three eighths are sold unembroidered at home; and the remaining one-eighth is embroidered in this country, which increases the ultimate value to £3,417,700. The total number of machines employed is stated to be 4500; of machine owners, 1382. Of these machines, 1000 are worked by power; and of the owners, above 1000 work in their own machines. The total distribution of these machines is stated to be as follows: In Nottingham there are 1240; Old Radford, and Bloomsgrove, 240; New-Basford, 95; Beeston and Chilwell, 130; Gedling, 10; Carlton, 10; Long Eaton, 10; Sandiacre, 10; Ilkestone, 45; Eastwood, 10; Loughborough, 385; Woodhouse, 30; Leicester, 95; Mansfield, 85; Sheffield, 10; Wimeswould, 25; Ruddington, 15; Tiverton, 220; Tewksbury, 50; Taunton, 35; Warwick, 5; New-Radford, 140; Lenton and Middleton Place, 70; Iron Green, 160; Old Basford and Bulwell, 55; New and Old Snenton, 180; Carrington, 50; Arnold, 30; Stapleford, 25; Stanton by Dale, 5; Heanor and Loscoe, 45; Derby, 185; Quorndon and Montsorrel, 35; Sheepshead, 15; Donington and Kegworth, 15; Chesterfield, 40; Newark, 10; Costock and Leake, 20; Melton Mowbray, 20; Barnstable, 180; Chard, 190; Isle of Wight, 80; other places, 195. Total, 4500.

Prosperous as this manufacture is in its general results—a prosperity the more remarkable, that twenty years ago there were not a dozen bobbin-net machines in the whole country—we regret to find that it has been attended in its progress with a good deal of individual distress:

"It is a lamentable fact that one-half or more of the 1100 persons specified in the list as owning one, two, and three machines, have been compelled to mortgage their machines for more than they are worth in the market, and are in many cases totally insolvent. This has chiefly arisen from the fall in prices of nets, beyond the reduction in prices of cotton and wages. This class of persons having become indebted to the cotton merchant, have been compelled to pay a comparatively excessive price for the thread they have used, and to sell their goods at the lowest price of the market. Besides, their machines are principally narrow, and make short pieces, while the absurd system of bleaching at so much a piece, goods of all lengths and widths, and dressing it for so much, all widths, has caused the new machines to be ell-wide, and capable of producing long pieces, and, of course, to the serious disadvantage, if not utter ruin of the small owner of narrow machines."

The bobbin-net which is exported in a plain state is embroidered chiefly in Belgium, Saxony, and, until recent events, in ill-fated Poland. Mr. F. thinks that but for the high rate of wages in this country, much of the work which thus falls into the hands of foreign embroiderers would be executed at home: and yet, one would think that the wages of the English embroiderer could hardly fall lower than they have already done. Mr. F. states, that he had under his eye, while writing his "Facts," some "splendid specimens of silk bobbin-net shawls, embroidered with the greatest care and beauty by young women who had worked upon them six weeks, for six days in the week, and fourteen hours a day, and had earned but *one shilling a day* by such unremitted and anxious labor." That cheaper bread and freer markets would better this as well as every other manufacture of the country, we by no means, however, intend to dispute; and we fully concur in the view which Mr. F. takes of the beneficial tendency of the two great measures of reform, alluded to in the following concluding remarks:

"If one million and a half sterling, or nearly, be paid abroad for the embroidery of bobbin-net, because the rate of wages is lower there than in this country, and if our rate cannot and ought not to be reduced, while provisions are at the actual average—if, also, there be any just ground to fear the successful competition of foreign low-priced bobbin-net laces, even in the home market,—have we not a powerful argument for the abolition of the tax on imported corn? It may also be reasonably inquired why an article, the demand for which has extended itself with a rapidity unexampled in the history of manufactures over the continents of Europe and America, should still be almost unknown eastward of the Cape of Good Hope, where it would be thought at least equally useful and ornamental?* The fact of the East India Company's monopoly, it is presumed, may be advanced as a sufficient, though, to the trade of Nottingham, a very unsatisfactory reply. For I would here observe, that as no one can say bobbin-net may not, in the event of this monopoly ceasing to stand in the way of its free export and sale, be generally adopted in India and China, so it is a matter of easy demonstration, that if only every woman at the head of a family in India (say nothing of China) were to use but one square of bobbin-net a year, the whole of the existing machinery of the trade, full handed and worked eighteen hours a day, would scarcely produce a supply sufficient for that market. Worked at that rate, our production would be under thirty millions of yards a year, and there are upwards of twenty-seven millions of mothers of families in our Indian possessions. Were it now to become in demand for China (and it is quite as likely to be so as tea once was for England), the quantity exported thither might possibly be immense, the population of China being three times that of India. The writer of these remarks feels that the evils contemplated as likely to result from increase of machinery, and consequent over-production, are too serious not to demand a careful and candid consideration, and is confident all will be convinced on reflection, that rather than attempt to decry the increase of the power of production, it is far more rational, and will ultimately be more successful, to draw the attention of the trade to any practicable means of increasing the demand."

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* "We can export a durable and elegant article in cotton bobbin-net at 4d. a square yard, proper for certain useful or ornamental purposes, as curtains, &c.; and another article, used for any purposes in female dress, at 6d. the square yard."

To imitate Leaf-Gilding on Leather.—Take some calf-skins which have been

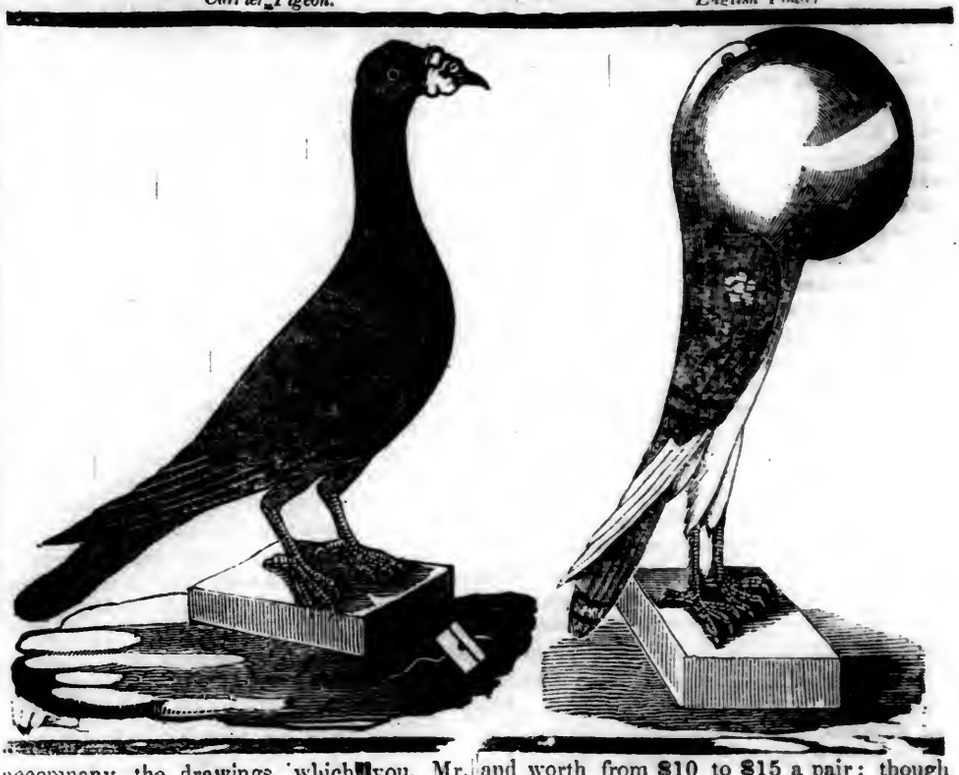
softened in water, and beat on a stone to their greatest extent whilst wet; rub the grain side of the leather with a piece of size, whilst in a state of gelly; and before this size dries, lay on a number of silver leaves. When covered with the silver leaf, the skins are to be dried till they are in a proper state for burnishing, which is performed by a piece of large flint fixed in a wooden handle; the appearance of gold is then given to the silvered surface by covering it with a yellow varnish, or lacker, which is composed of four parts of white resin, the same quantity of common resin, two parts of gum sandarac, and two parts of aloes. These ingredients are to be melted together in an earthen vessel, and after being well mixed by stirring, twenty parts of linseed oil is to be poured in; and when the composition is sufficiently boiled to make a perfect union, and to have the consistence of a syrup, half an ounce of red lead is to be added, and the liquid passed through a flannel bag. To apply this varnish, the skins must be spread out upon a board, fastened down by nails, and exposed to the rays of the sun, and when thus warmed, the white of an egg is to be spread over the silver. After it is dry the varnish is laid on, which will dry in a few hours, and is very durable.

Descriptions and Drawings of several varieties of Fancy Pigeons. By D. F. A. [For the New-York Farmer.]

Mr. Editor,—The productions of nature have ever been to me a delightful study, and doubtless is so to most of the numerous readers of your Farmers' journal. While meditating on their endless varieties, habits, and shapes, the mind is enlarged, and we are imperceptibly led to adore the great First Cause. In my early youth the fields, the woods, and their numerous inhabitants, bore to me a more familiar face than that of man. Free as the air, and like its feathery race, I shunned human abodes, and found companions in the leafy shade. But, alas! fate assigned me a different sphere, and torn from my much loved hill and glen I now pine in the smoke and dust of a crowded city. A little tea-tray of earth which my landlord calls a garden, and for which he makes me pay an extra rent, I have long neglected—for it made me melancholy: the poor little sickly plants that struggled hard for life through smoke and dust, and endured the oft-repeated buffetings of the cat, looked too sad, too much unlike their fellows, who had so oft refreshed my eyes with all their luxuriance and splendor. Then next bethought I of the feathered tribe, and bought and imprisoned many a songster wild; but the poor things sang plaintively, and looked so sad, I could not keep them there; and one fine morn in spring, I set the warblers free. Ungrateful birds! not one has ever returned to make me glad with a song, although the stunted peach tree blossoms, and affords a perch before my window.

Next came domestic doves and fancy pigeons. These had so long relied on the fostering care of man, that they would starve in the harvest field. I liked them much—they would be friendly, and were every day the same—would hover round my head, or perch on my shoulder, and peck around for their food. I have many sorts and colors, brought from different climes, forming a vast republic, always wooing, laying, hatching, rearing—some for use and some for show. I will describe a few of the principal sorts, to

Carrier Pigeon. English Pouter



accompany the drawings, which you, Mr. Editor, know to be correct, from having seen the living specimens, and from the fact that the branch of the fine arts, which I have long followed as a profession, qualifies me for the undertaking. But, perhaps, some of your readers may wish to keep them too: I will, therefore, first describe the apartment. I have chosen a large garret with windows to the sun. Before one of them is a cage several feet square, made of lath and wire, so that by hoisting a window, they can take the air and feel the rain without being able to escape. The room is all shelved about with boards just as they came from the timber yard, 18 inches one above the other, and partitioned every three feet. In each end of these partitions is placed, for nests, a common earthen pan, 3 inches high and 9 across. A little straw is placed in each, for some will not make their nests. These partitions are all white-washed with thick lime and water, to make all look light and clean. They should be done so once or twice a year. In the middle of the floor is a three-gallon stone jug turned upside down, with the neck in a shallow small pan. The jug, supported by an iron hoop with feet, will let the water into the pan no faster than it is drinked by the pigeons, and consequently is always cool and clean. A broad flat box about three inches deep should contain food—Indian corn and peas: or a box, called a hopper, may be made on the same principle as the water apparatus. Now for the different varieties:

First on the list stands the Carrier Pigeon, which fanciers call the King of Pigeons. This bird is so well known by report that few have not heard that it will return to its home with a letter from a very great distance, and at a rate five times faster than any animal can travel the same distance. The print is taken from one that has lately been imported, and can be seen at the Pigeon Society's Rooms, corner of Broome and Forsyth streets, New-York. This variety should be of one uniform color—either black, blue, or dun. Its distinctive mark is the encrusted flesh round its eyes and beak. They are good breeders, and worth from $10 to $15 a pair: though the bird from which the drawing is taken, $30 would not purchase.

The English Pouter. This is the most familiar of all pigeons. It has the most singular appearance. Under its beak it has a bladder or crop, which it can at pleasure fill with air to the enormous size of 18 inches in circumference. They should be of a black, blue, red, or yellow color, and have a white half moon on the front of the crop, white flights to its wings, and white legs and thighs: also, a few little white feathers in the form of a rose on its pinions; of whatever color the body is, the aforesaid parts must be uniformly white. The red and yellow birds have generally white tails, but the tails being of the same color is preferable. These birds are worth from $10 to $20 per pair.

The Almond Jamble. This is a most splendid little bird, being the smallest of the domestic pigeons; they are spotted all over with yellow, red, black and white, with a changeable green around the neck: they are said to resemble the best broken tulips when the most perfect; the female is generally less gay, being nearly of the color of the shell of the almond, from which nut it derives its name, as that color ought to prevail. They are valued more in proportion as the color is rich and the beak very small: they are very merry birds, and when flying they perform curious evolutions in the air, and will ascend a very great height, keeping on the wing for two or three hours occasionally: they are good breeding birds, and give but little trouble. They sell at from three to ten dollars per pair.

The Fantail. This bird is a very singular variety of the Pigeon tribe, its tail being turned back so as to meet its head: it is also very large, being composed of from 24 to 36 feathers: these are spread out so as to resemble a lady's fan, which I have given this pigeon the name of Fantail: they are most preferred when of a perfectly white color, and some are ornamented with a very lofty tuft at the back of the head. They are worth about $3 per pair, and are good nurses, &c. D. F. A.

Beekman st. N. Y. June, 1833.

NEW-YORK AMERICAN.

JULY 20, 22, 23, 24, 25, 26—1833.

LITERARY NOTICES.

THE FLOWERS OF MELODY, a select collection of Scotch, English, Irish and American Songs, with notes critical, biographical, &c., selected and arranged by JOHN GRAHAM; 2 vols. *Clayton & Van Norden*, N. Y.—There are many collections of songs, and other lyrical compositions, made with more or less taste and discrimination—and, therefore, this now under notice can lay no claim to novelty; but it may rightly claim to have been made with good judgment and is illustrated with useful notes, which the compiler—himself a writer of Scottish songs—has interpers- through its pages. Hence we hope it may remunerate its projector, the blind Scotch Poet, who has long been resident among us, consoling himself under one of the greatest privations which can befal humanity, by invocations to the muses.

THE SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE No. III. Boston, *Chs. Bowen*.—Among the well selected contents of this number, is a capital article, which, though long, will well reward perusal, on the Memoirs of the *Duc de St. Simon*, taken from the Foreign Quarterly Review. It is the essence of a very volumnious work, which paints the age of Louis XIV. to the life.

JOHN HOPKINS' NOTIONS OF POLITICAL ECONOMY, by the author of Conversations on Chemistry, Political Economy, &c. Boston, *Allen & Ticknor*.—It would really seem that the disciples of *Adam Smith* and *Ricardo* are now to be sought among the fair sex—at least it is certain that to two ladies do we owe at present, publications on Political Economy, more calculated to extend the knowledge of that science, and in a popular and attractive way to inculcate its beneficent principles, than any others we know of. Of *Miss Harriet Martineau's* writings, we as yet have had no opportunity of judging, not having seen, tho' we have heard much of, them. But Mrs. *Marcet*, the author of the little volume now before us, is an old acquaintence, through her "Conversations on Chemistry:" and it is gratifying to be able to say, that the promise of that and her subsequent work, on "Political Economy," is abundantly realised in "John Hopkins' Notions." We wish every laboring man in the United States could have a copy of *John Hopkins' Notions* put into his hands: for it would tend to correct many errors, and dissipate many injurious prejudices. The Boston publishers have done good service in reprinting this book; and they have, as is the Boston fashion, reprinted it handsomely.

THE NATIONAL PORTRAIT GALLERY *of distinguished Americans*—Conducted by *James Herring*, New York, and *James B. Longacre*, Philadelphia: No. IV.—This well executed publication sustains its promises well. The portraits in the number before us are well engraved, though not always, as in the case of that of Gov. Tompkins, taken from good likenesses. Gov. Tompkins, Henry Clay, and Major General Moultrie, of South Carolina, are the subjects of this number; and their biographies are well, though rapidly sketched, and of course *en beau*.

The School Geography, by JOHN J. CLUTE. New-York: SAMUEL WOOD & SON.—Of this volume of 310 pages, 224 are dedicated to America; and that is as it should be, because in an elementary book, which is all this professes to be, much space, attention and care should be given to our own country. When boys know the Geography of their own land thoroughly, they will soon desire to find out that of other countries. After a general outline of the geography of the United States, this volume furnishes a geographical, historical and and statistical account of each State separately, with a neatly engraved though necessarily small map of every State. There is also a useful table of the comparative length of rivers in North America, and of the height of mountains in different parts of the world. It will we dare say surprize many of our readers to know that there are some six and twenty rivers in North America longer than our Hudson.

BOY'S AND GIRL'S LIBRARY OF USEFUL AND ENTERTAINING KNOWLEDGE, No. XIV. N. Y. *J. & J. Harper*.—"The Perils of the Sea" constitute the attraction of this number, which appropriately enough commences with the destruction by fire of the Kent, British East Indiaman, in the Bay of Biscay, in Feb. 1825, having on board more than 600 souls, all of whom but about 60 were rescued by the Cambrian brig, in a manner almost marvellous. If Boys and Girls do not now take an interest in learning to read, it certainly is not for want of attractive books.

THE SOURCES OF HEALTH & DISEASE IN COMMUNITIES, &c. &c.: *By* HENRY BELINAYE, ESQ. *Surgeon Extraordinary to the Dutchess of Kent. Boston*—ALLEN & TICKNOR.—The object of this cleverly written treatise is, to induce inquiry and reflection among those in authority, as to the means to be taken to remove the sources of disease from the midst of populous communities, and to guard, as far as human precautions can, against the introduction and spread of pestilence. The inquiry is one worthy of all attention; and although on this as on every other subject connected with the public health and means of preserving it, doctors will differ, yet, as in the last resort, magistrates and other persons in authority, must come to a decision of some sort, we are glad to see a treatise, which will, at least, induce those who read it, to reflect and reason a little, about what is to be done. The volume is small, neatly printed, and quite attractive as mere reading.

EXAMPLE, OR FAMILY SCENES: *Phil.*—KEY & BIDDLE—1 vol.—This is a handsome re-print of, as we take it, an English book, without any author's name. It is the story of a young man of fortune and corrupted mind—with an only sister, beautiful, volatile, and thoughtless, launched early into the world, without parental supervision—reclaimed from the paths of temptation and error by the example, and untiring solicitude for their spiritual welfare, of the family of a relative. The design is good, though not, as it strikes us, very skilfully executed. The incidents of the story are nevertheless well told; and the sequel is, as it should be, full of encouragement—never to despair while kindness yet retains a hold upon those we would reform.

MISERRIMUS: N. Y. *J. & J. Harper*.—This single Latin word, signifying "most wretched," engraved upon a tombstone in Worcester Cathedral, England—without name or date, or addition of any sort—has suggested this tale; which, laid in the time of Charles II., purports to delineate the crimes, sufferings, and despair, which could alone—it may be conjectured—explain such a hopeless inscription, on the last earthly resting place of one who must have "cursed God and died." We are disappointed in it—for much more might have been made out of so dark a theme. The incidents assumed by the writer are altogether unnatural and improbable; and, tho' wrought out with occasional power, fail to affect as a whole. We dissent, we perceive, in this judgment from those of many English journalists, whose favorable opinions are prefixed by way of puff preliminary to the volume—but having read the book, under the influence of such praises, we nevertheless adhere to our own opinion.

A MANUAL FOR THE AFFLICTED, &c. &c., by the Rev. THOMAS HARTWELL HORNE, of St. John's College, Cambridge. Boston: *Allen & Ticknor*.—Bishop Doane, of New Jersey, has the merit of introducing to American readers this volume, resting on, and almost exclusively written in, the language of scripture. Bishop Doane has prefixed an introduction, in which the aim of the author is well set forth; and he has added, by way of appendix, some devotional poetry, well selected and appropriate. It is altogether a valuable little volume.

THE GENTLEMAN AND LADY'S BOOK OF POLITENESS, &c., by Madame CELNART; 1st American from the 6th Paris edition. Boston: ALLEN & TICKNOR.—An amusing and well written little work, dedicated to the youth of both sexes, and purporting to teach the rules of politeness and becoming deportment in all relations of life, as deduced from the usages of the politest people in the world—the French—cannot but find many readers among us. Manners, it has been well and truly said, are minor morals; and therefore it is in some sense a duty, as it is always an advantage, to cultivate them. All with whom we are casually or even for moments only thrown into contact, can judge of the kindliness and politeness of our deportment, and be more or less affected by them. Hence, upon a principle of enlightened self-interest, as well as of enlarged benevolence, it is a worthy object of effort so to present ourselves always as that those in whose company we are will be pleased. Practice, indeed, is the only sure guide in this matter; yet there are certain rules preliminary which may and should be learned, and these the book before us professes to teach.

A POPULAR GUIDE TO THE OBSERVATION OF NATURE, by *Robert Mudie*, Author of the British Naturalists: N. Y., J. & J. Harper.—The first thing that struck us after running over a few pages of the book, was, the paltry and contemptible wood-cuts, which are allowed to deform one of the most delightful volumes which the Harper's Family Library has introduced to the public, standing there frequently with their blurred outlines, and blackened shading, as if in mockery of the vivid passages they were doubtless intended to illustrate. The greater part would make Nature indignant at seeing her forms thus caricatured, unless the remainder soothed the goodess into complacency by reminding her of the chaotic lumps out of which she has reared this beautiful and harmonious creation. Can there be a more delightful study than the contemplation of that creation, or what books are worthier of perusal than those which bringing its secrets beneath our eye, teach us to exercise the priceless faculty of observation, and unlock, as with a magic key the external world around us? The strong love of nature, in an unaffected and manly mind, is an ever-salient fountain of pleasure, which the world can never dry up, or man divert; a perennial flower of delight, which no chance or change of life can cause to droop or wither.—The storied associations of the school-boy, are broken by the realities of the world, and the romance of youth with its dreams of love and heroism, like that false light which precedes the dawn, is lost in the glare of manhood—but the love of nature, of the broad streams and the blue mountains we have swam or clambered in our childhood, of the tangled thicket through which we have tracked our boyish quarry, or the tall forest that has echoed to our shout, when life was young—this is a love which knows no change, and passeth not away; and he in whom that love is strong has a hoard of wealth in his own bosom, that can purchase him enjoyment until its coffers decay in death.

No! There are no pleasures but pall, no pursuits but tire, no joys but are linked with pain; no search after knowledge, or happiness, or power, but ends in disappointment; no one study that is satisfactory, but this high and holy, this ever fresh and beautiful one of the glorious creation around us,—this ennobling contemplation of "God's own temple," whose pavement we tread and whose dome is stretched abeve us. Love of the country is the earliest instinct of our childhood, and though the artificial ha-

bits and depraved tastes of maturer life may for a while supplant or suspend it, it is through life an ever recurring feeling; stealing continually between us and the bustling world, like glimpses of a better state—like hope itself following us to the tomb—and even then surviving in the wish that the turf may bloom there unmolested, and no structure but the cloistered boughs which bend above it prevent the dews of Heaven from weeping over our green resting place.

To awaken this feeling in hearts naturally devoid of it, if any such there be, and to regulate and elevate it in character in those already blessed with it, is the object of the book before us. And the writer seems to have brought just those qualifications to the work which could have been desired by the most ardent wisher of a successful issue to his labors, viz: an observing analyzing mind, glowing with a love of its subject, and eloquent in illustrating what it logically recommends.

We are sorry that our limits prevent us doing justice to this work, by making more than a few brief extracts. *

The inefficacy of thought unaccompanied by observation.

Let us consider those means: Do we gain knowledge of a subject by thinking about it? We do not. By thinking, we may arrange our knowledge, put it it into new shapes, and make it the means of letting us see what further knowledge we want, and what service that future knowledge is to be to us, just in the same manner that a tradesman, by examining his stock, can so arrange his goods, as that he can at once put his hand upon what he wants, and also know what additions it is most necessary and proper to make; but just as a tradesman cannot, by any examinations and arrangements add one tittle to the *quantity* of his goods, so neither can we, by any thinking in which we may engage, add any thing new to the stock of our knowledge. By thinking, we can arrange what we know, so that we can more readily use it, and we make room for other knowledge; but, *we cannot think ourselves into an acquaintance with even the simplest thing that we do not know by some other means.* It is the belief that we can; that thought will do what thought never did, can do, or was intended to do,—which lies as a stumbling-block in our path, and hinders us from knowing a great many things that would be very useful as well as very pleasant to us.

The possibility of Thinking out upon a matter.

When we long continue thinking on the same subjects, especially if there is any thing dispiriting in them, we do feel a sort of languor, and pass into a revery, or dreamy state, in which we not only lose the command of our bodies, as we do during slumber, but in the end lose the memory of our thoughts, just as we do in profound sleep, during which we have no dreams. Everybody must recollect instances of having thought upon subjects till the memory of all the particulars was gone; and, when an author writes an original book upon any subject that requires close and profound thinking, the chance is that he shall know less of what is in the book after he has just finished the writing of it, than an intelligent reader after he has glanced it over. "Don't ask me about that, for I have written upon it," was an habitual saying with a veteran both in science and literature; and Abernethy's constant referring of his patients to "My book" had philosophy in it, whether he understood that philosophy or not.

The Mechanics' Magazine and Register of Inventions and Improvements, Vol. I. The number published to-day completes the first volume of this excellent periodical. It is faced with a strongly engraved portrait of Eli Whitney, accompanied by a valuable memoir of that celebrated individual, whose interesting life is perhaps the best biography that can be placed in the hands of a young mechanic, to spur him on to industry and exertion, and give him just ideas of the real respectability attaching to his occupation, and the enviable distinctions to which the vigorous pursuit of it may lead. "In all countries," says the well written preface of this volume, "the importance of artizans in the scale of society has been undervalued. Those who have led on armies successfully, either in defence of their country, or who have waged war in consequence of some real or supposed grievance, as well as those who have promulgated laws which were considered beneficial to the government under which they lived, have been held up to the admiration of the world; and the benefits they have bestowed upon society form

'The theme, the admiration, and the song,'

of poets, historians, and philosophers. Yet there is no instance on record where the first constructor of a new machine is considered in the same view: he is looked upon as a mere projector of a useful invention, which is to be improved upon and brought to perfection by others. This should not be so: surely Robert Fulton, James Watt, Eli Whitney, and a host of others, deserve the thanks of the people of all nations for their inventions, in an equal degree to those who have promulgated laws, however beneficial they may operate to mankind at large; and much more so than those who have been engaged in a fierce, uncalled for, and relentless war, in many cases for the purpose of upholding tyranny and oppression.

"It is a curious fact that the power of combining machines and constructing poetry have frequently been united in the same individual. This has been overlooked by the great bulk of mankind. We have the authority of Mr. Stuart Meikleham, in his account of Steam Engines, for the following facts: Hooke made verses as well as machines; and when he presented thirty-seven different projects for flying, had his attention been directed to express his thoughts in metre, he had previously shown a facility for describing the glories of his mistress' eyebrows in as many sonnets. Lord Worcester also made verses—Sir Samuel Moreland indited love songs—Watt, in his youth, was a rhymester—Arkwright was famous for verses, which cut as keen as his razors—Rennie chanted his own lyrics, which were distinguished for their spirit and taste—and Telford, while building rough stone fences as a journeyman mason, was an esteemed contributor to the poetic corner of the Scot's Magazine; Sir W. Congreve wrote poems, as also Sir Christopher Wren—Sir Humphrey Davy wrote his address to St. Michael's Mount in the heroic measure, long before he invented his safety lamp—Dr. Arkwright distinguished himself for poetical compositions many years before he invented the power loom—Milton's hell gates move on more than mortal hinges; and his war chariots may yet form a subject for illustration in a mechanical college. The horse of Epeus has lately been adduced as an early locomotive! Homer's description of cars shows that he had an eye for beauty in carts which would have carried them to perfection; Ferdousi, of Persia, has spun one hundred and fifty thousand couplets, and has found leisure to construct several complicated pieces of machinery of his own invention—among them are spinning jennies, paper machines, steam engines, and a printing press."

These instances, it is true, answer the object the editor has in view in quoting them, by showing the important station which some mechanics have held in society, and proving the fallacy of the argument often advanced, that "the mere inventor takes no interest in any thing but his own inventions." But a better reply is at hand in the book before us. Any class of people which can command the ability displayed in a work like this, and give that work a support which shall carry it forward with the variety of instructive and entertaining matter which enriches the pages of this volume, require no further argument to assert their just influence in the community, and no better organ to represent their claims and to elevate them in character. The price of this volume, $1 50, places it within the means of almost every young mechanic. *

Natural History of the Fishes of Massachusetts, by *Jerome V. C. Smith, M. D.* Boston, *Allen & Ticknor.*—The disciples of old Isaac Walton will find in this book an agreeable addition to their piscatory library. It contains not a little new and some valuable information upon icthiological subjects generally, with many useful observations in reference to those important fisheries on our Eastern coast, which constitute a nursery for a race of the hardiest sailors in the world. The style, though not exactly that which makes Sir Humphrey Davy's "Salmonia" one of the most attractive volumes extant, is still such as to make the book very readable, and recommend it to those having a less immediate interest in the subject, than the professed sportsman or naturalist. There are occasional marks of haste, however, in the work, which the author's oft repeated excuse of being "hurried through the press," will hardly cover. The most prominent that strikes us is a confusion in the names of places and countries alluded to, in describing the habits of fish. The author, in writing of those fish which frequent the waters of Massachusetts, very naturally and properly alludes continually to those of a similar description which inhabit the lakes and streams of England and other countries. But the similarity of the names of places in New England to those abroad—arising from that miserable usage which prevails all over the Union, of making the cities of Europe stand god-father to the villages of the Atlantic States, and the towns of the Atlantic States again bestow their nomenclature upon the hamlets of the West—diminishes the value of the information conveyed by confounding all geographichal distinctions. An Englishman writing upon subjects of natural history in this country, might very properly allude to places in his own without specifying in what land they were found; but an American, writing for his countrymen, should never make these foreign references without adding something to show that he has shifted the scene of his observations to other climes than ours.

This defect is however as common in most American writers, from the paragraph makers of newspapers up to the compilers of quartos, as if we were still a provincial people, and speaking always of "*home.*" We need hardly add, that the ridiculous poverty of invention, or want of taste, in not adopting the Indian names of places, displayed in the nomenclature of half the natural and artificial objects of interest in the country, is likely to keep up the confusion for ages. Another defect in Dr. Smith's book—and more important, because less expected—is the want of an *index*—a mere mechanical appurtenance, it is true, but still one not readily dispensed with in a work of this kind. With these two, as some will think, trivial blemishes, which can be readily remedied in a future edition, the work contains enough useful and entertaining matter, displayed in a very modest manner, to make us take pleasure in recommending it. We quote as follows: *

Ferocity of the White Shark.

The white shark, in his wide, dilatable jaws, has six rows of sharp, triangular teeth, which can be raised or depressed by appropriate muscles, at pleasure. Its velocity is such, that nothing seems to be able to escape, and its greediness is never satisfied. By one gripe of the jaws, they can cut a man in two. A red hot cannon ball is sometimes lowered over the side to one of these disagreeable followers of a ship, which the seaman has the satisfaction of seeing the shark receive into his yawning throat.

At the pearl fisheries of South America, where white sharks are numerous, visiting the mighty caverns in the rocks, the water being so clear that a small object may be seen at considerable distance, the divers, familiar with the character of the monster are obliged to go armed in self defence. For this purpose, some carry a long sharpe knife. As the shark's mouth is placed somewhat under the head, he endeavors to get over his intended victim, and if he discovers no disposition in the Indian to move, gently settles down over him with his horrible mouth widely extended. With the coolness of a philosopher, the instant he is near enough to be reached, the diver plunges the knife into his vitals. A very ingenious mode which is practised, says a writer, from whom these observations have been principally extracted, is for the diver to carry down with him four or five hard wood sticks, about two feet long, sharpened at both ends. In case he is likely to be disturbed in his search for the oyster, by the visit of this king of sharks, he thrusts one of the sticks between his jaws, as he is in the act of closing them. This props them asunder, and the force with which they are brought to act on the stick, securely pins both ends into the bones, and away he goes, without the possibility of a remedy. Instances have been known of an Indian

who was so sharply set upon, that he gave away three sticks in succession, before quitting his dangerous post.

At the Marquesas Islands, where this shark abounds, the natives swim in the midst of them quite fearlessly; and the only reason why more of them are not devoured, must be the peculiar ease with which they are supplied with large fish. Whenever, however, a native is so unhappy as to be caught by one of them, his associate never exert themselves in the least, to extricate him because it is a common matter of belief there, that sharks never seize any but the wicked—or transgressors of law, and therefore the men deserves to die.

A gentleman of our acquaintance informed us that he saw a young girl swimming from a Boston vessel, waiting to receive a cargo of sandal wood, with a heavy bar of iron on her shoulder, which she had contrived to steal from the deck. She swam under water a considerable distance, before coming up for breath, but the moment she was seen, the boats put off, with the expectation of recovering the bar.

Just as the boats were so near that she was fearful of being struck with an oar, which was raised by a man in the bow, she plunged a second time—the boats pursued the track, but as she came up to the surface, still holding the iron, a "*mighty white shark* swallowed her at one effort;—the velocity towards his object being so great, that as he rolled upward, he girl was driven down his throat."

Curious Migration of Eels.

An annual migration of young eels also takes place in the river Thames in the month of May; and they have generally made their appearance at Kingston, in their way upwards, about the second week in that month, and accident, has so determined it, that for several years together it was remarked that the tenth of May was the day of what the fishermen call eel fair; but they have been more irregular in their proceedings since the interruption of the lock at Teddington. These young eels are about two inches in length, and they make their approach in one regular and undiviating column of about five inches in breadth, and as thick together as it is possible for them to be. As the procession generally lasts two or three days, and as they appear to move at the rate of nearly two miles and a half an hour, some idea may be formed of their enormous number. The line of march is almost universally confined to one bank of the river, and not on both sides at the same time; but, from some instinctive or capricious impulse, they will cross the river, and change the side without any apparent reason for doing so.

When the column arrives at the entrance of a tributary stream which emptes itself into the river, a certain portion of the column will continue to progress up the tributary stream, and the main phalanx either cross the river to the opposite bank, or will, after a stiff struggle to oppose the force of the tributary branch in its emptying process, cross the mouth of this estuary, and regain its original line of march on the same side of the river. In consequence of the young eels dispersing themselves from time to time, as occasion offers, in the manner above described, the shoal must imperceptibly lessen until the whole have disposed of themselves in different places.

TRAVELS OF AN IRISH GENTLEMAN IN SEARCH OF A RELIGION, with notes and illustrations, by the Editor of Captain Rock's Memoirs: Philadelphia, *Carey & Lea;* 1 vol. 18mo.—There is nothing surprizing in the fact, of the author of "Little's Poems" turning saint in his older days, and making up, by glorifying "the fathers," in his mature years, for the harm he may have done the daughters in his youth;—though what could have set Tom Moore to work upon such a subject as this we cannot divine, unless it be that he is merely "working up his old iron," by writing out a saleable volume from the notes he may have made years since, in the course of his study of other subjects. At all events, the result is before us in a very singular production—a most learned and ingenious vindication of the Roman Catholic faith,—fraught with the most plausible reasoning, and displaying a degree of curious research, that would have been far from contemptible in the most plodding days of the Dutch bibliographers; and which, in this surface-skimming age, is really prodigious. This great array of authority, however, will not go for much with those who dissent from Mr. Moore in his main proposition, of the propriety of keeping the very foundation of our faith, the Bible, a sealed book from THE PEOPLE. For the rest, having already extracted the most inviting passages of the book—the Poetical Translations of the Fathers, published on the outside of our paper a day or two since—we leave it for our readers to examine the graver parts for themselves.

FOREIGN INTELLIGENCE.

The latest accounts from Portugal, were by an arrival at Liverpool on the 8th June, bringing three officers from Don Pedro's army.

The accounts from Oporto, says the Liverpool Mercury, are by no means favourable to the cause of Donna Maria: the army only consisting of 10,000 strong, and not in high spirits; their disaffection is more on account of their contracts of pay not being discharged, than of the hardships of a city in a state of seige. Whether it be a lack of money on the part of the government of Don Pedro, or wilfully held from the troops, is not known. Out of the English troops, there at present remains only 1000, and about 1500 French, all of whom would gladly return to their respective countries, were it possible. Admiral Sartorious is laying off the bar. Don Miguel's squadron is reported to be out, and well refitted.

On the 27th, M. Joly's extensive spinning mills, at St. Quentin, were destroyed by fire, together with all its engines, machinery, and stores of every description. Three offices in Paris had insurance on the premises, amounting to 600,000 francs.

The infant Don Carlos and his family had taken passage at Lisbon, on board a British frigate for Cevitta Vecchia, to avoid the cholera, which was spreading through all parts of Portugal.

Ibrahim Pacha had been ordered by the Viceroy of Egypt to retire, on the 9th May, immediately, with all his army, behind the Taurus.

The revolt against the Sultan of Constantinople had become general and formidable in Bosnia and Albania. The Turkish officers had been deprived of their offices and employments. The Greeks of Verevia and Greneva were also in open rebellion to the Turkish government.

An insurrection had broken out in Italy, having for its object a republican government. Avignon, Grenoble, and Lyons were the cities most excited. The centre of operations was to be Chambery, and the revolutionists were to be assisted by the refugee Poles. The whole were to act simultaneously on the Sardinian States, France, and the French parts of Switzerland.

The Duc de Rovigo (Savary) died at Paris, on Monday last, of cancer in the tongue. On the same day, the editor of the *Tribune* was tried before the Cour d'Assizes for a new alleged seditious libel, but was acquetted.

The departure of the Duchess of Berry for Palermo was expected to take place on Wednesday.

At Amiens, on the 23d May, a disturbance broke out, in consequence of an order given by the Archbishop, to remove the rector of a parish, who had been denounced to him. The populace became enraged at the order, and resisted it. The National Guards interfered, but were overcome. Afterwards twelve of the ringleaders were secured.

Sir Stratford Canning arrived at Paris from Madrid, on his way to London, on Monday last. At the date of his departure from the Spanish capital every thing was tranquil there.

Bank of England.—On the 31st May, Lord Althorp, in a Committee on the Bank Charter Act, proposed a series of resolutions, embodying the arrangement with the Bank, and the regulation of Banking Companies, which he prefaced by a speech of considerable length. The resolutions were ordered to be printed, but no vote was taken upon them. The leading features of the arrangement are, that the charter shall be renewed for 21 years, an option being reserved to Government to put an end to it after the expiration of 10 years, on a year's notice—that no banking company of more than six partners shall issue notes in the metropolis or within 65 miles of it, but banks of more than six partners at a greater distance may draw bills on London to any amount, and issue notes payable in London—that the Bank of England notes shall be a legal tender for debts above the value of 5*l.* and the notes of the Bank shall not be payable in gold except at the Bank of England and its branches—that bills having not more than three months to run, shall not be subject to the Usury Laws—that a weekly account similar to that laid before the Committee, stating that the amount of bullion in the Bank, and the notes in circulation, shall be furnished weekly to the Government, which is to be considered confidential; but the average of these accounts, at the end of the quarter, shall be published in the succeeding quarter in the Gazette; and that a bill shall be introduced into Parliament to regulate Country Banks, and to encourage Joint Stock Banking Companies in the country to issue Bank of England notes. A fourth part of the sum lent by the Bank to Government is to be paid off, and the charge for the management of the public debt to be reduced from 245,000*l.* to 120,000*l.*

The Times of the 7th June, after giving the debates on this subject adds—The presumed cohellusion of the arrangement with the Bank has produced great activety in the money market, and, in fact, throughout the whole range of commercial operations, which proves more strongly than all the argument in the world could do, that its natural tendency is conceived to be that of increasing the circulation and raising prices of every description. Consols for the account left off at 90 3-4 to 7-8; Bank Stock 204 to 205; and Exchequer Bills at 50 to 51s. premium.

By the U. S. ship St. Louis, the editors of the Gazette have received the following from their correspondent, dated

"*Pt. Arenas, May* May 25, 1833.

"Gentlemen—our accounts from Lima are to the 4th May; all was quiet, although an attempt had been made towards a revolution, but was suppressed by sending out of the country the president of the senate, and imprisoning some half dozen more.

"In Central America, the political horizen is darkened, and the country rent into some dozen parties. In Nicaragua, the civil war is raging to a great extent. The chief, Herrera, is in Leon, and has with him some 600 troops. In Grenada, Menagua, and all the towns in the province, troops are raising to attack him. What will be the end, God knows; but we have no prospect of a speedy termination.—Guatemala is in trouble, as well as San Salvador.—The indigo crops are abandoned."—[Gazette.]

SUMMARY.

The extreme heat of Monday, when the thermometer stood at 92° in the shade, at 3 P. M. was thought by many to give a show of reason to the extravagant suggestion made a day or two since in a morning paper, that Mr. Holt had bored through the outer crust of the earth; and it was rumored about town that those internal fires, which, according to Cuvier, Nature keeps ever burning in her smithery below, were flaming up through the aperture at a rate that threatened soon to make grilled meat of every man who had not Monsier Chabert's anti-cooking specific in his pocket. The alarm, of course, was not slight: people moved about, wan and haggard, while briny bitter drops were seen to bedew many a manly countenance. It was, in short, a scene befitting the pen alone which described Byron's "Darkness:"

> Men did glare upon each other with eyes,
> Whose hot and fever'd glances seemed
> From the red bosom of a furnace shot.
> Some by the windless window stood and tried,
> Tried vainly there to catch the breeze that came not;
> Some gasping sank beneath the scorching sighs
> Their panting comrades heaved. Some called for ice;
> For juleps some. Some calmly dripping stood,
> Then homeward hurried and their linen changed—
> Changed frequently, yet ever dripped anew.
> And figures strange of fiery uncouth mein,
> With sagging habil'ments were frequent seen;
> And features, forms, and fashions, all were changed—
> Mingled and changed like molten scrap-iron,—blended:
> Men to primeval modes returned, and these
> Moved hatless, stockless, vestless, coatless all.

THE REVENUE.—According to the data which have been furnished by the returns of revenue accrued at some of the principal ports during the first half of the present year, there seems to be a diminution of about *one third* as compared with the revenue which accrued during the same period in 1832. This is owing to the repeal or reduction of duties under the new Acts of Congress, and not to any falling off in the amount of importations. But notwithstanding the diminution of duties *accruing* the present year, it would not be surprizing if the actual *receipts* should be equal to those of 1832. For in the first place a considerable part of the duties which *accrued* in 1832, are *payable* in the present year, and in the second place, the introduction of cash duties and short

credits under the new laws, will throw a larger amount of *payments* into the present year than of right belongs to it. The receipts last year from customs were $24,224,441 77. The expenses of government will not exceed $14,000,000. Consequently if the receipts of the present year shall equal those of 1832, there will be a surplus of more than $10,000,000; which added to the balance in the Treasury at the commencement of the year, ($4,502,914 45,) and $4,000,000 from public lands and other sources, will give a total surplus of more than $18,000,000. Deduct $7,001,698 83, the amount of the national debt at the beginning of the year, and there will be a clear balance of about $11,000,000 which Congress will not know what to do with. If we had the control of uncle Sam's purse strings, we would, with the consent of the Southern States, apply this sum to the gradual extinction of slavery. Next year the actual receipts from customs will not probably exceed $15,000,000 or $16,000,000.—[Journal of Commerce.]

The standard weight for merchantable wheat this season, has been fixed by the city millers of Richmond, Virginia, at 58 lbs the bushel. Last season it was 60, and half the crop weighed 61.

Pears.—Pears may be grafted on stocks of the Mountain Ash and the Service Tree; both of which will grow and thrive where pear tree stock would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots.—[Rusticus in Urbe.]

The People of Michigan, it would seem, are extremely hostile to General Black Hawk and his companions. The officer having them in charge, on his arrival at Detroit, deemed it expedient to procure a body guard, to protect them in the progress of their journey westward. His Excellency the General in-Chief, was even burnt in effigy at Detroit. That those people who have themselves been sufferers in the late conflict with the Indians, or those whose friends have suffered, should feel somewhat sensitive on the appearance of Black Hawk and the Prophet among them is not very strange; yet, we think it was at least imprudent and impolitic thus to manifest their disposition on the occasion.—[Conneaut Gazette.]

By the steam ship DAVID BROWN, Capt. Penoyer, we have Charleston papers of the 20th, three days in anticipation of the mail. With regard to the injury to the boiler, said to have been sustained on her outward passage, we are informed by Captain Penoyer that it was not as serious as at first apprehended. The alarm arose from the apparent *strain* of a rivet, which, however, proved, on examining it, very little if at all injured.

In the Charleston Patriot, of 20th inst. is a card from the passengers who remained on board the *David Brown* during her detention for repairs at Beaufort, in which they speak in the warmest terms of the kind and gentlemanly treatment received during the whole time, from Capt. Penoyer and his officers, and express their undiminished confidence in the safety and excellence of the *David Brown*, as a packet.

Extract of a letter, received in this city.

"CAMDEN, JULY 16.—We are glad to say that the prospects of our planters are very good for large crops of Cotton, and we believe it will come into market sooner than ever before known. Cotton will be sold in Camden in August."—[CharlestonCourier.]

Lost Mail Found.—We learn from the Post Office in this city, that the Mail from New Brunswick (New Jersey) which has been missing for two or three weeks, and for which a reward was offered, was, received at our post office by the southern mail this morning. It appears from the Post Bill that this mail had been received at the Post Office in Cincinnati, (Ohio,) whence it was sent to the Post Office of this city, where it should have arrived on the 6th inst.—It is fortunate that this mail has been found, as it exonerates several persons from unjust suspicions. We are informed that a considerable sum of money has also been saved; that one letter contained $700, and others checks, &c. to the amount of more than $2,000.—[Post.]

EXTRAORDINARY MORTALITY.—We have been informed, says the Richmond Compiler, that on an estate of Gen. Wade Hampton, on the Mississippi, a little above New Orleans, out of fifteen hundred slaves, more than seven hundred have been destroyed by Cholera.

RUTGERS COLLEGE.—The annual commencement of this Institution was held at N. B. on the 17th inst. when the degree of A. B. was conferred on—Garrett B. Adrain, Nicholas G. Blauvelt, G. Schenck Cannon, John H. Carothers, John Chetwood, James D'La Vergue, John Demott, Abraham D. Deyaw, John Dickinson, J. Wilson Drury, John P. Garrisk, James R. Hardenberg, John Hopper, Daniel Michel, Fred'k Ogilby, Robert H. Pruyn, Peter J. Quick, William Reily, B. Dubois Smock, Jacob P. Stryker, William H. Tallmadge, H. Hart, E. Waring.

The degree of A. M. was conferred upon seventeen gentlemen, Alumni of the College, and that of D. D. upon Rev. Messrs. Gosman and McCarrel.

Melancholy.—The stage on the Syracuse and Watertown line in passing from Adams to this place was upset on the night of the 11th instant, and the driver Rensselaer Nash, almost instantly killed. When the stage upset, Mr. Nash was thrown from the box and caught under the body of the falling coach. He spoke to a lad of about fifteen, the only passenger on board, inquiring if he was able to run, and requested him to hasten for assistance, stating that he must die, but before assistance could be rendered, he expired. Mr. Nash is said to be about 28 years of age; of correct moral character, esteemed and worthy.—[Watertown Freeman.]

Unprecedented Dispatch.—The steamboat New-Philadelphia, Capt. G. N. Diehl, attached to the Rail-Road Line between Philadelphia and this city, left the wharf, at half past 3 A. M. on Thursday last, for Philadelphia, to take her station on the line from that city to Bordentown. She arrived at Chesnut st. wharf at half past 10 o'clock the same evening, having performed the passage at least two hundred and sixty-miles, in nineteen hours!—[Daily Advertiser.]

It will be seen by the Inspector's report that the number of deaths in this city during the last week was 149; a larger number than has occurred before in any one week since Cholera times. There is however no prevailing disease, nor is the number of deaths greater than usual at this season of the year. In the corresponding week of 1832, the number of deaths was EIGHT HUNDRED AND SEVENTY-NINE, of which 686 were Malignant Cholera.—[Jour. Com.]

Accident by sparks from the chimney of a Steamboat.—A man was shockingly burnt on board a small skiff at Fulton slip, on Saturday morning, by the explosion of four or five pounds of gunpowder, which he was in the act of placing under cover, when it took fire by a spark from the chimney of a steamboat, which fell upon it and caused the accident.—[Mercantile Advertiser.]

Mr. E. A. G. Young of New Castle, in Delaware, announces that he has discovered a method of effectually preventing the emission of sparks from the chimneys of Locomotive Engines, for which he has obtained a patent. Mr. T. Stockton, a director of the New Castle and Frenchtown Rail Road, certifies that the invention has been in use for about three weeks, on that road, on a Locomotive in which wood is used for fuel, that it has been very satisfactory to the Directors, and is believed by them to be effectual in stopping the sparks.

We learn by a letter from Fort Winnebago, dated 25th June, that the Indian murderers of *Felix St. Vrain* and others, have been again delivered up to the authorities of that post, by their nation. It will be recollected that they escaped from the guard house at Fort Winnebago some time last fall. It is further said that they will be sent to Green Bay, in a few days, to take their trial. Col. Dodge was at Fort Winnebago, but was likely to remain there only a short time.—[St. Louis Republican.]

[*From the Charleston Courier.*]

LOSS OF A STEAMBOAT.—The steamboat *Bonnets of Blue*, Captain Davis, sailed from Savannah 15th ult. bound to Mobile. On the 24th, when about 40 miles S. E. by S. from St. Augustine, it commenced blowing a gale from N. N. E. during which the boat broached to, and would not steer. Soon after, the boat was found to be leaking badly, and the pumps became choaked—the leak gaining fast, the square sail was taken in, and both anchors let go in 15 fathoms water, and all hands employed in bailing. Finding it impossible to keep her free, slipt the chain, cut the hawser, and set the square sail, for the purpose of driving the boat on shore—at the same commenced lightening her by throwing the wood overboard. At half past 4 A. M. finding she was sinking, ordered the boat to be got ready when Capt. Davis, lady and two children, Messrs. Kennedy and Blissett, passengers, and all the crew, (with the exception of two negroes, which the boat being small, it was found impossible to take on board,) embarked. A short time after the boat left the wreck, she sunk. One of the negroes reached the shore on a piece of the wreck; the other was unfortunately drowned in the surf. The boat landed at Burysville, on the coast of Florida, and proceeded on the following day to St. Augustine. The wreck of the steamboat drove on shore, and went to pieces, the engine having fallen out of her, when she sunk and rolled over. Captain Davis and family arrived in this city on Saturday, in the schooner *Agnes*, from St. Augustine.

We regret to learn from the Harrisburg Reporter, that General Solomon G. Krepps, for several years past a member of the State Senate, died of cholera at his residence in Brownsville, a few days since.—He had been at Pittsburg, where it is supposed he contracted the disease. Gen. Krepps was one of the ablest members of the Senate—was beloved and respected by all who enjoyed his acquaintance—and his death will be deplored by all who knew him.—[Philadelphia Inquirer.]

[*From the Pennsylvanian.*]

We have procured from the Collector of this port the following statement of the duties accruing at Philadelphia:—

The first quarter 1833 was .	$797,316 23
Second " " . .	525,456 00
	1,322,772 23
First quarter 1832 . . .	1,332,479 93
Second " " . . .	977,698 56
	2,310,178 49

Railroad Accident.—We learn that yesterday, whilst the locomotive with a train of cars was passing on the Schenectady and Saratoga rail-road near Ballston, it came in contact with a cow, which had run upon the track. The locomotive passed over the cow and was thrown off the track with considerable damage: the next adjoining car passed over the cow, but held on the track: the other cars were thrown off the track, and the passengers more or less injured, but none seriously.—[Albany Argus.]

Indian News.—Col. Henry Dodge, of Dragoons, with two companies of Rangers (Captains Backus and Browne's) commenced his march towards the rapids on Rock River last Sunday for the purpose of dislodging *Maneater's* band of Winnebagoes. It appears that this chief, after all that has been done and said on the subject, is still lurking about the rapids with his band amidst the thick forests and swamps of that country. The other Indians we are informed have crossed the Wisconsin according to the stipulations of the treaty of last fall.

Col. Dodge is ordered to demand the murderers who escaped from the prison at Fort Winnebago last fall, and now are thought to be skulking about in *Maneater's* band. This demand certainly will be made, and when made, must, and of course, will, be persisted in till they are given up. Whether any resistance will be made or not we expect to be able to inform our readers in our next number.—[Galenian.]

Singular Phenomenon.—A pond in the vicinity of Providence, whose water has heretofore been unusually pure and limpid, has, within a few days past, assumed a thick milky appearance. The change remains unaccounted for.—[Hartford Review.]

The Pawtucket Chronicle says:—A pond situated 4 miles from this village, in the town of Smithfield, has lately assumed a novel appearance, which at first alarmed many superstitious persons. That a body of water more than half a mile in extent, should undergo a rapid change, from its natural hue to a milk white, was announced with many trepidations. But the great wonder ceased on the discovery of the innumerable white animaculæ produced by the stagnant water or putrid animal matter.

John Paul Jones.—The sailing master on board the Bon Homme Richard, commanded by the celebrated Paul Jones, is now living at, Brooklyn, L. I. aged about seventy-eight years. His name is Geo. Raymond, who, for many years previous to 1808, was commander of the merchant ship Citizen.—Captain Raymond had been two voyages to India, previous to enlisting under Paul Jones, when he was but 19 years old. He is a native of Norwalk, Connecticut.—[Hempstead (L. I.) Enquirer.]

"*Old Hickory.*"—We have seen *twelve beautiful axes*, from the factory of Alexander Harrison, New Haven, which were presented to General Jackson on his recent visit to that city. They were made by twelve different men in said factory, each doing his best, and are of different models, according to the taste or genius of the workmen. A *hickory* box, varnished, and lined with silk, contains them, in which, after being exhibited a day or two at the Exchange, they are to be conveyed to Washington.

MISCELLANY.

FORMATION OF THE CONSTITUTION.

Judge Story, in his Commentaries on the Constitution of the United States, concludes his remarks upon the decline and fall of the Confederation as follows:—

"Whatever may be thought as to some of these enumerated defects, whether they were radical deficiencies or not, there cannot be a doubt, that others of them went to the very marrow and essence of government. There had been, and in fact then were, different parties in the several states, entertaining opinions hostile, or friendly to the existence of a general government. The former would naturally cling to the state governments with a close and unabated zeal, and deem the least possible delegation of power to the Union sufficient, (if any were to be permitted,) with which it could creep on in a semi-animated state. The latter would as naturally desire, that the powers of the general government should have a real, and not merely a suspended vitality; that it should act, and move, and guide, and not merely totter under its own weight, or sink into a drowsy decrepitude, powerless and palsied. But each party must have felt, that the confederation had at last totally failed, as an effectual instrument of government; that its glory was departed, and its days of labor done; that it stood the shadow of a mighty name; that it was seen only, as a decayed monument of the past, incapable of any enduring record; that the steps of its decline were numbered and finished; and that it was now pausing at the very door of that common sepulchre of the dead, whose inscription is, *Nulla vestigia retrorsum.*

If this language should be thought too figurative to suit the sobriety of historical narration, we might avail ourselves of language as strongly colored, and as desponding, which was at that period wrung from the hearts of our wisest patriots and statesmen. It is, indeed, difficult to overcharge any picture of the gloom and apprehensions, which then pervaded the public councils, as well as the private meditations of the ablest men of the country. We are told by an historian of almost unexampled fidelity and moderation, and himself a witness of these scenes,* that "the confederation was apparently expiring from mere debility. Indeed, its preservation in its actual condition, had it been practicable, was scarcely to be desired. Without the ability to exercise them, it withheld from the states powers, which are essential to their sovereignty. The last hope of its friends having been destroyed, the vital necessity of some measure, which might prevent the separation of the integral parts, of which the American empire was composed, became apparent, even to those who had been unwilling to perceive it."

In the next chapter, the learned judge proceeds to give the following account of the formation of the Constitution of the United States:

Origin and Adoption of the Constitution.

In this state of things, commissioners were appointed by the Legislatures of Virginia and Maryland early in 1785, to form a compact relative to the navigation of the rivers Potomac and Pocomoke, and the Chesapeake Bay. The commissioners having met in March, in that year, felt the want of more enlarged powers, and particularly of powers to provide for a local naval force, and a tariff of duties upon imports. Upon receiving their recommendation, the legislature of Virginia passed a resolution, for laying the subject of a tariff before all the States composing the Union. Soon afterwards, in January, 1786, the legislature adopted another resolution, appointing commissioners, "who were to meet such as might be appointed by the other States in the Union, at a time and place to be agreed on, to take into consideration the trade of the United States; to examine the relative situation and trade of the States; to consider how far a uniform system in their commercial relations may be necessary to their common interest, and their permanent harmony; and to report to the several states such an act, relative to this great object, as, when unanimously ratified by them, will enable the United States in congress assembled to provide for the same."

§ 273. These resolutions were communicated to the states, and a convention of commissioners from five states only, viz: New York, New Jersey, Pennsylvania, Delaware and Virginia, met at Annapolis in September, 1786. After discussing the subject, they deemed more ample powers necessary, and as well from this consideration, as because a small number only of the states were represented, they agreed to come to no decision, but to frame a report to be laid before the several states, as well as before Congress. In this report they recommended the appointment of commissioners from all the States, "to meet at Philadelphia, on the second Monday of May, then next, to take into consideration the situation of the United States; to devise such further provisions as shall appear to them necessary, to render the constitution of the federal government adequate to the exigencies of the Union; and to report such an act for that purpose to the United States in Congress assembled, as when agreed to by them, and afterwards confirmed by the legislature of every State, will effectually provide for the same."

§ 274. On receiving this report, the legislature of Virginia passed an act for the appointment of delegates to meet such, as might be appointed by other States at Philadelphia. The report was also received in Congress. But no step was taken, until the legislature of N. York instructed its delegation to move a resolution, recommending to the several States to appoint deputies to meet in convention for the purpose of revising and proposing amendments to the federal constitution. On the 21st of February, 1787, a resolution was accordingly moved and carried in congress, recommending a convention to meet in Philadelphia, on the second Monday of May, ensuing, "for the purpose of revising the articles of confederation, and reporting to congress, and the several legislatures, such alterations and provisions therein, as shall, when agreed to in congress, and confirmed by the States, render the federal constitution adequate to the exigencies of government, and the preservation of the Union." The alarming insurrection then existing in Massachusetts, without doubt, had no small share in producing this result. The report of congress, on that subject, at once demonstrates their fears and their political weakness.

§ 275. At the time and place appointed, the representatives of twelve states assembled. Rhode Island alone declined to appoint any on this mementous occasion. After protracted deliberations, the convention finally adopted the plan of the present constitution, on the 17th of September, 1787; and by a contemporaneous resolution, directed it to be "laid before the United States in congress assembled," and declared their opinion, "that it should afterwards be submitted to a convention of delegates chosen in each state by the *people* thereof, under a recommendation of its legislature for their *assent* and *ratification;*" and that each convention, assenting to, and ratifying the same, should give notice thereof to congress. The convention, by a further resolution, declared their opinion, that as soon as nine states had ratified the constitution, congress should fix a day, on which electors should be appointed by the states, which should have ratified the same, and a day, on which the electors should assemble and vote for the president, and the time and place of commencing proceedings under the constitution; and that after such publication, the electors should be appointed, and the senators and representatives elected. The same resolution contained further recommendations, for the purpose of carrying the constitution into effect.

§ 276. The convention, at the same time, addressed a letter to congress, expounding their reasons for their acts, from which the following extract cannot but be interesting. "It is obviously impracticable (says the address) in the federal government of these states, to secure all rights of independent sovereignty to each, and yet provide for the interest and safety all. Individuals, entering into society, must give up a share of liberty to preserve the rest. The magnitude of the sacrifice must depend, as well on situation and circumstance, as on the object to be obtained. It is at all times difficult to draw with precision the line between those rights, which must be surrendered, and those which may be reserved; and on the present occasion this difficulty was increased by a difference among the several states, as to their situation, extent, habits, and practical interests.—In all our deliberations on this subject, we kept steadily in our view that, which appears to us the greatest interest of every true American, *the consolidation of our Union*, in which is involved our prosperity, felicity, perhaps our national existence. This important consideration, seriously and deeply impressed on our minds, led each state in the convention to be less rigid on points of inferior magnitude, than might have been otherwise expected. And thus *the constitution*, which we now present, is *the result of a spirit of amity, and of that mutual deference and concession*, which the peculiarity of our political situation rendered indispensable."

§ 277. Congress having received the report of the convention, on the 28th of September, 1787, unanimously resolved, "that the said report, with the resolutions and letter accompanying the same, be transmitted to the several legislatures in order to be submitted to a *convention of delegates chosen in each state by the people thereof*, in conformity to the resolves of the convention, made and provided in that case."

§ 278. Conventions in the various states, which had been represented in the general convention, were accordingly called by their respective legislatures: and the constitution having been ratified by eleven out of the twelve states, congress, on the 23d of September, 1788, passed a resolution appointing the first Wednesday in January following, for the choice of electors of president, the first Wednesday of February following, for the assembling of the electors to vote for a president, and the first Wednesday of March following, at the then seat of congress (New York,) the time and place of commencing proceedings under the constitution. Electors were accordingly appointed in the several states, who met and gave their votes for a president; and the other elections for senators and representatives having been duly made, on Wednesday, the 4th of March, 1789, congress assembled under the new constitution, and commenced proceedings under it. But a quorum of both houses, did not assemble until the 6th of April, when the votes for president being counted, it was found that George Washington was unanimously elected president, and John Adams was elected vice president. On the 30th of April, president Washington was sworn into office, and the government then went into full operation in all its departments.

§ 279. North Carolina had not, as yet, ratified the constitution, the first convention called in that state, in Aug. 1788, refused to ratify it without some previous amendments, and a declaration of rights. In a second convention, however, called in November, 1789, this state adopted the constitution. The state of Rhode Island had declined to call a convention; but finally, by a convention held in May, 1790, its assent was obtained; and thus all the thirteen original states became parties to the new government.

§ 280. Thus was achieved another, and still more glorious triumph in the cause of national liberty, than even that, which separated us from the mother country. By it, we fondly trust, that our republican institutions will grow up, and be nurtured into more mature strength and vigour; our independence be secured against usurpation and aggression; our domestic blessings be widely diffused, and generally felt, and our union, as a people, be perpetuated to our own truest glory and support, and as a proud example of a wise and beneficent government, entitled to the respect, if not to the admiration of mankind.

* Marshal's Life of Washington, 124.

From the Boston Patriot.

ON BIRDS AND THEIR MISFORTUNES.—We have already intimated our opinion, that the labors of the scientific ornithologist are of far more practical utility than the usual observer supposes; and that, even in the business of legislation, a regard to his researches might prevent many errors, which may much affect public welfare. The legislation on the subject of birds has been marked by some essential errors, which have led to real evil. By the law of 1817, woodcocks, snipes, larks and robins, were protected at certain seasons of the year, whilst war to the knife was declared against crows, black-birds, owls, blue jays, and hawks; these last were treated as a sort of pirates, subject to a suspension at the yard arm, with the least possible ceremony. It so happens, that the character of these very birds has been singularly mistaken: for while the ordinance of legislation has been thus systematically levelled at them, they, on a principle which man would do extremely well to imitate, have been returning good for evil; they have been diligently engaged in extirpating all sorts of vermin, while never were the vilest vermin half so ill treated by the human race. The crow for example, who is generally regarded as a most suspicious character, has had great injustice done him; in the spring, when the ground is moist, he lives in a state of the most triumphant luxury on grubs; he eats the young corn, it is true, but it is a necessary of life, to which he never resorts, except when his supply of animal food is shortened. After the corn is tolerably grown, he has nothing more to do with it; and in any stage he destroys at least five hundred pernicious grubs and insects, for every blade of corn which he pillages from man. In the southern States, he is regularly permitted to accompany the ploughman, and collect the grubs from the newly opened furrow; his life is thus secured from the safest of all tenures—that of the interest of man in permitting him to live.

There is scarcely a farm in England, without its rookery; the humid atmosphere multiplies every species of insect, and these birds reward man for his forbearance, by ridding him of legions of his foes. By a policy very similar to that which dictated the revocation of the edict of Nantes, they have occasionally been exposed to the mischievous propensi-

ties of unruly boys, who, as far as utility is concerned, are not to be compared to crows; but the error of this step soon became obvious, and they are now received with universal welcome. The hawk enjoys a double reputation in the hen-roost; he sometimes destroys the chickens, but with man's consistency, does not like to see his infirmities copied by another; and by way of compensation demolishes the fox, which eats twenty chickens where he eats but one: so that it is hardly the part of wisdom to set a price upon his head, while the fox, a hardened knave, is not honored with a penal statute. How the owl came to be included in this black list, it is difficult to conjecture; he is a grave, reflecting bird, who has nothing to do with man, except to benefit him, by eating weazles, foxes, racoons, rats and mice, a sin for which most house-keepers will readily forgive him. In some parts of Europe, he is kept in families, like a cat, whom he equals in patience and surpasses in alertness. Another of these birds, the blackbird, is the avowed enemy of grubs, like the crow; in the middle States, the farmer too well knows the value of his company, to pluck them from the furrow; and while other less pains-taking birds collect the vermin from the surface, his investigations are more profound, and he digs to the depth of several inches in order to discover them. When the insects are no longer to be found, he eats the corn, as well he may, but even then asks only a moderate compensation for his former services; five hundred black-birds do less injury to the corn, than a single squirrel. The last upon the catalogue of persecuted birds, is the blue jay. Whoever watches him in the garden, will see him descend instantly from the trees, pouncing every time upon the grub, his enemy and ours.

We have already seen that the act to which we have referred protects some birds at certain seasons of the year; among others, the robin, who lives on insects and worms, and has no taste for vegetable diet, and the lark who is extremely useful in his way. The only wonder is, that it should have been thought expedient to allow them to be shot in any season. The quail, another of the privileged class, has no title to be named in company with the others; in the planting time, he makes more havoc than a regiment of crows, without atoning for his misdeeds by demolishing a single grub. Nor is the partridge a more scrupulous inspector of the rights of property; though as he lives in comparative retirement, he succeeds in preserving a name for honesty.

There are some of our most familiar birds, of which a word may be here said. Every body has seen the little goldfinch on the thistle by the wayside, and wondered perhaps that his taste led him to so thorny a luxury; but he is all this time engaged in devouring the seeds, which but for him would overrun the ground of every farmer. Even the bob-o'link, a most conceited coxcomb, who steals with all imaginary grace, destroys millions of the insects that annoy the farmer most. All the little birds, in fact, which are seen about the blossoms of the trees, are doing us the same service in their own way.

Perhaps there is no bird which is considered more decidedly wanting in principle than the wood-pecker—and, certainly, so far as man is concerned, there is none more conscientious. So long as a dead tree can be found for a nest, he will not trouble himself to bore into a living one; whatever wounds he makes upon the living are considered by foreign gardeners as an advantage to the tree. The sound tree is not the object—he is in pursuit of insects and their larvæ. In South Carolina and Georgia, forests of a vast extent have been destroyed by an insect, which would seem as capable of lifting a tree as destroying it.—The people were alarmed by the visitation, and sagaciously laid the mischief at the door of the wood-pecker, until they had confounded the bailiff with the rogue.

The injury arising from the loss of a single crop is hardly to be estimated. The experience which is taught by our own misfortune, is very dearly bought; and if we think how we can derive it from others—if, for example, we can learn from the ornithologist the means of preventing such injury, as in many instances we may, the dictates of economy combine with those of taste, and warn us not to neglect the result of his researches.

Solitude in Old Age.—As to myself, I have had my full share of the world—a busy share from fifteen to fifty. I should want taste, did I not now enjoy that variety in life which I gain by solitude. Still a medium has ever been wanting, both in my public and private life, to give a zest of true enjoyment. I had thirty-five years of perpetual crowd and bustle. I have now had five of almost continual loneliness and quiet. * * * Now do not suppose you can alarm me by representing this state of apathy as a calamity. It is the blessing for old age; it is the substitute for patience. It permits me to look in the glass without screaming with horror—and to live upon moderate terms of charity with all young people, (without much hatred or malice,) although I can never be young again.—[Memoirs of Mrs. Inchbald.]

POETRY.

[We should be happy to hear more often from the fair writer of the following simple and pathetic lines, which breathe the tenderness of a sister's affection, animated by a Christian's hope.]

FOR THE N. Y. AMERICAN.

TO ——— ———.

Why does the rose fade on thy cheek,
And care sit on thy brow,
Those once bright eyes, why do they speak
Such mournful language now?
In other days it was not so,
It was not thus with thee;
There was no sign of heartfelt wo,
All was hilarity.

Thy cheeks were like the ruddy morn,
Thy eyes were sparkling bright;
The social hour thou didst adorn,
And every heart delight:
Thy feet did tread the flowery vale,
Or trip the dance along,
And oft thou dist the ear regale
With thy soft winning song.

But now it is not so with thee,
Some evil secret power
Has bound the heart which was so free,
Has nipt the blooming flower;
I read it in thy wan blanch'd cheek,
Thy fading beauties prove,
Thy languid eyes,—all, all do speak
'Tis *unrequited love.*

And did he whom thy guileless heart
Did love, alas! too true,
Who said that nought but death should part,
Did he forsake thee too?
Oh did the cruel spoiler come,
A fiend in virtue's form,
To desolate thy happy home,
To leave thy breast forlorn.

Though man is false, yet God is just,
Then raise thy fading eye
To Him, whose *love* thou sure canst trust,
And on *His word* rely;
The Friend who never will forsake,
Who ne'er will faithless prove,
"The bruised reed he will not break,"
Nor disregard thy love.

New York, July 15, 1833. E. S. G.

[*From the Edinburgh Literary Journal.*]

PRAYER.

Go, when the morning shineth,—
Go, when the moon is bright,—
Go, when the eve declineth,—
Go, in the hush of night;
Go with pure mind and feeling,
Fling earthly thoughts away,
And, in thy chamber kneeling,
Do thou in secret pray.

Remember all who love thee,
All who are loved by thee;
Pray for those who hate thee,
If any such there be;
Then for thyself in meekness,
A blessing humbly claim,
And link with each petition
Thy great Redeemer's name.

Or if 'tis e'er denied thee
In solitude to pray,
Should holy thoughts come o'er thee,
When friends are round thy way,
E'en then the silent breathing
Of thy spirit raised above,
Will reach his throne of glory,
Who is Mercy, Truth, and Love.

Oh! not a joy or blessing,
With this, can we compare—
The power that he hath given us
To pour our souls in prayer.
Whene'er thou pinest in sadness,
Before his foootstool fall,
And remember, in thy gladness,
His grace who gave thee all.

MARRIAGES.

Tuesday evening, July 23, at the house of the bride's father, by the Rev. Cyrus Mason, HENRY IBBOTSON, Esq. of Globe Works, Sheffield, England, to ANN FRANCES, eldest daughter of Thos. Darling, Esq. of this city.

On Thursday evening, May 23, 1833, by his honor the Mayor, Mr. THOMAS H. LYELL, son of the Rev. Dr. Lyell, to Miss JANE L. LE FORTE, youngest daughter of Capt. John Le Forte, all of this city.

On the 2d inst. by the Rev. Jas. Christy, the Rev. DAVID SCOTT, of Glasgow, Scotland, to Miss ELIZA WALKER, of this city.

On Tuesday evening last, by the Rev. Mr. Carpenter, Mr. JOSIAH C. FOOTE, to Miss REBECCA K MEAD, the step daughter of John S. Boon, all of this city.

On the 24th instant, by the Rev. Mr. Norton, James Franklin Robinson, Esq. to Miss Adeline Jaques, daughter of William Rockwell, all of this city.

This morning, 23d inst. by the Rev. Mr. Eastburn, RICHARD T. HARTSHORNE, Esq. to Miss CATHERINE, daughter of Thomas Jenkins, Esq.

At Christ Church, on Thursday morning 18th instant, by the Right Rev. Bishop Onderdonk, the Rev. ALBERT SMEDES, assistant minister of said church, to SARAH PIERCE, daughter of the Rev. Thomas Lyell, D. D.

On Thursday evening, 18th inst. Mr. Wm. Mather, of Eng., to Miss Ann Eliza Byram, of this city.

On Tuesday evening, 23d inst. by the Rev. Joseph Morrison, Mr. Leonard G. A. Schieffelin, to Miss Margaret D. Faulkner, all of this city

On Thursday evening, by the Rev. Dr. M'Auley, Mr. F. Johnson, to Miss Rispah, daughter of Lewis Compton, Esq. both of Perth Amboy, N. J.

In Brooklyn, on the 22d inst. by the Rev. T. J. Sawyer, Mr. Josiah Reeves, to Miss Mary L. Wetmore, youngest daughter of Wm. W. Wetmore.

At Albany, on Friday, 12th instant, by the Rev. Mr. Ludlow, ALFRED HUNTER, (of the firm of A. & J. Hunter) to Miss LOUISA M. BENEDICT, all of that place.

At Danbury, Conn. on Monday, 22d instant, by the Rev. Mr. Rood, CHARLES H. MERRITT, Merchant of Troy, N. Y., to ANN MARIA, daughter of Col. Moss White, of the former place.

At Morristown, N.J. on the evening of the 16th inst. by the Rev. H. R. Peters, Mr. DAYTON I. CANFIELD, of Morris Plains, to Mrs CHARLOTTE C. EBBETTS, of the former place.

At Philadelphia, on the 6th inst., Mr. John Crawford, to Miss Catharine Wilson, both of Philadelphia county.

At Albany, on the 1st instant, by the Rev. Mr. Lockhead, Mr. Lyman Hewitt, of Westford, Otsego Co., to Miss Isabella Harvey.

At Alexandria, D. C., on the 4th inst., by the Rev C. A. Davis, Mr. Samuel Chipley, to Miss Sarah M. Bayliss.

At Albany, Mr. Daniel Sparhawk, merchant, to Miss Eunice G. Treadwell.

On the 16th inst., near Wheeling, Virginia, General Daniel Cruger, of Bath, Steuben County, N. Y, to Mrs. Lydia Shepherd.

DEATHS.

In this city, on the 11th inst. after a long and painful illness, JOHN FOWLER, in the 26th year of his age, formerly of Long Island.

On the 16th instant, in the 68th year of his age, ABRAHAM G. FORBES.

On Sunday, the 14th instant, ELI LOCKWOOD, in the 49th year of his age.

Wednesday morning, in the 16th year of her age, ANASTATIA, daughter of John Murphy.

On Monday afternoon, 22d instant, of a lingering illness, Miss MARY ANN MCCARDELL, aged 24 years.

On Monday, of a lingering disease, ROBERT DENT, aged 52 years.

On Sunday night, ELIZA BIDDOLPH, infant daughter of Edward and Mary Grattan, aged 1 year.

On Saturday, 20th inst., Mrs. MARTHA WILSON, aged 52 years.

On Tuesday afternoon, Mrs. MARY, wife of Sir. Farnham Hall, aged 56 years.

On Tuesday, 23d instant, after a long and painful illness, Mr. JOHN BARRY, shipwright, in the 43d year of his age.

On Tuesday, 23d instant, of consumption, Mrs. LOUISA FRAY, wife of the late Joseph Fray, aged 49 years.

At Burlington, N. J. on the 23d inst. the Rev. CHARLES HENRY WHARTON, D. D. Rector of St. Mary's Church, of that city.

Suddenly on Sunday afternoon, in the 19th year of her age, GEORGIANA, wife of Jefferson B. Nones, and daughter of Thomas Diblin, of Philadelphia.

This morning, 15th inst. about 4 o'clock, after a lingering illness, Mr. SETH SMITH BARNES, a native of St. Croix, aged 34 years.

This morning, after a lingering illness, GERARD BEEKMAN, in the 59th year of his age.

Yesterday, 14th inst. at noon, after a lingering illness, Mrs. MARY MITCHEL, late of Newburgh, wife of Mr. John Mitchel.

On Monday morning, 15th inst. after a short but severe illness, Mr. JAMES GILMORE, merchant, aged 30 years. His character without a blemish, and without an enemy, to him might be truly applied the words of Pope—"An honest man is the noblest work of God."

On Saturday last, of consumption, in the 22d year of her age, RUTH, wife of Joseph W. Kissam, and daughter of the late Alexander Allen. Her remains were taken to West Neck, Long Island, for interment.

Suddenly on Tuesday evening, Mr. ALEXANDER WARK, senior partner of the house of Wark & Dewar, of Jamaica.

On Tuesday, 16th inst. in her 41st year, THEODOSIA, wife of Eli Reed.

This morning, in the 72d year of his age, *Felix Alexander Ouviere Pascalis, M.D.*

On Tuesday morning the 23d inst. CORNELIA, the daughter of Henry Remsen, in the 7th year of her age.

Yesterday morning at New Durham, N.J. Mrs. SARAH, wife of Andrew Bleakley, in 53d year of her age.

Wednesday morning, at Jamaica, L. I. after a lingering illness, Mrs. ANN CISCO, wife of Wm F. Cisco, Printer.

At Washington, JESSIE, infant daughter of Duff Green.

At Park Island, Louisiana, of cholera, on the evening of the 18th ult., John Newman, keeper of the light house at the N. E. Pass of the Mississippi, aged about 37 years, a native of Newbern, N. C.

In Hamburg N. Y., on the 4th inst., Julian Almira, daughter of Ansel Knapp, formerly of Essex county in this state.

At Jamestown, Chautauque Co., on the 25th ult. Mr. Elisha Fish, of Farmington, aged 71 years. In Geneva, Mrs. Charlotte H. Stafford, relict of the late George S, aged 26. In Covert, Seneca Co., Levi Wheeler, Esq. aged 56.

At Georgetown, D. C. aged 66, Mr. John Laird. July 1st, at Alexandria, D. C., Capt. H. B. Rose; 11th, at Albany, T. Atwood Bridgen, Esq.; 10th, at do. Henry, infant son of Mr. George C. Lamb, of New York.

At Mobile, on Saturday, 29th June, of a painful and protracted illness, Sarah, the consort of Capt. Samuel Creaghead, aged 35 years, a native of Glocester County, New Jersey.

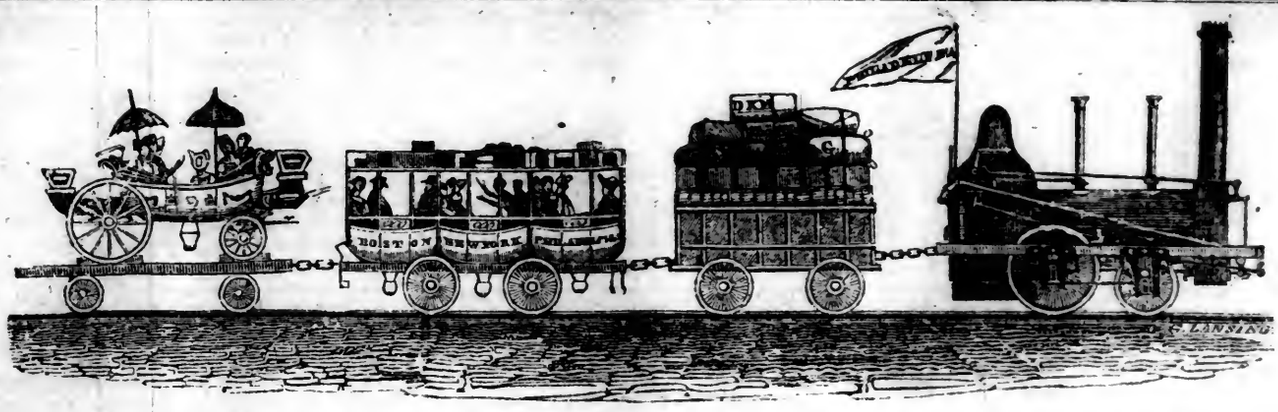
In the Poor-house in Maury county, Tenn., on the 14th ult., Abraham Bogard, being 118 years and 4 days old. He never drank spirits, or was sick, nor took medicine of any kink. He retained the faculties of seeing, hearing, and memory, until the vital spark took its final departure. He was born in the State of Delaware.

In Hartland, Vt. Major Timothy Lull, aged 70. His father commenced the settlement of Hartland, in 1763. At this time there were no inhabitants between Charlestown No. 4 and Hartland. The father of Mr. Lull moved into the town in the following manner. Having purchased a log canoe, he left Dummerston and proceeded up Connecticut river, with his family and furniture, until he arrived at the mouth of a considerable brook in Hartland. There he landed his family, and breaking a junk bottle, called the stream Lull's Brook, which name it retains to the present day. He died at the age of 81. The last deceased was the first child born in the County of Windsor.

At Yorkville, S. C. on the 4th inst. Mrs. Nancy Mann, aged 76. On the 9th inst. at the same place, Rev. James G. Richardson, of the Methodist Church, and one of its brightest ornaments.

At Harrisburgh, Pa. on the 21st inst. Samuel Douglass, Esq. formerly Attorney General of that State.

On Monday, the 24th June, in the township of Sidney, U. C., of Hydrophobia, Miss MARGARET M. OSTROM, aged 12 years, 5 months and 16 days. The deceased was bitten by a mad dog on or about the 14th May, but did not exhibit any symptoms of madness till Thursday, the 20th June, when she became deranged, and would attempt to snap at almost every thing that fell in her way, especially when water was presented to her. During the time she was seized with madness, and the time she died, a period of only four days, she had several lucid intervals, when she would converse rationally with her friends, and expressed a sincere wish to leave this world of sorrow and of woe.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, AUGUST 3, 1833. [VOLUME II.—No. 31.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 3, 1833.

To Correspondents.—The communications of *U. A. B.* and *Mercator* are received, and will appear next week.

The de scription and drawing of the Oxford Railroad, the connecting link between the Columbia Railroad in Pa. and the Susquehannah Railroad in Md. were duly received, for which we are indebted to the engineer of the road, J. E. Thompson, Esq. This, although very short, is a road of considerable importance, as it completes the line of railroad, as now authorized, from Washington to Trenton and to Amboy in New-Jersey; and indeed to New-York, except the short distance from Trenton to New-Brunswick: and even there, we understand, the stockholders of the turnpike road have it in contemplation to put down rails on a part of their road, in order to complete an uninterrupted track from the *Commercial* to the *Political* emporium of the United States. Even without the completion of the last-mentioned portion, the communication from Washington to New-York during the greatest part of the year will be, we doubt not, equal, if not superior, to any other route of equal distance of internal communication in the world.

The Baltimore and Washington, the Baltimore and Susquehannah, the Oxford, and the Columbia railroads, or the Chesapeake and Delaware steamboats, in connection with the Newcastle and Frenchtown railroad, will enable the traveller to perform the route between Philadelphia, Baltimore and Washington, with great ease, in the shortest period, and easiest possible manner; and the route between Philadelphia and New-York may be performed with equal facility by means of the Camden and Amboy railroad, in connection with the splendid steamboats of the Messrs Stevens, which are connected therewith; or, when completed, by the Philadelphia and Trenton railroad, and the New-Jersey railroad, from New-Brunswick to this city, through Elizabethtown and Newark.

The time, we hesitate not to say, is not farther distant than the successful completion of these roads, when the distance between New-York and Washington City will be regularly travelled in 16 to 18 hours; and, in cases of emergency, in 12 or 13 hours. Nor is this the only route upon which great improvements will be effected. If we look to the east, or the north, the west, and even to the south, we shall find the same spirit of improvement pervading the people—a spirit so powerful, and, we may add, too, so useful, that nothing can prevent it from producing results, equal, at least, in proportion to the improvements of the *last twenty years*.

The report of Mr. Thompson, engineer of the Oxford Railroad, will appear in our next. The drawing will be forwarded to Mr. Vignoles, of Liverpool, to whom we are desirous of forwarding maps and descriptions of every Railroad in the United States.

Rensselaer and Sabatoga Railroad.—This Railroad, which is to extend from Troy to Ballston Spa, is soon to be commenced. Surveys have been made, which show that the route of the road is one of the best which nature has provided. The estimated cost of its construction is less than $8,000 per mile, averaging the whole distance. A large proportion of the stock, says the Budget, is already taken up, and the whole will be subscribed for as soon as it is put in market.

The Springs.—The number of arrivals since our last has been altogether unprecedented during any week of a former year. It cannot be much, if any, short of 1500; and the number in this village at present is probably not less than 2500. Our public houses are all very much thronged; but the departures being numerous every day, we have thus far been enabled to afford accommodations—one swarm giving place to another, on the departure and arrival of the railroad trains.—[Sara. Sentl.]

TUSCUMBIA, COURTLAND, AND DECATUR RAILROAD.

[Continued from last week, page 468.]

TUSCUMBIA RAILWAY.

This work extends from Main street, in Tuscumbia, (and is there connected with the Tuscumbia, Courtland, and Decatur Railroad,) to the Depot, at the Tennessee river, a distance of about 2 1/10 miles. The construction of this road was completed about the 1st of June last, at the aggregate cost of $9,500, being $4,523 85 per mile, including the building of a viaduct over a ravine from 12 to 36 feet high and 274 feet long. Here it is seen that the actual cost of this work exceeds the estimated cost of the road above this per mile, by $540 85; but when it is considered that the ground is very rugged, compared with what it is generally through the valley, and that many extraordinary difficulties have to be encountered in the outset, in an enterprize of this character, it is rather to be wondered that it did not cost more.

Since the completion of the road in June last, a pleasure car has been plying between town and the river. A lumber car was also put upon it at the same time, and within a month there have been two other lumber cars received, and are now in use. As to the business and proceeds of this section of the road, I have no accurate information; but the Agent of the Company will no doubt make the necessary exhibits in due time.

The gravelling of the horse-path upon this road has been principally accomplished, at a cost of about $128 per mile. A certificate upon the Treasurer on account of this work has been granted for $59 60. The balance, say $211, will be due when the work is finished and a final estimate given.

A cotton shed and car house have been erected in town, at a cost of $535 33, of which there has been paid $335; the balance is due on demand.

An order has been sent, with the funds, in accordance with an order from your Board, for two sets of car wheels, &c. to be procured at Baltimore; another pleasure car has been engaged to be built by Mr. Williams, of this place, which is nearly finished. Patterns for turnout castings have been sent to the Russel's Valley iron works, with an order for four sets to be immediately furnished. An order has also been given for eight wrought iron switches to be sent from Napier's iron works in Tennessee.

PROSPECTS OF THE COMPANY.

The contractors, as has been previously remarked, have united their force, and are progressing with the work from Tuscumbia towards the county line; and, although their forces are as yet far short of what is required to accomplish the undertaking in the time eti-

pulated, I cannot but hope that an adequate number of hands will be procured in so short a time as to insure the completion of the whole by the time promised.

They are now, as they assure me, in expectation of fully doubling their force in a very short time; should they not be disappointed in their expectations, this force, with what they could get during July and August, from planters along the line, would be sufficient to complete the contract. The road to the county line must, in any event, be finished by the 1st day of June next. Relying upon these favorable anticipations, the following prospects are presented, viz.: That the Company will have 10⅓ miles of the road in operation by the first day of June next—exclusive of the Tuscumbia Railway, 2 1/10 miles—and that by the first of December there will be 22.834 miles finished; add the Tuscumbia Railway, 2 1/10 miles, makes 24.934, or, say 25 miles, of their work completed in a little less than two years from the date of their charter. The affairs of the Company will then present a very different aspect. The expectations of the stockholders of an active and profitable business will be realized, and the whole community, many of whom are now opposed to the work, discovering that their facilities are much enhanced, will laud the enterprize. The following is given as an approximate estimate of the business upon the road, and the profits arising, when finished, to the town of Courtland.

Assuming that there will be conveyed from the points named to the Depot, at the termination of the Railroad, and up freight, as stated below.

From what point	No. bales.	Miles conveyed.	No. bales conv'd 1 mile
Tuscumbia, say	4,000	2	8,000
Capt. Lewis'	1,000	6	6,000
Fish Pond,	1,000	8½	8,500
County Line,	4,000	12	48,000
Town Creek,	2,000	17	34,000
Foster's,	1,000	20¾	20,750
Courtland,	10,000	25	250,000
	23,000		375,250

Now, 375,250 bales, carried one mile, at 2 cents, - -		$7,505 00
500 tons other freight, at $2 50,		1,250 00
6,000 tons up freight, at $3 00,		18,000 00
Shipping commissions on 23,000 bales, at 25 cents, - -		5,750 00
United States' mail, - -		1,000 00
		$33,505 00
The cost of the roads amounts to $102,313 49		
Depot at the river, say - -	7,000 00	
Intermediate depots	1,500 00	
	$110,813 49	

and $33,505 profit upon $110,813 49, is equal to 30¼ per cent. nearly. Passengers, it is calculated, will pay the expense of conveyance, and repairs of the road. That this source is adequate, will be seen from the following: Suppose an average of ten passengers, at one dollar each, shall be carried up, and the same down, for 312 days in the year, say 312×10×2=6,240. Now, supposing that the locomotive engine shall be used as the motive power, the expense will be at the rate of 43.100 of a cent per ton a mile, as was illustrated in my communication to your Board, dated 13th ult., a copy of which is hereto annexed and referred to, marked E. This calculation was founded on the period at which the power would be employed to the extent of its capacity; and therefore the most favorable result is derived, and the present estimate is presented for the business of the whole year, and consequently an allowance is due on account of the fluctuations that must occur.

In order, then, to make an ample provision on the above account, we will estimate the expense at ¾ of a cent per ton a mile; now, 375,250 bales one mile÷5 (the number of bales to make a ton)=75,050 tons one mile, and 6,000+500×25 miles=162,500 tons one mile; then 75,050+162,500=237,550 tons, at ¾ of a cent, is equal to $1781 62½, expense of conveyance. Estimating the repairs of the road at $100 per mile per annum, which is 100×25=2.000, and 2,500+1781 62=4281 62, and 6240—4281 62=1958 38, surplus; which shows that should there be but seven passengers instead of ten each way daily, the expense of conveyance would be paid. The expense of the agencies and depositories will be more than paid for from the commissions received for receiving and forwarding goods, as the following will show: say 6,000 tons up freight=13,440,000 lbs. at an average of 6¼ cents per 100 lbs. is $8,400. I have no data by which I can determine the actual expense of this part of the business, but should say the above is certainly more than sufficient. Now, if this assumed amount of business be correct—of which your Board are the better judges—then there must be a reduction in the rates, in order that the restriction in your charter may be complied with. No estimate can at this time be made with absolute certainly, and the amount of business upon this road must remain a desideratum, until practical data shall be derived from experience. But this conclusion cannot be resisted, that the Company will be enabled to realize a profit fully up to the limits of their charter, viz.: 25 per cent. per annum. It is difficult to state the amount, or indeed to set a limit to the business when the road shall have been accomplished to Decatur. When we look at the immense quantity of cotton produced in the Tennessee Valley alone, and the necessary amount of supplies that must be carried to the inhabitants annually, and the certainty that East Tennessee will avail herself of this channel, both to send off her surplus products and to introduce her supplies, it is at once evident that the business upon the road must be very great. The seven counties in the Valley produce between 80 and 90,000 bales of cotton, viz.: Franklin, 10,000; Lauderdale, 8,000; Lawrence, 15,000; Morgan, 12,000; Limestone, 14,000; Madison, 22,000, and Jackson, 6,000; making 87,000 bales. Now we will suppose that out of the productions of this Valley, there will be transported upon this road, as follows, and other freight as stated.

Counties.	Bales produced.	Proportion carried.	Bales carried.	Distance carried.	Bal. conv'd 1 m.
Franklin,	10,000	9/10	9,000	6	54,000
Lawrence,	15,000	4/5	12,000	22	264,000
Morgan,	12,000	5/6	10,000	35	350,000
Limestone,	14,000	½	7,000	45	315,000
Madison,	22,000	½	11,000	45	495,000
Jackson,	6,000	¾	4,500	45	202,500
Lauderdale,	8,000				
	87,000		53,500		1,680,500

Making 1,680,500 bales conveyed 1 mile which at 1½ cents per bale, is		$25,507 50
Shipping commissions on 53,500 bales cotton, at 25 cents, -		13,375 00
East Tennessee produce, lumber, &c. say 5,000 tons, at $1 80, -		9,000 00
15,000 tons up freight conveyed the whole distance, at $4, -		60,000 00
United States' Mail, say - -		2,000 00
		$109,582 50
45 miles of Railway, at $4,000, - -	$180,000	
Depots at the necessary points, - -	20,000	
Cost of road, - -	$200,000	

$109,582 50 profit upon $200,000 capital, is equal to 54¾ per cent. Passengers, as before, will pay the expense of conveyance, and keep the road in repair; and to show that this is an ample allowance, the following is given: say 1,680,500 bales÷5 (the number of bales to make a ton)=336,100 tons carried one mile, and 5,000+15,000×45=900,000 tons one mile, and 336,000+900,000=1,236,000 tons conveyed one mile, which at ½ cent per ton per mile amounts to $6,180 expense of conveyance. The repairs of the road, as before estimated at $100 per mile per annum, will be $4,500, and 6,180+4,500=10,680. Now, in order that passengers shall just pay the above expense, fare being charged at 4 cents per mile, it will require 9½ passengers daily to travel the whole distance in each direction; and commissioners for receiving and forwarding being charged on up freight at the rate of 6¼ cents per 100 lbs., will make on 15,000 tons=33,600,000 lbs. $21,000, which will undoubtedly more than suffice to pay all agency and depot expenses. To accomplish the above assumed transit by locomotives, and to provide for the maximum period, at least three of those machines would be required, making two trips, or 90 miles per day each, from the 1st December to the 1st May; during the remainder of the year much less power would be necessary. The above assumption of business in the transportation of cotton from the counties above the shoals, may at first view appear extravagant, as it has been generally apprehended that much difficulty and inconvenience would attend the getting of freight upon the Railroad from the river at Decatur, and that consequently the most of the cotton raised above the shoals would be lighted through. But a plan has been conceived, which will, it is confidently believed, obviate the difficulty almost wholly. The following is an outline of the mode and manner by which it is to be effected, viz.: The Company will procure a steamboat of appropriate powers and dimensions, which will ply between Decatur and any and all the different landings upon the Tennessee river, between the head of the Muscle Shoals and Gunter's Landing, wherever freight may be collected. The plan of the boat to be so designed that she may take a certain number of railroad cars, say ten, upon her; which cars, empty or freighted, will be received upon, or discharged from her, by a proper application of her own power, retarding the cars on the descent, or propelling them on the ascent, upon the inclined plane, upon which they will meet the boat from the road, or depot. Upon this plan, all the cotton and other freight delivered upon the banks of the river, within the range of the said boat, would have almost as ready access to the railroad as if it were deposited in the depots and sheds at the head, or along the said road. In fact, it would give all the facilities, as to business and intercourse, that an extension of the railroad would, were it continued to all the points in question. The boat should be built upon what is termed the twin principle, giving a large deck surface for the reception of the cars, and a second deck would accommodate passengers, of whom there would be, without doubt, a great number.

It was designed to present an estimate of the probable amount of business to be done when the road shall have been completed to the county line, but the space of time between the 1st of June and 1st of December being that portion of the year when but little business could be expected to be done upon this portion of the road, and as it is anticipated that the road will be completed and in operation to Courtland by the first day of December, it is believed that the estimate already presented, under that state of the work, will suffice.

The whole of the foregoing is respectfully submitted, by

DAVID DESHLER, Engineer, &c.

Mr. A. Canfield's Description of his Iron Tension Bridge. [Communicated by the Inventor for the Mechanics' Magazine.]

Fig. 1 is a projection or side view of the bridge. Figs. 2 and 3, parts of one frame in perspective. Fig. 4, projection of the foot of the brace.

The upper horizontal pieces are called the upper strings. The lower horizontal pieces the lower strings. The upright pieces the posts. All these may be either chains or

Fig. 1

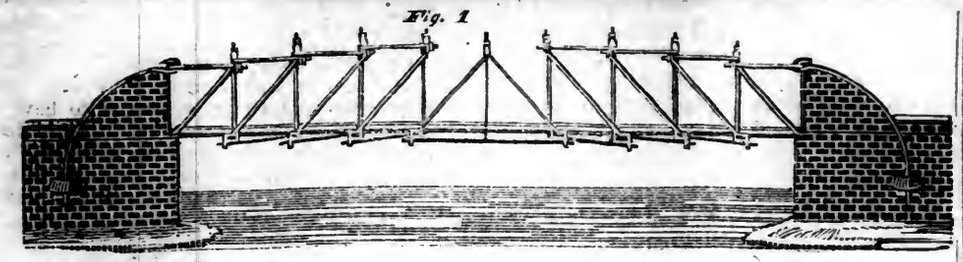


Fig. 2

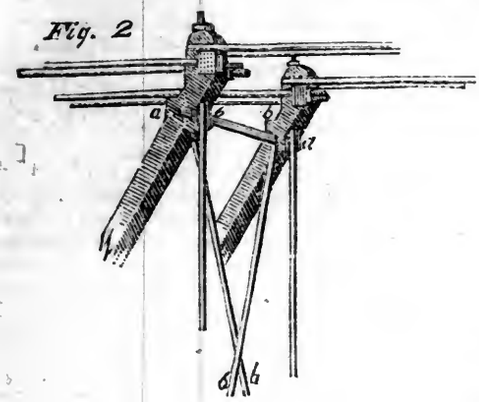


Fig. 3

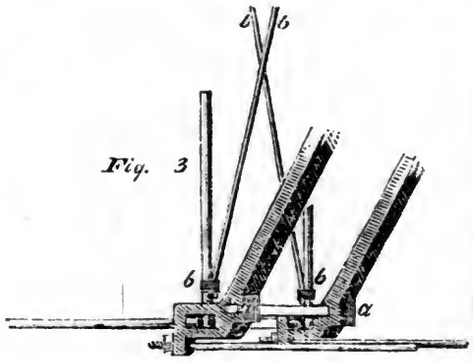
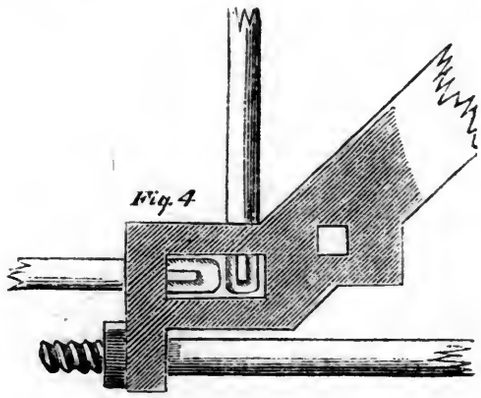


Fig. 4



bars. The oblique pieces are the braces. On each side of the road-way the frame is double, that is, it has a double set of braces, &c. in order to have a wider base at the abutment.

The bars connecting the braces are the cross-bars, see *a a a a*, Figs. 2 and 3. The pieces running from the ends of the upper cross-bars to the lower end of the post on the opposite side of the frame are called the lateral braces, see *b b b b*, Figs. 2 and 3. The upper strings are double, and pass round the head of the first brace, and are secured with screws and nuts at the head of the second brace. The pieces are supposed to be numbered 1, 2, 3, &c. from the abutments.

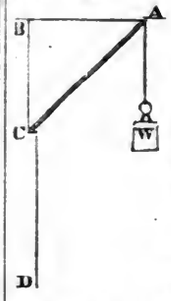
The first upper strings are firmly attached to the abutment and to the head of the first brace. To the head of the first brace the first post is attached, and also the second upper string. To the foot of the first post is keyed the second brace. The head of the second brace is sustained by the second upper strings, running from the head of the first brace. The foot of the second brace is prevented from moving horizontally by the second lower strings, so that when the span is complete the upper strings are acted on by a direct tension from the abutment, and the lower strings by a tension from the middle of the span. The floor, of either iron or wood, to be supported by the lower cross-bars.

The upper strings, from the head of the centre braces to the next brace on each side, may be left out, as there can be no stress on them; and also the lower strings, from the abutment to the foot of the second brace. This leaves all the iron at liberty to contract and expand without the least strain on any part. It is proposed to connect the parts last referred to by a spiral spring, that will yield an inch or two, with a tension of one or two tons.

You will observe that there can be not the slightest vertical motion in the bridge without an absolute *stretching* of the iron. In addition to the lateral braces in the frames, all the lateral bracing may be put in as in any other construction; and to give it any longitudinal movement, the frames of one half the span must be actually *raised up*, turning on the head of the first brace as a centre.

In estimating the strength, and also the stress from the weight of the bridge, I refer to only one side, or one half the span. Of all the results that I have seen, of experiments on the strength of iron, the lowest is 25 tons as the strength of a bar an inch square. Emerson says "34 tons may be safely suspended on a rod of iron an inch square." I suppose it will sustain 25 tons; and suppose a bridge of 80 feet span, or ten braces, each extending over eight feet, and that the upper strings at the abutment are *two* inches in the section, (a little less than one and a half inch round iron,) each string then will sustain twice 25, equal to 50 tons. But as the stress is on four of them, (that is, two on each side of the road-way,) the strength of the first braces will be 50 tons, multiplied by 4, equal to 200 tons; the second brace will sustain one half of this, equal to 100 tons; the third brace one-third, equal to 66·6 tons; the fourth brace one-fourth, equal to 50 tons.

This (fourth brace) is the point of greatest stress, for the centre has its support on each side.



To estimate the stress on the abutment, suppose B A to be the upper string, A C the brace, W a weight suspended at A. Now, as the brace is at an angle of 45 degrees, the weight W causes a *horizontal* pressure at C, exactly equal to the tension on B A. Suppose now 50 tons on the fourth brace, or at the centre of the bridge, the tension on the B A, or the first brace, will be 200 tons. The horizontal pressure at C is the same. Then, the power acting to turn the abutment on the point D is the difference of the products of 200 tons multiplied into D B, and 200 tons into D C. B C is 8 feet. Suppose D C to be 16 feet, or two-thirds of B D: then 200 tons, minus two-thirds of 200 tons, gives 66·8 tons for the stress on the abutment. This acts with a leverage of 24 feet.

I have here taken the extreme weight, which is of course many times greater than would ever be put on the bridge. The stress at the abutment from the weight of two frames, without the floor, is 7 1-9 tons. On a pier the pressure would be vertical only.

The cost of three frames, (that is, of a bridge with two road-ways,) would be $2,362. This is a matter of certain and simple calculation, by reducing the contents to cubic inches and pounds.

In making this estimate I take the first brace 4 inches square; the upper strings (double) and 2 inches in the section, and all the parts diminishing in a much less ratio than the stress upon them. All the parts diminish towards the centre excepting the lower strings. The stress upon them being greatest at the centre of the span.

The braces (of cast iron) weigh 23,224 pounds. The other parts of wrought iron weigh 15,013 pounds. The castings can be obtained at 5 cents the pound, and the wrought iron at 8 cents.

In this construction the iron acts only in the direction in which it has the *greatest* strength, viz. a direct tension or a direct thrust, there being not the slightest lateral strain. The stress upon each part from any given weight is a matter of simple calculation. Each piece may be proved before it is used. The contraction and expansion are effectually provided for, and it appears to possess every requisite in a bridge.

AUG. CANFIELD.

Paterson, N. J., June 12, 1833.

The steam engine and spinning jenny will do more for our national prosperity than all our statesmen and generals.

☞THE CAPABILITIES OF MACHINERY IN THE INCREASE OF MANUFACTURES.—In our remarks last week on open trade with *one hundred millions in India, and three hundred and fifty millions in China*, we observed that our manufactures were capable of being increased to any extent: that extent is cer-

tainly not *infinite*—it is however *indefinite*,—and to an indefinite extent our manufactures might be multiplied by machinery. In the single but important article of cotton, one man can now produce two hundred times more goods in a week than he could in 1760, when George the Third ascended the throne. One mill in Manchester can, when all the spindles are at work, spin as much cotton thread in a week as would go round the world. In the manufacture of hosiery, which is seated chiefly in the midland counties of Nottingham, Derby, and Leicester, machinery has reduced stockings one hundred per cent. compared with what they were twenty years ago. Owing to machinery, lace, which was 2s. per yard eight years ago, may now be bought for 4d.; what was £4 10s. per yard twenty years ago, is now 18d.; and some kinds may be bought as low as one farthing per yard! Woollens have experienced less reduction in price than any other kind of wearing apparel. At a paper manufactory in Hertfordshire, a quantity of pulp can, at a distance of 27 feet from the cistern in which it lays, be converted in three minutes, by machinery, into a sheet of paper ready to be written upon! Such is the continual advancement made in the Manchester manufactures by machinery, that the trade say, if the manufacturer were to leave manufacturing for a few years, he would be quite lost upon returning into it again. Railroads are machinery, and their adoption and extension will tell upon the price of manufactured goods. Although the improvements in machinery during the last thirty years have been so wonderful, as to unite the realities of truth with more than the wonders of fiction, yet who will be so bold as to say that we are at the very top of the hill of advancement in mechanism? It was stated in evidence before a parliamentary committee, at the conclusion of the late calamitous and ruinous war, to the astonishment of the committee, that during the war machinery equal to the power of sixteen millions of men had been set to work in this country! and if a market could be found for what machinery is able to produce, that could soon be doubled. Now, owing to the increase of the population, particularly of the laboring classes, and the want of markets, machinery is in bonds, and the mechanic stands with one hand tied behind him, while the starving and misguided operative is ready with both hands to demolish his valuable inventions. What we want now is to open trade to India and China; then will the green withes, wherewith the Sampson of machinery is bound, be broken asunder, and the steam engine and spinning jenny, to which England owes more than all her generals, admirals, and statesmen, will increase that debt, by securing the valuable *natural* productions of art and science.—[London paper.]

THAMES TUNNEL.—Two estimates have been furnished by Mr. Brunel for the completion of the work: one to make it available for foot passengers, amounting to £146,000; and the other, which includes the sum required for the purchase of the ground for making the approaches and descents into the Tunnel on both sides of the river for carriages, amounting to £248,000; and from the experience gained during the construction of the part now finished, there is just ground for concluding that either object is attainable for the sum specified.

BOSTON, July 9, 1833.

To the Editor of the American Railroad Journal:

SIR,—It is melancholy to find such men as Mr. Sullivan encouraging the use of wooden rails, or, what is much the same, timber with hoops of iron attached to it, while there is any probability of the capital required for a substantial iron railway being available. It is not for me to say, Mr. Editor, that the cheaper railway in the first cost does not necessarily return the greatest per centage to the subscribers, but that what should always be treated upon as a very essential item in the first cost of a railway, is the repairs which are required when finished, and in full operation. One of the greatest drawbacks on such incomes being those repairs towhich a road of improper construction is always and continually liable. This eats up the returns and burdens the trade, and incenses the traders, and perplexes the company; so that any one who has had experience in railways, will agree with me that, while there is any probability of the capital necessary for an iron road being subscribed, it is by far the most economical to the subscribers, since its returns are in a greater ratio than the other—its liability to accidents, and charge of renewal and management, being comparatively inconsiderable. It is better to have a wooden railway than no railway at all, in as much as a wooden railway is superior to an ordinary road. When traffic is at all considerable, any improvement, however imperfect, has been found worthy of attention, and while money could not be had to form a good road, it was very meritorious in engineers to improve and make the most of that immediately under consideration; but it is hoped they will not be so lost to the children of their adoption as to pawn them upon the public for the offspring of genuine science, or by any means, direct or indirect, encourage a belief that a bad road is as good as a good one.

I doubt much if any arguments could convince you, Mr. Editor, that the clumsy presses in use forty years ago were equal to those of the present day; or that a log road is equal to a M'Adamized one; or a wooden clock to one of brass; or that a surface of wood can receive as close a polish as one of iron. The want of means, and ignorance of a better, permitted wooden railways to exist for a long time in England, but all the improvements in that branch of internal communication have been made since the introduction of iron. It is hoped that in this, as in other branches of science, you will avail yourselves of the facts and conclusions of English engineers, not that you should notice the weary ground which has been already ploughed to your hand, as if it were necessary in acquiring a knowledge of shipbuilding to commence with the canoes, and rafts, and toys, of savages and children.

Mr. Sullivan says very truly, that he prefers the more durable road, but the fact of giving such statements as his last publicity, is encouraging, as I have seen in some instances a belief in the public mind, which is necessarily dependent for its information on practical men that timber may be made equally good and durable as iron; and, therefore, that the cheapness of the latter ought to give it the preference. There can be no doubt that the wood which eventually yields the greatest per centage, is the best for the subscribers; and on a great public thoroughfare, with sufficient funds. I will not be called upon to prove that a well constructed iron railway possesses, indisputably, this advantage. Very respectfully, yours,

S. D.

IMPROVED MANUFACTURE OF METALLIC RAILINGS FOR RAILROADS.—In this improvement the rails are to be made as they now are, and the chairs as they now are. The latter shall be fastened, as usual, into masses of stone or wood, and the rail to be secured into these chairs, as at present. But, for further security, that part of the rail which sits in the chair, and fits into it, and is secured by nuts, and screws, and pins, as at present, is to have a long rod of malleable iron fastened to it, and that rod made to penetrate deep into the centre of the chair by means of a hole prepared to receive it. The bolt which fastens the rail to the chair is to pass through this perpendicular rod. Again, half way between each chair, a brace, or fastening, in the rail is to be made; at this brace should meet the ends of two rods, the other ends of which should be fastened to the chair at each extremity of the rail; thus the rail is fixed in its place by the perpendicular rod, as far as regards its ends, and it is kept down in the middle by these diagonal rods, which rise at their junction with the rail, and dip at each end to the chairs whereto they are secured. It is also necessary to keep the two rails of the road in their true position, with regard to each other, and this is effected by horizontal roads of the same material with the other, capable of bearing the same weight and sustaining a similar force; and these are secured to the rail at the braces, that is, where the junction of the diagonal rod with the rails is formed, and so past from the brace on this side of the road, to the brace on that, binding the two rails together; or, the ends may be secured to the opposite chair with the same effect. The whole of these braces, chairs, bolts, and rods, form what is called a compound railroad, and though, in the first instance, increasing the cost, yet as they prevent the necessity of repair, and greatly add to security, durability, and utility of the road, the suggestion is an important one.—[New Monthly Mag.]

THE RAILROAD.—The number of passengers over the Saratoga and Schenectady Railroad during the week ending on Saturday, including pleasure parties, between the two villages, was 3550. The whole number from the commencement of July up to that period, has been rising 10,000; and it may safely be calculated that the total at the close of the month will not fall short of 12,000. This will fully equal any anticipations that have heretofore been made relative to the travel on the road.

The engine used thus far answers a most valuable purpose, and has been sufficiently tested, we think, to show that it is at least equal to any locomotive ever used in this country. It has on several occasions taken a train of 8 carriages, containing from 160 to 180 passengers, with three baggage waggons, and performed the trip to Schenectady in a little more than an hour and a half, frequently moving at a velocity of 20 miles an hour. The spectacle, so far in the interior, is one of a truly imposing character, and will for a long time prove a novelty of much interest to our inhabitants, and to the visitants who annually resort to these watering places.—[Saratoga Sentinel.]

MANCHESTER AND SHEFFIELD RAILWAY.—At the adjourned meeting of proprietors of the Manchester and Sheffield railway, held at Manchester on Wednesday; it was unanimously agreed to dissolve the company, and abandon the undertaking, and to return the balance in the hands of the treasurer to the subscribers.

STEAMBOAT SAFETY APPARATUS.—Experiments are in progress at the Franklin Institute, Philadelphia, for testing the tenacity of iron. They were instituted by a resolution of Congress, and are made under the direction of the Secretary of the Treasury. Mr. Johnson superintends them. The immediate object of the experiments was the increase of safety and certainty in the construction of steam boilers, the frequent bursting of which on the western waters had occasioned so many disasters. The Pennsylvanian gives some of the results; the machinery with which they were made is said to be better than any ever tried in Europe,

and it is so contrived as to be used at any temperature of the metals, from 0 to 500 degrees of Fahrenheit.

It was found that, up to 450 degrees, the tenacity of good iron increases in a direct ratio with the heat applied. This is contrary to the popular opinion. One bar of Tennessee iron, manufactured at the Cumberland Iron Works, below Nashville, was submitted to both cold and hot processes, and showed, as the temperature varied, a tenacity ranging from 59,000 to 64,000 pounds the square inch. The best Pennsylvania and Tennessee iron exhibited nearly the same qualities. Connecticut iron is also remarkable for tenacity; that of New-York had not been tried.

The Pennsylvanian adds one remarkable general result, which we quote as a matter of public congratulation. It is this: "The most ordinary American Iron is equal to the best British—and the best American is equal and frequently superior to the best Swedish and Russian that can be imported." A report of all these experiments and results is to be made to the Secretary of the Treasury, and laid before Congress.—[Balt. Amer.]

Extract from a letter, dated "Avoylle Ferry, on Red River, La., July 2d, 1833:

"The Cholera has generally subsided on those plantations in the parish of Rapide where tt made its first appearance, and the planters returned with their force to their plantations again. The loss of slaves has been considerable, as well as loss in their crops. Some planters that lost but few hands have turned out one hundred acres or upwards of their cotton crops, in order to do more justice to the balance.

"The fatal disease is spreading in different directions. On Friday last there were several deaths in the town of Natchitoches, where it has attacked the white population. A few days ago there were fifty to sixty cases on Cicily Island, in the parish of Catahoula, and several deaths, confined generally to slaves. It is also raging with great mortality among the slaves in Point Coupee, on the Mississippi River.

"The parish of Avoylle continues healthy—but one case heard of in the parish, although it is now all round us.

"Capt. Shreeve, who has the management of the United States Snag Boats, passed down a few days ago with the four Steamboats from the Raft on Red River, where they have been employed this season in clearing out the raft. it was reported some days ago, that they had cleared the Raft upwards of seventy miles this season, and would be able to complete it next season; as the boats did not stop on their way down, on account of the cholera, we have no report from Capt. Shreeve, but anxious."

Babbage on the Economy of Manufactures.

[Continued from page 440.]

The following table shows the dimensions and price, when silvered, of the largest plates of glass ever made by the British Plate-Glass Company, which are now at their warehouse in London:

Height. *Inches.*	Breadth. *Inches.*	Prices when silvered. £. s. d.
132	84	200 8 0
146	81	220 7 0
149	84	339 1 6
151	83	239 10 7
160	80	246 15 4

The largest glass in the Paris list, when silvered, and its dimensions and price reduced to English measure, is,

128	80	629 12 0

151. If, therefore, we wish to compare the value of any article at different periods of time, it is clear that neither any one substance, nor even the combination of all manufactured goods, can furnish us with an invariable unit by which to form our scale of estimation. Mr. Malthus has proposed for this purpose to consider a day's labor of an agricultural laborer as the unit to which all value should be referred. Thus, if we wish to compare the value of twenty yards of broad cloth in Saxony at the present time, with that of the same kind and quantity of cloth fabricated in England two centuries ago, we must find the number of days' labor the cloth would have purchased in England at the time mentioned, and compare it with the number of days' labor twenty yards of the same cloth will now purchase in Saxony. Agricultural labor appears to have been selected, because it exists in all countries, and employs a large number of persons, and also because it requires a very small degree of previous instruction. It seems, in fact, to be merely the exertion of a man's physical force; and its value above that of a machine of equal power arises from its portability, and from the facility of directing its efforts to arbitrary and continually fluctuating purposes. It may perhaps be worthy of inquiry, whether a more constant average might not be deduced from combining with this species of labor those trades which require but a moderate exertion of skill, and which exist in all civilized countries, such as those of the blacksmith and carpenter, &c.* In all such comparisons there is another element, which, though not essentially necessary will yet add much to our means of judging. It is an estimate of the quantity of that food on which the laborer usually subsists, which is necessary for his daily support, compared with the quantity which his daily wages will purchase.

152. The existence of a class of middle-men between small producers and merchants is frequently advantageous to both parties; and there are certain periods in the history of several manufactures which naturally call that class of traders into existence. There are also other times when the advantage ceasing, the custom of employing them also terminates; the middlemen, especially when numerous, as they sometimes are in retail trades, enhancing the price without equivalent good. Thus, in the recent examination by the House of Commons into the state of the Coal Trade, it appears that five-sixths of the London public is supplied by a class of middle-men who are called in the trade "Brass-plate Coal-Merchants:" these consist principally of merchants' clerks, gentlemen's servants, and others, who have no wharves, but merely give their orders to some true coal-merchant, who sends them in the coals from his wharf. The brass-plate coal-merchant, of course, receives a commission for his agency, which is just so much loss to the consumer.

OF RAW MATERIALS.

153. Although the cost of any article may be reduced in its ultimate analysis to the quantity of labor by which it was produced; yet it is usual, in a certain state of the manufacture or most substances, to call them by the term raw material. Thus, iron, when reduced from the ore and rendered malleable, is in a state of preparation for a multitude of useful purposes, and is the raw material out of which most of our tools are made. In this stage of its manufacture, but a moderate quantity of labor has been expended on the substance; and it becomes an interesting subject to trace the various proportions in which raw material, in this sense of the term, and labor, unite to constitute the value of many of the productions of the arts.

154. Gold-leaf consists of a portion of the metal beaten out to so great a degree of thinness, as to allow a greenish-blue light to be transmitted through its pores. About 400 square inches of this are sold, in the form of a small book containing 25 leaves of gold, for 1*s.* 6*d.* In this case, the raw material, or gold, is worth rather less than two-thirds of the manufactured article. In the case of silver-leaf, the labor considerably exceeds the value of the material. A book of fifty leaves, covering above 1,000 square inches, is sold for 1*s.* 3*d.*

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* Much information for such an inquiry is to be found, for the particular period to which it refers, in the Report of the Committee of the House of Commons on Manufacturers' Employment, 2d July, 1830.

155. In the fine gold chains made at Venice, we may trace in the various prices and sizes the relative influence of the two causes above referred to. The sizes of these chains are known by numbers, the smallest having been (in 1828,) No. 1, and the numbers 2, 3, 4, &c., progressively increasing in size. The following Table shows the numbers and the prices of those made at that time.* The first column is the number by which the chain is known; the second expresses the weight in grains of one inch in length of each chain; the third column shows the number of links in the same length; and the last expresses the price in francs, worth ten-pence each, of a Venetian braccio, or about two English feet of each chain.

No.	Weight of one inch, in grains.	Number of links in one inch.	Price of a Venetian Braccio, equal to two feet ½ inch English.
0	.44	98 to 100	60 francs.
1	.56	92	40
1½	.77	88	26
2	.99	84	20
3	1.46	72	20
4	1.61	64	21
5	2.09	61	23
6	2.61	60	24
7	3.36	56	27
8	3.65	56	29
9	3.72	56	32
10	5.35	50	34
24	9.71	32	60

Amongst these chains, that numbered 0 and that numbered 24 are exactly the same price, although the quantity of gold in the latter is twenty-two times as much as in the former. The difficulty of making the smallest chain is so great, that the women who made it cannot work above two hours at a time. As we advance from the smaller chain, the proportionate value of the work to the worth of the material becomes less and less, until, at the numbers 2 and 3, these two elements of cost balance each other; after which the difficulty of the work decreases, and the value of the material increases.

156. The quantity of labor applied to these chains is, however, incomparably less than that which is applied to some of the manufactures of iron. In the case of the smallest Venetian chain the value of the labor is not above thirty times that of the gold. The pendulum spring of a watch, which governs the vibrations of the balance, costs at the retail price two-pence, and weighs fifteen one-hundredths of a grain; whilst the retail price of a pound of the best iron, the raw material out of which fifty thousand such springs are made, is exactly the same sum of two-pence.

157. The comparative price of labor and of raw material entering into the manufactures of France, has been ascertained with so much care, in a memoir of M. A. M. Heron de Villefosse, "*Recherches Statistiques, sur les Metaux de France,*"† that we shall give an abstract of his results reduced to English measures. The facts respecting the metals relate to the year 1825.

In France the quantity of raw material which can be purchased for £1 when manufactured into silk goods, is worth £237—broad cloth and woollens, 2 15—hemp and cables, 3 94—linen, comprising thread laces, 5 00—cotton goods, 2 44.

The price of pig lead was £1 1 per cwt.; and lead of the value of £1 sterling, became worth, when manufactured into sheets or pipes of moderate dimensions, £1 25—white lead, 2 60—ordinary printing characters, 4 90—the smallest type, 28 30.

The price of copper was £5 2 per cwt. Copper worth £1 became, when manufactured into copper sheeting, £1 26—household utensils, 4 77—common brass pins tinned, 2 34—rolled into plates covered with $\frac{1}{20}$ silver, 3 56—woven into metallic cloth, each square inch of which contains 10,000 meshes, 52 23.

The price of tin was £4 12 per cwt. Tin worth £1, when manufactured into leaves for silvering glass, became £1 73—Household utensils, 1 85.

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* A still finer chain is now manufactured (1832.)

† Memoires de l'Institut. 1826.

STEREOTYPING FIRST INVENTED IN AMERICA.—In the last number of the "American Journal of Science" we find an original paper of the late Lieut. Governor Colden, describing the process of stereotyping, addressed to Dr. Franklin, and the Doctor's reply thereto, dated in 1743, which is long before the invention was brought into practical operation in Europe. It will be perused with interest, as it proves that to this country belongs the merit of the first introduction of this useful art. We extract the following:

"Ever since I had the pleasure of a conversation with you, though very short, by our accidental meeting on the road, I have been very desirous to engage you in a correspondence. You was pleased to take some notice of a method of printing which I mentioned to you, at that time, and to think it practicable. I have no further concern for it than as it may be useful to the public; my reasons for thinking so you will find in the enclosed copy of a paper which I last year sent to Mr. Collinson, in London. Perhaps my fondness for my own conceptions may make me think more of it than it deserves, and may make me jealous that the common printers are willing to discourage, out of private interest, any discovery of this sort. But as you have given me reason to think you zealous in promoting every useful attempt, you will be able absolutely to determine my opinion of it. I long very much to hear what you have done in your scheme of erecting a society at Philadelphia for promoting useful arts and sciences in America. If you think of any thing in my power whereby I can promote so useful an undertaking, I will with much pleasure receive your instructions for that end. As my son Cadwallader bears this, I thereby think myself secured of the pleasure of a line from you by him."

PHILADELPHIA, Nov. 4, 1743.

SIR,—I received the favor of yours, with the proposal for a new method of printing which I am much pleased with; and since you express some confidence in my opinion, I shall consider it very attentively and particularly, and, in a post or two, send you some observations on every article.

My long absence from home in the summer put my business so much behind hand, that I have been in a continual hurry ever since my return, and had no leisure to forward the scheme of the society. But that hurry being now near over, I propose to proceed in the affair very soon, your approbation being no small encouragement to me.

I cannot but be fond of engaging in a correspondence so advantageous to me as yours must be. I shall always receive your favors as such, and with great pleasure.

I wish I could, by any means, have made your son's longer stay here as agreeable to him as it would have been to those who began to be acquainted with him.

I am, Sir, with much respect,
Your most humble servant,
B. FRANKLIN.

Dr. Colden.

The mode of printing above described is now known by the term *Stereotype;* and it is a curious fact that the stereotype process, said to have been invented by M. Herhan, in Paris, and now practiced by him in that city, under letters patent of Napoleon, is precisely the same as that spoken of by Dr. Colden more than sixty years ago.

It is more than probable that when Dr. Franklin went to France, he communicated Dr. Colden's "new method of printing" to some artizan there, and that it lay dormant till about sixteen years since, when Herhan, a German, who had been an assistant to M. Didot, the printer and type-founder of Paris, but then separated from him, took it up in opposition to M. Didot. We have conversed with gentlemen who have seen M. Herhan's method of stereotyping, and they describe it to be exactly what Governor Colden invented. This fact established, there can be no doubt that M. Herhan is indebted to America for the celebrity he has obtained in France.

Since the above papers fell into our hands, we have endeavored to obtain information respecting the different modes of stereotyping now in use. The following is the result of our inquiries:

By a book published in Paris, about ten years since, by M. Camus, of the French National Institute, we find that a Bible was printed in Strasburgh, by one Gillet, more than a hundred years ago, with plates similar to those now used by Didot and Herhan, but not by any means so perfect. Gillet's moulds were made of a fine clay and a particular kind of sand found only in the neighborhood of Paris. It is also stated that a number of other ingenious men had at various times produced plates tolerably perfect, by different processes, but we may safely infer, from the art having made no great progress until the time of Didot the elder, that their endeavors had not been crowned with much success.

At the beginning of the French Revolution, great quantities of paper money becoming necessary to supply the deficiency of specie, either concealed or sent out of the kingdom by the rich, Didot was applied to by the National Assembly to invent some kind of *assignat* or bank bill, which should not easily be imitated; and at this period it was that M. Didot first directed his attention to the means of producing, *in relief*, a set of plates, to print on a common printing press, which were exactly *fac-similes*, and could not without much difficulty be falsified. This process was termed Polityping, as the mould in which the plates were cast was durable, and would produce any number of copies; the usual mode of stereotyping being, as the French term it, *a moule perdu*—it being necessary to make a new mould for every plate.

But as M. Didot's views were by degrees extended to the casting of pages for book printing, he found it unnecessary to use durable moulds, and therefore, after a year's experiment, invented a composition, which, like the sand used by brass-founders, might be wrought over again for different casts. The elegant editions produced by M. Didot and Sons are the best proofs of his success.

When the fame of M. Didot's invention reached England, Lord Stanhope, an ingenious and wealthy nobleman, whose time and fortune were principally devoted to the advancement of the arts, made propositions to Mr. Andrew Wilson, of Wild Court, Lincoln's Inn Fields, proprietor of the Oriental press, to assist him in such experiments as might bring to perfection a new mode of stereotyping, of which his lordship had obtained some ideas. Mr. Wilson embraced the proposal; and after four or five years of incessant labor, they attained nearly all the advantages they had contemplated. Mr. Wilson, in the year 1802, built his foundry in Duke street, Lincoln's Inn Fields, and in the following year disposed of the secret for six thousand pounds sterling, and some future advantages, to Mr. Richard Watts, for the use of the University of Cambridge. In the year following he disposed of it on similar terms to the University of Oxford.*

About two years ago a brother of Mr. Watts, of Cambridge, began a course of experiments in this city,† for a more cheap and easy manner of stereotyping than any hitherto discovered; and, in spite of innumerable disadvantages, has succeeded beyond his utmost expectation. We have seen plates of his casting of the greatest perfection and beauty. The chief difficulty he has experienced arose from the jealousy and illiberality of the common type-founders, who refused to lend the little aid he required of them. It is agreeable to us, however, from our own observations to be able to state that by uncommon perseverance through accumulated obstacles, Mr. Watts has invented a method of casting the common types much more perfect than those made in the usual way; and now will proceed with his plates without the assistance of other artists.

The principal defects in M. Didot and Lord Stanhope's processes, arise from the softness of the moulds they employ, which are composed of plaster of paris and some other ingredients. In taking them from the page, of which they are intended to cast a perfect copy, some part of the composition will always remain in the type, and leave the mould imperfect. After the plates are cast there is consequently much work for an engraver, to make them fit for use. Mr. Watts' mould being of solid materials, no such inconvenience can arise.

*The two Universities of England have the exclusive right of printing Bibles and Prayer Books. Twenty or thirty presses are generally employed in that business alone; the classic departments require many others.

†New Haven, Conn.

LARGEST COLUMN IN THE WORLD.—The following is an account of the monument erected by the Emperor Nicholas to the memory of his brother, the late Emperor Alexander. The shaft was placed on its pedestal on St. Alexander Nefskey's day, August 30, (O. S.) 1832, in the presence of the imperial family, nobility, citizens, and strangers. The day was remarkably fine, and an immense concourse—an almost countless multitude—assembled to witness the operation, in the large square in front of the Hermitage, or winter palace of the Emperor. The monument is of red granite. The pedestal, which is square, is 40 feet high; the shaft is round and in one piece; it is 85 feet high and 12 feet in diameter at the top; it weighs 600 tons. The column supports a colossal bronze statue, representing an angel holding a cross. The statue, with its pedestal, including the capital of the column, is 35 feet high, and the height of the monument from the ground to the top of the statue is 165 feet. The stone was brought from Finland, (from the same quarry where the celebrated pillars of the castle and church, polished like marble, were procured,) and transported to St. Petersburgh in a ship built for the purpose, towed by a steamboat. The inclined plane on which the shaft was rolled from the river Neva to its present site, contained a forest of wood, and cost in that country, where it is so cheap, a million of rubles, or $200,000. The column was raised and safely

placed on its pedestal by means of 60 capstans, manned by 2500 veterans, who had served with Alexander in his most glorious campaigns. Each of them wore badges of honor. The preparations for the stupendous undertaking were so complete, that not the slightest accident occurred; and during the operation of raising the shaft, not a whisper nor a word was heard throughout the vast multitude who witnessed the scene.

How to tin Nails, Tacks, &c.—First clean the surface of the articles to be tinned from rust or other oxide, by pickling them, or putting them into sulphuric, muriatic, or nitric acid, diluted with water, as usual, and washing them well afterwards in water; then put them into a stone-ware gallon bottle, together with a proportionate quantity of bar or grain tin, and of sal ammoniac: next place this vessel, lying upon its side, over a charcoal fire, made upon a forge hearth, and keep turning it round, and frequently shaking it, to distribute the tin uniformly over the surface of the articles to be tinned; lastly, throw the articles into water, to wash away all the remains of the sal ammoniac, and finally dry them in saw dust made warm. The great merit of this process consists in the employment of the stone-ware vessel, which not only prevents the dissipation of the sal ammoniac in fumes, but also gives up the whole of the tin to the articles to be tinned, which would not be the case were a metallic vessel to be used.

Blacking.—"A Subscriber" asks for a receipt for making blacking, "as his family is numerous, and purchasing at 18d. per bottle is more than he can well afford." We subjoin one which is given in the Annales de Chimie, by the celebrated French chemist Braconot, who pronounces it to be, as compared with all the other known blackings, from Day's to Hunt's, "undoubtedly the cheapest and the best." Macerate one pound of malt in boiling water till every thing soluble is taken up, add 2¼ lbs. of plaster of paris well sifted, and 7 ozs. of lamp-black; then evaporate to the consistence of paste; and finally mix up with 1 lb. 2 ozs. of olive oil. It is said to spread very evenly, dry speedily, and shine brilliantly, with very little brushing; while it neither burns nor injures the leather. —[London M. Mag.]

AGRICULTURE, &c.

Fire Blight.—In the first number of Goodsell's Genesee Farmer, we find a statement containing the various opinions of the causes of fire blight advanced by writers in the New-England Farmer. In continuation of the subject the article proceeds:

"After all that had been written upon this subject in the N. E. Farmer, we find at page 19, Vol. 7, dated August 8, 1828, the following notice: "This disorder is extending itself in this vicinity to such a degree as to threaten the destruction of all our pear trees, unless some mode shall be discovered to arrest its progress. *We are satisfied that the true cause of the disease has not yet been discovered.* Dr. Fisher, Dr. Greene, and others of our best horticulturists, have made the most minute examination, and have been unable to discover any trace of the work of an insect."

Having referred to the opinions of others, we shall now add the result of our own observations upon the progress of this disease, and give our reason for some conclusions which we have been led to make rather from analogy than from having as yet discovered all that might be desired to support them. One reason why horticulturists have not made more satisfactory discoveries as to the cause of this disease, is that they have not commenced their examinations sufficiently early, and have been left to watch the progress of it after the first cause has ceased to operate.

I am inclined to think that careful examinations will support the following conclusions:

First, That the blight in Pear, Apple, and Quince trees is occasioned by an insect.

Secondly, That it is communicated to the pistil of the flower at the time that organ is in its greatest perfection, or during the expansion of the flower.

Thirdly, That it gradually spreads from the point of infection to other parts of the tree, in a manner similar to mortification in the animal kingdom.

Fourthly, That it is as capable of being communicated by inoculation as the Small Pox.

Fifthly, That no tree ever has it, unless by inoculation, until it has produced flowers.

In support of the first conclusion, so far as we observed this disease, it has spread from the place where it first commenced in an orchard, in every direction, without reference to the general course of the wind at the time, and as the Quince does not come into flower until after the Pear has shed its flowers, it cannot be attributed to an intermixture of pollen from the pear tree.

That it commences at the point of the pistil, has been evident from every case we have examined, before the different parts of the flower decayed. It often appears that no more than one flower in the cluster is infected; the fruit of the infected flower does not swell as the others, which continue their growth until mortification has, by degrees, descended through the stem, to the woody part of the fruit spur, over which it spreads, and ascends the stems of the remaining part of the cluster, which may readily be observed by a discoloration of them as it advances. In this section of country, the disease will be found to have advanced thus far by the first of June, when the leaves upon the fruit spur so affected will be found withering. After this, the rapidity with which it spreads depends on circumstances. Where there is the greatest quantity of alburnum, or elaborated sap, the disease spreads with greatest rapidity, which is increased by the state of the atmosphere, as in warm moist weather it progresses further than when dry and cool.

It is not until the middle of June that this disease begins to manifest itself to superficial observers. About this time the mortification from the fruit spray will have reached the limbs, and where they are humorous, and most of them affected, they will in a short time destroy the bush, so as to cut off all communication between the upper and lower parts of the limb, between the bark and wood. As the ascending sap passes through the sapwood to the leaves before it is elaborated, this communication is not cut off until later in the season, and the outer ends of the limbs remain green until the disease has penetrated the wood; at which time the agent of the sap is cut off, and the whole limb is discolored in a short time, often in the space of a few hours.

We do not pretend to be such an adept in the science of Vegetable Pathology, as to be able to describe the manner in which the *virus* of this disease acts upon the healthy parts of the tree, but of this we are satisfied, by repeated experiments, *that it is as capable of being communicated by infection as the Small Pox, or any disease to which the human family are subject.* The manner in which we have conducted these experiments is as follows: we have taken the discolored vivid matter from between the bark and wood of a diseased limb, and put it beneath the bark of a healthy tree, in some instances covering the wound with a strip of rag which had been dipped in melted grafting wax, in others leaving the incision open; in some instances the quantity of *virus* introduced into the healthy tree was not greater than would be used to inoculate a person for small pox, and yet in every instance, within from three to five days, the disease has shown itself spreading the same as in a tree which had it the "natural way."

Trees do not have it the "natural way," until they have put forth blossoms. We have repeatedly seen young trees growing near those which were in a diseased state, which remained in perfect vigor, and this present season we have examined one, which was of a large size, which had never produced any blossoms before, and this year only upon one small limb, which produced one dozen bunches of flowers, nearly all of which were diseased, so that we think by the first of July the limb will have turned as black as if it had been scorched by fire. Amputation is the only remedy known at present. As soon as the disease is observed the limb should be cut off below where it can be discovered; in doing which the operator should remember that the smallest quantity of *virus* is sufficient to communicate it to a healthy part, if brought in contact with the part between the bark and wood; he should therefore be careful not to use an instrument for amputation which has been used to examine the diseased parts, unless it has been thoroughly cleaned.

We have been thus lengthy in regard to this disease, because it is one of vital importance to every farmer who would cultivate a valuable orchard, or is fond of this delicious fruit. Every Pear tree in this section will be cut off by it, unless exertions are made to check it.

Fat Sheep in Summer.—A writer in the Farmer's Journal, after stating that he applies tar to the roots of the horns of sheep, and put a little in their noses and mouths, "as affording the best security against the maggot in the head," gives the following remarks on the management of sheep in summer:

"I am careful to have none of my sheep, except those I intend for market, get very fat during the summer. I have heard it remarked, and I believe it, that after once getting *very* fat, a sheep will never arrive at the same point again. Sheep which get fat during the summer, certainly do not do as well in the fall and winter. About the middle of September I give my sheep the best feed I can, and the middle of October begin to feed sparingly with turnips, potatoes, or some kind of grain. When the time arrives for yarding, which I do rather late, I separate my flock in the following manner. In one yard I put my rams and wethers, except such of the former as have become very poor during the time of running with the ewes. In the second I put my last spring lambs; in the third all my healthy ewes, and in the fourth my old and weak (but not diseased) ewes. A sixth department is a kind of hospital, into which every sheep is removed as soon as discovered to be afflicted with disease. This arrangement I consider very important, as it affords an opportunity for treating every class of sheep in the manner judged most proper for their circumstances. I have known instances in which the lot of old and feeble ewes have come out much improved in the spring, and have produced a good fleece, and raised fine likely lambs. I always intend, however, to turn my sheep before they get so old as to become enfeebled; as they are more likely to acquire those diseases which spread through the flock."

Isabella Wine.—It has become generally known among my friends and acquaintance, that last season I made a quantity of wine from the Isabella grape; in consequence of which I have had numerous applications within two or three weeks to furnish the *receipts* by which I made the wine. I have only refrained heretofore from publishing it from the knowledge of my own inexperience in the matter; and I would now refer inquirers to that excellent work of *Mr. Adlum*, of Georgetown, D. C., and also to the translation of a French work of

Thiebaut De Berneaud, published by Mr. Canfield, of New-York, where full information may be found on the cultivation of the vine, and the manufacture of wine.

I feel it a duty, however, to give a statement of my process last season, which was successful in yielding me fifty gallons of excellent wine, from a grape which is becoming very plentiful among us, and which I had not known to have been fairly tested as a wine grape.

1st. I gathered the grapes when well ripe and dry, but did not exclude green and unripe grapes, nor pick them from the stems.

2d. Crush and bruise them in any way without breaking the seed. If the skin of the grape is only broken, it is sufficient, as the pulp will dissolve during the first fermentation.

3d. Put the *must* (or pumice) into an open cask or vessel, (which I shall call a *vat*,) and stir it well during the first day, keeping it covered over the top with a cloth.

4th. The must will rise in the vat for three or four days, and when it has ceased to rise the liquor must be drawn from the bottom of the vat as long as it will run.

5th. Press the must in any convenient way, to extract the remainder of the juice.

6th. Put it in a cask, which should be full, in order that the impurities may flow over by fermentation at the bung.

7th. Put two pounds of sugar to each gallon of liquor, unless you choose to risk the possibility of your wine becoming vinegar.

8th. Fill up the cask as often as it sinks below the bung.

9th. After it ferments eight or ten days put in the bung, and leave a very small vent by the side of it.

10th. After remaining about two months, rack it off into a clean sweet cask, well scented with a brimstone match, burnt within. If it is not fine and bright, it would be well to *fine* it with the whites of eggs beat up with sand.

11th. In the month of March it should be again racked off into a cask or bottles, and placed away for use.

The wine will be of a beautiful red color, and will at first appear sweet, but will gradually become sharper and still retain the delightful flavor, as well as odor of the grape. Mine has not yet attained a year in age, and I cannot tell what changes might be effected by time.

The Isabella grapes are very plenty this season, but, by reason of the wet and cold, are much inferior in flavor to what they were last year, and are not yet perfectly ripe. In a few weeks I shall probably make a greater quantity of wine than last season; and as some of my neighbors are also attempting the same, I hope to be gratified in hereafter giving our experiments to the public. ALDEN SPOONER.

Brooklyn, October 10. 1832.

COBS OF INDIAN CORN.—Mr. Fessenden: Are corn-cobs most profitable for manure or fuel, when hard wood is three dollars a cord!

If you will have the goodness to communicate your opinion on the subject through the medium of your useful paper, the New-England Farmer, you will greatly oblige

A YOUNG FARMER.

By the Editor.—We are not able to say whether corn-cobs would be most valuable for manure or fuel, but believe the latter, as it requires a long time to rot, or decompose them in such a manner that they would be useful as manure.

But we believe the best use to which corn-cobs can be applied, is to grind them together with the corn, and give the mixture to swine, or other domestic animals, which it is wished to fatten. The following extracts from a letter from the Rev. H. C. Perley, of New Rowley, Mass. to the Editor, may serve to explain and corroborate this assertion.

"I had corn and cobs ground together; and I put but about a peck of corn to a bushel of cobs. Meal made of this composition I scalded, and made about as thick as hasty pudding; or mixed about one peck of meal with three pecks of boiled potatoes, thickened to the consistency of pudding. With this kind of food, and what wash was made in the family, I constantly feed my swine; there were none in the neighborhood grew so fast, or were fit to kill so early in autumn. * * *

"I have also made further discovery of the use of cob meal, for other purposes besides feeding swine and cattle. I had one batch of coarse brown bread made of it, ground about half and half; sifted as usual, and the application of the usual quantity of rye meal. The bread was as high seasoned, as light, as sweet and as moist, as that made of pure Indian and rye meal; though I think it will dry rather sooner."

In the *Massachusetts Agricultural Repository* for January 1823, is a communication from Asa Rice, Jr. of Shrewsbury, in which the writer observes as follows: "The kind of meal I have used for seven years past, almost exclusively, for provender, is corn and cobs cracked and ground together, which is the best provender I ever made for fattening cattle. The reason I consider the cob useful is, it swells in the creature, and keeps him in good order. In no one instance since I have fed with this meal have my cattle been out of order by being cloyed, or scouring; they are at all times regular; but when I formerly fed with clear Indian meal, it was not unfrequent that their bowels would get out of order, and I have had considerable difficulty in regulating them again; they lost two or three days, sometimes a week. When this kind of provender was first introduced in this vicinity, it had its opposition like almost all new things. The second year, if I mistake not, which I made use of it, I thought I would try an experiment as follows, by feeding one ox with corn and oats ground, the other with corn and cobs, having a yoke of oxen so even matched that no one who viewed the cattle appeared satisfied which was best: accordingly I fed them as above. The cob is computed to make a little more than one third, therefore, I mixed the other with one third oats, which was my former mode. I gave each ox an equal quantity at a time, except the one which had corn and oats some days became dainty, and would not eat his allowance, while the other kept his regular course. The allowance for both was a little over three pecks per day. When I took the cattle to market Mr. A. White bought them; they weighed about 28 hundred and a half. The one fed on corn and oats had 162 lbs. of tallow, and weighed about half an hundred more. The one fed on corn and cobs had 163 pounds of tallow, and Mr. White pronounced his beef half a dollar on the hundred better than that of the other, mostly on account of the *color of the beef*."

The third volume of the Memoirs of the Philadelphia Agricultural Society likewise contains an article on grinding Indian corn in the cob, as food for cattle, &c. by Dr. Mease, of Philadelphia. Mills, for the purpose of grinding corn and cobs together, have been erected in Andover, Danvers, and, we believe, other places in Massachusetts. Perhaps a large mortar, with a mallet or pestle, might answer for cracking corn and cobs, and pulverise them sufficiently for cattle food.—[New-England Farmer.]

HEMP.—Mr. Clay, of Kentucky, we believe was the first who introduced the culture of this plant in the United States. It is now raised to a great extent in several counties of that state, and forms a source of wealth to those who raise and manufacture it. Many have amassed large fortunes in its traffic. During a late visit to that quarter we ascertained that the produce to the acre was, on an average, about 800 lbs. and the average price about five dollars per cwt. It is generally sold by the farmers to the manufacturers in the different villages, and by them made into bagging, bales, and other kinds of untarred cordage.

The price of American hemp is quoted in the N. Y. Market at 120 to 150 dollars per ton—Russia clean, 200 to 205 dollars.

An attempt was made two or three years since to introduce it into the state of Connecticut, and the country farther north. The plan succeeded, and the hemp grew well. Two or three men, who were up to a thing or two, appeared at Canterbury, near Norwich, with large quantities of hemp seed for sale. They proposed to sell the seed to the farmers, and gave instruction how to cultivate the plant: they stated that they had made arrangements to return in the ensuing autumn to erect machinery for its manufacture, and would give so much per ton for all that could be raised. This took well, and the rogues sold all their seed at enormous prices, and decamped; the hemp grew, was stacked, and remained in that situation, to our knowledge, a year afterwards, waiting the return of the originators of the hoax.

CAULIFLOWERS.—Instead of cutting off the whole head of a cauliflower, leave a part on, the size of a gooseberry, and all the leaves—second and even third heads will be formed; and thus they may be eaten for two or three months; when, by the present practice, by cutting the head off completely, the bed of cauliflowers is gone in two or three weeks.

THE WEEVIL.—Salt is said to be a complete preventive against the destruction of wheat by the weevil. Mix a pint of salt with a barrel of wheat, put the grain in old salt barrels, and the weevil will not attack it. In stacking wheat, four or five quarts of salt to every hundred sheaves, sprinkled among them, will entirely secure them from the depredations of the insect, and render the straw more valuable as food for cattle.—[Hort. Reg.]

CUTTING WHEAT BY HORSE POWER.—Several members of the Agricultural Society, last Wednesday, attended near Carthage to see a machine for cutting wheat by horse power in operation. It was propelled by two horses, and cut as fast as eight men could conveniently bind, doing the cutting neatly. This machine is the invention of Mr. O. Hussey, and will no doubt prove a useful addition to our Agricultural implements.

Mr. J. C. Ludlow suggested that it would be good economy of time and labor, to take a thrashing machine into the field and thrash out the grain as it is raked, thereby saving the binding and hauling to the barn or stack. We think the suggestion a good one.—[Cin. Far.]

TO PROMOTE FRUITFULNESS IN TREES.—A correspondent to the Genesee Farmer, under the signature of Ulmas, recommends a vigorous growth to young trees, that they may acquire size and strength, and not exhaust themselves by early fruitfulness. He says:

"But I proceed to consider the second inquiry, to wit—To check the exuberant growth of wood, and cause it to produce fruit-buds, flowers, and fruit.

I shall assume that the trees are of well known kinds, and whose bearing qualities have been tested, and that they are situated in an open and well cultivated ground, as I believe the whole complaint can be made under no other circumstances. The trees have also been well pruned, and are accommodated with a good shaped head for bearing, and of fair size. My answer is, *Lay your ground, on which your trees stand, well down to grass, and let it remain so for several years.* The next year after seeding the ground, the growth of young wood will be much diminished, and fruit-buds will form in moderate quantities; flowers and fruit will follow the next season. That year, if the tree be an annual bearer, an increased number of fruit buds will be found, and so continue in annual succession. If, after a few years, the tree is too stationary in its growth, for it certainly will not throw out young wood very rapidly, plough, and cultivate, and manure the land, and you can supply the trees with any amount of young wood required, although the bearing will still continue in an abated degree.

If you find your trees get too thrifty, you have only to seed down again, and manage as circumstances may require."

The following reasons why grass produces the effect seem to be satisfactory. We presume a few crops of almost any exhausting grain without manure would have the same effect. It is strongly impressed on our mind, that we have heard of pear-trees of many years' growth in grass ground, producing no fruit until the soil was disturbed by the plough. Ulmas says:

"While trees are young, their roots expand and run near the surface of the earth. If the ground be cultivated, the earth is warm and light, and the roots absorb much nourishment, and a rapid growth of young wood is the sole consequence. In process of time, as the tree increases in size, the roots find their way deep into the earth, where the temperature is lower and its growth is by degrees checked; fruit-buds are consequently formed, and trees come into the bearing state. Now, putting land into grass has the same effect. The sun is hidden from the earth; the temperature is lower; the richer nutricious gases of the soil are absorbed by the grass, and the same result is produced as if maturer age had forced the roots more deeply in the ground."

Grass and Apples for Swine.—There is no question but that some farmers fatten their hogs at half of the expense that it costs others. Travel almost any considerable district of our country, you will find at this season of the year one half of the swine running in the streets, and fed on nothing but thin swill. As soon as the corn is gathered, these pot-bellied and meagre creatures are shut up in pens, and fed on unbroken corn until they are fat. In this way we have known farmers to feed away their whole crop of corn, and obliged to either buy more corn or kill them not sufficiently fattened. Other farmers will keep their swine in a thriving growing condition through the summer, and when the time comes to shut them up to be fed on corn, they are more than half fat. They thus save the greater portion of their corn for family use and to sell.

The celebrated agriculturist, Arthur Young, Esq., pastured, in 1776, sixty hogs of various sizes, on only two acres of clover. They kept in good condition, and grew remarkably fast. In connection with feeding on sweet apples, many farmers in this country have entered extensively into the plan of fattening their hogs on grass. If a shady, comfortable and clean pen, into which the apples are thrown, is made in the clover field, the hogs will remain in it the greater part of the time, and thus much manure may be saved. Unless the orchard contains a greater proportion of sweet apples, this plan is better than to turn the hogs into the orchard. It will often happen that large quantities of leaves and other suitable substances may be obtained near the pen, and which may be carted into it with comparatively little trouble.

Horticultural Society of Charleston.—The Editor of the Southern Agriculturist, in noticing the May exhibition of this society, gives the following concluding remarks. They make evident the good effects of united efforts.

"On the whole, we have every reason to be gratified. Our society has increased in numbers, and what is better still, the taste for horticultural pursuits is rapidly spreading throughout our city, which is shown by the eagerness with which plants are sought after by all, whether young or old, ladies or gentlemen, and by the desire which all who have even a small spot of ground evince to have it decorated with flowers and ornamental plants, while the more substantial part of the garden is frequently boasted of, and shown with pride, as possessing vegetables which would not disgrace the table of any one. This was not the case a few years ago; and from the improvements which have already taken place, we augur the happiest results. It will yet be some time before we can vie with our northern brethren in exotic plants, especially in those which are rare and costly, but we doubt not the time will come when our exhibitions will bear a comparison with their best. And why should it not? We have both the wealth and the climate, and all that is wanting is a taste for such pursuits, which is now just springing up, but which promises to produce an abundance of fruit.

American Larch (*Larix Pendula* v. *Americana.*)—This tree abounds in Newfoundland, New Jersey, Pennsylvania, and as far south as the "most gloomy exposures in the mountainous parts of Virginia." The author of Sylva Americana thinks the climate of the northern States uncongenial, from the fact that it grows only in low and moist places, in Vermont, New Hampshire, Maine, and on uplands about Hudson's Bay. This opinion, however, can be confirmed only by experiment. It grows well as far south as New-York, as an ornamental tree, in a low, sandy, or moist garden soil. It is a magnificent tree, and in its native forest attains the height of 80 or 100 feet. The wood is valuable, but little used because of its scarcity. There are, undoubtedly, many native timber trees, that might be cultivated in our low and waste uplands with great profit. Useful timber of almost every kind commands high prices. We will give an example of planting forest trees in Great Britain. In 1770, Mr. White, a landscape gardener, purchased, in the higher parts of the county of Durham, an estate of 700 or 800 acres for £750. This he planted principally with a species of larch and Scotch fir. After ten or twelve years his plantations began to pay admirably well in pit-wood, hedge-stakes, and other uses. Many years ago, says Sir Henry Steuart, the larch wood alone yielded Mr. White £650 a year, and a few years ago £1000, derived principally from the thinnings. On a gravelly soil, on which some vegetable mould has accumulated, this larch doubles its value every three years, after it is 15 years old, and every 5 years after 25. In 1826, the larch and fir on the estate were valued at the enormous sum of £30,000, equal to $140,000. At this time, 1826, the proprietor was about to cut the whole down; and after taking a few crops of grain, he intended to replant, to procure a second fortune for his family.

Climates of the Eastern and Western Continents.—On the supposition that the American continent continues much further towards the north pole than the eastern, the former would be colder, says Malte Brun, as a greater portion would be in a frozen state.

Caverns.—The depth of that of Eldon Hole, in Derbyshire, England, has been sounded 9600 feet without reaching a bottom. There are some caverns from which an icy cold wind issues in summer. There are two in France, the walls of which are, in August, covered with ice that melts in December.

Beech Trees proof against Electrical Fluid.—A correspondent of the American Farmer states, that it is a very common opinion among surveyors and woodsmen of the western states, that the beech tree possesses the non-conducting power ascribed to the cedar; "I presume," says he, "I have passed a hundred oaks which have been stricken, and although beech is more common than any other timber, I have not discovered one of that kind."

Balsam of Mecca.—The balessan, balm, or balsam of Mecca, (*Balsamodendron Opobalsamum,*) belonging to the family *Burseraceæ*, is a native of the eastern coast of Abyssinia, especially at Azab, and as far as the strait of Babel Mandeb. Bruce says, it is a small tree about fourteen feet high, with scraggy branches and flattened top, like those which are exposed to the seaside blasts; the appearance is consequently stunted, and the leaves are beside small and few. He supposes that it was transplanted to Arabia, and there cultivated at a very early period. This was the *Balsamum Judaicum*, or Balm of Gilead of antiquity and of the sacred writings, it being supposed at one time to be produced only in Judea. It seems, however, to have disappeared from that country, and the supply to have proceeded from Arabia. Many fables are connected with it. Tacitus says, that the tree was so averse from iron that it trembled when a knife was laid near it, and it was thought the incision should be made with an instrument of ivory, glass, or stone. Bruce was told by Sidi Ali Tarabo-loussi that "the plant was no part of the creation of God in the six days, but that in the last of three very bloody battles which Mahomet fought with the noble Arabs of Harb, and his kinsmen the Beni Koreish, then pagans, at Beder Huncin, Mahomet prayed to God, and a grove of balsam-trees grew up from the blood of the slain upon the field of battle; and that with the balsam which flowed from them he touched the wounds of those even that were dead, and all those predestined to be good Mussulmans afterwards immediately came to life." To return to the balsam-tree: the mode of obtaining it remains to be described. This, according to Bruce, is done by making incisions in the trunk at a particular season of the year, and receiving the fluid that issues from the wounds into small earthen bottles, the produce of every day being collected and poured into a larger bottle, which is kept closely corked. The smell at first is violent, and strongly pungent, giving a sensation to the brain like to that of volatile salts when rashly drawn up by an incautious person. The natives of the East use it medicinally in complaints of the stomach and bowels, as well as a preservative against the plague; but its chief value in the eyes of oriential ladies lies in its virtues as a cosmetic,—although, as in the case of most other cosmetics, its effects are purely imaginary. [Edinburgh Cabinet Library, No. XII.—Nubia and Abyssinia.]

[*From the Hampden Journal, Springfield, Mass.*]

"Valuable Turtle."—In the year 1816, Mr. Jonathan Worthington, of West Springfield, found a Turtle upon his premises which had "J. W. 1717" marked—evidently cut with a penknife—upon the under shell. The Turtle was set at liberty, after examination, and again found in 1823; again in 1828; again in 1829; and a few days since in 1833. The father, grandfather, and great grandfather, had the same given name, with the present *Jonathan* Worthington, who thinks that the great grandfather marked the turtle. The turtle is of the species commonly called the "Box Turtle," having the upper shell very crowning, and the lower shell, flat with a joint in the centre. The "venerable" gentleman, if the date is correct, must of course be upwards of 116 years old, and is said to be as active as any of the young fry of the same species which is generally to be met with.

"What's all the best on't," the farm upon which the present Mr. Worthington lives, has been in the possession of the four several *Jonathans*, and the "venerable" has always been found within a few rods of the same spot; which indicates that, whatever may have been his observations for the last century, his travels have not been very extensive.—The circumstance is somewhat singular, and is our motive for noticing it.

To those who are not aware of the longevity of the turtle it may be well to give an extract from "White's Natural History of Selborne," in which are some interesting facts in relation to the Tortoise Among others, to show its strength, it is stated that a common sized turtle would move with ease with a weight of 18 stone on its back, and that a cart wheel passing over the turtle gives it no apparent pain. In relation to the longevity of this "creeping thing" the following extract is from the work abovementioned:

"From a document belonging to the archives of the Cathedral, called the *Bishop's Barn*, it is well ascertained that the tortoise at Peterborough must have been about 220 years old. Bishop Marsh's predecessors in the see of Peterborough had remembered it above sixty years, and could recognize no visible change. He was the seventh bishop who had worn the mitre during its sojourn there. If I mistake not, its sustenance and abode were provided for in this document. Its shell was perforated, in order to attach it to a tree, &c. to limit its ravages among the strawberry borders."

Cincinnati, July 23.—*The Harvests.*—We learn from every part of the great Mississippi Valley, that the crops are most abundant and are generally saved. In Missouri and Illinois, the wheat is most remarkably fine.

In the eastern parts of Pennsylvania, and in Maryland, the harvest has turned out better than was expected. On the other hand, in Virginia and North Carolina there is a general complaint that the harvest is light and damaged.

NEW-YORK AMERICAN.

JULY 27, 29, 30, 31, AUGUST 1, 2—1833.

LITERARY NOTICES.

REMARKS ON THE UNITED STATES OF AMERICA, *with regard to the actual state of Europe*, by HENRY DUHRING: 1 vol. London; W. SIMPKIN & R. MARSHALL: Amsterdam, C. G. SULPKE: New York, W. JACKSON.—Another book upon America! we think we hear our readers exclaim. Even so—another book upon America, and by a reflecting scholar-like mind. The greatest problem concerning the happiness of man, here below, is now in the progress of solution, upon the greatest scale in these United States, the problem of "the capacity for self-government of educated man." Hence it is not to be wondered at,—at a period of universal peace, and when the mind of Europe is fermenting—when old abuses even there are losing their time-honored sanctity—and the youth at least of many countries are looking forward to such a condition of things, as will give to active, stirring talent a free and fair field of exertion—that many eager eyes should be directed to this country, and much anxiety be felt to know what our real condition is. The writer of this little volume—so well printed as to be on that account attractive, independently of its contents—is, we infer from various sentiments scattered through its pages, a Dutchman, and a zealous adherent of the House of Orange. He however does not give any account of himself; and we are unable to give any account of him. His essays, for such in truth they are, on various political topics suggested by the condition and institutions of the United States—are written in a philanthropic spirit; and with a just perception—not a common attribute by any means of those foreigners who have treated of this country—of the operation and influence of our somewhat complicated scheme of state and federal governments. This is in no sense a book of travels. Indeed, but for some few casual expressions here and there, implying that the author speaks from personal observation, it is a book that might have been written without stirring from the Hague, or Amsterdam—except that from books alone, or conversation, it would be difficult to acquire such an insight into our system as is evinced by it. But there is no trace in these pages of the route of the traveller—of the precise time of his visit—nor of the regions which he visited. It is, as we said before, a series of philosophical essays—well written—justly reasoned for the most part—enforced by numerous quotations from American, English, French and German writers—the whole concluding with a discussion on "the golden age!" The titles of the different chapters—there are but eight in all—are as follow:

Chap. I.—Will the North American Union last?
Chap. II.—Examination of an Opinion somewhat prevalent in the Mother Country, that the want of an Established Church has produced want of Religion in the United States.
Chap. III.—On Washington, and his projected Monument in the City of Washington.
Chap. IV.—Some remarks regarding a Statement made by a very popular English Writer, that "the Women do not enjoy in the United States that Station in Society which has been allotted to them elsewhere."
Chap. V.—On Education, and its Connexion with Civil and Political Institutions.
Chap. VI.—On Emigration.
Chap. VII.—Some Remarks on Agriculture, and the Advantages which an Agriculturist, emigrating to the United States, has to expect here.
Chap. VIII.—On the Golden Age.

We cannot give a better specimen of this publication than by quoting the annexed extract, repelling the idea of the instability of the American Union:

That, however, the Union of North America is already making rapid strides towards its dissolution, which is so often asserted in Europe, is an opinion contrary to my judgment. Are not the different States which compose the Union linked together by the most intimate connexions; as, a common language; a common general character; the self-sufficing variety and luxuriance of their soil; their unbounded collective resources: the general activity, intelligence, and enterprising spirit, of their inhabitants; an unfettered interior commerce; the fondest recollections, and the happiest prospects; in short, by the strongest tie which ever kept a confederation together—their mutual interest?

That this mutual interest of of late been disturbed, by some restraints laid by the federal government on the foreign trade, is a fact of public notoriety. The right of the federal government to impose those restraints on foreign commerce, and to impose taxes beyond what is deemed necessary for the purpose of a national revenue, has not only been doubted, but openly denied. Whether, however, this opinion can be fully justified, I am rather inclined to doubt. The question is here not so much a question of revenue as of commerce; or, in other words, the federal government seems to have acted in this case, not so much in virtue of its power to impose taxes for the purpose of revenue, as in virtue of its authority to regulate and to protect commerce. The said government seems to have acted in the accordance to that principle, neither by reason nor by experience in the maxim, that the adoption of the rescrictive policy, by one or more nations, makes it the interest of others to countervail those foreign regulations, by reciprocating those restrictions. The chief question in the given case certainly is, whether by those commercial regulations, commonly called the tariff, the general interest of all the States, which to protect and to foster is the constitutional and only avowed object of federal government, has not been more destroyed than protected. If the enemies of the tariff should be able to prove that this tariff has been oppressive, unequal in its operations, and really detrimental to the interest and to the commerce of the whole Union—or that the participation in the benefits and in the burdens of the Union, has thereby indirectly been rendered unequal, with regard to all the States—then the true object of the Federal Government has thereby not been attained, and the tariff must be altered. After such a proof, any longer to enforce these commercial restrictions would be acting against the spirit of the Confederation, or against those concessions which were made by the several independent States, when for their general welfare, by way of compromise, they instituted the Federal Government. This Federal Government does not fulfil its duties, when it does not equally protect the rights of all the States: it always, more or less, steps out of its proper province, when, to relieve the inhabitants of some States that by false or untimely speculations may have entangled themselves in difficulties, it enforces commercial restrictions, which do not only deeply affect the well-being of other States, but which also, by alienating from each other the mutual affections of the Americans, are calculated to endanger the harmony of the Union.

To prevent the further spreading of the existing seeds of discord, and to regulate, to the satisfaction of all the States those mutual concessions which may be deemed of absolute necessity for the prosperity of some branches of industry, and which an independent nation ought always to cultivate, or on which too great a number of individuals depend already for their maintenance, this is of the greatest consequence for the federal government of the United States. It is obvious, however, that in the regulation of these conflicting interests the said government cannot proceed with too much caution.

Though at present it certainly would be connected with many and great difficulties, yet I entertain the strongest hope that, sooner or later, the government of the United States will gradually introduce into practice the principles of free trade. No nation ever was in circumstances more propitious for such an act than the American. The debt of the United States is to be paid off within a very short lapse of time; and the annual national revenue promises to be beyond the wants of the federal government. Taxes of small amount will therefore be necessary for the future, to raise by their means a sufficient revenue; and it would perhaps be better if for this purpose another source were adopted. The Americans have so far surpassed all other nations in free institutions, that it has become their bounden duty also, to be the first of all nations that shall fully bring into practice the principles of free trade. This is a debt which they owe to mankind and to themselves.

As all branches of human industry work together to a mutual benefit, and jointly co-operate in the prosperity of each, so also will the different countries of the globe best increase their own wealth when they freely exchange the produce of their respective industry. Restrictive laws always interfere with the natural right of every citizen in applying his mental and bodily energy to such purposes as he may think most conducive to his own interest. In all industrious pursuits the partial protection of one generally means the oppression of another. By protecting one laborer by bounty, the government deprives others of their just rewards; or, in the false opinion to do good, it takes money from the pocket of one man to give it to another.

The exports of a nation cannot prosper without importation; both grow out of each other: so that we cannot reduce imports without also reducing some branches of exports. If, however, as above stated, the property of individuals is best secured by allowing them to follow their own inclination in the different modes of employing their stock of industry, should this same principle be less true with regard to large communities? What is a nation but a society of individuals?

Mr. Cullen justly remarks, "that if freedom of commerce was established, and no monopolies existed, those commercial revolutions which occasion so much distress in the manufacturing districts, by throwing out of employment a great number of workmen, would but seldom, if ever, happen; or be of short duration, and far less disastrous than they have often been." The rates of profit of manufacturers and merchants would then also be less uncertain, or only liable to those changes which are common to the whole productive industry of the country.

The restrictive policy of a nation may affect the interest of another nation, by excluding her from an accustomed and a profitable market; but is a retaliatory system calculated to diminish the evil?—Is it, on the contrary, not calculated to increase it?

An American, for instance, who has invested his capital in the production of grain, may suffer in his interest by the corn laws of Great Britain; but are his sufferings increased or diminished by a retaliation?—are they not increased? He suffered by being partially excluded from a good market; but he doubly suffers by imposing upon himself an additional sacrifice, in laying taxes on English manufactures, which to him are of indispensable necessity, and which he can no where else procure at the expense of so small a portion of his stock or labor. If retaliation did not affect home production and consumption, then it might be just: in all cases, however, where this happens it will but increase the evil; and the evil does not stop here. Such a restrictive policy is also calculated to produce a displacement of capital from its natural channel, by inducing men to establish manufactures that would afford no reasonable profits, if such a prohibitive system was not in existence. These manufactures being founded on an artificial basis, are therefore but a very precarious branch of industry; and exposed to all the vicissitudes of such an artificial existence. As in Europe such an artificial system, which dates from a period when political economy was but little understood, has been followed by almost all nations for centuries, the interest of the greatest number of industrious classes is so intimately connected with it, that it would lead to the greatest possible confusion and misery if this system, false as it is, were given up, and in its stead the principles of free trade were established. But if our freedom of commerce should be established amongst all nations—if so simple an act of common reason should be no visionary dream, then the respective interests of all nations would become thereby so interwoven, the bonds of mutual dependence and friendship would thereby be so much strengthened, that men but very seldom, if ever, would be exposed to the horrors of war; which if all nations were equally enlightened, and all men equally blessed with the divine gift of reason, would be a disgrace to mankind.

The Americans, with regard to a restrictive policy, are circumstanced very different from those of the Europeans. The United States form a young, and in all other respects free county, abounding in numerous resources, and where, if any sort of industry should cease to be profitable, the capital invested in it may far easier be withdrawn than in Europe. The evil occasioned by a restrictive policy in America may perhaps still be cured by a wise system, and gradual change of policy. The Americans, by leaving all experiments, whether a manufacture will yield profit or loss to individual enterprize, intelligence, and capital, would but act in strict conformity to the spirit of their Constitution, framed for the equal protection of all the States. The Federal Government, so eminently popular and enlightened, sooner or later will be forced, I think, to adhere to these principles; and when thereby the well-founded cause of the existing international animosities shall

have been removed, then it will be difficult to persuade me that the Union is any longer in danger. The benefits of this Union to the Americans in general, are however already so great, that the disaffected members would be very unwise and unjust if they did not bear with resignation the actual existing differences in the equal division of the burdens and profits of the whole nation, till, by the irresistible force of reason, they will have carried the point in question, and be as unfettered in their foreign commercial transactions, so far as this will depend on them, as they actually are with regard to their internal commerce.

All the fruits of those distinguished talents which conducted the Americans to their elevated station—all those advantages which they derive from the finest situation and combination which on earth are to be met with—would be destroyed by a dissolution of the Union. Look on the map of the United States! what part of them would you separate from the others, without more or less disturbing the prosperity, the wealth, the influence, and the happiness of the whole? Wherefrom would these States derive that necessary protection for their far extending commerce, but from their united naval power? Wherefore were expended fifteen millions of dollars to France for Louisiana?—wherefore five other millions for Florida? Was it to create new custom-house-officers; or was it not to remove them to the utmost and natural boundaries of the Union? Are those vexations to which a merchant is exposed while carrying his goods along the rivers and roads of divided Germany, of so enviable a nature as to be thought worthy of imitation by a free and an enlightened people? Should the Americans already have forgotten the difficulties under which their commerce labored after the peace of 1785, before its regulation had been entrusted to the federal government? How boundless are not at present the markets for every industrious American, in whatsoever State of the Union he may have fixed the abode of his industry? What country is connected by so many, so easy, and such natural interior communications? And are not these natural and artificial bonds of the Union yearly increased, or brought to a greater degree of perfection? What was New Orleans under the Spanish Government?—a swampy village!—What is it now?—after New York, the first and most important mercantile city in the whole Union. The Americans *united* may defy all other nations,—*separated*, they are nothing! If, therefore, it should be permitted to suppose, as I think it is, that a sound judgment with regard to its true interest does or ultimately will prevail with a nation that perhaps excels all other nations in common sense—if one may also suppose that on such a nation the powers and intrigues of personal ambition or party spirit never will be permitted, at least for any length of time, to exercise their baneful sway—then one may entertain the opinion, I think, that the Union of North America will not be disturbed.

The sentiments and anticipations of this extract, long as it is, should be pondered by all Americans. It is the judgment of an impartial and enlightened observer.

Traveller's Directory, and Map of the United States. C. S. Williams, *New Haven*. New York: Betts & Anstice.—In a little duodecimo, thin and portable, we have here a map upon quite a tolerable scale, and well engraved and colored, of the United States; and a corresponding sheet of letter press, on which is presented a list of all the steamboat and canal routes in the country, with the distances between the intermediate places, the principal roads, the statistics of each State, the time at which each was settled, and the population of every separate county—all too for 75 cents. It is certainly a cheap treasure.

In a late Boston paper we find the following annunciation of a forth-coming volume of Poetry,—which, from the talent displayed, in several fugitive pieces, by the same author, we look forward to with pleasure.

Poetry.—An elegant volume of Poems by Grenville Mellen is about to be published by Lilly, Wait, & Co.—being the Martyr's Triumph, Buried Valley, and numerous minor pieces. The two we have named will be found, we think, to possess a character exceedingly interesting to the public and equally creditable to the accomplished author. Both are founded on fact; the latter upon the memorable avalanche in the Notch of the white Hill which occured a few years since. Mr. M., having passed several months in that vicinity, has made himself perfect master of both the history and scenery of that singular spot, and has wrought them into a story of thrilling interest. All the travelling parties which go in that direction this season, should consider this volume an indispensable *vade mecum*.

Boys and Girls' Library of Useful Knowledge, Vol. XIII. New York, J. & J. Harper.—This is the second part of the undertaking of the same author, to familiarize to young minds the Bible history, by throwing its striking incidents into familiar dialogues, adapted by their phraseology and simplicity to the comprehension of children. Volume IV of this series furnished the first part, and there is yet a third to come. The object is not "to supersede, but assist, the reading of the sacred volume," by imparting the explanations which are requisite to make that volume intelligible. It is executed with good judgment throughout.

The Life and Adventures of Dr. Dodimus Duckworth, to which is added *the history of a Steam Doctor*—by the author of a Yankee among the Nullifiers. 2 vols. New York: Peter Hill.—If the impositions and quackery of medical pretenders can be crushed by ridicule and humor—coarse enough in general, but sometimes quite amusing—these volumes might effect some good in that way. But they who trifle with life for a living, and assume to deal with the ailments and accidents of the human body, without knowing any thing of its structure or functions beyond what is revealed to every eye, can hardly be shamed out of their mischievous career.

View of the New York Quarantine—Staten Island.—A spirited and accurately colored engraving, executed by *W. I. Bennet*, has just been published by *Parker & Clover*, 180 Fulton street. It is true to the life and full of movement and animation.

Polynesian Researches, by *William Ellis*, in four volumes, vol. I. *Harpers.*—This is a judicious reprint of an English work that has received high commendation abroad. The tone of the book is good, and it is the most complete account of the South Sea Islands extant. The early institutions and the obsolete manners and customs, as well as those now prevailing in these countries, are, with every thing relating to their inhabitants, minutely detailed, their arts, manufactures, and antiquities being neatly illustrated with wood cuts, well printed upon fine hard paper.

There has always been much in these far-away islands of the Pacific to interest one in the accounts which, from time to time, have been given by voyagers of their beautiful scenery, their delicious climate and magnificent vegetation—of those wooded bays and mountain-circled friths, where the cathedral Aoa bends its mazy branches over calm blue waters, fenced by reefs of coral from the sea, and the palm and the cocoa rear their stately columns against a sky fitted to be the dome of such a chosen temple of Nature; where fruits and flowers succeed each other so rapidly, that seed time and harvest fall together, and jocund spring and mellow autumn unite in giving life and loveliness to the land; where

"—— the leaf never dies in the still blooming bowers,
And the bee banquets through the whole year on the flowers."

They seem—these remote and delicious spots—in this wandering æra of the earth, when every corner of it is ransacked and turned topsy-turvy, like a little world by themselves, which, if unmolested by visiters from less favored climes, would be the last resting point of man in his primitive state—a sort of jumping-off place for Poets and Romancers—where some Prospero might yet wave his magic wand through a spirit-peopled air, and some delicate minister of his will load, Ariel-like, the passing breeze with music. Certes, we know that were honest Will alive at this moment, he would "change the *venue*" of the Tempest from the salt-stewing Bermudas to the fairy land described below:

Every writer on the South Sea Islands has been lavish in praise of their scenery. Malte Brun observes, "A new Cythirea emerges from the bosom of the enchanted wave. An amphitheatre of verdure rises to our view; tufted groves mingle their foliage with the brilliant enamel of the meadows; an eternal spring combining along with an eternal autumn, displays the opening blossoms along with the ripened fruits." When speaking of Tahiti, he remarks, that it "has merited the title of Queen of the Pacific Ocean." The descriptions in Cook's Voyages are not exaggerated, and no scenery is adapted to produce a more powerful or delightful impression on the mind of those who traverse the wide ocean in which they are situated, than the islands of the South Sea. The effect on my own mind, when approaching Tahiti for the first time, will not easily be obliterated.

The sea had been calm, the morning fair, the sky was without a cloud, and the lightness of the breeze had afforded us leisure for gazing upon the varied, picturesque and beautiful scenery of this most enchanting island. We had beheld successively, as we slowly sailed along its shore, all the diversity of hill and valley, broken or stupendous mountains, and rocky precipices, clothed with every variety of verdure, from the moss of the jutting promontories on the shore, to the deep and rich foliage of the bread fruit tree, the oriental luxuriance of the tropical pandamus, or the waving plumes of the lofty and graceful cocoanut grove. The scene was enlivened by the waterfall on the mountain's side, the cataract that chafed along its rocky bed in the recesses of the ravine, or the stream that slowly wound its way through the fertile and cultivated valleys, and the whole was surrounded by the white-crested waters of the Pacific, rolling their waves of foam in splendid majesty upon the coral reefs, or dashing in spray against its coral shore.

So much for a sea-side approach to these floating edens that heave their verdurous bosoms above the bright Pacific as if they swam upon its silver surface; and now to contrast this glowing picture with an inland landscape:

In the exterior or border landscapes of Tahiti and the other islands, there is a variety of objects, a happy combination of land and water, of precipices and plains, of trees often hanging their branches, clothed with thick foliage, over the sea, and distant mountains shown in sublime outline, and richest hues; and the whole, often blended in the harmony of nature, produces sensations of admiration and delight. The inland scenery is of a different character, but not less impressive. The landscapes are occasionally extensive, but more frequently circumscribed. There is, however, a startling boldness in the towering piles of bassalt, often heaped in romantic confusion near the source or margin of some crystal stream, that flows in silence at their base, or dashes over the rocky fragments that arrest its progress: and there is the wildness of romance about the deep and lonely glens, around which the mountains rise like the steep sides of a natural amphitheatre, till the clouds seem supported by them—this arrests the attention of the beholder, and for a time suspends his faculties in mute astonishment. There is also so much that is new in the character and growth of trees and flowers, irregular, spontaneous, and luxuriant in the vegetation, which is sustained by a prolific soil, and matured by the genial heat of a tropic clime, that it is adapted to produce an indescribable effect. Often when, either alone, or attended by one or two companions, I have journeyed through some of the inland parts of the islands, such has been the effect of the scenery through which I have passed, and the unbroken stillness which has pervaded the whole, that imagination, unrestrained, might easily have induced the delusion, that we were walking on enchanted ground, or passing over fairy lands. It has at such seasons appeared as if we had been carried back to the primitive ages of the world, and beheld the face of the earth as it was perhaps often exhibited, when the Creator's works were spread over it in all their endless variety, and all the vigour of exhaustless energy, and before population had extended, or the genius and enterprize of man had altered the aspect of its surface.

To enable them to enjoy these rich bounties of nature in all their fulness, the inhabitants of these islands are blest with a climate so bland and equable, that they can live without inconvenience in the open air through the greater part of the year.

The *Climate* of the South Sea Islands is in general regular, and though considerably hotter than in Europe, is more temperate than that of the East or

West Indies, or those parts of the continent of America that are situated in the same latitude. This is probably occasioned by the vast expanse of ocean around: for though only 17 degrees from the equator, the thermometer in the shade seldom rises higher than 90, while the general average in some of the Islands is not more than 74. During the time the Duff remained in Tahiti, from March to August, 1797, the thereometer was never lower than 65, and seldom higher than 73: and between the months of April and August, 1819, it ranged in the morning from 68 to 78, at noon from 75 to 84, and in the evening from 70 to 78. Sometimes it rises for a short time much higher than 90, but I never saw it so low as 60. The heat is constant, and to a European debilitating, though much less so than that of an Indian climate. To the natives it is genial, and, except in the immediate neighborhood of their stagnant waters or marshy ground, is salubrious. They experience no inconvenience from the heat, and often, when the mornings have been gratefully cool to a European, they wrap themselves in their warmest clothing.

The climate is remarkable serene and equable; its changes are neither violent, frequent, nor sudden.—This circumstance, were it not for the constant heat, would render it remarkably salubrious.

Mr. Ellis' view of the original sources of population to these islands is about as satisfactory as most of such speculations, without being as wild as those of some writers who would derive the Sandwich Islanders from the ancient Greeks because they wear helmets of woven feathers shaped exactly like an Athenian casque. The length of his theory, however, prevents our quoting it, as we have barely room to add this notice of a domestic trait:

Moral Disposition.—Next to their hospitality, their cheerfulness and good nature strike a stranger. They are seldom melancholy or reserved, always willing to enter into conversation, and ready to be pleased, and to attempt to please their associates. They are, generally speaking, careful not to give offence to each other: but though, since the introduction of Christianity, families dwell together, and find an increasing interest in social intercourse, yet they do not realize that high satisfaction experienced by members of families more advanced in civilization. There are, however, few domestic broils; and were fifty natives taken promiscuously from any town or village, to be placed in a neighbourhood or house—where *they* would disagree once, fifty Englishmen, selected in the same way, and placed under similar circumstances, would quarrel perhaps twenty times. They do not appear to delight in provoking one another, but are far more accustomed to jesting, mirth, and humour, than irritating or reproachful language.

We must not take leave of this volume without mentioning that it contains some highly satisfactory and gratifying information in regard to the effect produced by the Christian missionaries upon the domestic habits of the Polynesians.

The Coast Survey is in steady progress under the capable hands of *M. Hassler*. We have before had occasion to applaud the appointment of this distinguished experimental Astronomer to conduct this national work, and to fortify our own opinion on that head by those of other and more competent judges: we now offer another proof in the annexed translation of an extract from the astronomical journal of M. Schumacher, in Altona, No. 239, page 385.

M. Hassler is already since three years again in active employment for the general government of the United States of America; at first for hydrometric experiments to establish proper regulations for the collection of the duties upon spirituous liquors, and for the comparison of the Weights and Measures of the United States, with a view to the future uniformity of the same.

By an act passed at the end of the long session of Congress, 1831-2, the law of 1817, excluding M. H. from the coast survey, (namely, that none but naval and military officers should be employed in it,) and which had the interruption of the whole work for its consequence, was abrogated, and liberty given to the Executive to appoint any superintendent whatever. Upon this, President Jackson re-appointed immediately M. H. to that situation, under the same arrangements as heretofore.

The Editor of this journal cannot omit herewith to present to the Government of the United States his thanks, in which all men who take an interest in exact science[illegible] join him, for having taken up again this beautiful work, that had been begun by M. H. 16 years ago. This work could certainly not be executed better by any other man than him, who in its beginning already had shown so much talent.—The freedom now given to him in the selection of his assistants, is an equally wise, and as the editor knows by his own experience of many years, an *indispensable condition of success.*

FOREIGN INTELLIGENCE.

Ten Days Later from England.—By the packet ship Roscoe, Capt. Rogers, we have English papers to June 25th. By the packet ship Rhone, there are French papers to June 18th.

The political intelligence is of some importance, though the commercial accounts have recently assumed a comparatively greater importance.

The bill for the abolition of West India Slavery has passed the House of Commons and been sent to the Lords. Upon the Irish Tithes bill, as in the slavery question, ministers had thought best to yield something of their plan, in order to secure co-operation. All departments of mercantile enterprise appear to be in a very satisfactory condition in England, and on the continent.

The brothers of Portugal are still looking each other in the face, but without any decisive conflict.

The French Chamber of Deputies has postponed the consideration of the treaty with the United States until another session. The Ministers seem never to have presented the subject to the Chambers until now. Marshal Soult, President of the Council, said in the Chamber of Deputies, that "Government had not the remotest idea of evacuating Algiers."

It is said that his Majesty, as the Head of the Church, has addressed a strong letter of remonstrance, through the Archbishop of Canterbury, to the Bench of Bishops, and especially to the six or seven who distinguished themselves by their vote on the Portuguese question, relative to their conduct under the present critical circumstances of the nation, expressing his surprise that they should expose themselves to the imputation of acting from factious and worldly motives,—thus sacrificing all claim to the respect of the religious community, and exposing the Church to the danger of losing its influence, by their being ultimately driven by the power of public opinion from their seats in Parliament, if their votes, as spiritual seers, were not regulated by more discretion and attention to the signs of the times!"—[Sun.]

Constantinople, May 28.—(By Express.)—Ibraham Pacha has really commenced his retreat, and preparations are making in the Russian camp, which indicate a speedy withdrawal of the troops. The official news that the Egyptian army had actually commenced its retreat arrived yesterday. The Reis Effendi immediately communicated it to the foreign Ambassabors, and Count Orloff repeated his declaration that the Russian army should retire as soon as he was certain that the Arabs really had retreated, or only had made a pretended retrograde movement. A Russian officer of the general staff has therefore, been despatched to Koniah, to learn the real intentions of Ibraham, and to be sure that he does not pretend to retreat, to give the Anti-Russian party a pretext to demand the retreat of the Russian auxiliaries, which that party eagerly desires.

Prudence is therefore necessary, and Count Orloff cannot be blamed for desiring to free himself from all responsibility. The latter agreed with him, and Lord Ponsonby finds it natural that he should desire to be certain before he acts. Admiral Rousin dislikes delay, and says there is no doubt of Ibrahim's retreat.

London 23d June.—*Royal Institution.*—Friday evening Mr. Brockedon delivered a lecture upon the properties and present uses of caoutchouc, or Indian rubber, the former uses of which were only for the rubbing out pencil marks. It was introduced into this country about a hundred years since, and is now used for making water-proof clothes, and elastic materials of every description. It is particularly adapted to surgical bandages, and all materials where an equal pressure is required, which can be regulated by the wearer. The lecturer stated that he was much indebted for the substance of his lecture, and the materials furnished, to Messrs. Cornish & Co. of Holloway, who have a very extensive factory.—The cutting of the Indian rubber into fine threads is done by machinery, and so rapid are the effects of the machine, that two girls, by the aid of steam power, can cut into threads not much coarser than thick sowing thread, 240,000 yards per day, 80,000 yards of which weigh a pound. A curious experiment was also exhibited, the strengthening of rotten Indian rubber; a strand being dipped in a solution, immediately became perfectly strong. The lecturer stated, however, that his hearers might wish to have the knowledge of this secret. He was not acquainted with it, but the result was certainly most important to the professors of it. The machinery, and secret mode of strengthening the Indian rubber, although in the hands of Cornish & Co., he stated was the invention of Mr. Sievier, the sculptor.—Whale fishing lines, elastic cables, and ropes, were exhibited, and their utilities ably spoken of by the lecturer.

Daily Post from Paris.—The *Moniteur* has the following:—"A convention has just been signed between the Duke of Richmond, Postmaster-General in England, and M. Comte, Director of the French Post Office, establishing a daily communication between the two countries, instead of only four times a week. This treaty, besides affording a more frequent correspondence, will give an acceleration to the interchange of letters, and allow the mutual conveyance of intelligence from one country to the other in 36 hours, instead of taking three, and sometimes four days, as hitherto. This is a real benefit rendered to the two nations.'

According to the French savans who have accompanied the expedition to Algiers, the tribes of Berbers who inhabit the mountains of the lesser Atlas, from Tunis to the empire of Morocco, are the ancient Numidians described by Sallust; and are precisely the same, with regard to manners, customs and civilization, as at the period of the war of Jugurtha, more than a century before the Christian era.

Portable Theatre!—Mr. Faucit Savill has had constructed a portable theatre, capable of containing 800 persons. It is built of sheet iron, and may be taken asunder for conveyance from town to town, by van or wagon, without drawing a nail. Mr. Savill was to open it at Herne Bay on Friday with a respectable company.

On the 2d ult., at Paris, a bronze statue of Napoleon, made of sixteen cannon captured during his reign, was most successfully cast. A number of distinguished men of science and letters, and the Minister of Commerce and the heads of the public works, were present at the process. The statue is eleven French feet high, and in Napoleon's usual dress or drapery,—uniform, three cocked hat, eyeglass, sword, spurs,—so as to produce an exact resemblance in the *tout ensemble*. It was to be placed on the great column in the *place Vendome*.

Exports and Imports.—A parliamentary paper, moved for by Mr. Spring Rice, has just been laid before the House of Commons, of a nature highly consoling to the balance of trade politicians. It is a return of the official value of the exports and imports of the united kingdom for the two last years. The return for the year ending 5th January, 1833, distinguishes the countries from and to which the exports and imports are made; that for the year ending 5th Janusry 1833, do not, only giving the totals, on account of the long time it would take to make out the details. The totals of the two years stand thus: official value of the imports into the united kingdom, for the year ending January, 1832, £49,727,180; of the exports, £71,431,491. In the year ending January, 1833, the official value of the imports fell to £44,586,241, whilst that of the exports rose to £76,071,572. Those who think that the annual balance of exports over imports shows a receipt of so much in hard cash, which we bank up for emergencies, must feel highly delighted at the result thus exhibited. If the fancy pleases them we should be loth to disturb their enjoyment; but we must still do two things—first, recommend Miss Martineau's "Snoek and Vanderput" to their consideration; and, second, beg them to inform us what has become of the millions of balances we have had in our favor for many years past? The increase in the exports of the last year above-mentioned is shared in tolerably equal proportions between our own manufactures and colonial produce, the exports of foreign and colonial produce, in the year ending January, 1832, having been £10,745,126, and in the year ending January, 1833, £11,044,868, whilst the exports of British and Irish manufactures and produce were, in the corresponding periods, £60,686,364, and £65,026,702. The country with which we have the greatest trade is the United States of America. In the year ending January, 1832, the amount of our exports to that eldest of our offspring was £12,596,173, and of our imports from her £8,970,

342. Our next best customer, as far as exports are concerned, is Germany, which takes from us £9,473,-627 worth of produce, of which £7,667,147 is the produce and manufactures of the United Kingdom. The value of our exports to India and China is £6,947,600, and of our imports thence £7,920,182. At the present moment it may be interesting to state, that our imports from the British West Indies amount to £8,448,839, while our exports amount to £3,988,-286.—[London Sun.]

Mexico.—Accounts from Tampico have been received via New Orleans to July 4th. That place had been in a state of great excitement for several days, owing to information having been received that the garrison at Metamoras had declared in favor of the plan of Morelia, and that it had despatched a body of troops to take possession of Tampico, who had already arrived within a day's march of it. Tampico was in a poor state of defence, but every preparation was making to prevent their entry.

The Cholera had entirely disappeared from Tampico. A Conducta had arrived there on the 28th of June, with $700,000.

The following paragraph from the St. Louis (Mo.) Republican, of 12th inst., shews in a curious and quite characteristic manner, the influence which our ordinary political habits and institutions exercise, even upon a trading party in the heart almost of a wilderness:

From the Santa Fe Caravan.—Letters from some of our traders, as late as the 20th June, have been received in this city. They were then assembled at the Diamond Grove, about 160 miles from Independence, in this state. On the 19th, an election for officers was held. Mr. C. Bent was elected to the Captaincy; Messrs. Legrave, Barnes, Smith and Branch, Lieutenants. There were one hundred and eighty-four men belonging to the expedition, and ninety-three wagons, carriages and dearborns attached to it, sixty-three of which were loaded with goods. The company had suffered very much from the badness of the roads, caused by the great rains which had fallen there, as every where else. We have understood, though the letter we have seen does not allude to it, that the traders are under the escort of a company of Rangers.

SUMMARY.

The gallant Bainbridge is no more. He died in Philadelphia on Saturday, in the 60th year of his age, after long illness. His funeral, which was to take place yesterday, was to be attended by all the officers of the Army and Navy on the Station, the officers of Militia, and the Civil Authorities and Citizens. So it should be; for the name of Bainbridge is of those that claim the fullest measure of gratitude from the country he so nobly served.

Commodore Chauncey, (says the National Intelligencer of Wed'sday,) has arrived in this city, and proceeded to the discharge of his duties as one of the Commissioners of the Navy Board.

[*From the Missouri Republican.*]

St. Louis, July 16.—*From the "Far West."*—The Steamboat Assineboine, B. Pratte, jr. master, arrived on Thursday night last, from the mouth of the Yellow Stone, with a full cargo of furs, skins, &c. for the American Fur Company. By this arrival we learn, that the Steamboat Yellow Stone lost three of her hands and a pilot, by the cholera, while ascending the river, near the mouth of the Kansas. We also learn that Famine—a calamity more dreadful than the Cholera—threatens the inhabitants of the immense region of the Upper Missouri. No Buffalo had appeared upon the plains of that country during the past spring; and the Indians, in the thriftless economy which governs them at all times, were in consequence destitute of means of subsistence. Even the traders were compelled to subsist on Buffalo tongues, (obtained during a preceding season,) and corn; and the voyageurs had not this fare allowed to them. No one has, we believe, pretended to account for this disappearance of the immense herds of Buffalo which covered those regions. It was observed, by persons who were in the Assiniboine, and who have been in the habit of navigating the Missouri, that points at which vast numbers of Buffalo had always been known to herd, were deserted, or but a single one now and then seen.

A most bountiful Harvest has crowned the labors of the farmers of this State, and of Illinois. The Wheat crop has, generally, been secured, and is very abundant—far more than sufficient for the supply of the country.

Michigan Iron Ore—Within a few days past, has been discovered on the farm of the Rev. Mr. Armstrong, in the town of Nankin, Wayne Co. an extensive and rich bed of Iron Ore. We have seen a fair specimen of this ore, and believe it to be of a far more than ordinary quality.—[Detroit Courier.]

The Hon. Wm. J. Duane, Secretary of the Treasury, arrived in town on Monday evening, and has taken lodgings at Bunker's, Broadway.

The "Courier de la Louisiane," of the 13th inst. states that the two steamboats that carry the U. S. Mail between New Orleans and Mobile, have both burst their boilers. "The accident occurred to one in the beginning of the week, and to the other yesterday—we understand the engineer was killed, and two other men slightly wounded. The contractors, we hope, will immediately supply their places."

It appears from an official article in the Globe of yesterday, "that Port Lamar, formerly called Cobija, in Bolivia, has been declared free; it is situated at the mouth of the little river Salado, in the confines of the sandy desert of Atacama. Negociations have been pending between Bolivia and Peru, for the purpose of obtaining from the latter the cession of a narrow slip, along the Pacific, in which is situated Arica, a port possessing every advantage for the supply of Bolivia. But the Peruvians have hitherto proved inflexible, and determined to keep it, even at the risk of war, under the impression that, in the end, the whole commerce of their neighbors must centre in Arica. Bolivia now holds out the inducement of a free port at Port Lamar; and Peru will, probably, ere long, come forward with similar advantages to Arica."

The Cholera seems to have acquired fresh virulence in some of the Western cities. A letter from *Cincinnati* of the 25th inst. says, "The Cholera has burst upon us again with violence; the day before yesterday, we had upwards of 30 deaths,—and among them some of our best citizens, male and female. One of our first physicians now lies *in extremis*. He was attacked at 3 this morning."

The Chilicothe paper of 24th states that "within the last few days, there have been several cases of Cholera in our town and neighborhood."

On this side of the mountains we believe no Cholera at all exists.

The President of the United States left Washington on Friday on a visit to the Rip-Raps, the fortified artificial island near Old Point Comfort.

[*From the Richmond Enquirer.*]

Ma. J. Randolph of R.—We understand that Mr. Randolph's papers have been ransacked, and that no will of a later date has been found. The public curiosity has been so much excited upon this subject, that we may be excused for noticing the present state of the facts, as we understand them.

Judge Leigh is said to have in his possession, two Wills in Mr. R.'s handwriting—the 1st is dated in January 1822; the 2d in March 1832.

The 1st directs his slaves to be manumitted, and makes provision for their maintenance, and we believe removal, under the superintendence of Bishop Meade, and of Francis, Key Esq.—and bequeathes the residuum of his Estate to Judge Leigh. This Will is said to have been subsequently "cancelled" by Mr. R., and his signature to have been cut out.

The second Will makes no provision for the manumission of his slaves—and its principal legacies are, 1. $10,000, to Judge Henry St. G. Tucker. 2. $10,000 to Judge Leigh. 3. $5000 to John Randolph Leigh, a young son of Judge L. 4. Gascoigne and a filly and some plate to Mr. John Wickham. 5. Two fillies and a pair of candlesticks, to Mr. Macon. 6. His carriages and horses, and some French plate to Dr. Brockenbrough—and the residue of his estate to the eldest son of his niece, Mrs. Bryant, of Gloucester, a daughter of Judge Coalter—with the reversion, in case of the death of the boy, about 20 months old, without heir, to the eldest son of Judge H. St. G. Tucker—and in case of *his* death, to the Judge's next son, &c.

This last Testament will probably be offered for Probate to the next Charlotte Court. It may perhaps be contested by the trustees for the slaves, upon the ground that the first will may be good—or, it may perhaps be contested by other parties, upon the ground, that neither of the Wills is good—and in this case that the whole property should be distributed according to the provisions of the Act of Assembly.

It is probable, indeed, that the subject may give rise to some litigation—in which case, it may become hereafter the duty of the Court of Appeals to decide the whole matter.

Destructive Fire at Waterford!

(Correspondence of the Evening Journal.)

Waterford, (Saratoga Co.) July 26.

We have just subdued one of the most ruinous fires which has ever been visited upon our village. Almost the entire part of the town, upon which our extensive *mechanical* and *manufacturing* operations were carried on, is now in ruins. The loss is immense, and falls almost entirely on that enterprizing class of our citizens which constitute the life of all our business operations. The fire was discovered in the new machine-shop of Kimball & Co. about 2 o'clock this morning, and before the citizens had collected to much extent, the roof had tumbled in, and the fire had communicated to the shop of Messrs. King, Wing & Co. on the south, and Messrs. Olney, Ambler & Minor on the north; the last contained about 8000 dollars' worth of machinery—loss very heavy. From thence it caught to the roof of Waterford Cotton Factory, and raged with such violence, that before we could arrest its progress, the two upper stories, with almost the entire machinery, and much valuable property, was either consumed or dashed to pieces, in the attempt to save it from the devouring element. The walls of this great building remain almost unbroken, only to give prominence to the surrounding desolation. The Fire Engine Manufacturing Company, are sufferers to a considerable extent, say in all, four or five thousand dollars.—The company of Olney, Ambler & Miner, about $ 10,000: Mr. Blake, $2000; and the Cotton Factory $15,000: besides, some eight or ten different branches, which were carried on in the same buildings, of more or less importance. The loss amounting in all to from forty to fifty thousand dollars.

About four hundred industrious mechanics are dependent upon the mercy of the public for employment in consequence of the fire. J. H.

Almost Caught.—The sloop Fame, commanded by Capt. P. C. Myrick, an old whaler, with a picked company of experienced officers and seamen, sailed this morning on a whaling cruise in Massachusetts Bay; principally for the purpose, however, of determining the question of the existence of that celebrated nautical non-descript, the Sea-serpent: which question, if affirmatively decided, will immediately be followed by his capture, dead or alive. Sharp eyes, that from long practice cannot be deceived, have gone to look after him; and sharper weapons, to be wielded by muscles and nerves that have been accustomed to grapple with Leviathan, are prepared for his certain overthrow. The Fame has a complement of 14 skilful men, and carries two whale boats, with every sort of apparatus for encountering any manner of monster which may dare to show itself. Among the implements of destruction on board, are sundry harpoons of a new construction, (for which a patent has been granted to a gentleman of this place) made at the Phœnix Iron Foundry, Providence—one thrust from which will inflict instant death. This description of harpoon carries within its barb, a dose of concentrated poison, the most subtile which human science has yet been able to discover. With these preparations, we have not the slightest doubt that a most satisfactory account of the serpentine giant will very shortly be rendered—provided nevertheless, there *be* such a creature, inhabiting the waters of this region.—[Nantucket Inquirer.]

Our readers will be gratified to learn, by the following extract from the Boston Daily Advertiser, that young Frothingham who disappeared so strangely from the Oneida Institute, in April last, has been heard from,

Mr. Frothingham.—This gentleman, whose disappearance from the Oneida Institute a few months since was made the subject of much public comment, as he was supposed to have perished, has recently been heard from. Letters from him, dated Liverpool, May 27, are published in the Salem Gazette. He states that owing to the effect of close application, at the institution, he felt occasionally that his thoughts were wandering. About the 5th of April, this occurred more frequently than before, and he knows not how he spent much of the time between that date and the 8th. After the 8th, he observes that every thing is confused in his recollection. He remembers only, that, finding himself in a strange place, he inquired where he was, and was answered in Montreal. He remembered nothing farther until he found himself, in May, on board a vessel bound from Quebec to Liverpool. He appears to have wandered for a considerable time, and to have embarked for England without any consciousness of what occurred.

Scarlet Fever.—In looking over a recent publication on the diseass of the skin, we have found the observations mentioned below, on the subject of preventing an attack of the Scarlet Fever. Although we do not place implicit faith in its property of prevention, still the respectability of the author, and the fair opportunity now offered in this community of testing its virtues, induces us to make the translation.

As a preservative means from Scarlet Fever, *belladonna* has been proposed and employed with success in Germany and Switzerland. M. Biet, (Doctor of Medicine, Physician of St. Louis Hospital, Paris, Member of A. R. of Medicine, &c., &c.) has seen this disease, raging epidemically in the high valley of Switzerland, respect, almost without any exception, all the children to whom belladonna had been administered. We should not then hesitate to have recourse to it, ere it becomes epidemic in a village, town, &c.

The tincture is the preparation the most convenient, and the form under which it seems to act with most efficacy. It is given in doses of six drops daily to children of eight or ten years—augmenting or diminishing the dose, according to age, &c. of each individual. It is generally necessary to continue the use during ten or twelve days. It has moreover been established in an evident manner, that in the small number who have not been preserved from the Scarlet Fever by the balladonna, the attack was always simple, benign, and of little duration.—[Georgia Farmer.]

A Western Warrior.—" The western warriors, in full dress, as for a great dance, wear two or three clasps of silver about their arms, generally jewels in their ears, and often in the nose. In fact, it is as common among these tribes to see a thin circular piece of silver, of the size of a dollar, hanging an inch or two from the nose, as it was among the ancient Indians to see a piece of carved bone or stone in the same situation. Then painted porcupine quills are twisted in the hair. Tails of animals swing from the ears behind. A necklace of bear's or allegator's tooth, or claws of the eagle, or red bears; or, if nothing better can be had, perhaps a string of red thorn-plums, hangs from the neck. The brass bells are laid thick on the lower part of the dress. Add to all this finery an American hat, and a soldier's blue coat faced with red, and your modern Indian *dandy*, stepping firmly on the ground to give his tinklers a fair chance to sound together, apparently regards his attractions with as much complacency as the human bosom can be supposed to feel."—[Thatcher's Indian Trsite.]

A Lady of the Old Court.—Lady Sundon is dead and Lady M—— disappointed: she, who is full as politic as my Lord Hervey, had made herself an absolute servant to Lady Sundon, but I don't hear the she has left her even her old clothes. Lord Sundon is in great grief: I am surprized, for she has had fits of madness ever since her ambition met such a check by the death of the queen. She had great power with her, though the queen pretended to despise her; but had unluckily told her, or fallen into her power, by some secret. I was saying to Lady Pomfret, 'To be sure she is dead very rich!' she replied with some warmth, 'She never took money.' When I came home, I mentioned this to Sir R. 'No,' said he, 'but she took jewels; Lord Pomfret's place of master of the horse to the queen was bought of her for a pair of diamond ear-rings, of fourteen hundred pounds value.' One day that she wore them at a visit at old Marlbro's, as soon as she was gone, the duchess said to lady Mary Wortley, 'How can that woman have the impudence to go about in that bribe?' 'Madam,' said lady Mary, 'how would you have people to know where wine is to be sold unless there is a sign hung out?' Sir R told me, that in the enthusiasm of her vanity, Lady Sundon had proposed to him to unite with her, and govern the kingdom together: he bowed, begged her patronage, but ssid he thought nobody fit to govern the kingdom but the king and queen.—[Sketches of the Court of England, (1741,) by Horace Walpole.]

An Estimate of Sir Robert Peel's Character.—All eyes seem to be at this moment turned to the part which Sir Robert Peel is acting, and is about to act. The tories, judging from the undisguised language of some of their organs, seem to be ready to break out into open hostilities with him; while the whigs approach him in a tone of adulation, the motives and the expectations that give rise to which cannot be misunderstood. On the one hand the friends of ministers do not hesitate to give out that the right hon. baronet is on the eve of joining them; a report, which, on the other hand, many of the warmest of his friends and admirers are not less anxious as flatly and unequivocally to contradict. On which side the truth lies, we, of course, have no means of deciding; but this we know, that men of far more transcendent talents than Sir Robert Peel possesses have ere now neutralized their consequence, and sunk into comparative littleness, by sacrificing to the love of power and place their character for political consistency and integrity. Though we have never been among the ardent admirers of Sir Robert Peel, we are not the less inclined to concede to him the full meed of reputation for the qualities which he really possesses. To the character of a statesman in a large and comprehensive sense he has but few claims. His real merits consist in an unblemished private character, great knowledge and expertness in the tactics of debate, and a business-like knowledge of details which few public men of the present day have either had the opportunity or been at the pains to acquire. As a Home Secretary it is no great praise to say that he immeasurably surpassed his successor; while as a law reformer he was little more than the machine of others, with minds like his own, far from being in advance of the spirit of the age. Yet in the dearth of public talent into which the country has unhappily fallen, (for, whatever there may have been in past times, there are no giants in these days,) we are free to confess that Sir Robert Peel is a man who is entitled to occupy no inconsiderable space in public estimation, and that the public are naturally interested in the course which he is likely to pursue. —[Morning Herald.]

Surprising Horsmanship.—On the morning of the 20th, Captain Parker, of the Royal Artillery, quartered at Charlemont, rode his bay horse, the Admiral, from Charlemont to Newry and back in 2 hours and 25 minutes—a distance of 53 English miles.—The time allowed for the performance was three hours; but the captain having got considerale odds that he would not do it in two hours and a half, won all his bets by having five minutes to spare. Thus did he accomplish the astonishing distance of 21 miles an hour with one horse, which exceeds, by far, all feats of horsemanship ever performed in the sporting world.—[Dublin Evening Packet.]

Beech Trees proof against Electrical Fluid.—A correspondent of the American Farmer states, that it is a very common opinion among surveyors and woodsmen of the western states, that the beech tree possesses the non-conducting power ascribed to the cedar; "I presume," says he, "I have passed a hundred oaks which have been stricken, and although beech is more common than any other timber, I have not discovered one of that kind."

The Commerce and Navigation of Massachusetts.—The shipping of this State is more numerous than that of any State in the Union, and in the extent of its foreign commerce, it is second only to New York. The value of imports into the State during the year ending Sept. 30, 1833, was $18,118,800, of which 17,670,184 in value, were imported in American vessels. The value of exports from the State in the same year, was 11,993,768, of which 4,656,635 in value, was of domestic produce. The amount of shipping owned in the State, and employed in the foreign and coasting trade, and in the fisheries, on the last day of December, 1831, was 442,676 19 tons—it being 4,837 78 tons greater than the amount owned and employed in the business in the state of New York.

The fisheries were formerly considered of greater importance than all the other maritime interests of Massachusetts. They are still important, and the state continues more extensively engaged in them than all the other states of the Union. The shipping in this state employed in the fisheries on the last day of December. 1831, amounted to 142,733 74 tons, of which 69,055 51 tons were engaged in the whale fishery, 38,724 88 tons in the cod fishery, and 34,943 32 in the mackerel fishery.

Of the shipping of Massachusetts, 17,659 tons belong to the district of Newburyport, 1,567 to Ipswich, 12,838 to Gloucester, 25,539 to Salem, 6,914 to Marblehead, 133,174 to Boston, 17,877 to Plymouth, 3,899 to Dighton, 64,049 to New Bedford, 26,857 to Barnstable, 2520 to Edgartown, and 24,978 to Nautucket.—[Taunton Gazette.]

We have more than once adverted to a novel, and what we cannot help considering, an un-English (*quera*, American?) practice which has risen up of late years,—that of public meetings being held, apparently for no other purpose but that of enabling the leading persons attending them to bespatter themselves with praise, and move votes of thanks to each other. The fulsome speeches which we hear delivered in men's presence, when their healths are toasted at public dinners, are bad enough—though here the well known adage, "that wine and wit do not always flow in equal currents," may afford some excuse; but there is none for the practice prevailing a more sober meetings, and least of all, at meetings connected with religious subjects, at which minds rightly constituted must look, we should hope, to some quieter and more valuable satisfaction than personal flattery can bestow. As a specimen of the bad taste we allude to, we would refer to the proceedinds of "the Society for Building Churches," which appeared in our columns on Saturday, where Lords, Bishops, and Deans, seem to have vied with each other in their race of mutual adulation.

But perhaps, after all, a useful moral may be drawn from the instance of bad taste which we have alluded to, and that the persons in question, in putting themselves thus forward as a specimen of their own sublime, mean to furnish a striking proof that "all is vanity."—[London Paper.]

Balsam of Mecca.—The balessan, balm, or balsam of Mecca, (*Balsamodendron Opobalsamum,*) belonging to the family *Burseareeæ*, is a native of the eastern coast of Abyssinia, especially at Azab, and as far as the strait of Babel Mandeb. Bruce says, it is a small tree about fourteen feet high, with scraggy branches and flattened top, like those which are exposed to the seaside blasts; the appearance is consequently stunted, and the leaves are beside small and few. He supposes that it was transplanted to Arabia, and there cultivated at a very early period. This was the *Balsamum Judaicum*, or Balm of Gilead of antiquity and of the sacred writings, it being supposed at one time to be produced only in Judea. It seems, however, to have disappeared from that country, and the supply to have proceeded from Arabia. Many fables are connected with it. Tacitus says, that the tree was so averse from iron that it trembled when a knife was laid near it, and it was thought the incision should be made with an instrument of ivory, glass, or stone. Bruce was told by Sidi Ali Tarabo-loussi that "the plant was no part of the creation of God in the six days, but that in the last of three very bloody battles which Mahomet fought with the noble Arabs of Harb, and his kinsmen the Beni Koreish, then pagans, at Beder Hunein, Mahomet prayed to God, and a grove of balsam-trees grew up from the blood of the slain upon the field of battle; and that with the balsam which flowed from them he touched the wounds of those even that were dead, and all those predestined to be good Mussulmans afterwards immediately came to life." To return to the balsam-tree: the mode of obtaining it remains to be described, This, according to Bruce, is done by making incisions in the trunk at a particular season of the year, and receiving the fluid that issues from the wounds into small earthen bottles, the produce of every day being collected and poured into a larger bottle, which is kept closely corked. The smell at first is violent, and strongly pungent, giving a sensation to the brain like to that of volatile salts when rashly drawn up by an incautious person. The natives of the East use it medicinally in complaints of the stomach and bowels, as well as a preservative against the plague; but its chief value in the eyes of oriential ladies lies in its virtues as a cosmetic,—although, as in the case of most other cosmetics, its effects are purely imaginary. [Edinburgh Cabinet Library, No. XII.—Nubia and Abyssinia.]

Largest Tree in the World.—The boabab or monkey-bread (*Adansonia digitata*) is the most gigantic tree hitherto discovered. The trunk, though frequently eighty feet in circumference, rarely exceeds twelve or fifteen feet in height; but on the summit of this huge pillar is placed a majestic head of innumerable branches fifty or sixty feet long, each resembling an enormous tree, densely clothed with beautiful green leaves. While the central branches are erect, the lowest series extend in a horizontal direction, often touching the ground at their extremity; so that the whole forms a splendid arch of foliage, more like the fragment of a forest than a single tree. The grateful shade of this superb canopy is a favorite retreat of birds and monkeys; the natives resort to it for repose, and the weary traveller in a burning climate gladly flies to it for shelter. The leaves are quinate, smooth, resembling in general form those of the horse-chesnut. The flowers are white and very beautiful, eighteen inches in circumference. The fruit, which hangs in a pendant manner, is a woody ground-like capsule, with a downy surface, about nine inches in length and four in thickness, containing numerous cells, in which brown kidney-shaped seed are embedded in a pulpy acid substance. The timber is soft and spongy, and we are not aware that it is used for any economical purpose. It is very easily perforated, so that, according to Bruce, the bees in Abyssinia construct their nests within it, and the honey thus obtained, being supposed to have acquired a superior flavor, is esteemed

in preference to any other. A more remarkable excavation is however made by the natives; discased portions of the trunk are hollowed out and converted into tombs for the reception of the bodies of such individuals as, by the laws or customs of the country, are denied the usual rites of interment. The bodies thus suspended within the cavity, and without any preparation or embalmment, dry into well preserved mummies. The juicy acid pulp is eaten by the natives, and is considered beneficial in fevers and other diseases on account of its cooling properties. The duration of the boabab is not the least extraordinary part of its history, and has given rise to much speculation. In it we unquestionably see the most ancient living specimens of vegetation. 'It is,' says the illustrious Humboldt, 'the oldest organic monument of our planet;' and Adanson calculates that trees now alive have weathered the storms of five thousand years.—[Edinburgh Cabinet Library. No. XII.—Nubia and Abyssinia.]

[*From the Hampden Journal, Springfield, Mass.*]

"VALUABLE TURTLE."—In the year 1816, Mr. Jonathan Worthington, of West Springfield, found a Turtle upon his premises which had "J. W. 1717" marked—evidently cut with a penknife—upon the under shell. The Turtle was set at liberty, after examination, and again found in 1823; again in 1828; again in 1829; and a few days since in 1833. The father, grandfather, and great grandfather, had the same given name, with the present *Jonathan* Worthington, who thinks that the great grandfather marked the turtle. The turtle is of the species commonly called the "Box Turtle," having the upper shell very crowning, and the lower shell, flat with a joint in the centre. The "venerable" gentleman, if the date is correct, must of course be upwards of 116 years old, and is said to be as active as any of the young fry of the same species which is generally to be met with.

"What's all the best on 't," the farm upon which the present Mr. Worthington lives, has been in the possession of the four several *Jonathans*, and the "venerable" has always been found within a few rods of the same spot; which indicates that, whatever may have been his observations for the last century, his travels have not been very extensive.—The circumstance is somewhat singular, and is our motive for noticing it.

To those who are not aware of the longevity of the turtle it may be well to give an extract from "White's Natural History of Selborne," in which are some interesting facts in relation to the Tortoise Among others, to show its strength, it is stated that a common sized turtle would move with ease with a weight of 18 stone on its back, and that a cart wheel passing over the turtle gives it no apparent pain. In relation to the longevity of this "creeping thing" the following extract is from the work above-mentioned:

"From a document belonging to the archives of the Cathedral, called the *Bishop's Barn*, it is well ascertained that the tortoise at Peterborough must have been about 220 years old. Bishop Marsh's predecessors in the see of Peterborough had remembered it above sixty years, and could recognize no visible change. He was the seventh bishop who had worn the mitre during its sojourn there. If I mistake not, its sustenance and abode were provided for in this document. Its shell was perforated, in order to attach it to a tree, &c. to limit its ravages among the strawberry borders."

SNOW SHOES.—"They are about three feet long, and a foot wide in the broadest part. Little sticks placed across at 5 or 6 inches from each end, serve to stregthen them. A net-work of twisted deer-skin, cut into strips, is fastened to the frame, and to this the foot is confined by means of strings of the same material. The snow-shoe used for travelling over a hilly country is turned up at the end, and pointed. To walk well upon these long and broad bottoms requires as much practice as it does to navigate a canoe. The knees must be turned a little inward, and the legs kept wide asunder, and the strain of the strings is such that a white man never puts them on to wear for a day without suffering what is called the 'snow-shoe evil.' An Indian will travel with them forty miles a day and sometimes more."

THE DOG-TRAIN.—It is a light frame of wood, covered round with a dressed skin. The part in which the feet go are lined with furs, and is covered in like the forepart of a shoe. The bottom is of plank, about half an inch thick, and some inches longer than the train, and an inch or two wider. In this carriage a woman may sit quite comfortably, and can take a child in her arms, while her driver standing on the part of the frame which runs out behind, gives the word to his dogs. These, when well trained, will trot off 40 miles a day over the snow crust. —[Thatcher's Indian Traits.]

POETRY.

AN OBJURGATORY EPISTLE.

"Non tecum possum vivere, nec sine te."

MADAM—I mean, dear Laura—no, I don't;
I mean—what matters it? you know my meaning;
I have your letter, and it is my wont
To show to courtesy a proper leaning;
Therefore I write; think not I own your power,
Nor call thy sex's practised arts about thee,
Because I said in love's unguarded hour,
"There is no living with thee or without thee."

You promised never to offend me more—
Ah! thou deceitful one!—and vow repentance;
You say you always thought Delmaine a bore,
And beg me to recall my cruel sentence.
An oath! an oath! I have an oath in heaven,
Were all that's faithful, treacherous girl, about thee,
These words should never from my breast be riven,
There is no living with thee or without thee."

What! shall I sit with half-averted face,
While every pulse with rage and shame is beating,
To see that puppy basking in your grace,
While your cold glance meets my eye's silent greeting.
Must I endure to see each emptiest head
A walking piece of furniture about thee?
Good Good! to think I ever should have said,
"There is no living with thee, or without thee."

No—by those golden hours so swiftly past,
By those bright smiles you gave me when you won me—
By all the hopes I set upon the cast,
By the fond, foolish heart that has undone me,
By all those bitter banquets tears have brought,
By all that once was dear and loved about thee,
I swear to banish from my heart the thought,
"There is no living with thee, or without thee."

O Laura, if you ever drew a sigh,
How could you thus affection's bond dissever?
How could you every woman's engine ply
To rack a heart would have been yours for ever?
Then that abhorred Delmaine! to see the jay
Strutting in all his finery about thee,
And (grant me patience!) hear you laughing say,
"There is no living with thee, or without thee!"

In vain you strive to bring me to your lure,
In vain pour forth a thousand false professions,
In vain protest your love shall still endure,
And blot with artful tears your feigned confessions.
No more shall woman's tears or smiles ensnare
A breast whose wishes ever dwelt about thee;
Though, vexed by your caprice, I used to swear,
"There was no living with thee, or without thee."

E'en as the closing steel now parts in twain
The silken band from which so long depended
The mimic partner of thy wayward reign,
Torn are our ties, my dream of love is ended.
Take it; I cannot wear that portrait now,
'Twill grace, no doubt, some dangling fop about thee;
Let other lips in pettish fondness vow,
"There is no living with thee, or without thee."

Ah! fair, but false one! 'tis thyself indeed;
Too true an image of thy syren beauty;
There breathes the form I deemed the highest meed,
Could smooth the toilsome path of rugged duty.
Thine's the arch smile that lurks in every feature;
That air of witching coquetry about thee:
Come to my heart, thou dear, tormenting creature,
"There is no living with thee, or without thee."

[FOR THE NEW YORK AMERICAN.]

"I'll hold thee any wager
"When we are both accoutred like young men,
"I'll prove the prettier fellow of the two."

Ah! Pelham, hast thou found thy way
From London to New York,
In Broadway can'st thou deign to stray,
Or on the Battery walk?

How you must miss your satin shoes,
Your broidered wrapping-gown,
Your tepid baths, your billet doux,
In that half savage town.

I pity you, upon my soul,
I know not what you'll do;
Are you an amateur in coal,
In pictures old or new?

Can you turn Broker, learn to shave,
Sell Hock, Sauterne, Chateau,
Or speculate in Stocks, or rave
Of Gold Mines—Railroads?—No.

What brought you here? You'll surely starve
In this commercial town;
Can you a haunch of Venison carve,
Or swallow Turtle down?

A Politician—are you still
An honest Democrat?
A Federalist, then?—What e'er you will,—
Something you must be at.

To give America her due,
I've always had a notion,
(Perhaps my theory's not new,)
She is perpetual motion.

On goes the tide, down hill and up,
Around in each direction;
One night with wealthy men will sup,
Next—witness their defection.

The rich, the poor, the great, the small,
All have some point to carry;
Some work, some beg, some thrive, some fall,
But all end thus—they marry.

Then, Pelham, if you scorn a trade,
Some wealthy damsel fetter,
And if Papa his will has made
And gone—so much the better.

ELLA.

MARRIAGES.

On Thursday last, in St. John's Church, by the Rev. John F. Schroeder, ROBERT H. CUMING, to LOUISA WARING FISHER, eldest daughter of the late John P. Fisher.

On the 22d inst. by the Rev. Dr. McMurray, Mr. Josiah Higgins, (of the State of Maine,) to Miss Jane Gibson, of Scotland.

On Wednesday evening last, by the Right Rev. Bishop Onderdonk, B. F. Meakings, of Mobile, to Elizabeth C., only daughter of Peter Taylor, Esq. of this city.

On Wednesday evening, by the Rev. Dr. Cone, Mr. John P. Scipio Hassler, to Miss Clarissa Conrad, daughter of Ephraim Conrad, Esq.

On Thursday evening, by the Rev. A. Maclay, Mr. Wm. Cobb, to Miss Helen Dunn.

On 25th instant, by the Rev. Mr. Lyme, John T. Fleming, Esq., of Goochland, (Va.) to Miss Indiana, daughter of the late William Bowdell, Esq., of Petersburg.

On Friday evening, Mr. William Bell, to Miss Jane Davies.

At Newburg, July 25th, Samuel L. Gilpin, of New-York, to Elizabeth, daugher of Thomas Morton, of Newburg.

In Northampton, Mass. Mr. Benjamin Pierce, Professor at Harvard University, to Miss Sarah H. Mills, daughter of the late Hon. E. H. Mills.

On the 20th ult. at New Orleans, Dr. George F. Black, to Miss Mary Y. Oliver, daughter of Douglass Oliver, Esq. of Anderson county. Tenn.

On Thursday, the 25th inst. at Brooklyn, by the Rev. D. Carroll, Adrian Lott, to Miss Sarah Butler, adopted daughter of Silas Butler, Esq. U. S. Navy.

At Newburgh, on Tuesday, July 25th, by the Rev. Mr. Brown, Samuel G. Gilpin, of New York, to Elizabeth, daughter of Thos. Morton, of the former place.

On the 9th inst. at Morristown, N. J., by the Rev. Mr. Huber, the Rev. Dr. F. A. Rauch, Professor in the Theological Seminary of the German Reformed Church, York, Pa., to Miss Phebe B., daughter of L. Moore, Esq. of the former place.

In Lenox, Mad. Co., on the 10th inst., by the Rev. Geo. Foote, Maj. B. Franklin Bruce, to Miss Eliza A., daughter of Dr. Nathaniel Hall, all of that place.

In Canajoharie, Mont. Co., on the 10th inst., by the Rev. F. W. Lake, Mr. Jarvis N. Lake, Counsellor at Law, of Little Falls, Herkimer county, to Miss Jane A., daughter of Dr. Simeon Marcy, of the former place.

On the 20th ult. at St. John's Church, Stamford, Conn., by the Rev. Mr. Todd, THOS. M. HARVEY, to ELLINOR JOANNA, daughter of Henry Reed, of this city.

DEATHS.

Yesterday afternoon, Ann Maria, youngest daughter of Capt. Saml. J. Waring, aged ten years.

On Tuesday, 23d inst. in the 8th year of her age, Elizabeth Columbia, daughter of Aaron C. and Mary Burr.

Last evening of a lingering illness, in the 27th year of her age, Elizabeth, wife of Joseph Washburn, and daughter of Samuel Fickett.

This morning, Mrs. HELLEN CRIGHTON, consort of the late John Crighton, in the 82d year of her age.

This morning, WILLIAM HENRY, youngest son of Charles I. Howell.

Suddenly, on Thursday evening, GRACE WALTON, eldest daughter of the late Edward Lyde.

This morning, PETER ROOSEVELT, Esq. in the 71st year of his age.

Thursday morning, 25th July, WILLIAM HARTSHORNE, in the 85th year of his age.

Wednesday evening, 24th July, CHARLES, the infant son of Charles Keeler.

On Monday, 22d inst. BENJAMIN FRANKLIN, infant son of E. B. & M. Clayton, aged five months.

This morning, (Wednesday,) ANN SEABURY, wife of David Seabury, in the 81st year of her age.

On Saturday evening, John W. Low, in his 25th year, eldest son of H. P. Low, of Baltimore.

On Saturday, Wm. Henry, son of Charles J. Howell.

On Friday, George Edwards, a colored man, aged 40.

At Saybrook, Ct. on 24th inst. at the house of her son-in-law the Rev. J. M. Guion, in her 71st year, Elizabeth, wife of John R. Wheaton, of this city.

In Pittstown, Rensselaer county, on Sunday, the 1st inst. John C. Dyre, in the 34th year of his age.

At Philadelphia, Dr. John Lange, aged 68; Adam Brunce, 77; Clara Deborah Silver, 89; Edward Burd, 83; James Hunter, 42.

At St. Louis, Missouri, July 14th, in the 25th year of his age, Charles T. Parker, a native of Boston, and a member of the Missouri Bar.

In Stafford County, (Va.) on the 19th instant, Mrs. Agatha Eliza Cooke, wife of Gen. George M. Cooke, and daughter of the late Hancock Eustace, Esq.

At Cary's Brook, in the County of Fluvana, (Va.) on the 16th instant, Mrs. Catharine Harrison, consort of Archibald M. Harrison, Esq., and daughter of the late Major Henry Heth, of Blackheath, in the county of Chesterfield.

On the 9th inst. at Pittsburgh, (Pa) after a few weeks illness, Mrs. Mary Elizabeth Shoenberger, wife of Mr George Shoenberger, daughter of Wm. L. Vanzandt, of New-York, in the 19th year of her age.

At her late residence on the East River, on Monday afternoon, Mrs. Lydia Beekman, wife of James Beekman, Esq. aged 68 years.

On board the schooner Premier, on the passage from Tampico, the 19th inst., Sandford M. Worth, of Long Island, in the 16th year of his age.

At New-Orleans, July 11th, after a short illness, Major Saml. Spotts, Surveyor of the Port of New-Orleans.

In Baltimore, on the 5th inst., FRANCOIS AUGUSTIN DU BOIS MARTIN, aged 91. The deceased was a native of Barbesieux, in France, and was educated for the army, where he served until the early part of our revolutionary struggle with Great Britain, when inspired by the enthusiastic love of liberty then awakening in his native country, and informed of the difficulties the Marquis de Lafayette had to encounter in obtaining a conveyance to the American Colonies, he readily volunteered his services in their cause, and by procuring and fitting out the vessel which bore the youthful patriot to the shores of America, hastened an event so interesting in the history of our revolution. On his return to France he resumed his rank in the French army, and subsequently served in the regiment of Port au-Prince, until the dispersion of the French troops in the Island of St. Domingo, when his devotion to liberal principles led him to seek an asylum in this country. Here, by his urbanity and the uprightness of his character, he secured the esteem and confidence of all who knew him, and by his kind and gentle disposition acquired the lasting affection of all who stood in the more intimate relation of kindred and friends.—[Nat. Intel.]

Suddenly, at Mobile, on the 26th June, HENRY A. ELLIS, a native of this city, and son of John F. Ellis, Esq. aged 32 years. His death was occasioned by a fall from his horse

At Jamestown, on the 26th June, the Rev. Isaac Eddy, aged 59 years.

In Hartford, Hezekiah Skinner, of the house of Webster & Skinners, of Albany.

At Natchez, Charles Wooster, late publisher of the Mississippi Journal: Richard Dowell, of Philadelphia.

NORTH WESTERN RAILROAD

NOTICE.—Books for subscriptions to the additional Stock of "The Elizabeth-Town and Somerville Railroad Company," will be opened at William Craig's Inn, in Belvidere, on Monday the 29th day of July instant; at Israel Smith's, in Clinton, on the 30th; at Drake's Hotel, in Newark, on the 31st; and at the Exchange, in the city of New York, on the 1st, 2d, and 3d days of August next, between 11 A. M. and 3 o'clock P. M.—Additional stock required $500,000, in shares of $50 each—$5 on each share to be paid at the time of subscribing.—Dated July 12, 1833.

GARRET D. WALL,
THOMAS SALTER,
OLIVER W. OGDEN,
NATHANIEL SAXTON
JOHN W. BRAY,
JOHN KINNEY, Jun.

Books will also be opened at the same times and places, for subscriptions to the stock of "The Susquehanna and Delaware Railroad Company." Capital required $1,000.000. Shares $50 each—$5 on each share to be paid at the time of subscribing.—Dated July 10, 1833.

HENRY W. DRINKER,
DANIEL STROUD,
WILLIAM HENRY,
JOHN COOLBAUGH,
A. E. BROWN,
STOGDEL STOKES,
DAVID SCOTT,
JAMES M. PORTER.

Books will likewise be opened at the same times and places, for subscriptions to the stock of "The Leggets-Gap Railroad Company." Capital required $500,000. Shares $50 each—$5 to be paid at the time of subscribing.—Dated July 10, 1833.

HENRY W. DRINKER & others, Commis'rs.

The above roads, the stock of which is now offered to the public in connexion with the New Jersey Railroad, form one continuous line of railroad communication from Jersey City, opposite New York, through the Lackawana Coal Region, to the Northeast branch of the Susquehanna, below the great bend, and the North Branch of the Susquehanna at Pittstown, at the mouth of the Lackawana creek, and head of the Pennsylvania Canal navigation.

☞ Letters addressed to the Commissioners, containing the money or checks, will be received as subscriptions. The Stock will be distributed, &c. immediately before the Commissioners leave the City of New York. j31

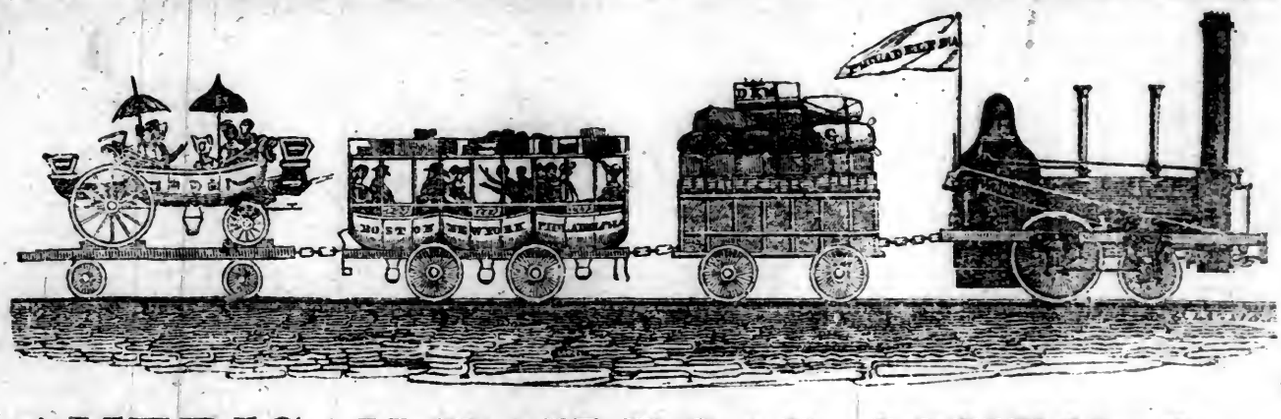
NEW YORK AND ERIE RAILROAD COMPANY.

ONE Million of Dollars of the Capital Stock of this Company having been subscribed, in conformity with the charter, the stockholders are hereby notified, that an election for the choice of seventeen Directors of the said Company, will be held at the Merchants' Exchange, on Friday, the 9th day of August next, under the inspection of the Commissioners, as directed in the charter. The Poll will open from 10 to 12 o'clock, A. M.

By order of the Commissioners.

New York, 19th July, 1833. j31 4t

ENGINEERING AND SURVEYING INSTRUMENTS.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, AUGUST 19, 1833. [VOLUME II.—No. 32.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 10, 1833.

ELIZABETHTOWN AND SOMERVILLE, AND DELAWARE AND SUSQUEHANNA RAILROAD.—The books for subscription to the stock of these roads were opened last week, and we are gratified to learn that the stock was taken. This shows that our neighbors of New-Jersey and the northern part of Pennsylvania are awake to their true interest. They are resolved to open the easiest and best mode of communication from the interior of those States—which abounds in mines of far greater value to this community than those of Carolina—with this city, and also with the interior of the State of New-York, at or near the Great Bend of the Susquehanna.

We were furnished with documents to enable us to go minutely into the subject, to show the feasibility, and the *great utility* of this proposed Railroad; but by accident a part of them have been mislaid, and therefore we are prevented from devoting that space to it, in this number, which we had set apart. We hope, however, to be able in our next to spread before our readers such facts as will aid those who desire to investigate the matter, in coming to correct conclusions. We will now only refer to the route of the different roads which, when completed, will form a continuous road from Jersey City, opposite New-York, through New-Jersey and Pennsylvania, to the New-York line, near the Great Bend.

The route through New-Jersey is from Jersey City, through Newark, Elizabethtown, and Somerville, to Belvidere, at which place it will probably cross the Delaware, and pass up on the west side to the Water Gap; from thence it bears westward through Stroudsburgh to, or *near* Pittston, on the Susquehanna, passing through the Lackawanna Coal Region. The distance from New-York to the Susquehanna, as the route has been examined, is 146 miles. From the Delaware and Susquehanna Railroad, where it passes through the Lackawanna Coal formation to Carbondale, 12 miles, and from Carbondale to the Great Bend of the Susquehanna, 47½ miles; making the entire distance from Hoboken to the Great Bend, 192½ miles.

By this route a large proportion of the business which now goes to Baltimore and Philadelphia would be diverted to New-York, in addition to the great benefit to be derived from a more direct, and of course less expensive, route for the coal trade.

[*From the Albany Argus.*]

NEW YORK AND OHIO CANALS.—We are authorized to state that Judge Tappan and Mr. Kelly, a committee of the Canal Commissioners of Ohio, had a meeting with a committee of the Canal Board of this State, at the canal room in this city, on the 30th July and that it was agreed by them to recommend to their respective Boards a reduction of 25 per cent, on the toll on merchandize transported on the canals of the two States. Should the recommendation be adopted, the reduction would take effect after the expiration of the present year. The great advantage of such a measure would be, it is supposed, to open to an extensive, populous, and wealthy region of country west and south of the southern extremity of the Ohio canal, a new and cheaper channel of communication with the sea-board—a region which now receives its supplies of merchandise, and transmits its agricultural productions, by routes less convenient and certain. Independently of the benefit which will be derived from the change by the district of country referred to, there is every reason to believe that the increased amount of transportation will keep up the aggregate amount of receipts on account of tolls; for notwithstanding the very considerable reductions made by our Canal Board during the last winter, it is now probable that the amount of tolls will exceed the sum received last year; and this can only be produced by a vast increase in the quantity of articles transported. Even should the receipts be diminished in a slight degree, for the first year, by the proposed reduction, the public will still be a gainer by having a larger portion of its capital and industry put into more active operation; and to no part of the State will it be of more importance, than to the city of New York, which will become the market for the new district thus opened to it.—But it is hardly to be apprehended that a reduction of 25 per cent. on a single item of transportation will produce any falling off in the aggregate amount of tolls—certainly none to be put in competition with the great public benefits which are likely to result from it.

On Wood Rails and Cast Iron Plates. By H. R. D. To the Editor of the American Railroad Journal.

SIR,—Having recently noticed in your valuable Journal a highly interesting discussion on the ultimate wear and strength of wrought and cast iron bars, when adapted to railroad purposes on wood as well as of stone, I now beg ave, through the medium of your journal, to offer a few remarks for the amusement of your readers, if not for their information, on the subject of wood rails and cast iron plates. In discussing the question in point, care should be taken to fix a data whereby the man of experience is enabled to direct just and conclusively. How it is that the wood rail lasts no longer than from five to six years, at present, I am unprepared to answer, unless from the inferiority of the same before laid down. One thing is well known, and that by many in this city, that pitch pine has been used for cisterns, which are alternately wet and dry, for the space of from twenty to thirty, and fifty years, when from various causes they have been taken up, and to the surprize of many were as sound as when put down. This was pitch pine, without any sap whatever, and this, too, what I would propose and prefer to stone in all cases where it could be obtained. Its cost is much less, more readily transported, less for labor on the same, and greatly facilitates the building of the road. In wet and spongy places it is highly preferable, as it would need regulating no oftener than half the expense to adjust it. This, covered with cast iron plates three inches wide and three-quarters thick, if practicable, in all cases to cast them in chills, say twelve feet long, so much the better, as the iron is so much stronger than when cast in an ordinary sand mould. I think, speaking from memory, that iron cast in a chill is as twenty-seven to thirteen—nearly a half stronger. This was the case in a number of experiments made in this city, in the presence of several respectable practical men, myself being witness to the same. The experiment was tried with rollers cast in a chill, and those cast in the ordinary manner. The result was, to the best of my recollection, as is stated above. However, if it is of any consequence, I can state the exact comparative strength between the same, there shown, much might be said for the wood rail, and

cast plate. But the public in most cases have set their faces against it, and no man dare advocate the same unless at a risk of personal reputation. But the day is not far distant, in my opinion, at least, when wood rails and cast bars will be most generally used. Yours, most respectfully,

H. R. D.

Mercator on Mr. Sullivan's Plan for protecting Timber for Railroads. To the Editor of the American Railroad Journal.

Sir.—The writer hereof made some remarks in the 28th number of your Journal on Mr. Sullivan's proposed method for protecting timber from decay, which has caused a reply from Mr. S. in your 29th number, which reply being not satisfactory, I propose exceptions to it.

In my former communication I adverted to the fact, that the Arcade, lately taken down in this city, stood but *seven years*; that the *ends* of the timbers, in damp situations, incased with lime and stone, were decayed, and found to be but *dust*, in consistency, that would blow away with the wind; and, when timber is brought to *this* consistency in seven years, we may reasonably suppose that the wood must have been divested of its common strength in a comparatively short portion of that seven years. Mr. Sullivan, in reply to this fact, states that "the explanation of the decay of the sleepers of the Arcade, in seven instead of forty years, is, that they were not only in an unventilated place, but in contact with *green mortar* of common lime."

If Mr. Sullivan will make experiments with common lime, hydraulic lime, or Roman cement, he will find that each and all of them, on one and the same principle, if placed in *damp situations*, will *continue* to be, in that sense of the expression, "green mortar," or "green cement," and there was no deficiency of ventilation in the interior of the Arcade.

I stated, at the commencement, that Mr. Sullivan's reply was not satisfactory; and I am sorry to find in any writer who exposes his writing in a public journal, a disposition to coin expressions, *attribute* them to *others*, and then to allude to them as "absurd:" it is unfair—if done intentionally. The "coined" expression of Mr. Sullivan may be discovered in his following paragraph, which I quote, wherein he stated that "He (Mercator) says that Roman cement and *pitch* will absorb water by capillary attraction; this is *rather absurd, and actually contrary to experience.*" Now, I deny any such expression: *I well know* that a coating of pitch is impervious to water. The *true words made use of in my communication are as follows:* "*Wood* cannot be kept dry in a wet or damp situation by the application of cement of common lime, *water lime*, or *Roman cement:* all three of them are conductors of water by *capillary attraction.*"

I commented upon the article of "pitch" in a distinct sentence, as follows: "As to pitch, if placed in a damp situation below the surface, it is of but short, a few months, duration. This may be observed upon a vessel's bottom, used either in fresh water or salt." Thus I clearly show the error of Mr. Sullivan's remarks on that subject.

With allusion to *cement*, Mr. Sullivan states as follows: "If it were, as 'Mercator' suggests, rolled up in a ball and placed in a plate of water, it is *probable* it would, *while green, absorb among its particles* some water. In building walls of locks, the water is not let in till the mortar has *had time to set.* Why, then, should it not set among fragments around a post?" In answer to this query, it may be stated, that it *will set* among fragments around a post; and if *good*, will *quickly* set. In making experiments I have known it to set in a single hour: so that it remains "green," as Mr. S. seems to suppose, but a short time. But the *fact* of its setting does not change another fact, that in its *nature* it is a *conductor* of water by *capillary attraction* after being so set.

I have in my possession a great number of *balls* of the most approved hydraulic lime and of Roman cement, which were formed in the year 1827, for the purpose of experiments; and since reading Mr. Sullivan's communication, I have placed a number of those balls, (*lower surface only,*) in contact with water, with a view to determine whether age produced any change in their capillary attractive nature; and the result was, that the *water* could be distinctly seen on the outer surface to *ascend*, so that in a few minutes the water became absorbed in the interstices of the balls, and in quantity equal to about two-fifths the bulk of the balls. I will with pleasure send some of those cement balls to your office, at request, if any one wishes to witness the effect. The balls are nearly of the consistency of hard stone. I think, therefore, it is reasonable to suppose that any substance placed in contact with a post, which would absorb and retain in contact for an uncertain time a quantum of water, probably to be imparted through the medium of the post, would continue the post in a *damp state* longer than if not covered by such substance, and thereby hasten its decay.

Even if it were possible to apply a lasting substance upon timber, rendering it *entirely impervious* to water and air, there is no certainty that the timber would be preserved by it. The least dampness remaining within the coating would cause dry-rot. I am informed that as a precaution in building a favorite ship, owned or built some years since in Baltimore, her timbers were made impervious to water or air by a coating of *varnish:* the result was, that after about six years the owners were surprised to observe her timbers generally so reduced to a dusty substance by dry-rot, in the interior part of them, as to cause the ship to be condemned as not worth repair. These things may be well understood by the study of the unerring principles in nature. Mercator.

New-York Guard Rail—U. A. Boyden in reply to R. Bulkley. [For the American Railroad Journal.]

Lowell, July 23, 1833.

Mr. Editor,—I presume your readers have had arguments enough offered, to convince them as to the utility of Mr. Bulkley's Guard Rail, and perhaps more quibbles than those who read merely for information can desire. It is chiefly to correct some imputations, that I make any reply to Mr. Bulkley. Though he has given many words in reply to me, he has advanced no fact against my assertions, nor has he given any potent argument in support of his own. My design in writing is rather to impart useful information than to cavil: I therefore shall make but a short reply to his quibblings.

Mr. Bulkley seems not much pleased with logical deductions from known data. We frequently hear it asserted by people, whose theories are all vague notions, that what is here in theory is proved erroneous by practice, and that theory, if followed, would lead astray—therefore it is a false and dangerous guide. When people thus proscribe theory, they merely give information of their being incapable of abstract reasoning.

Mr. Bulkley in endeavoring to make it appear that my statements are at variance with Mr. Sullivan's, quotes the following passage from my writings, "hence the wrought iron rail may be nearly or quite torn asunder without any extraneous force being applied to the rail." After which he quotes the following words from Mr. Sullivan, "loose in the bore," meaning the malleable iron rail; and then adds "I therefore quote enough of their own words to show that they are not only inconsistent with each other," &c.

If Mr. Bulkley can conceive of a malleable iron bar's being within a hole in a cast iron bar, the hole being larger than the malleable iron bar, and at the same time the malleable iron bar's being strained longitudinally, he will be able to perceive that Mr. Sullivan's and my statements on this subject *can* both be true. Further, if he can conceive of the malleable iron bar's being longer than the cast, and its ends larger than the calibre of the cast bar, and can conceive of the malleable bar's shrinking, he will then comprehend *how* it could be strained longitudinally, while the main body of it is not large enough to fill the calibre. When I first wrote on this subject, I stated that the shrinking of malleable iron by diminution of temperature, was more than that of cast iron, and that if the ends of the malleable iron bar were so constructed that it cannot slip in the cast iron, the bar may be strained, &c. I did not say whether it was an easy matter to make the malleable bar so that it could not slip in the cast iron.

Mr. Bulkley speaks continually, in his writings, of his rails being approved by eminent engineers who have "examined the rail in full size," whose names he does not give. Now I would inform Mr. Bulkley, (I do not suppose any other person ignorant of the fact,) that people do not give much credit to such pretexts, made by a person under such circumstances.

In my first communication on this subject, I quoted a passage from Mr. Wood's Treatise, which passage was not originally written by Mr. Wood, but he approved the sentiments it contained; I therefore quoted it as containing his sentiments. The reasons of my preferring this passage, I gave in my last communication. This quotation was taken by Mr. Wood, from a report of Mr. Stephenson, chief engineer of the Liverpool and Manchester Railroad. But Mr. Bulkley, in his first reply to me, in attempting to make it appear that I had prevaricated or got something wrong, said that if, I would refer to Wood's Treatise, I should find that "the remarks were made by Mr. *G. Stevenson.*" There being an engineer by the name of Stevenson, and two by the name of Stephenson, employed on railroads in England—though he failed in his attempt to correct me—I am none the less grateful to him.

Mr. Bulkley, in his last reply to me, denies having accused me of inconsistency in my writings. I know not whether he intended to accuse me of inconsistency, but it was clearly expressed. His accusation is in the following words: "In the course of my remarks, I shall show, that U. A. B. if sincere in his statements is not only actuated by erroneous impressions, but that his statements manifest a *want of consistency* in allusion to the subject, and a want of consistency compared with a previous statement on the same side of the subject made by Mr. S." He admitted that the latter part of this quotation implied that some of my statements are at variance with Mr. Sullivan's, which he failed to substantiate; but he says that no part of it implies that my statements are inconsistent with each other. He seems to imply that he meant that my statements were in opposition to experience; but he has given nothing like an interpretation of. Every master of the English language knows that the word, *consistency*, as applied to writings, signifies that the parts agree or stand together, or that it is not self-contradictory; it never implies that the writing is either true or false, or that it either agrees or disagrees with any thing not stated in the writing.

Mr. Bulkley speaks continually in his communications of "examining the rail in full size,"

as though he thought that no person could understand the subject without doing it. The principles on which it is constructed, and its properties, can be readily communicated by writing by people versed in such matters. We can imagine a piece of iron of any shape, and we know that rails may be made of any desirable shape. Looking at rails would merely inform us whether the workmanship of the rails we saw was good. Their strength or liability to breaking can be determined only by experiment, or by calculation from the known properties of the material.

Mr. Bulkley implies that I must be ignorant of the subject because I have not seen his *specification*—frequently mentioning the Guard Rail as having been patented by himself. He says he has, "in proper place in my *specification*, stated wherein it [the Guard Rail] differs from all other rails." In Vol. 2, No. 14, of the Railroad Journal, he says, "The New-York Patent Guard Rail, for which the patent right has been received in the United States and in Europe." Yet, previous to the current month, no letters patent for New-York Patent Guard Rail, or for a rail under any other name, had been issued to him from the Patent Office of the United States. In proof of which I have the authority of the superintendant of that office.

It seems by Mr. Bulkley's bestowing his slander profusely on me, that he is a little out of humor. This I anticipated. An inventor, who has spent much time and money in, as he thinks, perfecting his important invention, cannot be convinced that it is a futile and worthless contrivance without extreme vexation. He, like a person who has had an ulcer cured by painful measures, will often feel ill-will towards his benefactor.

In my second communication on this subject in several places, I put a noun, the word *iron*, in the possessive case, before the present participle; in printing, the apostrophe and s were improperly omitted. URIAH A. BOYDEN.

Philadelphia and Baltimore Railroad, by the way of Oxford—extracted from the Report of Edgar Thompson on a Survey of the Oxford Railroad. [From the Pennsylvania Inquirer.]

PHILADELPHIA, May 31, 1831.

GENTLEMEN,—In compliance with your request of the 20th ultimo, "that I would ascertain the practicability of constructing a rail-road between the Pennsylvania railway in the great valley and the Susquehanna river, in the vicinity of Port Deposit, I have now the honor to submit for your information, the following report on my examination, accompanied by a plan and profile of the route, explanatory of the same.

Before proceeding to the location of a railway it is necessary to ascertain the nature and state of the trade to be accommodated, as on the result of this inquiry considerable dependence should be placed in selecting the preferable route.

The principal object obtained by the completion of the road will be a medium of transportation between Philadelphia and Baltimore, that shall be uninterrupted at all seasons of the year. The conveyance of *passengers*, *light parcels*, and the *mail*, will, therefore, be a chief source from which the Company are to derive their revenue, and, in all probability, the amount of this trade will be equal in opposite directions.

A second object of the road, and which is thought by some, to be of scarce less importance to the profit of the undertaking than the first mentioned, is the conveyance of lime and limestone, articles indispensable to the agriculturists of the districts through which the road will pass. As the route commences in, and immediately leaves the limestone formation, this trade will be carried wholly in the direction towards the Susquehanna river.

Several other sources might be enumerated from whence the revenue of the company will be materially augmented; such as the conveyance of agricultural products, and the carriage for the numerous mills, forges and factories in the vicinity of the line. But the two leading objects first above referred to should alone influence the direction and cost of the road.

Having now given a general view of the nature of the traffic anticipated, the principles that should govern the selection of the route, so as to ensure the accomplishment of those objects by the most safe and economical means of conveyance, comes next to be considered. These may be summarily stated to consist in disposing the inclination (and horizontal curvature) of the road, so that the cost of construction may be the least possible, compared with that of transportation.

A primary object, therefore, being celerity and safety of transit, horizontal curvature should be avoided as far as practicable, or its radii increased to as great an extent as is consistent with a due regard to economy.

The preponderance of trade, however, will be in the direction towards the Susquehanna river. Did the face of the country permit, there could be no doubt of the superiority of locating the road with an uniform slope, such that the motive power used to transport the relative amounts to be conveyed in each direction should be a minimum; but as this can seldom be attained without an increased length of road, or encountering heavy excavations and embankments, the most that can be anticipated is an average incline of moderate deviations from uniformity.

"This, with little exception, is obtained in the present instance in an eminent degree.

From this slight reference to the character of the trade, and the principles that should govern the location of the road, I will now proceed to give a general description of the country intermediate to the Pennsylvania railway and Port Deposit, which will serve to show that the project is not only entirely practicable, but its execution can be effected for a sum so limited, that a profit on the investments may be fairly anticipated at least proportionate to the cost of construction.

GENERAL DIRECTION OF THE LINE.—It will be seen by a geographical view of the district under consideration, that the waters of the Susquehanna river are parted from those falling into the Delaware river and the east side of Chesapeake bay, by a ridge which traverses its whole extent, almost in a direct line from the Pennsylvania railway to near Port Deposit.

This prominent feature of the country readily suggested the general direction of the route most advantageous for the proposed road.

Its course, diverging from the Pennsylvania railway, where it crosses this dividing ground, 45¼ miles from Philadelphia, was traced along its summit, passing through Cochranville, Eden town, Russellville, Haysville and Oxford, and thence intersects the Susquehanna about half a mile above Port Deposit.

The character of the country so evidently marks out the general line of the road, that examination for a different route was thought wholly unnecessary. The direction of the line traced, however, may be materially improved in its detail, when a more minute survey shall have been made.

Following the summit of the ridge, few difficulties will be encountered in the construction of the road. The south valley hill, the most important impediment, crosses the trace of the route near its beginning, stretching east and west, and is only passed by a considerable excavation through the narrowest part of the ridge. The line rising at an inclination of 44 feet per mile.

Near the state line an embankment of 22 feet in height, at what are called the Barrens, and a short excavation, 30 feet in depth, through the ridge dividing the waters of Octorara creek and Rock run, beyond the Battle-swamp Tavern, constitute the only remaining difficulties worthy of mention. When it is considered that these occur on a line 31¼ miles in length, whose remarkable feature is *that not a single bridge or culvert* is necessary, as no water-courses, save one or two small spring runs, are crossed in the whole distance, (and those in Maryland,) the location will be thought an unusually favorable one.

The line alternately ascends and descends, conforming, as near as the principles of the location will permit, to the natural face of the ground, and has been divided into the following graduations:

TABLE OF GRADIENTS.

Ascending,—	2m.	30ch.	at 44 ft.	per mile
	1	00	at 30 do.	do.
	2	70	level	
	4	32	at 14 do.	do.
Descending,—	1m.	20ch.	at 44 ft.	per mile.
	6	65	at 6½ do.	do.
	5	06	at 30 do.	do.
	1	60	at 26½ do.	do.
	4	02	at 14½ do.	do.

Total distance, ascend, 7⅞ miles. Level, 2⅝ miles. Descend, 19 miles.

It will be perceived that with the exception of the rise at the South Valley hill, the inclination on no part of the line exceeds 30 feet per mile, and the places are few, and the distances short, where even the latter grade is used. On two-thirds of the whole distance the inclination is less than 15 feet per mile, and in accordance with the principle stated in a previous paragraph, is traced chiefly descending.

The road, therefore, from its moderate graduations and freedom from sharp curvature, the radii of which being in no place less than 1,000 feet, is well adapted to the advantageous use of locomotive power.

The descent at the Susquehanna river is effected by a plane falling one in 23. As water can be obtained for the moving power on this plane, the cost of transportation on it may be considered no greater than on other portions of the line, and its moderate slope will free it from all risk in descending it.

My opinion of the facility or difficulty of grading the road bed will be best seen by consulting the following estimate of its probable cost.

Summary estimate of forming the bed of the road for a double railway, 25 feet in width:

Section—			
No 1. From Penn. rail. to Futhy's,	3m.	50ch.	$33,400
2. From Futhy's to Cochranville,	2	30	3,060
3. Cochranville to Fog's Manor M. H. road	1	60	1,905
4. Fog's Manor M. H. road to Russelville,	2	34	1,752
5. Russelville to Haysville,	1	65	3,250
6. Haysville to Oxford	2	60	3,896
7. Oxford to Port Deposit road,	2	00	2,648
8. Port Deposit road to the Barrens,	1	75	4,655
9. The Barrens to Md. State line,	1	40	8,834
From the Penn. rail. to the Md. line, which is to be made by the Ox. Rail. Co.	20	14	63,400
10. From the state line to Conowingo road,	1	40	1,180
11. From the Conowingo road to M'Cready's	1	60	1,360
12. From M'Cready's to M'Graw's M.H. road	2	10	2,400
13. From M'Graw's M. H. road to Battle-Swamp,	2	40	6,510
14. From Battle-Swamp Tavern to inclined plane,	1	46	12,900
15. To the river Susquehanna,	1	50	9,850
Total cost of forming the bed of the road,	31	20	97,600
Cost of that portion in Md.	11	6	34,200

A double railway may be constructed of wooden string-pieces, and wooden cross sleep-

ers, &c. &c. laid complete, at $8,000 per mile, which, for 31¼ miles, is	$250,000
Road bed as per estimate	97,600
Machinery, &c. at plane	11,000
	358,600
Add for superintendance and unforeseen contingencies	35,800
	394,400

It will be seen from the above estimate that the average cost per mile of the whole line is $12,030. Of that portion in the State of Pennsylvannia called the "Oxford Railroad," 20¼ miles, $12,655 per mile.

The cost of forming the bed of the railroad for a double way, and laying a single road (with suitable turn outs) will not exceed $9,000 per mile. This plan it would be advisable to persue in the first instance. Under a well regulated system of transportation, it will be calculated to accommodate all the trade on the the road, and a second track may ae added as this increases.

The superstructure is estimated to be of wood, plated with 5-8 inch bar iron, which plan is advised as being best adapted to this country.

In conclusion I will remark, that in consequence of the peculiar formation of the country, and cheapness of construction of your road, together with its large amount of local trade, so becided superiority is given to the route tracee, that no "opposition line" may be anticipated. The distance from Philadelphia to Port Deposite is 76¾ miles.

All of which is respectfully submitted by

Your obedient servant,

JN. EDGAR THOMSON,

Civil Engineer.

In connection with the foregoing, Mr. T. made a reconnoisance of the ground between Baltimore and Port Deposite, which resulted very favorably, making the distance 41¼ miles, or 118 miles from city to city, by railway; but as this part of the line has since been taken up by the Baltimoreans, and is now being prosecuted, (the stock having been subscribed, see Mr. Freeman's letter,) it is thought unnecessary embody his remarks on that part of the subject.

It may be well to mention that the books for the section from Port Deposite to this line,. 11 mileswill be opened in the course of a short time. The whole distance for which the stock has not yet been subscribed, is only 31¼ miles.

The followiny letter has been received:

By request I have examined Mr. Thomson's redort and plans of the Oxford Railroad; I concur with his remaks on the subject, and believe the estimate for forming the road to be liberal in all its items.

From the description given of the line by Mr. Thomson in his report, I should consider the route both practicabls and highly favorable for a railroad. (Signed.) JOHN WILSON,

Chief Eng. of the Penn. Railroad.

ITHACA AND OWEGO RAILROAD.—We are gratified to be able to state that the railroad company are making the most energetic and commendable exertions for the early completion of this work. We understand that the rails are laid and laying on 8 or 10 sections of the road—that the iron for the rails and spikes has all been contracted for, and has arrived at Albany—150 tons of which has been received on the road at the Inlet, in this village—and that the directors and engineer have determined that about one half of the route, (to where it intersects the turnpike to Owego,) will be completed for the winter business, and the whole route for the spring business.

In connexion with this, we rejoice to learn that the prospect is favorable for an early extension of our railroad communication to the city of New-York, through the New-York and Erie railroad. The amount of stock required to be subscribed for the commencement of this important work, and which is to be applied to its construction from New-York to the Susquehannah river, being one million of dollars, has been recently taken up in New-York. This great work will of course connect with our railroad at Owego, and though it will doubtless be ultimately extended to Lake Erie, through Tioga, Steuben, Allegany, and Chatauque counties, still it will form a line of communication from Ithaca to New-York for some time before the western section can be constructed; and its connection with the north-western counties through the Ithaca and Owego railroad, will always be an important branch, and be of incalculable advantage to the line of villages from Owego to Buffalo. While the cities and villages on the eastern section of the Erie canal are turning their attention to the construction of railroads parallel to that great work, perhaps the citizens of the cities and villages on the western division may be induced to turn their attention to a channel of communication with our great commercial emporium, much shorter and more expeditious. Such a channel is offered by the works now in progress and preparation, and we trust they do not lack the energy and public spirit necessary to avail themselves of such advantages.—[Ithaca Chronicle.]

RAILROAD IN GEORGIA.—We are rejoiced to find, says the Savannah Georgian of July 27, that an effort is about to be made in our state to establish a railroad. Let one be but completed, and the evident advantages arising therefrom will open the eyes of our people to their true interests, rebuke the sloth which oppresses them, and awaken a spirit of state pride, which will impel her onward to the stand to which her resources, if aided by the intelligence of her sons, will exalt her. We take the following remarks and notice from the Athens Banner of the 22d instant:

"*Railroad.*—The interest that appears to be manifested by our citizens in the project of a railroad between this place and Augusta, adds confirmation to our opinions on the subject, which were alluded to two weeks since. Confidently believing the scheme practicable, and of the greatest utility, we hope to see it looked upon as it deserves. To this end we would urge the call of meetings of the citizens in every town and village interested in its success, that the subject may be fully discussed, and fairly brought before the people. If but a few enterprising individuals at first engage in it—let a company at once be formed—an act of incorporation obtained at the next session of the legislature—subscription books opened—and by that time money will not be wanting to complete the object. The entire stock, we believe, would be taken up immediately. We hope some of our influential citizens will call a meeting on the subject, and that without delay, that Athens may set the example in this important work.

"Since the above was written, we have received the following notice. The call, we hope, will be promptly responded to:

"*Railroad Notice.*—The citizens of Athens particularly, and of Clark county generally, who may feel interested in the undertaking, are invited punctually to attend at the Chapel on Wednesday next, at 5 o'clock, P. M., to enter into such arrangements as may be determined upon, to provide for the commencement of a railroad between Athens and Augusta. The importance of the subject, it is hoped, will insure a general attendance."

The Western Trade.—It is stated in the Cleveland Herald, that produce to the value of one and a half millions of dollars, was exported last year from that port, and that probably two millions of dollars worth would be exported the present year. Cleveland, as most of our readers know, is situated on the shore of Lake Erie, at the mouth of the Ohio Canal, and the far greater part of this produce has been received via the canal. Comparatively speaking it is quite recently also since this canal was opened; and if such be the results already—before commerce has assumed any particular channel, and before the district of country from which this amount of produce was drawn, is more than one-third peopled—what will they be, a few years hence?

The trade of the state of Ohio and adjacent portions of the fruitful West, constitutes a prize well worthy of competition. New York was first in the field, with her Grand Canal;—Pennsylvania then commenced her system of improvement by Canals: pushing them westward to the limits of her territory, and now contemplating a cross cut from her own canal to intersect that of Ohio. Then comes the magnificent undertaking of Maryland,—the Baltimore and Ohio Rail Road. In the contest for this mighty prize, Rail Roads must have a decided advantage over Canals.

Aware of this, at length, New York is about to put forth her strength in another effort. The trade of Ohio is the great object which she would secure by the newly projected rail-road, through her "southern tier of counties," from the city of New York to Lake Erie. The prize is worthy of the competition. —[Baltimore Patriot.]

We shall take pleasure in publishing further extracts from the journal of which the following is a commencement:

To the Editor of the American Railroad Journal:

SIR,—Having been frequently importuned by my friends to relate to them such scenes from backwood exploring expeditions as may have come within my observation, I send you a copy from a manuscript journal, as the most proper way through which for them to draw their amusement or instruction.

It is taken from parts of a continued story, and if worthy of a page in your Journal, you may insert it, and should I have time I will now and then send you some further extracts.

Arrival at the point of communication—parties mustered—force collected—instruments and tools unpacked. Down came the barouche with Charley's dun and the old bay before it, at a furious rate, from —— street; Charley didn't like the rattling over the pavement at all. What with this and two or three heavy lumber waggons, and the stowing away rods, flag poles, pike staffs, chains, levers, and instruments, constituting the efficient paraphernalia of a fully equipped exploring party—the hallooing of the men, swearing of the hostlers, and with now and then an order given in a lower key, the whole neighborhood of our hotel was in an uproar.

On the opposite side of the street, and on this side also, but at a respectable distance, were collected, here and there, groups of anxious, "stupid starers"; the windows of the surrounding habitations, and "*the house*," were occupied by its attentive and inquisitive inmates; and the novelty of such a sight in this *rather* out-of-the-way town, excused the fairer forms and fairer faces that were attracted to the balcony and piazza of the mansion. The old General's daughter condescended to wave her white 'kerchief to P. and W. as they left the town.

The moment a waggon arrived, each man was in the twinkling of an eye for "his seat"; thus again you might see some shrewd fellow that was fearful that, there not being sufficient room for *all*, and as he had not yet a seat, he *might* be among the unfortunate number who perhaps would have to "foot it," would shoulder in the most careful manner a long levelling rod, and approaching an assistant, inquire whether "the *rod* had not better go with this ere waggon?" Which, if answered in the affirmative, he would pick out some less fortunate one, who, perhaps, was at that very moment inwardly chuckling himself at his good luck; dislodge him, take his place, *because* "Mr. —— said this ere *rod* must go." It being an argument of that kind that always proved irrisistible, notwithstanding he ran the risk himself of being the next minute pulled out (if he did not follow up the argument of the *rod*) to make

way for the chief's or an assistant's huge trunk, that being an article that took the precedence of every thing else except his own more important body.

So pulling, and pushing, and crowding, all matters were at last disposed of in a satisfactory manner.

The Engineer-in-Chief proceeded to the carriage, accompanied by one or two of the Directors and Mr. P., they entered it and drove off, followed by the whole cavalcade, under the direction of Mr. W., with the bright instruments glistening in the sun, and the elevated pike staffs ornamented with station flags bristling by the side of every man on the outside seats, who had thus regularly disposed themselves of their own accord, behaving in the most circumspect manner, and feeling elevated a *grade* above their former companions, who stopped along the street sides to gaze with admiration upon the passing novelty. * * * * *

Thus situated they moved on, S—— impressing the minds of the Directors and P—— with tolerable notions of his abilities, and encouraging them with the hopes of a speedy location, and W——, changing his position from between William and Wyme for a seat by himself, was giving up to thoughts that were carrying him far, far from what was passing around. He had left his parents, his family, his friends, society, all, far behind him, and was burying himself alone and friendless into the depths of the native forest.

"What," he mused, "will my leisure moments be employed in; in conversing with these semi-barbarians, who have not one idea in common with me? Tired from the fatigue of the day's duties, separated for miles from my brother assistants, weighed down with these constant 'sines, tangents, and chords,' where shall I fly for rest, for communion of mind? * * *

* * * they love, they hate, they think, but they do not love the same *way*, neither do they love the same *things* as I do; yet still it may be of as sincere a *kind*, perhaps more so. They have but one like, and that is love; but one hatred, and that is revenge; their simple and rude minds know no distinctive grades in either passion, and their less elevated thoughts are adapted to their less elevated condition; how supremely unhappy were it otherwise. Ask the backwoodsman what is happiness, or, rather ask him (and he will understand you better), what is the boundary of his wishes? He will tell you, a good rifle, a healthy strapping wife, and good crop of grain; or, perhaps, he will place first in the list a pint of real Monongahela! What shall I gain by this sacrifice—shall learn to know a hemlock from a pine? No, no, not this; but I will learn to rise, rise in my profession; I will—and a sudden cant of the waggon, from a wheel running over a stump, reminded him of his seat, as he motioned his whole body in turning off the main road on which they had been riding, that ran along the foot of the hill; and proceeding on down a lane, bordered with shrubbery that crossed the valley, the barouche halted opposite a neat and beautiful cottage, that had just emerged from the surrounding foliage.

The whole party dismounted and followed Mr. S—— within its enclosure. W——, the vanity of whose thoughts we have just seen, meeting with such a reception where he had expected a mean log house, and meaner inmates, felt so abashed at the gentility of its inhabitants and the taste with which it was furnished, that, ashamed of his vanity, he slunk away into a corner of its trellised alcove.

In a few moments Mr. ——, (one of the directors.) introduced the gentlemen of the party to Mr. —— and his family, who by their kindness and suavity of manners, backed by a well provided dinner, soon made every one perfectly at their ease; the afternoon being given up for making all necessary preparation for the commencement of the survey on the morrow.

The venerable Countess de Grey who died the other day at her house in St. James's square (and who is succeeded in the title by Lord Grantham, now Earl de Grey) left behind her some of the most splendid pictures, painted by Vandyke, now in this kingdom. They are all in their original and pure condition, never having been varnished. The Earl de Grey, who is residuary legatee, and will inherit the great wealth of his near relative, retains likewise these grand specimens of Vandyke's pencil; but some pictures of less value, and the extremely curious old furniture and china will be brought to the hammer.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 23d to the 31st day of July, 1833, inclusive.

Date.	*Hours.*	*Thermometer.*	*Barometer etc.*	*Winds.*	*Strength of Wind.*	*Clouds from what direction.*	*Weather.*	*Remarks.*
July 23	6 a. m.	73	30.14	NE	light		clear	
	10	75	30.16	NNE—NNW	..		..	
	2 p. m.	82	30.15	SW—SSE	..		..	Arithmetical mean of the thermometer for the month of July, 74.14.
	6	76	30.12	SSE	moderate		..	
	10	72	30.12	SSW	..		..	
" 24	6 a. m.	69	30.05	SW	..		..	
	10	80	30.00	..	..		..	
	2 p. m.	91	29.94	SW—NW	..	..	..	
	6	78	29.96	NNW	..	..	.. —cloudy at 4½	
	10	75	29.98	..	..		thunder showers—cl'dy	Maximum height of the barometer in July, 30.25 in.—Minimum, 29.65 in.—Range, 0.60 in.
" 25	6 a. m.	71	30.05	..	..	N	cloudy	
	10	75	30.08	NNE	fresh	..	..	
	2 p. m.	79	30.11	..	..	WNW	..	
	6	72	30 11	SSW	moderate	SSW	.. —light showers	
	10	71	30.15	..	fresh	..	fair	
" 26	6 a. m.	63	30.20	NNE	moderate	W	..	
	10	70	30.21	N	..	SW	..	
	2 p. m.	79	30.19	SSW	faint	S	..	The observations of winds for July result as follows:
	6	73	30.15	SSE	light	..	..	From the North-Eastern quarter, including N. 15.
	10	69	30.13	..	..	..	..	From the South-Eastern, including E. 16½.
" 27	6 a. m.	66	30.12	SW	fresh	WSW	clear	From the South-Western, 74.
	10	74	30.00	..	moderate	..	fair	From the North-Western, 40½.
	2 p. m.	84	29.95	..	..	..	..	
	6	80	29.81	..	fresh	NNW	..	
	10	78	29.81	..	..	..	..	
" 28	6 a. m.	75	29.82	WNW	..	..	clear	
	10	85	29.89	..	..	{ SSW WNW }	fair	
	2 p. m.	83	29.95	..	strong	WNW	.. —wind at times violent	
	6	76	30.01	..	moderate	..	..	
	10	63	30.10	..	..	..	..	
" 29	6 a. m.	63	30.17	NNE	..	..	..	
	10	70	30.11	WNW—SW	..	..	..	The observations of the higher currents, as indicated by the highest observed clouds, result as follows:
	2 p. m.	77	30.04	SW—S	..	..	..	
	6	75	29.97	S—SSE	fresh	W	.. —gale fr eastward	
	10	73	29.96	..	gale	SSE	.. —sends fr SW	
" 30	6 a. m.	75	29.76	SW	strong	SW	.. — ..	
	10	80	29.70	..	fresh	..	.. —light showers	
	2 p. m.	84	29 65	WSW	..	NNW	rain	From the North-Eastern quarter, 5
	6	76	29.72	NNW	..	..	cloudy	From the South-Eastern, 2.
	10	70	29.80	..	moderate	..	..	From the South-Western, 65.
" 31	6 a. m.	62	29.92	..	light	..	clear	From the North-Western, 54.
	10	72	29.98	..	..	NW	fair	
	2 p. m.	81	29.98	W	..	..	..	
	6	75	29.98	..	..	..	..	
	10	70	29.98	..	..	..	..	

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of June, 1833—(Latitude 31.10 N., Longitude 91.59 W. nearly.)

Date. 1833.	*Thermometer.* Morn'g.	Noon.	Night.	*Wind.*	*Weather, Remarks, &c.*
June 1	75	84	81	s—high	clear—light flying clouds all day
" 2	76	87	81	s—light	.. — .. .. ..
" 3	71	85	78	..	.. —yellow figs ripe, and very large
" 4	71	86	80	..	.. —rain in the evening
" 5	70	86	80	..	..
" 6	71	87	79	..	..
" 7	73	88	78	..	.. —evening light showers and calm
" 8	72	81	78	calm	cloudy all day
" 9	73	85	79	w	clear all day
" 10	73	86	80	s—light	cloudy morning—clear evening
" 11	71	86	78	calm	clear all day—finished mowing first crops of clover and saved the hay
" 12	73	88	78	..	clear morning—evening wind w and cloudy
" 13	73	87	82	w—light	.. — .. calm
" 14	72	84	82	calm	.. —cloudy and thunder at night
" 15	76	80	80	..	cloudy—severe rain and thunder from 8 a. m. to 1 p. m.—cloudy all night
" 16	75	87	82	s—high	clear—flying clouds—evening calm
" 17	75	83	82	..	.. .. —River rising
" 18	76	88	81	..	.. ..
" 19	77	89	83	s—light	.. —evening light showers—calm
" 20	74	84	79	calm	cloudy morning—rain and thunder—evening clear
" 21	73	87	79	..	clear
" 22	76	89	79	..	.. morning—evening rain, wind sw—river risen 4 inch, and at a stand
" 23	76	86	80	sw—high	.. in the evening—wind w, light—night wind nw, high—tomatoes ripe
" 24	70	79	69	s—high	.. all day—night calm—finished gathering our crops of Irish potatoes
" 25	61	80	75	calm	.. .. —Red River falling
" 26	66	85	78	sw	.. .. —United States Snag Boats, Capt. Shreeve, from the raft went down, in all 4 steamboats
" 27	69	85	79	sw—light	.. ..
" 28	71	84	69	calm	cloudy all day — Red River has fallen this month two inches,
" 29	73	88	61	s	clear—light flying clouds — and is now 10 inches below extreme high
" 30	74	90	62	calm	.. .. — water of 1828.

WRITTEN NEWSPAPERS.—The desire of news from the capital, on the part of the wealthier country residents, and probably the false information and the impertinence of the news-writers, led to the common establishment of a very curious trade,—that of a news correspondent, who, for a subscription of three or four pounds per annum, wrote a letter of news every post day to his subscriber in the country. This profession probably existed in the reign of James I.; for in Ben Jonson's play, "The Staple of News," written in the first year of Charles I., we have a very curious and amusing description of an office of news manufactures:

> "This is the outer room, where my clerks sit,
> And keep their sides, the Register i' the midst;
> The Examiner, he sits private there within;
> And here I have my several rolls and files
> Of news by the alphabet, and all put up
> Under their heads."

The news thus communicated appears to have fallen into as much disrepute as the public news. In the advertisement announcing the first number of the "Evening Post," (Sept. 16th, 1709,) it is said, "There must be three or four pounds per annum paid by those gentlemen who are out of town, for written news, which is so far, generally, from having any probability of matter of fact in it, that it is frequently stuffed up with a *We hear*, &c.; or, *an eminent Jew merchant has received a letter*, &c.; being nothing more than downright fiction." The same advertisement, speaking of the published papers, says, "We read more of our own affairs in the Dutch papers than in any of our own." The trade of a news correspondent seems to have suggested a sort of union of written news and published news; for towards the end of the seventeenth century, we have *news letters* printed in type to imitate writing. The most famous of these was that commenced by Ichabod Dawks, in 1696, the first number of which was thus announced: "This letter will be done upon good writing paper, and blank space left, that any gentleman may write his own private business. It does undoubtedly exceed the best of the *written news*, contains double the quantity, is read with abundance more ease than pleasure, and will be useful to improve the younger sort in writing a curious hand."—[Companion to the Newspaper, England.]

Babbage on the Economy of Manufactures.

[Continued from page 485.]

Quicksilver cost £10 16 per cwt. Quicksilver worth £1, when manufactured into vermillion of average quality, became £1 81.

Metallic arsenic cost £1 4 per cwt. Arsenic worth £1, when manufactured into white oxide of arsenic, became £1 83—sulphate (orpiment), 4 26.

The price of cast iron was 8*s*. per cwt. Cast iron worth £1, when manufactured into household utensils, became £2 00—machinery, 4 00—ornamental, as buckles, &c. 45 00—bracelets, figures, buttons, &c. 147 00.

Bar iron cost £1 6 per cwt. Bar iron worth £1, when manufactured into agricultural instruments, became £3 57—musket barrels, 9 10—barrels of double-barrel guns, twisted and damasked, 238 08—blades of penknives, 657 14—blades of razors, cast steel, 53 57—blades of sabres, for cavalry, infantry, and artillery, &c. from 9 25 to 16 07—blades of table knives, 35 70—buckles of polished steel, used as jewellery, 896 66—clothiers' pins, 8 03—door-latches and bolts, from 4 85 to 8 50—common files, 2 55—flat files, cast steel, 20 44—horse-shoes, 2 55—iron, small slit, for nails, 1 10—metallic cloth, iron wire, No. 80, 96 71—needles of various sizes, from 17 33 to 70 85—reeds for weaving 3-4ths calico, 21 87—saws (frame) of steel, 5 12—saws for wood, 14 28—scissors, finest kind, 446 94—sword handles, polished steel, 972 82—cast steel, 4 28—steel cast in sheets, 6 25—cemented steel, 2 41—natural steel, 1 42—tinned iron, from 2 04 to 2 34—iron wire, from 2 14 to 10 17.

158. The following is stated by M. de Villefosse to be the price of bar iron at the forges of various countries, in January, 1825.

	Per ton.
France, ...	£26 10 0
Belgium and Germany, . .	16 14 0
Sweden and Russia, at Stockholm and St. Petersburg, . .	13 13 0
England, at Cardiff, . . .	10 1 0
The price of the article in 1832, was	5 0 0

M. de Villefosse states that in France, bar iron, made as it usually is with charcoal, costs three times the price of the cast iron out of which it is made; whilst in England, where it is usually made with coke, the cost is only twice the price of cast iron.

ON THE DIVISION OF LABOR.

159. Perhaps the most important principle on which the economy of a manufacture depends, is the *division of labor* amongst the persons who perform the work. The first application of this principle must have been made in a very early stage of society, for it must soon have been apparent, that more comforts and conveniences could be acquired by one man restricting his occupation to the art of making bows, another to that of building houses, a third boats, and so on. This division of labor into trades was not, however, the result of an opinion that the general riches of the community would be increased by such an arrangement: but it must have arisen from the circumstance of each individual so employed discovering that he himself could thus make a greater profit of his labor than by pursuing more varied occupations. Society must have made considerable advances before this principle could have been carried into the workshop; for it is only in countries which have attained a high degree of civilization, and in articles in which there is a great competition amongst the producers, that the most perfect system of the division of labor is to be observed. The principles on which the advantages of this system depend have been much the subject of discussion amongst writers of political economy; but the relative importance of their influence does not appear, in all cases, to have been estimated with sufficient precision. It is my intention, in the first instance, to state shortly those principles, and then to point out what appears to me to have been omitted by those who have previously treated the subject.

160. First. *Of the time required for learning.* It will readily be admitted, that the portion of time occupied in the acquisition of any art will depend on the difficulty of its execution; and that the greater the number of distinct processes, the longer will be the time which the apprentice must employ in acquiring it. Five or seven years have been adopted, in a great many trades, as the time considered requisite for a lad to acquire a sufficient knowledge of his art, and to repay by his labor, during the latter portion of his time, the expense incurred by his master at its commencement. If, however, instead of learning all the different processes for making a needle, for instance, his attention be confined to one operation, a very small portion of his time will be consumed unprofitably at the commencement, and the whole of the rest of it will be beneficial to his master; and if there be any competition amongst the masters, the apprentice will be able to make better terms, and diminish the period of his servitude. Again: the facility of acquiring skill in a single process, and the early period of life at which it can be made a source of profit, will induce a greater number of parents to bring up their children to it; and from this circumstance, also, the number of workmen being increased, the wages will soon fall.

161. A certain quantity of material will be consumsd unprofitably, or spoiled, by every person who learns an art; and, as he applies himself to each new process, he will waste a certain quantity of the raw material, or of the partly manufactured commodity. But whether one man commits this waste in acquiring successively each process, or many persons separately learn the several processes, the quantity of was tewill remain the same: in this view of thes ubject, therefore, the division of labor will neither increase nor diminish the price of the production.

162. Second. Another source of the advantage resulting from the division of labor is, that time is always lost from changing from one occupation to another. When the human hand, or the human head, has been for some time occupied in any kind of work, it cannot instantly change its employment with full effect. The muscles of the limbs employed have acquired a flexibility during their exertion—and those to be put in action, a stiffness during rest—which renders every change slow and unequal in the commencement. A similar result seems to take place in any change of mental exertion; the attention bestowed on the new subject is not so perfect at the first commencement as it becomes after some exercise. Long habit also produces in the muscles exercised a capacity for enduring fatigue to a much greater degree than they could support under other circumstances.

163. Another cause of the loss of time in changing from one operation to another, arises from the employment of different tools in the two processes. If these tools are simple in their nature, and the change is not frequently repeated, the loss of time is not considerable; but in many processes of the arts the tools are of great delicacy, requiring accurate adjustment whenever they are used. In many cases the time employed in adjusting, bears a large proportion to that employed in using the tool. The sliding-rest, the dividing and the drilling engine, are of this kind; and hence in manufactories of sufficient extent, it is found to be good economy to keep one machine constantly employed in one kind of work: one lathe, for example, having a screw motion to its sliding-rest along the whole length of its bed, is kept constantly making cylinders; another, having a motion for rendering uniform the velocity of the work at the point at which it passes the tool, is kept for facing surfaces; whilst a third is constantly employed in cutting wheels.

164. Third. *Skill acquired by frequent repetition of the same processes.* The constant repetition of the same process necessarily produces in the workman a degree of excellence and rapidity in his particular department, which is never possessed by one person who is obliged to execute many different processes. This rapidity is still farther increased, from the circumstance that most of the operations in factories, where the division of labor is carrid to a considerable extent, are paid for as piece work. It is difficult to estimate in numbers the effect of this cause upon production. In nail-making, Adam Smith has stated that it is almost three to one; for, he observes, that a smith accustomed to make nails, but whose whole business has not been that of a nailer, can make only from eight hundred to a thousand per day; whilst a lad, who had never exercised any other trade, can make upwards of two thousand three hundred a day.

165. Upon an occasion when a large issue of bank-notes was required, a clerk at the Bank of England signed his name, consisting of seven letters, including the initial of his Christian name, five thousand three hundred times during eleven working hours; and he also arranged the notes he had signed in parcels of fifty each. In different trades, the economy of production arising from this cause will necessarily be different. The case of nail-making is, perhaps, rather an extreme one. It must, however, be observed that, in one sense, this is not a permanent source of advantage; for, although it acts at the commencement of an es-

tablishment, yet every month adds to the skill of the workmen; and at the end of three or four years they will not be very far behind those who have practised only the particular branch of their art.

166. Fourth. *The division of labor suggests the contrivance of tools and machinery to execute its processes.* When each process, by which any article is produced, is the sole occupation of one individual, his whole attention being devoted to a very limited and simple operation, any improvement in the form of his tools, or in the mode of using them, is much more likely to occur to his mind than if it were distracted by a greater variety of circumstances. Such an improvement in the tool is generally the first step towards a machine. If a piece of metal is to be cut in a lathe, for example, there is one angle at which the cutting-tool must be held to insure the cleanest cut; and it is quite natural that the idea of fixing the tool at that angle should present itself to an intelligent workman. The necessity of moving the tool slowly, and in a direction parallel to itself, would suggest the use of a screw, and thus arises the sliding-rest. It was probably the idea of mounting a chisel in a frame, to prevent its cutting too deeply, which gave rise to the common carpenter's plane. In cases where a blow from a hammer is employed, experience teaches the proper force required. The transition from the hammer held in the hand to one mounted upon an axis, and lifted regularly to a certain height by some mechanical contrivance, requires perhaps a greater degree of invention. Yet it is not difficult to perceive, that, if the hammer always falls from the same height, its effect must be always the same.

167. When each process has been reduced to the use of some simple tool, the union of all these tools, actuated by one moving power, constitutes a machine. In contriving tools and simplifying processes, the operative workmen are, perhaps, most successful; but it requires far other habits to combine into one machine these scattered arts. A previous education as a workman in the peculiar trade is undoubtedly a valuable preliminary; but in order to make such combinations with any reasonable expectation of success, an extensive knowledge of machinery, and the power of making mechanical drawings, are essentially requisite. These accomplishments are now much more common than they were formerly; and their absence was, perhaps, one of the causes of the multitude of failures in the early history of many of our manufactures.

168. Such are the principles usually assigned as the causes of the advantages resulting from the division of labor. As in the view I have taken of the question, the most important and influential cause has been altogether unnoticed, I shall re-state those principles in the words of Adam Smith: "The great increase in the quantity of work, which, in consequence of the division of labor, the same number of people are capable of performing, is owing to three different circumstances: first, to the increase of dexterity in every particular workman; secondly, to the saving of time, which is commonly lost in passing from one species of work to another; and, lastly, to the invention of a great number of machines, which facilitate and abridge labor, and enable one man to do the work of many." Now, although all these are important causes, and each has its influence on the result, yet it appears to me, that any explanation of the cheapness of manufactured articles, as consequent upon the division of labor, would be incomplete if the following principle were omitted to be stated.

That the master manufacturer, by dividing the work to be executed into different processes, each requiring different degrees of skill and force, can purchase exactly that precise quantity of both which is necessary for each process; whereas, if the whole work were executed by one workman, that person must possess sufficient skill to perform the most difficult, and sufficient strength to execute the most laborious, of the operations into which the art is divided.*

169. As the clear apprehension of this principle, upon which so much of the economy arising from the division of labor depends, is of considerable importance, it may be desirable to illustrate it, by pointing out its precise and numerical application in some specific manufacture. The art of making needles is, perhaps, that which I should have selected as comprehending a very large number of processes remarkably different in their nature; but the less difficult art of pin-making has some claim to attention, from its having been used by Adam Smith, in his illustration of the subject; and I am confirmed in the choice, by the circumstance of our possessing a very accurate and minute description of that art, as practised in France above half a century ago.

170. *Pin-making.* In the manufacture of pins in England, the following processes are employed:

Wire-drawing. I. The brass wire used for making pins is purchased by the manufacturer in coils of about twenty-two inches in diameter, each weighing about thirty-six pounds. The coils are wound off into smaller ones of about six inches in diameter, and between one and two pounds' weight. The diameter of this wire is now reduced by drawing it repeatedly through holes in steel plates, until it becomes of the size required for the sort of pins intended to be made. During the process of drawing the wire through these holes it becomes hardened, and it is necessary to anneal it in order to prevent its breaking; and to enable it to be still farther reduced it is annealed two or three times, according to the diminution of diameter required. The coils are then soaked in sulphuric acid, largely diluted with water, in order to clean them, and are then beaten on stone for the purpose of removing any oxidated coating which may adhere to them. This process is usually performed by men, who draw and clean from thirty to thirty-six pounds of wire a day. They are paid at the rate of five farthings per pound, and generally earn about 3*s.* 6*d.* per day.

M. Perronet made some experiments on the extension the wire undergoes by this process at each hole: he took a piece of thick Swedish brass wire, and found its length to be before drawing, 3 feet 8 inches—after passing the first hole, 5 feet 7 inches—after passing the second hole, 7 feet 2 inches—and after passing the third hole, 7 feet 8 inches.

It was now annealed, and the length became after passing the fourth hole, 10 feet 8 inches—after passing the fifth hole, 13 feet 1 inch—after passing the sixth hole, 16 feet 8 inches—and finally, after passing through six other holes, 144 feet.

The holes through which the wire was drawn were not, in this experiment, of regular decreasing diameter; and it is extremely difficult to make such holes, and still more to preserve them in their original dimensions.

171. II. *Straightening Wire.* The coil of wire now passes into the hands of a woman, assisted by a boy or girl. A few nails, or iron pins, not quite in a line, are fixed into one end of a wooden table about twenty feet in length; the end of the wire is passed alternately between these nails, and is then pulled to the other end of the table. The object of this process is to straighten the wire, which had acquired a uniform curvature in the small coils into which it had been wound. The length thus straightened is cut off, and the remainder of the coil is drawn into similar lengths. About seven nails or pins are employed in straightening the wire, and their adjustment is a matter of some nicety. It seems that, by passing the wire between the first three nails or pins, a bend is produced in an opposite direction to that which the wire had in the coil; this bend, by passing the next two nails, is reduced to another of larger curvature in the first direction, and so on till the curvature is at last so large that it may be confounded with a straight line.

172. III. *Pointing.* A man next takes about three hundred of these straightened pieces in a parcel, and, putting them into a gauge, cuts off from one end, by means of a pair of shears, moved by his foot, a portion equal in length to rather more than six pins. He continues this operation until the entire parcel is reduced into similar pieces. The next step is to sharpen the ends: for this purpose the operator sits before a steel mill, which is kept rapidly revolving; and taking up a parcel between the finger and thumb of each hand, he passes the ends before the mill, taking care with his fingers and thumbs to make each wire slowly revolve upon its axis. The mill consists of a cylinder about six inches in diameter, and two and a half inches broad, faced with steel, which is cut in the manner of a file. Another cylinder is fixed on the same axis at a few inches distant; the file on the edge of which is of a finer kind, and is used for finishing off the points. Having thus pointed all the pieces at one end, he reverses them, and performs the same process on the other. This process requires considerable skill, but it is not unhealthy; whilst the similar process in needle-making is remarkably destructive of health. The pieces, now pointed at both ends, are next placed in gauges, and the pointed ends are cut off, by means of shears, to the proper length of which the pins are to be made. The remaining portions of the wire are now equal to about four pins in length, and are again pointed at each end, and their ends again cut off. This process is repeated a third time, and the small portion of wire left in the middle is thrown amongst the waste, to be melted along with the dust arising from the sharpenings. It is usual for a man, his wife, and a child, to join in performing these processes; and they are paid at the rate of five farthings per pound. They can point from thirty-four to thirty-six and a half pounds per day, and gain from 6*s.* 6*d.* to 7*s.*, which may be apportioned thus: 5*s.* 6*d.* the man, 1*s.* the woman, 6*d.* to the boy or girl.

173. IV. *Twisting and Cutting the Heads.* The next process is making the heads. For this purpose a boy takes a piece of wire, of the same diameter as the pin to be headed, which he fixes on an axis that can be made to revolve rapidly by means of a wheel and strap connected with it. This wire is called the mould. He then takes a smaller wire, which, having passed through an eye in a small tool held in his left hand, he fixes close to the bottom of the mould. The mould is now made to revolve rapidly by means of the right hand, and the smaller wire coils round it until it has covered the length of the mould. The boy now cuts the end of the spiral connected with the foot of the mould, and draws it off. When a sufficient quantity of heading is thus made, a man takes from thirteen to twenty of these spirals in his left hand, between his thumb and three outer fingers; these he places in such a manner that two turns of the spiral shall be beyond the upper edge of a pair of shears, and with the fore-finger of the same hand he feels these two projecting turns. With his right hand he closes the shears; and the two turns of the spiral being cut off, drop into a basin. The position of the fore-finger prevents the heads from flying about when cut off. The workmen who cut the heads are usually paid at the rate of 2½*d.* to 3*d.* per pound for large, but a higher price is given for the smaller heading. Out of this they pay the boy who spins the spiral; he receives from 4*d.* to 6*d.* per day. A good workman can cut from six to about thirty pounds of heading per day, according to its size.

174. V. *Heading.* The process of fixing the head on the body of the pin is usually executed by women and children. Each operator

* I have already stated, that this principle presented itself to me after a personal examination of a number of manufactories and work-shops devoted to different purposes; but I have since found that it has been distinctly stated in the work of Gioja, Nuovo Prospetto delle Scienze Economiche, 6 tom. 4to. Milano, 1815, tom. i. capo iv.

sits before a small steel stake, having a cavity, into which one half of the intended head will fit; immediately above is a steel die, having a corresponding cavity for the other half of the head: this latter die can be raised by a pedal moved by the foot. The cavities in the centre of these dies are connected with the edge by a small groove, to admit of the body of the pin, which is thus prevented from being flattened by the blow of the die. The operator with his left hand dips the pointed end of the body of a pin into a tray of heads; having passed the point through one of them, he carries it along to the other end with the fore-finger. He now takes the pin in the right hand, and places the head in the cavity of the stake, and, lifting the die with his foot, allows it to fall on the head. This blow tightens the head on the shank, which is then turned round, and the head receives three or four blows on different parts of its circumference. The women and children who fix the heads are paid at the rate of 1*s.* 6*d.* for every twenty thousand. A skilful operator can with great exertion do twenty thousand per day, but from ten to fifteen thousand is the usual quantity; children head a much smaller number, varying, of course, with the degree of their skill. The weight of the hammer is from seven to ten pounds, and it falls through a very small space, perhaps from one to two inches. About one per cent. are spoiled in the process; these are picked out afterwards by women, and reserved with the waste from other processes for the melting-pot. The form of the dies in which the heads are struck is varied according to the fashion of the time: but the repeated blows to which it is subject renders it necessary that it should be repaired after it has been used for about thirty pounds of pins.

175. VI. *Tinning.* The pins are now fit to be tinned, a process which is usually executed by a man, assisted by his wife, or by a lad. The quantity of pins operated upon at this stage is usually fifty-six pounds. They are first placed in a pickle, in order to remove any grease or dirt from their surface, and also to render that surface rough, which facilitates the adherence of the tin with which they are to be covered. They are then placed in a boiler full of a solution of tartar and water, in which they are mixed with a quantity of tin in small grains. They are generally kept boiling for about two hours and a half, and are then removed into a tub of water, into which some bran has been thrown: this is for the purpose of washing them. They are then taken out, and, being placed in wooden trays, are well shaken in dry bran: this removes any water adhering to them; and by giving the wooden tray a peculiar kind of motion, the pins are thrown up, and the bran gradually flies off, and leaves them behind in the tray. The man who pickles and tins the pins usually gets one penny per pound for the work, and employs himself, during the boiling of one batch of pins, with drying those previously tinned. He can earn about 9*s.* per day; but out of this he pays about 3*s.* for his assistant.

176. VII. *Papering.* The arranging of pins side by side in paper is generally performed by women. The pins come from the last process in wooden bowls, with the points projecting in all directions. A woman takes up some, and places them on the teeth of a comb, whilst, by a few shakes, some of the pins fall back into the bowl, and the rest, being caught by their heads, are detained between the teeth of the comb. Having thus arranged them in a parallel direction, she fixes the requisite number between two pieces of iron, having twenty-five small grooves, at equal distances; and having previously doubled the paper, she presses it against the points of the pins until they have passed through the two folds which are to retain them. The pins are then relieved from the grasp of the tool, and the process repeated with others. A woman gains about 1*s.* 6*d.* per day by papering; but children are sometimes employed, who earn from 6*d.* per day, and upwards.

177. Having thus described the various processes of pin-making, without entering into the minuter details, and having stated the usual cost of each, it will be convenient to present a tabular view of the time occupied by each process, and its cost, as well as of the sums which can be earned by the persons who confine themselves solely to each process. As the rate of wages is itself fluctuating, and as the prices paid and quantities executed have been given between certain limits, it is not to be expected that this table can represent with the minutest accuracy the cost of each part of the work, nor even that it shall accord perfectly with the prices above given: but it has been drawn up with some care, and will be quite sufficient for that general view, and for those reasonings which it is meant to illustrate. A table nearly similar will be subjoined, which has been deduced from a statement of M. Perronet, respecting the art of pin-making in France, about seventy years ago.

178. *English Manufacture.*—Pins, "*Elevens,*" 5,546 weigh one pound; "*one dozen,*" = 6,932 pins, weigh twenty ounces, and require six ounces of paper.

Names of the Process.	Workmen.	Time of making 1 lb.	Cost of making 1 lb.	Workman earns per day.	Price of making each part of a pin in 1,000,000 of 1d.
		Hours.	Pence.	s. d.	
1. Drawing Wire, (§ 170)	Man	.2636	1.2500	3 3	225
2. Straightening of the wire (§ 171)	Woman	.3000	.2840	1 0	51
	Girl	.3000	.1420	0 6	26
3. Pointing (§ 172)	Man	.3060	1.7750	5 3	319
4. Twisting and cutting the Heads (§ 173)	Boy	.0400	.0147	0 4½	3
	Man	.0400	.2103	5 4½	38
5. Heading (§ 174)	Woman	4.0000	5.0000	1 3	901
6. Tinning, viz Whitening (§ 175)	Man	.1071	.6666	6 0	121
	Woman	.1071	.3333	3 0	60
7. Papering (§ 176)	Woman	2.1314	3.1973	1 6	576
		7.6892	12.8732		2320

Number of persons employed: Men, 4; Women, 4; Children 2. Total, 10.

179. *French Manufacture.*—Cost of 12,000 pins, N. 6, each being eight-tenths of an English inch in length; with the cost of operation,—deduced from the observations and statement of M. Perronet,—as they were manufactured in France about 1760.

Names of the Process.	Time of making 12,000 pins.	Cost of making 12,000 pins.	Workman usually earns pr day.	Expense of tools and materials.
	Hours.	Pence.	Pence.	Pence.
1. Wire				24.75
2. Straightening and cutting	1.2	.5	4.5	
3. Coarse Pointing	1.2	.625	10.0	
Turning Wheel*	1.2	.875	7.0	
Fine Pointing	.8	.5	9.375	
Turning Wheel	1.2	.5	4.75	
Cutting off pointed ends	.6	.375	7.5	
4. Turning Spiral	.5	.125	3.0	
Cutting off Heads	.8	.375	5.625	
Fuel to anneal ditto				.125
5. Heading	12.0	.333	4.25	
6. Tartar for cleaning				.5
Tartar for whitening				.5
7. Papering	4.8	.5	2.0	
Paper				1.0
Wear of Tools				2.0
	24.3	4.708		

180. It appears from the analysis we have given of the art of pin-making, that it occupies rather more than seven hours and a half of time, for ten different individuals working in succession on the same material, to convert it into a pound of pins; and that the total expense of their labor, each being paid in the joint ratio of his skill and of the time he is employed, amounts very nearly to 1*s.* 1*d.* But from an examination of the first of these tables, it appears that the wages earned by the persons employed vary from 4½*d.* per day to 6*s.*, and consequently the skill which is required for their respective employments may be measured by those sums. Now it is evident, that if one person be required to make the whole pound of pins, he must have skill enough to earn about 5*s.* 3*d.* per day whilst he is pointing the wires or cutting off the heads from the spiral coil—and 6*s.* when he is whitening the pins: which three operations together would occupy little more than the seventeenth part of his time. It is also apparent, that during more than one half of his time he must be earning only 1*s.* 3*d.* per day in putting on the heads, although his skill, if properly employed, would, in the same time, produce nearly five times as much. If, therefore, we were to employ, for each of the processes, the man who whitens the pins, and who earns 6*s.* per day, even supposing that he could make the pound of pins in an equally short time, yet we must pay him for his time 46.14 pence, or about 3*s.* 10*d.* The pins would, therefore, cost in making, three times and three quarters as much as they now do by the application of the division of labor. The higher the skill required of the workman in any one process of a manufacture, and the smaller the time during which it is employed, so much the greater will be the advantage of separating that process from the rest, and devoting one person's attention entirely to it. Had we selected the art of needle-making as our illustration, the economy arising from the division of labor would have been still larger, for the process of tempering the needles requires great skill, attention, and experience; and although from three to four thousand are tempered at once, the workman is paid a very high rate of wages. In another process of the same art, dry-pointing, which is also executed with great rapidity, the wages earned by the workman reach from 7*s.* to 12*s.*, 15*s.*, and even, in some instances, to 20*s.* a day; whilst other processes in the same art are carried on by children paid at the rate of 6*d.* per day.

* The expense of turning the wheel appears to have arisen from the person so occupied being unemployed during half his time, whilst the pointer went to another manufactory.

AGRICULTURE, &c.

[*From the New-York Farmer.*]

FAIR OF THE AMERICAN INSTITUTE.—By a circular, dated July 4th, 1833, we perceive that the Sixth Annual Fair of the American Institute is to be held in this city on the 15th of October next. To the whole community this fair is of interest, affording to the manufacturer an opportunity to convince his countrymen of the increasing excellence of the products of one of the great sources of wealth to our prosperous country. To the mechanic, a place to deposit, for admiring crowds, the specimens of mechanical skill and ingenuity in the useful and ornamental arts of life. To the merchant, an evidence that American products are enlarging the sources of our commercial greatness. To the farmer, an opportunity to see what mechanical ingenuity is doing in improving agricultural implements, in inventing machinery, enabling him to increase the products of his farm, with less labor; and what positive evidence there is of the flourishing condition of American arts and manufactures, and of their varied and increasing calls on the numerous productions of the soil; and to the ladies, one of the most pleasing and profitable exhibitions of the articles of cultivated taste, to the improvement of which they have greatly contributed, and they are now again invited to make a display of those things that prove that the hand and the mind of the fair sex are not only adding to the refinements and comforts of domestic life, but augmenting the resources of national prosperity.

TROUBLESOME WEED, (*Lithospermum Arvense.*)—This weed, sometimes called steen-crout, stone-weed and wheat-thief, is very troublesome in some sections of our State. A writer in the Genesee Farmer considers summer crops unfavorable to its progress, and that two crops of buckwheat in succession will subdue it.

PEACH STONES.—This is the season for preserving peach pits. They may be sown broadcast, or planted in drills, in autumn, and harrowed in, or covered to a very moderate depth.

PLANTING VINES DEEP.—N. Herbemont, in the Southern Agriculturist, advocates the plan of planting vines deep, and suppressing yearly the surface roots. Thus managed the fruit will not be subject to rot, as the roots will not be subject to such sudden extremes of moisture and dryness.

RAISING TURNIPS.—Mr. W. Keese, of Peru, N. Y. gives the following method of preparing his ground:

"I have raised very fine turnips for two years past, simply by fencing a small piece of ground about the first of June, ploughing it, and yarding my sheep on it, at night, until about the middle of July, when the seed was sowed and harrowed in. In this way I have not failed of having very large and very fine turnips."

COOKING CAULIFLOWERS.—This we consider one of the best vegetables that graces our table. Although it is almost universally acknowledged to be a superior vegetable, yet our gardeners find but little encouragement in raising the plant. The following directions for cooking it are from the Genesee Farmer:

"Cut off the middle size when close and white, trim off the outside leaves, cut the stalks off flat at the bottom, and let it lie in salt and water a little while; then put it into boiling water with a handful of salt in it; have plenty of water and keep the vessel uncovered; skim the water well until it is well parboiled. Next it should be immersed in cold water for some time, say fifteen minutes, till it is nearly wanted for the table, then on being boiled for a few minutes it will become more firm and crisp than if cooked in the usual way, that is, without being immersed in cold water. A small cauliflower will require from fifteen to twenty minutes, and a large one from twenty to twenty five minutes to cook; the rule is to take it up as soon as a fork will enter the stem easily, a minute or two longer boiling will spoil it, and its excellence may be destroyed by an ignorant or careless manner of preparing it for the table.

"It may be eaten with the gravy from the meat, or drawn butter, or with vinegar, as best suits. If it is designed to imitate green peas, a little loaf sugar, previously made fine, should be sprinkled over it immediately before serving. It should never be forgotten by the cook that the water must be boiling whenever the cauliflower is put into it, whether once or twice, and should be skimmed during the time it is cooking.

"O. T.

"Mediga, June 28, 1833."

RE-POTTING PLANTS.—Those plants that were not re-potted in the spring should be during this month; and those in small pots should be transferred to larger ones without disturbing the ball of earth.

BUDDING.—Those who neglected to attend to this pleasing operation in July, should not fail to make the most of August. The choicest roses may be budded on the common stocks. Young fruit trees, particularly the peach, can be propagated by budding. The most common method is cutting through the bark of the stock at right angles in the shape of a T, and carefully raising the bark sufficient to insert the bud. A piece of court or sticking plaster, some grafting-wax, or pieces of matting made oily, should be provided, to secure the bud. The sharper the knife used the better. The following directions for taking the bud are from Goodsell's Farmer:

"Holding the scion by the lower, and commence the cut about a quarter of an inch above the bud, scalping off a thin piece of the wood with the bark varying from half to three quarters of an inch in length. Taking this by the petiole or leaf stem, which should be cut to half an inch in length, slip the knife along upon the upper end, gently pressing the blade upon the surface, which, as it passes the point of the wood, will cause that to rise a little from the bark, slip the edge of the knife under it, and with the ball of the thumb press the wood between it and the knife, and raise it gently from the bark. When the wood is thus detached from the bark, examine whether that part of it which enters the bud has been torn away, if so, the bud is destroyed, and should be rejected. The wood of the bud should remain level with the bark, in order that, when set, it may rest upon and unite with the stock, otherwise the bud would die after setting, although the bark might unite perfectly."

CHERRY AND PEACH STONES.—These should be preserved much more generally than they are. Were farmers in the habit of preserving them, fruit trees would be far more common. By planting a few drills in the corner of the garden, the farmer would always be supplied with these trees to set out about his house, in his orchard, and in unoccupied places of his fields. The best way is to have a box containing earth, in which the stones, or pits, should be put, and covered while they are fresh; for, they often lose their vegetating property, if allowed to become very dry. In the spring they can be planted.

GOODSELL'S GENESEE FARMER.—We have received the first number of a weekly periodical with this title, published at Rochester, N. Y. Mr. Goodsell has been extensively and creditably known as the editor of the Genesee Farmer, commenced two or three years ago at the same place. The exertions of Mr. G. to improve the condition of agriculture, entitle him to general encouragement, particularly of western New-York.

FARMER'S JOURNAL.—A monthly periodical, in quarto form, has just made its appearance at Rutland, Vt. under the editorial charge of E. Maxham. Both the editorial and selected matter bespeak its usefulness.

New-York State Agricultural School—Hamilton College. By A PRACTICAL FARMER. [For the New-York Farmer.]

MR. EDITOR,—In your June number, page 163, is an article on the important subject of a State Agricultural School. I like your ideas much, with the exception of those in the close of the article. You there say that, "in case the experimental farm is connected with the college, it will be requisite to substitute some studies more intimately connected with agriculture for those much less so, for the agricultural students. The society should have a vote in the government of the college, and the appointment of the superintendant of the farm, and of the gardener." In respect to the studies, the reverse should be the arrangement; they should be selected and adapted to the wants of those who are intended for agricultural life, and some of these studies should be dispensed with, and others attended to in their place, to accommodate those who intend to pursue other callings. Let the institution be agricultural in all its characteristic traits. Let all the students be required to labor, and become acquainted with the practical details of farming and gardening operations. The government, too, should be principally under that of trustees appointed by the society, and the legislature, or regents of the university.

It is well known that this once flourishing and very promising college labors under many embarrassments. By a notice in the Utica Sentinel of the 9th July, I perceive a second and last appeal to the inhabitants of that place, calling upon them to take immediate measures for its relief. Should the appeal fail, "the doors of the college," says the writer, "will be closed." I do not know the result of that meeting; but I am very sanguine that the present friends of the college would find their views more fully promoted, by converting it into an agricultural institution, than persevering in this present struggling and agonizing course. Let the contemplated change go into full operation, and students would flock to the institution from all parts of the United States. Let it be conducted with prudence, judgment, and ability,—it would be continually increasing in the affection of the people at large. The prejudices of the farming community would rapidly wear away, and they soon would become its most devoted and permanent supporters. In this section of the state the union of labor and study, of theory and practice, meets with increasing admirers among farmers. A PRACTICAL FARMER.

Vernon, N. Y. July 15, 1833.

Simple Apparatus for Preparing Silk Cocoons for Reeling. By R. M. W. [For the New-York Farmer.]

Mr. Brewer's suggestion about reeling silk, is an improvement on the usual practice, but I think is yet susceptible of amendment. Make a box 12 inches square, 2½ feet long, of inch boards, put on a bottom and bore 4 or 6 holes near the edges, on the inside lay a square board smaller than the bottom by an inch all round the sides; cover the spaces between the sides and false bottom with tin, with small holes punched like a lantern, then put on the cover with hinges, which cover should be forced with a small gimblet in squares of one inch; take a coffee pot, put in it half a gallon of whiskey, or any cheap proof spirits; set the coffee pot on some live coals and the spirit will soon boil, and the steam will pass off through the spout, and may be easily led into the bottom of the wooden box. Let the box be filled with cocoons, and the hot steam thrown on them; it will soon kill all the millers, and dissolve the gluey matter of the cocoons, which will reel much better than from the water-bath. The steam of the spirits is a much greater solvent than water; the holes in the cover will lead the steam through the box, and the tin and holes at the bottom will allow any water to escape, which may be condensed during the operation. I hope yet to see the silk culture and reeling very extensively attended to in our country, and think much improvement will be made after a little experience. Yours, &c. R. M. W.

Potter, July 4th, 1833.

To destroy the Canada Thistle. By W. W. POWELL. [For the New-York Farmer, and American Gardener's Magazine.]

MR. EDITOR,—Your Farmer of this month has just come to hand, in which I perceive an inquiry by A. K. B. respecting the destruction of that pest, the Canada Thistle. Many plans for the attainment of that object are already before the public, but there is one which I do not recollect to have seen published. It was mentioned to me by an aged man, who has had long experience as a farmer. He assured me that he had frequently tried it, and had not in a single instance failed of success. The plan is, to mow the thistles immediately after a *honey dew*. This information being recent to me, has deprived me of the opportunity of testing its truth by actual experiment, but shall do so as soon as an opportunity is afforded. When the honey dew has fallen, may be known by touching the tongue to a leaf which is wet with it. Every farmer probably knows that honey dew is sweet; let them try the experiment, if it should prove successful, it is an easy way of extirpating what every farmer should wage war with, until this enemy, so very tenacious of life, is completely routed. Respectfully,

WESTEL W. POWELL.

Milton, Saratoga county, June 18, 1833.

POTATO PUDDING.—In the hands of an economical housekeeper, no vegetable can afford a greater variety of cheap and wholesome preparation than the potato. The following is Dr. Kitchener's direction for a cottage potato pudding:

Peel, boil, and mash, a couple of pounds of potatoes; beat them up into a smooth batter, with about three quarters of a pint of milk, two ounces of moist sugar, and two or three beaten eggs.

Bake it about three quarters of an hour.

Three ounces of currants or raisins may be added.

Leave out the milk and add three ounces of butter, it will make a very nice cake.

NEW-YORK AMERICAN.

AUGUST 3, 5, 6, 7, 8, 9—1833.

LITERARY NOTICES.

THE NORTH AMERICAN REVIEW, No. LXXX.—*Boston:* CHARLES BOWEN.—The opening article of this number is a spirited and rapid, but charming notice of the life, writings and character of *Madame de Staël*, suggested by an essay of *Benj. Constant*. We wish we had room for the whole of it—but as that is impossible, we make an extract in which à propos of her great work on Germany, and to account for what is called her boldness in publishing a work shocking so many French prejudices, a parallel is instituted between the French and German character.

The German philosophers, beginning with Leibnitz had boldly opposed the doctrines of the materialist philosophy, but Voltaire had erected against Leibnitz his whole battery of wit in his Candide, where, like a mocking demon, or like Nero, exulting over the ruins of the Imperial City, he laughs at the misery of his own species.

Besides, the antipathy existing in France to every thing appertaining to Germany was so strong, that, until its literature and the character of the nation were better known, it was impossible to penetrate the triple wall of vanity, self-interest and national prejudice, with which France was surrounded.—Nor was there perhaps any period, when the national vanity was at greater height. Though the dearly bought fruits of the Revolution were gradually perishing, the glory attached to their victorious arms consoled the nation in general. If enslaved, they were led out to battle, and their chains were wreathed with laurel.

The opposition between the French and German character had remained as strongly pronounced, as in the first periods of their history. Tacitus describes the ancient Germans as worshipping the Supreme Being in the deep silence of the forests, and disdaining all human emblems of the Divinity,—while the Gauls are represented by Cæsar as a gay and superstitious people, governed by fanatical priests, and adoring God in temples, under the form of images.

'Upon the small surface of our little Europe,' says M. de Villers, 'Nature, in one of her caprices, has taken pleasure in bringing together by the boundaries of their territory two nations, which she has placed by their genius and character at the two extremes of the intellectual line, which it is given to man to traverse. These are the French and the Germans. Though some shades of resemblance are common to both in the present modification of the European character, they offer in their general ideas, and in the views which they take of life, such contradictions, and such total opposition, that it appears as if all means of understanding one another were impracticable, and all efforts to do so, superfluous.'

He goes on to explain the causes of this difference, by the ingenious but fanciful theory adopted by a modern school of philosophy, to account for the different organization of plants and animals, which it refers to the combined action of the centrifugal and centripetal forces. According to this theory, the plant is a portion of the centrifugal, planetary or terrestrial force, attracted externally, and retained there by centripetal, astral or solar forces. The animal, on the contrary, is a portion of solar force, surprized and enveloped by a terrestrial one,—a spark of Divinity immured in clay.

According to M. de Villers, the solar force has in the French nature been equally combined with or spread through the terrestrial element, whence arise the irritability and mobility of the whole mass, its exquisite powers of perception, and the vivacity of its communications with the external world;—while in the German nature, the celestial fire is condensed into one pure flame, burning in the intellectual sanctuary. Hence the German is less strongly attracted by objects affecting the senses, but is capable of an internal strength of meditation, that occasions his intellectual irritability to be greater, and gives him a totally different sphere of enjoyment.

Solitude does not suit a Frenchman, even in sorrow. His disposition is sociable, and he must have one to whom he may recount his griefs, and who may admire the philosophy with which he supports them. The woods and the rocks are not fitting echoes for a *bon-mot* or an epigram. He prefers a city life, with agreeable companions, to whom he may talk of the charms of solitary meditation.—Madame de Staël in her lively description of the *fête* of Interlaken, observes that she met various Parisian *élegans* in the streets of Unterseen, listening to the roaring of the waterfalls in the Swiss valleys, and endeavoring to secure a sufficient portion of *ennui* amongst the mountains, to enable them to return with a fresh zest to the gayeties of Paris.

The Germans live in a world of their own, which consoles them for the bleak world that environs them, as well as for the nullity of their political existence. One of their most distinguished writers remarks, that 'the English have the empire of the sea, the French of the earth, and the Germans of the air.'

In their ardent desire to see nature restored to her moral rights, the Germans were carried too far; and while the French materialized mind, they spiritualized matter. Thus, while one of these schools of philosophy renders us unworthy of heaven, the other unfits us for earth. But the German philosophy at least is the faithful ally of religion, while in the French they stand at the opposite sides of the barrier, like rival knights prepared for mortal encounter.

It required all the genius of Madame de Staël and all the celebrity attached to her name, to obtain even a patient hearing from the French public, when she undertook to unveil to them the riches of German literature, and the superiority of German philosophy. It required a grace and tact peculiar to herself, to make her way through a host of difficulties; and we cannot but admire the clearness with which she penetrates the German character, apparently impenetrable to a French understanding.

Art II is a long and useful paper on the instruction of the blind. *Art. III*, on phrenology, hardly does justice, as it seems to us, to what there is really sound and of a tendency to improve at any rate our usual systems of education, in Phrenology. It is written manifestly by a total unbeliever in this science. We had marked some time ago in *Kidd's* Bridgewater Treatise, on the adaptation of external nature to the physical wants of man, a chapter on this subject that struck us as giving just credit, to what Phrenology really has accomplished, and defining sagaciously the limits within which it may be looked upon as a wise and sure guide. We will find an opportunity to publish it; meanwhile we need hardly add, that Dr. Kidd's views differ materially from those of this number. *Art. IV* speaks with praise and discrimination of Cushing's Reminiscences in Spain. *Art. V*, on the Penitentiary system of the United States, affords an analysis of the report of Messrs. *Beaumont* and *de Tocqueville* on the prisons and prison discipline of the United States. This report, translated by *Dr. Lieber*, and accompanied with many explanatory notes from his hand, will, we understand, be shortly published by *Carey, Lea & Blanchard*, of Philadelphia, when we shall take occasion to speak at some length of it. *Art. VI* gives to the various publications of Mrs. Child, a native writer of approved talent, a deserved meed of applause. The following poem, now for the first time seen by us, from her pen, is admirable. The subject is the painting by Vanderlyn, of Marius seated amid the ruins of Carthage.

'Pillars are fallen at thy feet,
Fanes quiver in the air,
A prostrate city is thy seat,—
And thou alone art there.

No change comes o'er thy noble brow,
Though ruin is around thee;
Thine eye-beam burns as proudly now,
As when the laurel crowned thee.

It cannot bend thy lofty soul
Though friends and fame depart;
The car of Fate may o'er thee roll,
Nor crush thy Roman heart.

And Genius hath electric power,
Which earth can never tame;
Bright suns may scorch, and dark clouds lower,—
Its flush is still the same.

The dreams we loved in early life,
May melt like mist away;
High thoughts may seem, 'mid passion's strife,
Like Carthage in decay.

And proud hopes in the human heart
May be to ruin hurled,
Like mouldering monuments of art
Heaped on a sleeping world.

Yet there is something will not die,
Where life hath once been fair;
Some towering thoughts still rear on high,
Some Roman lingers there!'

Art. VII is devoted to a notice of *Vaughan's Memorials of the Stuarts*. This is the Puritan history of those scenes which led to the revolution of 1688; and with Hume as the Protestant, and Lingard as the Catholic historian of those same scenes and events this impartial inquirer may now have a fair chance of arriving at the truth. We should think that a republication of these volumes, which we know only from this review of them, would be found profitable in this country, where the principles for which the Puritans contended, and which their historian vindicates, have taken deep root. *Art. VIII*, on the UNION, is the sequel and conclusion of the able article on the same general subject in the January number, and will be found not less deserving of attention, nor written with less force of reasoning, or warmth of patriotic feeling. *Art. IX*, which is the concluding one, on the volume lately published by Mr. Sparks—the biographer of *Gouverneur Morris*, and the editor of the Washington papers—of the private, familiar letters of *Benjamin Franklin*, gives us the opportunity of saying here, what we ought to have said before, on receiving the volume itself, that in presenting it to the public, Mr. Sparks has acquired new claims to its gratitude, as having mainly contributed to dispel the lurking prejudice yet entertained by many against the character of old Franklin. We were ourselves, we confess, of the number of doubters about some parts of his character; but we acknowledge our error. We recommend the volume itself to our readers, meantime we will here give them a sportive letter of Franklin before the Revolution had made him an American. It was written to a young lady, at the house of whose mother in London he had been on a visit.

'PARIS, 14 SEPTEMBER, 1767.

'I am always pleased with a letter from you, and flatter myself you may be sometimes pleased in receiving one from me, though it should be of little importance, such as this, which is to consist of a few occasional remarks made here, and in my journey hither.

'Soon after I left you in that agreeable society at Bromley, I took the resolution of making a trip with Sir John Pringle into France. We went out on the 28th past. All the way to Dover we were furnished with post-chaises, hung so as to lean forward, the top coming down over one's eyes, like a hood, as if to prevent one's seeing the country; which being one of my great pleasures, I was engaged in perpetual disputes with the innkeepers, ostlers, and postillions, about getting the straps taken up a hole or two before, and let down as much behind, they insisting that the chaise leaning forward was an ease to the horses, and that the contrary would kill them. I suppose the chaise leaning forward looks to them like a willingness to go forward, and that its hanging back shows reluctance. They added other reasons, that were no reasons at all, and made me, upon a hundred occasions, almost wish that mankind had never been endowed with a reasoning faculty, since they know so little how to make use of it, and so often mislead themselves by it, and that they had been furnished with a good sensible instinct instead of it.

'At Dover, the next morning, we embarked for Calais with a number of passengers, who had never before been at sea. They would previously make a hearty breakfast, because, if the wind should fail, we might not get over till supper time. Doubtless they thought, that when they had paid for their breakfast they had a right to it, and that when they

had swallowed it they were sure of it. But they had scarce been out half an hour, before the sea laid claim to it, and they were obliged to deliver it up. So it seems there are uncertainties, even beyond those between the cup and the lip. If ever you go to sea, take my advice and live sparingly a day or two before hand. The sickness, if any, will be lighter and sooner over. We got to Calais that evening.

'Various impositions we suffered from boatmen, porters and the like, on both sides the water. I know not which are most rapacious, the English or French but the latter have, with their knavery, most politeness.

The roads we found equally good with those in England, in some places paved with smooth stones, like our new streets, for many miles together, and rows of trees on each side, and yet there are no turnpikes. But then the poor peasants complained to us grievously, that they were obliged to work upon the roads full two months in the year, without being paid for their labor. Whether this is the truth, or whether, like Englishmen, they grumble, cause or no cause, I have not yet been able fully to inform myself.

'The women we saw at Calais, on the road, at Boulogne, and in the inns and villages, were generally of dark complexions; but arriving at Abbevile we found a sudden change, a multitude of both women and men in that place appearing remarkably fair. Whether this is owing to a small colony of spinners, wool-combers and weavers brought hither from Holland with the woollen manufactory about sixty years ago, or their being less exposed to the sun, than in other places, their business keeping them much within doors, I know not. Perhaps, as in some other cases, different causes may club in producing the effect, but the effect itself is certain. Never was it in a place of greater industry, wheels and looms going in every house.

'As soon as we left Abbeville, the swarthiness returned. I speak generally; for here are some fair women at Paris, who, I think, are not whitened by art. As to rouge, they don't pretend to imitate nature in laying it on. There is no gradual diminution of the color, from the full bloom in the middle of the cheek to the faint tint near the sides, nor does it show itself differently in different faces. I have not had the honor of being at any lady's toilette to see how it is laid on, but I fancy I can tell you how it is or may be done. Cut a hole of three inches diameter in a piece of paper; place it on the side of your face in such a manner, as that the top of the hole may be just under the eye; then, with a brush dipped in the color, paint the face and paper together: so when the paper is taken off, there will remain a round patch of red exactly the form of the hole. This is the mode, from the actresses on the stage upwards, through all ranks of ladies, to the princesses of the blood; but it stops there, the Queen not using it, having in the serenity, complacence, and benignity, that shine so eminently in, or rather through her countenance, sufficient beauty, though now an old woman, to do extremely well without it.

'You see I speak of the Queen as if I had seen her; and so I have, for you must know I have been at court. We went to Versailles last Sunday, and had the honor of being presented to the King; he spoke to both of us very graciously and very cheerfully, is a handsome man, has a very lively look, and appears younger than he is. In the evening we were at the *Grand Concert*, where the family sup in public. The table was half a hollow square, the service gold. When either made a sign for drink, the word was given by one of the waiters, *à boire pour le Roi*, or, *à boire pour la Reine*. Then two persons came from within, the one with wine and the other with water in *carafes;* each drank a little glass of what he brought, and then put both the *carafes* with a glass on a salver, and then presented it. Their distance from each other was such as that other chairs might have been placed between any two of them. An officer of the court brought us up through the crowd of spectators, and placed Sir John so as to stand between the Queen and Madam Victoire.—The King talked a good deal to Sir John, asking many questions about our royal family; and did me too the honor of taking some notice of me; that is saying enough; for I would not have you think me so much pleased with this king and queen, as to have a whit less regard than I used to have for ours. No Frenchman shall go beyond me in thinking my own king and queen the very best in the world, and the most amiable.

'The civilities we every where receive give us the strongest impressions of French politeness. It seems to be a point settled here universally, that strangers are to be treated with respect; and one has just the same deference shown one here by being a stranger, as in England by being a lady. The custom-house officers at Port St. Denis, as we entered Paris, were about to seize two dozen of excellent Bordeaux wine given us at Boulogne, and which we brought with us; but as soon as they found we were strangers, it was immediately remitted on that account. At the Church of Notre Dame, where we went to see a magnificent illumination, with figures, &c. for the deceased Dauphiness, we found an immense crowd, who were kept out by guards; but the officer being told, that we were strangers from England, he immediately admitted us, accompanied and showed us every thing. Why don't we practise this urbanity to Frenchmen? Why should they be allowed to outdo us in any thing?

'Travelling is one way of lengthening life, at least in appearance. It is but a fortnight since we left London, but the variety of scenes we have gone through makes it seem equal to six months living in one place. Perhaps I have suffered a greater change, too, in my own person, than I could have done in six years at home. I had not been here six days, before my tailor and perruquier had transformed me into a Frenchman. Only think what a figure I make in a little bag-wig, and with naked ears! They told me I was become twenty years younger, and looked very gallant.'

The Efficacy of a Mother's Prayers Illustrated in the Conversion of St. Augustin, Bishop of Hippo. New York: Swords, Stanford & Co.—This narrative, for such it is, in simple and unadorned language, of the life of St. Augustine, was prepared by the Rev. Mr. Seabury, one of the Instructers in the Flushing Institute, for the benefit of the scholars; and is so well done as to have been rightly judged worthy of more extensive dissemination. It is accordingly printed as a tract; and we commend it to notice, as a renewed evidence of the value of that most blessed and probably most permanent of all mere human influences—a mother's early love and care.

Tales and Novels, by Maria Edgeworth. Vol. VI.—*Harpers'* Uniform Edition. *Belinda* occupies this volume of this very pretty and well printed edition which is, as our readers may remember, to be completed in nine volumes.

The Premium.—*Carey, Lea, & Blanchard*, Philadelphia.—This is a pretty little volume, designed, as its name implies, as a reward to diligent students, and compiled with a view to render it, in a higher degree than the annuals generally or other similar books of which the chief value consists in the luxury of typography and embellishment—instructive as well as attractive. The selections here are well made—taken from approved European and American writers, both in verse and prose, and may be read and re read without loss of interest.

Stanley Buxton; *by the author of* '*Laurie Todd*, &c. Philadelphia, E. L. Carey & A. Hart.

Godolphin, J. & J. Harper, New York.

Deloraine; by the Author of 'Caleb Williams.'

The Library of Romance: Philadelphia, Carey, Lea & Blanchard: Vols. IV, V, and VI, comprising

The Stolen Child; by John Galt, Esq.

The Bondman; a Tale of the Times of Wat Tyler;

The Slave-King; from the Bug Jargal of Victor Hugo.

Here is a list of novels and romances, which we can do no more than enumerate; for, sooth to say, we have not found leisure to look at any one of them except 'Godolphin,' and only at that long enough to marvel, how any one conversant with the manner of Bulwer, could have ascribed that work to him!

New-England Magazine, for August.

Knickerbocker, for do.

American Monthly Magazine, for do.

Of these, we have only read the last, and with increasing approbation of each successive number; and cannot doubt that this periodical, if sustained, as heretofore, will take rank among the very foremost of its class. In referring to it, we are sorry to be obliged to call attention to an advertisement of its proprietors, alleging a sort of piracy against the *Knickerbacker*, which, unless completely explained away, must and should redound greatly to the discredit of that work. We have only a line in conclusion to say, as we do with great pleasure, that the "letters, &c. of Horace Walpole," of which we gave an account yesterday, are to be republished in the course of next week, by Mr. Dearborn, of this city.

FOREIGN INTELLIGENCE.

East India Company.—We published last week the five propositions introduced in the House of Commons on the — June by Mr. Grant, as the basis of the contemplated arrangements respecting the East India Company. To compensate the Company for the surrender of their rights and privileges, according to those resolutions, it is proposed—

"6. That their present dividends, to the amount of £630,000, which the Proprietors are in the annual receipt of, should be secured to them by an annuity, to be charged on the territorial revenues of India, and on the territorial revenues of India *only*.

"7. That at the end of the twenty years of government to be administered by the East India Company, the Proprietors shall have the right, if *then* deprived of the government of India, to demand the payment of their capital; but

"8. If at the end of that period of twenty years they should not demand the payment of their capital, then that the payment of the said annuity of £630,000 should be continued for forty years.

"9. At the end of forty years, it is to be at the option of Parliament, on giving three years' notice, to redeem the said annuity at the rate of £100 for every £5 5*s.* of annuity.

"10. That there shall be a guarantee fund of two millions; the said fund to be allowed to accumulate, until with interest it shall increase to the sum of twelve millions; the object of the said fund being to secure the regular payment of the annuity; and ultimately to be applied to the paying off the capital stock of the Company."

It is proposed—

"That in future, this country shall proceed on the American plan of apportioning the duty according to the quality of the tea; so that taxation on that article may not fall disproportionately on the consumers of inferior sorts of tea. To that end Mr. Grant recommends that the teas should be distinguished in four or five distinct classes, and rated accordingly.

"With respect to the tea now held in bond by the E. India Company, and which is calculated at about two years' consumption, the Company is to be allowed a reasonable tome to dispose of it, before the private trader is allowed to come into competition with them.

"Mr. Grant expressed his opinion that there should be no restrictions in respect to the size of vessels trading to China."

With respect to the silk establishments kept up by the Company in India, it is proposed, in order to secure the certain supply of silk to this country, that the Company should be allowed to go on with them, until capitalists be found to take the trade out of their hands.

In a future stage of the Bill, Mr. Grant announced that he should have to propose some alterations in the Ecclesiastical Establishments of India.

The following are the resolutions proposed by Mr. Grant, as they appeared in the "Votes and Proceedings" of the House of Commons:

"1. That it is expedient that all his Majesty's subjects should be at liberty to repair to the ports of the Empire, subject to such regulations as Parliament shall enact for the protection of the commercial and political interests of this country.

"2. That it is expedient that, in case the East India Company shall transfer to the Crown, on behalf of the Indian Territory, all assets and claims of every description belonging to the said Company, the Crown, on behalf of the Indian Territory, shall take on itself all the obligations of the said Company of whatever description, and that the said Company shall receive from the revenues of the said Territority such a sum, to be paid in such a manner, and under such regulations, as Parliament shall enact.

"3. That it is expedient that the Government of the British possessions in India be entrusted to the said Company, under such conditions and regulations as Parliament shall enact, for the purpose of extending the commerce of this country, and of securing the good government, and promoting the moral and religious improvement of the people of India."

Death of a Miser.—Died, at Anstruther, on the 29th of May, Alexander Sim, who had for upwards of thirty years carried on the business of a saddler, in a mean shop, and lived in one room. When not in his shop, he was quite a recluse, and his meagre appearance and threadbare garment evinced no little mortification of the flesh; he was constantly complaining of poverty and badness of the times. Nothing being known of his relations, after his funeral his shop and room were searched by the Town Clerk, and in a chest, the key of which was hid in an old shoe, receipts were found for 2000*l.* deposited in different banks, and 174*l.* in bank notes were in his pockets. No will was found, but a letter from a sister-in-law, in one of his pockets, begged the loan of a few pounds. An old woman, his occasional housekeeper, says she was present when he received the letter, and he threw it from him in great wrath, declaring she should not have a farthing, as if he complied with such, he would soon be a ruined man.—It is supposed the children of the applicant are his heirs.—[Dumfries Courier.]

[*From the Courier and Enquirer.*]

Jamaica.—By the ship *John W. Cater* we have received files of the *Jamaica Despatch* to the 13th ultimo. They present public feeling in the same aspect on the subject of the measures now in progress in England to emancipate the slaves, that we have for some time past had occasion to notice. An attempt has been made to show, that the Toleration Act, by which in the mother country, other sects than those of the Anglican church have been permitted the free exercise of their religion, did not extend to Jamaica. The Grand Court were divided on the question, and finally settled that this law was in force in the island, but that Sectarian preachers must comply with its provisions, which require that they should apply to the magistrates in the parish where they purpose to exercise their calling for a license to preach.

[*From the Journal of Commerce.*]

Late from Buenos Ayres.—By the brig Amanda, Capt. Yorke, we have received Buenos Ayres papers to June 22d inclusive.

The Eleventh Legislature of the Province convened at Buenos Ayres, 31st May, on which day, Governor Balcarce delivered a Message containing among other paragraphs the following:

"The Minister sent by the Government of Washington, whose expected arrival was announced to you in the preceding year, and whom it was resolved to await in order to come to an explanation relative to the destruction by main force of the colony in the Island de la Soledad, (one of the Falklands) by the Captain of the United States corvette *Lexington*, did in effect arrive, and was received in the character of Chargé d'Affaires: you are, Messrs. Representatives, already acquainted with the state of this negotiation. The Government, in order to follow it up, has appointed a Minister, and has notified this appointment to that of Washington; and he will shortly be despatched with the competent instructions to obtain satisfaction and reparation for so great an injury.

"The re-settlement of the Falkland Islands was immediately resolved on, in the mode that the other attentions of the province allowed; but soon an event occurred as unexpected as disagreeable. The Government has informed you that the Captain of His Britannic Majesty's sloop of war *Clio*, sustained by a superior force, took possession of the Islands in the name of his Sovereign. Then it likewise stated to you what would be its conduct. It has therefore directed its Minister in London, that, energetically remonstrating against the violation of the most sacred principles of the law of nations, he demand the restitution, and seek such satisfaction as becomes the justice and honor of both Governments, by those means which probity, good faith, and sound reason dictate."

At an election of Representatives on *Sunday*, the 16th, to supply six vacancies in that body, serious disturbances took place, and the Government issued an order suspending the canvass. One parish, notwithstanding, continued the polls open until the usual hour of closing.

There is nothing important from the expedition against the Indians.

Capt. Stetson, of the brig Cherokee, arrived this day from Pernambuco, states that he was informed by Mr. Crabtree, a merchant at Pernambuco, that he had received a letter from the English merchants, at a small place about 60 miles from Pernambuco, stating that the Brizilians had risen on the British merchants, and massacred about 50 persons. It was said the difficulty arose from a difference in the currency of money. A United States schooner was at Pernambuco when Captain S. heard the news, which got under way immediately, to protect the merchants and property at that place.

SUMMARY.

The United States Ship of the line Delaware, Henry E. Ballard Esq. Commander, arrived and anchored in the offing on Friday. She is now at anchor in the North river.

The National Gazette has been misled in supposing Mr. Livingston will not embark in the Delaware. He made a preparatory visit in the ship yesterday, with a part of his family, on which occasion a salute was fired: and will sail probably early next week.

Our Harbor.—From the Gazette we learn that the Delaware, drawing 25 feet and 8 inches of water, (and no ship of war requires more depth,) came over the bar on Saturday, when the tide was only at one third of its elevation, and when there was a heavy swell of the sea. The log was constantly thrown, and the shoalest part of the bar, at this state of the tide, was 29 feet of water, leaving more than four feet from the bottom. Had the tide been full, she would have had nearly 9 feet of water between the keel and the top of the bar.

Fort Monroe and the Rip-Raps.—We find the following account of these fortresses in the Globe of Tuesday:—

The channel which leads in from the Capes of Virginia to Hampton Roads, is, at Old Point Comfort, reduced to a very narrow line. The shoal water, which, under the action of the sea, and re-acted upon by the bar, is kept in an unremitting ripple, has given the name of Rip Raps to this place. When the bar is passed, Hampton Roads, which extend to Norfolk, about 16 miles distant, into which James River, Elizabeth River and Nansemond Mouth empty, afford the the finest anchorage in the world, and in them all its navies might ride with perfect safety. With a view of making this a secure retreat for ships of war and for our commerce, in any future contest with a naval power, Fort Monroe was built on the point, on the right side of the channel at the entrance of the Roads—and the castle of the Rip Raps is directly opposite the point, at the distance of about 1900 yards. The two forts will completly command the channel, and it will be impossible for a single ship of war to pass without the permission of the power holding the fortresses. They are so constructed, as to present immense batteries of cannon upon an approaching ship, from the moment she comes in reach, from the Capes, and throughout all the bendings of the channel it must still be under the power of the cannon; for the forts present a new aspect at every turn, and in all probability the interdicted ship would be a wreck, or a conflagration, from the hot shot thrown into her, before she completed half the circuit of the channel.

There is much salutary experience, bought however dearly, in the lessons of the late war. These waters were then the resort of the British fleets, and while all American vessels were either driven from their own harbors, or captured, the enemy made himself at home here—sent detachments to Baltimore and Washington—ravaged the shores of the Chesapeake—burnt our Capital and Navy Yards, and laid the whole country under contribution. The erection of the two Forts at this central point of our seaboard, gives a refuge to our naval force, if driven in by superior numbers, and will, in effect, not only occlude Hampton Roads to the enemy and shut him out from James River and Norfolk, our naval depot, but must deter him ever venturing up the Chesapeake Bay. If such an attempt were made, the first calm would put the most powerful fleet of an enemy completely at the mercy of a few steam-frigates or steam-batteries, which, by means of their self-moving power, would be enabled to take such position as suited them, and to set fire to the ships of the enemy with hot shot, or cut them off in detail. The shelter of these forts, too, would enable a few ships, lying in security under their guns, to sally out and take advantage of any storm which might separate a blockading force, exposed to the accidents of an open sea.

These circumstances give great importance to the works which are to form the gates at Hampton Roads—and, as a consequence, in a great degree to the whole Chesapeake Bay. Fort Monroe is already finished, and is at this moment in admirable condition, if its armament were completed. * * * *

The Rip Raps, where the President has fixed his quarters, for the benefit of the sea air and bathing, will, I trust, before long, become a noble structure. When finished, it will be a monument worthy of the people who have lavished their means in its erection, and of the genius of the Engineers by whom it was planned. The area of the structure, as originally staked off includes five acres; a great part of which was 22 feet below the surface of the sea, and that nearest the surface 18 feet. To get a foundation above water for the Fort or Castle, an Island has been raised, by throwing rocks into the water, until, by gradual accumulation, it has emerged above the tides. The rock of which this Island is formed, has been brought from great distances, and at a vast expense.

After a foundation was obtained for the Castle above high water, the building of the castle was begun, and carried up so as to form the first embrasures. It was found that the settling of the artificial mound of stone cracked the walls. The building was, therefore, discontinued; but immense masses of granite have since been brought and lodged upon the lines of the work, that the weight of the material, designed for its final completion, might be employed in consolidating its foundations. For some years this marine pyramid sunk between six and eight inches; during the last year, although pressed with the weight of all the material gathered for the superstructure, it settled about three inches. It is the President's opinion that the erection of the Castle may now proceed with safety, and it is probable that he will direct its immediate completion.

The present aspect of the place is rough and savage, and when the surge rushes in among the hollow piles of granite, and the wind whistles among the naked spars, which are planted round the walls for the support of the scaffolding, the music of the surrounding elements of sea and air, is quite in keeping with the dreary, desolate spot, which, at a distance, looks like a Gibraltar, beaten down by cannonade, and fallen prostrate in the sea.

Nothing could add more to the grandeur of what has been justly called the *American Mediterranean*, than the elevation of the Castle at the Rip Raps—the rising of this giant of the flood, from the waves, as contemplated by Commodore Warrington, Commodore Elliott, General Armistead, General Bernard, General Swift and Major McRee, the Commissioners and Engineers, in whose design the work originated. The ancients tell us that Venus rose from the sea, but it would seem a much fitter element, to give birth to the god of War; and never was there a nobler scene, or nobler temple, than that appropriated for his cradle, by the American people, at the Rip Raps. He will appear here, not like the goddess of Love, borne in a shell upon a summer's sea, but upon a tower of strength amidst the noise of restless surges,—a fit emblem of the American people, whose martial strength belongs alike to the land and to the ocean.

It is a circumstance worth notice, that the material for the structure of the Castle of the Rip Raps is drawn from most of the commercial States of the Union. In walking over the piles with the Superintendent, a day or two since, he pointed out to me the drab grey granite of Maine—the whitish blue and the black speckled granite of Connecticut—the red freestone of the same State—the sky blue granite from near West Point, New York—the iron stone, for break waters, from the same State—the pied granite of the Susquehanna—the deep blue of the Little Falls of Potomac—and the ash colored of the James river.

In this edifice, then, which is to form a strong hold in a central position, to defend our great naval depot and to protect our naval power over the ocean, and especially to afford a place of refuge to the commerce of the nation, each commercial State may point to a portion of the blended strength which it has contributed to the common structure. The castle, at the Rip Raps, should then be called, as well from its use, as from its origin, *the Castle of the* Federal Union—and when attacked by foreign or domestic assailants, it should run up with the ensign of "the Federal Union," the watch word "*it must be preserved.*"

Minister from Portugal.—The outside of letters can be seen, although the inside is sacred. We are much gratified at finding that an amiable, able, and patriotic man has been appreciated by his government. The Chevalier *I. C. De Figaniere*, who filled the office of Consul for Portugal in this city for many years has been appointed by Don Pedro as Regent, and in behalf of his daughter, *Chargé d'Affaires* near our Government. This gentleman has continued to

reside amongst us up to the present time; and has gained the esteem of all. He has been rightly rewarded for his fidelity and zeal.

Perhaps the appointment above noticed, of which we apprehend there is no doubt, may afford to our Government a fair pretext for putting itself again in harmony with the liberal party of Europe, by recognizing Donna Maria. The step by which Don Miguel was so early, and, as it always seemed to us, so unnecessarily, recognized by this Government, would be thus countervailed.

The Secretary of the Navy and the Navy Commissioners arrived at the American Hotel on Tuesday from Philadelphia. After inspecting the Brooklyn Navy Yard, they will proceed to Boston and Portsmouth. We trust this opportunity will be embraced by these functionaries to satisfy themselves of the superior advantages of all sorts which this harbor possesses for a Naval Station of the first class, and that these advantages will be improved accordingly.

Lieutenant Collings Long, commanding the U. S. Schoonnr Dolphin, states in a letter to the Secretary of the Navy, dated April, 1833, Valparaiso Bay, that for the nine months previous only nine persons on board had drawn the liquor part of their rations.

Great Fire at Oswego—A slip from the Assistant Post Master at Oswego, dated August 2, 8 o'clock, A. M. and published in the Albany Argus, says, "The Post Office at Oswego, together with one whole block of stores, was burnt last night. The fire took in a blacksmith's shop.—[Journal of Com.]

Quebec, July 29.—*Hail-Storm.*—The warm atmosphere of last week was displaced by one of the sudden rushes of colder air from the northward, frequent in the climate of Lower Canada. About five o'clock on Saturday afternoon, some very dark clouds gathered in the North West of the horizon.—The wind agitated these clouds with extraordinary violence, and torrents of rain fell soon after, driven by a wind having nearly the velocity of a West India hurricane. Trees, fences and several out-houses and barns were prostrated, particularly on the Carouge, Lorette and St. Foy Roads, at the distance of two or three miles from town. A couple of barns on this side Scott's bridge have been levelled with the ground. The greatest damage was however done in the town of Quebec by the hailstones, which have broken on a low estimate from 8 to 12000 panes of glass in the different houses having a northerly exposure and situate in the Upper Town, and St. John and St. Lewis Suburbs. The extent of the hailstone shower does not appear to have been more than a couple of miles; the rain which fell at five or six miles distant from Quebec along the banks of the St. Lawrence, was but inconsiderable. The hailstones were on an average of the size of a hazel nut, and many were an inch in length. It is very many years since so much damage was done here from a similar cause.

The wind and rain does not appear to have materially damaged the standing crops.

Mr. Editor—In answer to "A Subscriber," requesting information, in your paper of yesterday's date, "as to the best mode of constructing an ice-house that will keep ice through the season," the following is submitted as the method most in use in the neighborhood of Boston, where it has been made the subject of scientific inquiry.

It must be a tight frame building, and *above* ground, the four sides of which should have an inside lining, fifteen inches apart, the intermediate space filled with tan; the floor, which should be dry ground, covered with the same material to the depth of about fifteen inches: the attic should have a board flooring, with a scuttle door for entrance, also covered with tan, say about five to six inches; over the whole, a good *tight* roof, with an entrance to the attic through the gable end. Another Subscriber.

Health of Cincinnati.—The whole number of deaths, says the Gazette of Aug. 1st. for the week ending 30th July, was 112. Cases of Cholera 51.—We have 13 more internients than the week preceding; the proportion of cholera a little diminished. It will be seen from the Mayor's report, that on Tuesday and Wednesday, the Cholera interments advanced a little upon those of Monday.

Extensive Fire in St. John's N. F.—The Miramichi Gleaner of Tuesday, July 23d, furnishes the following information, received there by a vessel from St. John's;—

"We were kindly handed yesterday evening by a mercantile house in Newcastle, the following note:

"We have just received a letter from our friends at St. John's, Newfoundland, who state that they have had a most destructive Fire. It commenced on Sunday morning, about 3 o'clock, and in a very short time, a considerable portion of the centre of the town was destroyed. Between forty and fifty buildings were consumed.—The Isabella brought no papers."—[Standard.]

Twenty-four horses have died within three weeks in this city by disease or poison. They belonged to two different proprietors. One of them is sanguine in the belief that they are poisoned, and states that the contents of the stomach of one of his horses was examined, and arsenic was found in considerable quantities. The public is deeply interested in ascertaining the fact whether any disease is prevailing, or whether any one has been malicious and wicked enough to infuse poison into the food of horses.—[Utica Sentinel of 30th July.]

Caution.—A fishing boat, coming into the dock, at the foot of Market street, was followed nearly up to the landing by a large Shark. As a number of boys are in the habit of bathing at that place, we notice the circumstance as a caution to them to abandon the practice.—[Charleston Courier.]

Pedestrianism.—Mr. Haskett, the pedestrian, who has undertaken to walk 2000 miles in 70 days, living on bread and water only, arrived in this town yesterday at one o'clock, from Fall River, and returned the same afternoon. He will deliver a lecture in this place this evening, at 8 o'clock, in the Lyceum Hall. We learn from the Courier that he has already accomplished the half of his tour, and is now in advance 93 miles. The first quarter he was in the rear, but in the second quarter he has made some rapid marches. Mr. H. is in good health and fine spirits, and walks with remarkable ease, carrying a large valise at his shoulders.

The subject of the Lecture will be the influence of Luxury on the character, health and happiness of man. Tickets for the Lecture may be procured at Wm. C. Taber's bookstore, and at the Merchants' Bank.—[New Bedford Mercury.]

The ship St. Louis. Capt. Story for Natchez, the first ship that ever sailed for that port, went to sea yesterday, with a cargo valued at nearly *four hundred thousand dollars.*—[Gazette.]

The Colonization Society, through its Agent, Mr. Gurley, and with the aid of many zealous citizens, is about making the attempt to raise, within this State, the sum of *Twenty Thousand Dollars*, in order to the more efficient carrying out of their plan, for the transportation of free colored people to Africa. The proceedings of a preparatory meeting in this city will be found below; the Executive Committee appointed will doubtless at once go to work.

This Society, always important and respectable, both by its objects and the character of its members, has latterly assumed a higher degree of importance by reason of the attacks made upon it by some misguided and fanatical persons, who formerly united in its purposes, but who, having recently discovered, as they allege, that the Colonization Society is a mere cunning device of the slaveholder, to rivet more firmly the bonds of the slave—now turn all their bitterness upon it, and insist upon nothing short of immediate emancipation. Persuaded as we are that a due regard to the repose of the South, and to the ultimate advantage of the slave population itself, imperiously requires that all hasty and over-zealous attempts of this sort, should be discountenanced and disavowed, at the North, we are the more urgent, that the effort now making by the Colonization Society should be favorably looked on here; because we think its encouragement and success the most obvious and effectual answer to all, who, from whatever motive, seek to represent the opinions and aims of the few who profess immediate emancipation as their object, as the settled opinions and aims af the North.

The Colonization Society possesses the confidence of the South. Many of its leading and influential members are residens of States where slavery exists. When therefore the philanthropic efforts of the North to better the condition of the free colored population, and to afford a safe asylum to emancipated slaves, take the same direction and operate through the same channel, all jealousy in regard to these efforts will be allayed; and by mutual co-operation of all parts of the country, vastly greater results may be accomplished. Hence we repeat the expression of our hope that the sum of twenty thousand dollars, now sought to be raised by voluntary contribution in this State, will be readily obtained.

The Colonization Cause.—A meeting of a number of friends of the noble cause of the American Colonization Society, convened by special invitation, was held last evening, at the Consistory Room of the Dutch Reformed Church, corner of Ann and Nassau-streets. The Rev. Dr. De Witt having been called to the chair, and offered an appropriate address to the Throne of Grace, the business of the meeting was opened by the Rev. R. R. Gurley, Corresponding Secretary of the Parent Society. He stated the objects of his present mission to the north and east—it being to make a special appeal to the public, to augment the funds of the Society. The extraordinary expenditures of last year, occasioned by the transportation and settlement in Liberia of eleven hundred emigrants in about a year, had not only exhausted the treasury of the Society, but involved it in responsibilities beyond its present means. The society is also destitute of means to transport the multitudes of emigrants who are daily enrolling their names for the colony. Mr. G. assured the meeting that a crisis had arrived in the affairs of the Society, and it was soon to be determined whether it would be enabled to proceed upon a scale commensurate with the high expectations of the country, or to languish, and thus disappoint the fond hopes of the christians and philanthropists of our country, as to its ultimate success.

In being mentioned that Captain Page, of the U. States Navy, who had last year visited the colony by orders of the government, was present in the meeting, he was requested to state such facts as to the civil and moral condition and prospects of the colony, as had particularly attracted his attention during his visit. The request was cheerfully complied with by Captain P., and his statements were such as to afford very high gratification to the friends of the cause. The colony was in flourishing condition, and the community exemplary for its morals. The climate is healthy for the man of color, the soil rich and productive; and the people contented and happy. He was in the habit of visiting the people daily, and dining with them at their houses. He saw but one discontented person there, and he was so only because he thought he ought to have been appointed to an office. Captain P. saw not a drunken person there, and in answer to questions put to him, gave very satisfactory contradictions to the statements recently put forth by the enemies of the cause, in the incendiary papers published in Boston and this city.

Captain P. having concluded, and some further remarks been made by other gentlemen, the following resolutions were moved and unanimously adopted:

Whereas, in the judgment of this meeting, the American Colonization Society is a truly philanthropic and Christian Institution, benevolent in its aspect towards the whole African race; and whereas this Society, is, at this time, in special need of funds to prosecute with due vigor its great enterprize; and whereas, no very general and earnest effort has, at any time, been made in this city and state to increase its resources;

Resolved, That it is expedient to adopt immediate and vigorous efforts to raise in this city and state the sum of Twenty Thousand Dollars for the American Colonization Society.

Resolved, That a committee be appointed with full powers, to fill up any vacancies that may occur in their number, or to increase it as they may think proper, and whose duty it shall be to prepare and publish a brief address to their fellow citizens and, to adopt all such measures as they shall judge expedient to carry the object proposed in the preceding resolution into speedy and complete effect.

Thomas De Witt, Chairman.

William L. Stone, Secretary.

We take from the American Monthly Magazine for this month some pretty lines from the Italian—

If every man's internal grief
Were written on his brow,—
How many would our pity meve,
Who wake our envy now!
Stern hate would give his enemy
A word of softer tone,—
Seeing how small the joy, that once
Embittered all his own.

[*From the New-York Gazette.*]

Sailor's Snug Harbor.—This interesting Institution was opened for the reception of "old and worn out infirm seamen," on Thursday, the first instant, with appropriate religious services, in the presence of the Trustees, the Rev. Clergy of Staten Island, and a number of persons residing in the neighborhood. The centre building of the contemplated edifice is completed, and will accommodate about two hundred beneficiaries with comfort and convenience: but at present the number is limited to fifty, for whom the actual income will amply provide, though it is confidently expected that it will increase commensurate with the suitable subjects to be supported. The exercises in the large hall commenced at noon, with prayer by the Rev. Mr. Van Pelt of Staten Island, an address to the Sailors by Dr. Phillips of this city, ex-officio one of the Trustees of the Institution, and were concluded by prayer from the Rev. Mr. Miller, Pastor of the Church at the quarantine ground. The inmates of the establishment afterwards sat down to their first dinner in the great dining hall; and as long as they conform to the wholesome rules adopted by the Trustees, they will be here provided with every thing necessary for their comfort and happiness.

It will probably be recollected, that the late Robert Richard Randall, the Founder of the Institution, directed the asylum to be erected on the ground commonly known as the Sailors' Snug Harbor, at the upper end of Broadway; but the Trustees, after freeing the property from the vexatious and expensive lawsuit in which it was involved, taking into serious consideration that a building so situated, would not only injure the value of the land connected with it, but that its inmates would be exposed to many temptations, resolved to apply to the Legislature for permission to change the location: which being readily granted, they have, at very little comparative expense, purchased a farm on Staten Island, containing nearly 150 acres of fine land, an inexhaustible supply of excellent spring water, brought from the rear of the farm to the kitchen of the building by means of iron pipes, and commanding an extensive view of the city and bay. A steamboat stops at the wharf three times a day, and affords every facility for communication with New York.

The Trustees appointed by the will are, *ex-officio*:

The Chancellor of the State.

The Mayor and Recorder of the City.

The Rector of Trinity Church.

The Pastor of the first Presbyterian Church in Wall-street.

The President of the Chamber of Commerce.

The President and Vice President of the Marine Society.

The Trustees have appointed Capt. John Whetten, the President of the Marine Society, Governor of the Asylum.

It is creditable to Mr. Samuel Thomson, the carpenter, and Mr. Peter Storms, the mason, that they have given complete satisfaction to the Trustees, for their taste and talent in the erection of this Snug Harbor, for worn-out sailors.

Public Hydrants.—Yesterday afternoon another experiment was made with the Hydrants at the corner of Exchange and William Street, and also, at the corner of Beaver and William Street. The water was thrown over the five story store of Abraham Van Nest, 13, William Street, through forty feet of hose. The head of the water was sufficient to throw a powerful stream sixty feet high, by actual measurement. This hydrant is situated at least three miles from the reservoir. The experiment was witnessed by a committee of the Corporation, and a great number of citizens, and proved most satisfactory. It is now only about three or four years since the project was formed in the Board; since which, a well of more than one hundred feet has been sunk through a solid rock, and three horizontal shafts blasted, of about seventy-five feet in length. An abundance of water is raised into the reservoir, and thus far has never been exhausted in the extinguishment of any fire that has ever occurred. Upwards of seven miles of pipes are now laid, viz:—From Thirteenth St. down Broadway to Exchange Street; down the Bowery, Chatham Street, through William to Beaver Street; from the Bowery through Delancy Street to the river; from Chatham Street through East Broadway to Sheriff Street; from Broadway through Houston Street to Carmine St.; through Canal Street down Hudson to Chambers Street. Contracts are now made, and pipes will shortly be laid, for three miles more, viz:—Through Pearl St. from Chatham Street to Hanover Square, from East Broadway through Essex to Stanton St.; from Canal Street up Hudson to Carmine St.; from Broadway through Fourth Street to Greenwich village. When this work is completed no fire can take place in the city that cannot be reached by hose from the different hydrants. The expense already incurred, is about one hundred and fifty thousand dollars, and it is believed that more than half a million of dollars worth of property has been saved from the flames. The water is found to be of the best quality, and quite as soft as rain water. It is not expected that it will ever be used for culinary purposes; but it is gratifying to know that the great work of supplying the city is in fact, in active progress.—The pipes are sufficiently large, and are so intended to be used, when the water of the Bronx, Croton or Rye Pond shall be brought to the city; so that whenever measures shall be adopted of introducing good water, the pipes will be already laid to receive it.—[Daily Advertiser.]

[*From the Charleston Patriot, of July* 27.]

Col. William Drayton, a Representative in Congress for some years from this District, a native son of Carolina, and a resident of our city for nearly the whole period of his honored life, left our shores this afternoon in the ship Sutton, for the purpose of taking up his residence permanently at the North. It is impossible to part with a man of Col. Drayton's public purity, private probity, distinguished ability, and extensive usefulness, without the expression of a heartfelt regret at the separation. He goes, bearing with him the full measure of that reverence and respect, that popular approbation, unsolicited and unbought by popular arts, loves to bestow on the faithful public servant, and without an enemy, except such as the late unnatural estrangements in politics may have produced. We are sure that not one particle of political or other malice mingles with and taints the generosity of his nature—the native benevolence of his disposition. May the evening of his useful life be as serene and cloudless as its morning was brilliant, and its meridian effused a steady lustre.

Gimblets.—The Yankees are in a fair way to destroy John Bull's gimblet trade with this country.—The new twist gimblet is almost as much superior to the old English gimblet, as the screw auger is to the old pod auger. There is a gimblet factory at West Whately which employs 15 hands, about half of them females, and manufactures 25 gross per week. The steel is imported from England in round rods; the handles are turned out in the vicinity. There is a gimblet factory in Buckland, one in the northern part of Franklin county, one in Keene, New Hampshire, and one or more in Connecticut.

Six thousand dollars salvage has been awarded, in the case of the brig *America*, wrecked on the coast of Florida, and carried into Key West.—[Charleston Courier.]

MISCELLANY.

True Dignity.—Philosophers, and men who think beneath the surfaces of things, assert that true dignity exists in the mind, and is independent of external circumstances, whilst the great mass of mankind, imagine that it can only be found in elevated stations, and the old world particularly are given to the conclusion, that it only exists in conjunction with the pride of ancestry, and in the contemplation of a long list of noble, illustrious, and affluent predecessors. That such a contemplation may dignify the feelings, and incite the scion of such a stock to respect himself, and take the most correct means to make himself respected, is probable enough, and such an effect is very often produced. But that this true dignity of soul is not inseparably connected with such collaterals may frequently be proved. The following is perhaps as decisive upon the case as can be given:—

A boy, the son of a barber, was observed to be attentive to the petty duties of the school to which he was sent, and to labor hard to improve himself according to the small means that could be afforded to him. A solicitor in his neighborhood perceived the industry of the lad, and the propriety of his deportment; he fancied he saw in him something more than the every day production of humble life; and accordingly made an offer to the parents of the boy, to take him into his service, partly to perform duties of a domestic nature, and occasionally to assist in the office as a writer or copyist. Of course the offer was gladly and thankfully accepted. In his new situation he ever behaved with respect to his master and with propriety to those around him; but it was quickly seen, that he lent all the attention which time would permit to the study of law books in his master's library. The solicitor was not slow in distinguishing his merits, nor did he hesitate to show unequivocally his approbation of the lad's conduct; he offered to defray out of his own pocket, the fee for legal articles, and enable him to pursue the profession in his own office. Here was another important step for the youth, who now pursued his studies with ardor, and performed his duties with a zeal which only sincere and deeply felt gratitude could inspire. Yet was not adulation towards his superior, nor arrogance towards the class he was leaving behind, ever evinced from him.

He served his articles out, was entered an attorney in the Court of King's Bench, and practice followed in reasonable proportion; but our youth, now a man, was seized with a nobler ambition, and resolved to quit the grade of *solicitor*, and try his fortune at the bar. He was admitted to keep terms, passed through them, and was called to the bar with the respect and good wishes of all classes of his profession. And what had produced this universal good feeling? Not the fawning, sycophantic expressions and actions of a vulgar soul, but the modest, respectful, but independent conduct of a mind well constructed. He pursued his career with undeviating but quiet course, was gradually raised in legal eminence and legal dignity, until he became Lord Chief Justice of the Court of King's Bench, the highest common law office that can be held under the British crown.

And here, to any but one whom insult cannot injure, and whose equanimity is such as worldly caprice cannot unsettle, he received his first indignity, following hard upon his highest honor, from the same hands,—those of "the finest gentleman in Europe," by which title was recognized the late George IV.

It is customary to make the magistrate above alluded to a peer of the realm, but this was refused to the distinguished subject of this article, on the ground of low extraction. He therefore held the office with the honor of knighthood *only*, for some time;—but justice could not be withheld for ever. So happily did he deport himself in this elevated and important situation,—with such suavity to the bar, such mildness to the witnesses, such independence in the expression of opinion,—occasionally familiar, and even facetious,—that he could convulse the court with the sallies of his wit, yet ever so dignified, that no one durst presume upon his good nature,—always listened to with respect,—rarely, very rarely an appeal from his judgment,—his name was equally synonimous with *justice* and *gentleman*, and at length the title came, tardily, which added nothing to his real elevation, though it gave him a seat in the legislation of the nation, as a peer,—and which in fact only added an additional duty to those he had already in his hands.

Henceforth he acted with zeal and rectitude of intention in the twofold capacity of legislator and judge, and died a short time back, regretted and respected universally.—as the *great* and *good Charles Abbot*, Lord Tenterden.

Kepler's Laws.—In casting our eyes down the list of the planetary distances, and comparing them with the periodic times, we cannot but be struck with a certain correspondence. The greater the distance, or the larger the orbit, evidently the longer the period. The order of the planets, beginning from the sun, is the same, whether we arrange them according to their distances, or the time they occupy in completing their revolutions; and is as follows:—Mercury, Venus, Earth, Mars,—the four ultra zodiacal planets,—Jupiter, Saturn, and Uranus. Nevertheless, when we come to examine the numbers expressing them, we find that the relation between the two series is not of that simple *proportional* increase. The periods increase more than in proportion to the distances. Thus, the period of Mercury is about 88 days and that of the Earth 365—being in proportion as 1 to 4.15, while their distances are in the less proportion of 1 to 2.56; and a similar remark holds good in every instance. Still, the ratio of increase of the times is not so rapid as that of the *squares* of the distances. The square of 2.56 is 6,5536, which is considerably greater than 4.15. An intermediate rate of increase, between the simple proportion of the distances and that of their squares, is therefore clearly pointed out by the consequence of their numbers; but it required no ordinary penetration in the illustrious Kepler, backed by uncommon perseverance and industry, at a period when the data themselves were involved in obscurity, and when the process of trigonometry and of numerical calculations were encumbered with difficulties of which the more recent inventions of logarithmic tables has happily left us no conception, to perceive and demonstrate the real law of their connexion.—This connexion is expressed in the following proposition:—"The squares of the periodic times of any two planets are to each other, in the same propor-

tion as the cubes of their mean distances from the sun." Take for example the Earth and Mars, whose periods are in the proportion of 3652564 to 6869796, and whose distance from the sun is that of 100000 to 152369; and it will be found by any one who will take the trouble to go through the calculation, that—$(3652564)^2 : (6869796)^2 :: (100000)^3 : (152369)^3$.—[Sir J. Herschel on Astronomy—Cabinet Cyclop.]

Instinct, &c. of Birds.—1. When the offspring require, for some time, the attention and industry of both parties to support them, animals are found to pair; but, in cases where the female alone is able to raise her progeny, the sexual intercourse is promiscuous. The affectionate attention of the parents is always adapted to the condition of their young, and is continued towards them till they are capable to provide for themselves. Man is a pairing animal. Some quadrupeds pair, and pairing is common among the feathered tribe. In winter, indeed, birds in general are without any fixed habitations; and many kinds of them appear in general flocks without any particular attention of one individual to another.—On the return of spring, however, the scene changes. The general society is dissolved, and many partnerships, consisting each of a male and female, are formed. The pair fix on a substantial spot, and by their joint labor construct a habitation. 2. Most birds prepare the nests with much care; and many of them discover ingenuity in the design and neatness in the execution. But the ingenuity and neatness belong to the species, and in no degree characterize individuals. The nest of those birds which have paired for the first time is not ruder or more inconvenient than that of those which have repeated the labor of nidification for a number of years. There is no deficiency in the first from want of instruction and practice, and the last have gained nothing by observation and experience.

> The dove that perch'd upon the Tree of Life,
> And made her bed among its thickest leaves;
> All the wing'd habitatants of Paradise,
> Whose songs once mingled with the songs of Angels,
> Wove their first nests as curiously and well
> As the wood-minstrels in our evil day.

The crow and the magpie, the lark and the linnet, and every other kind, has each a peculiar manner of building its nest: and every individual of the species, in similar circumstances, follows the same model, and uses similar materials. The instinctive propensity seems, in various instances, to accommodate its peculiar circumstances, both in building the nest, and in the process of incubation. In countries infested by monkeys, some birds, which in other climates build in bushes or in the clefts of trees, suspend their nests upon a slender twig, and so elude the mischievous propensities of the monkey. With us, ravens build on trees; but in the cold climates of Iceland and Greenland, they construct their nests in the holes of rocks. The nest is always suited to the size of the bird, and to the number of its eggs and young. Many small birds display much sagacity in concealing their nests by tufts of grass, or by twigs and leaves. In the nest we see a receptacle provided for eggs before they come to maturity, yea, before the bird knows that it is to lay them. Each species lays a determinate number; and it appears that, in this process, some birds, at least, do not act under the influence of physical necessity, but have, to a certain extent, an instinctive volition.—[Fergus' Bridgwater Treatise.]

The Modern Nubians and their Ancient Monuments.—In surveying the wonders which crowd the banks of the Nile from Meroe to Memphis, we are struck with the reflection, that the wealth, power, and genius whence they derived their origin have entirely passed away. In some portions of that extensive tract, a race little superior to savages pass a rude and precarious life, ignorant of the arts, and insensible equally to the beauty and the magnificence of the ruins which they tread under foot. They have ceased even to claim connexion with the people who raised the splendid monuments of Ebsamboul, Karnac, and Dendera; and, accordingly, they ascribe the anxiety which our countrymen display, in regard to those mountains of antiquity, to the desire of visiting the tombs of a European nation, who are supposed by them to have built the temples and sculptured the obeliske. The Nubians, especially, have relapsed into that low condition, where even curiosity has become dormant, and in which the eye can be every day fixed on the noblest works of human ingenuity without suggesting any speculation as to their authors, their epoch, or their design.—Throughout the whole world, in short, there is no greater contrast to be witnessed than between what now is, and what must once have been, in Ethiopia and Egypt. There is even great difficulty in passing, by an effort of thought, from the one condition to the other, through the various scenes of conquest and desolation which seem necessary to have produced the effects we contemplate. We might question history; but we would receive no answer, as to the events and characters which the lapse of three thousand years has thrown into an impenetrable obscurity. Surrounded with darkness, we grope our way amidst superb structures, dedicated to gods and heroes whose names make but a faint impression on our ears; and we satisfy ourselves with the conclusion, that a great people had existed there before the era of recorded time, whose literature and philosophy have been outlived by their architectural monuments.—[Edinburgh Cabinet Library, No. XII. Nubia and Abyssinia.]

Conscience.—Had God been an unrighteous Being himself, would he have given to this, the obviously superior faculty in man, so distinct and authoritative a voice on the side of righteousness? Would he have so constructed the creatures of our species as to have planted in every breast a reclaiming witness against himself? Would he have thus inscribed on the tablet of every heart the sentence of his own condemnation; and is not this just as unlikely as that he should have inscribed it in legible characters on the forehead of each individual? Would he have so fashioned the workmanship of his own hands; or, if a God of cruelty, injustice, and falsehood, would he have placed in the station of master and judge that faculty which, felt to be the highest in our nature, would prompt a generous and high-minded revolt of all our sentiments against the being who formed us? From a God possessed of such characteristics, we should surely have expected a different-moulded humanity; or, in other words, from the testimonies on the side of all righteousness, given by the vicegerent within the heart, do we infer the righteousness of the Sovereign who placed it there.—[Dr. Chalmers.]

Lachin y Gair.—"The Rev. J. D. Glennie, who visited the scenes in the Grampians which are associated with Byron, says, 'We asked our guide, a sturdy old Highlander of seventy, whom we could scarcely restrain from walking too fast for us up the hills, whether there were any fish in the lochan; on which he told us, with a mysterious look, and in an under-tone, that there were plenty, and fine fish too, but nobody ever fished there; for, 'as he had heard say,' the last person that tried it had good sport for some time, but at last he observed a man on the opposite side of the lake, under the rock, fishing also, throwing his line exactly as he did, and pulling out fish only when he did it himself. Not knowing what to make of so strange a circumstance, the angler shifted his ground, when, wonderful to relate! his opposite neighbor at once vanished! He was evidently something 'no caney,' added the old man, and nobody has ever fished in that loch since.' In these regions of mist, such an apparition might very probably occur, and would be sure to make a lasting impression upon the fears and imaginations of the superstitious Highlanders."—[Works of Lord Byron.]

Ali Pacha.—This use of military costume, to support or assume the character of a soldier, is not uncommon among *very peaceable* travellers on the continent. It once happened that a party, chiefly military men, aware of the better reception which a red coat would obtain at the court of Ali Pacha, took their uniforms. One of them, a young man, who could not boast of any regimentals except what he had worn in one of the London companies of volunteers, took these for want of better. At Yanina they were received by Ali Pacha with much courtesy; and, upon addressing the young traveller, Ali said to him, 'Where have you served?' This would have been a poser to most men in the same situation; but he won more honor by his wit than he had done by his sword; for his ready answer was, '*upon Wimbledon Common.*' Ali had too much tact to betray his ignorance of the battle or the place; and our city hero passed with the tyrant for a distinguished warrior.—[Illustrations of the Life and Character of Lord Byron.]

The Bishops not one of the "Estates."—Lord Clarendon, who, though Lord Chancellor, had no more pretensions to the character of a lawyer, than he had to that of a man of honesty and veracity, is very fond of insisting that the bishops are "*one of the estates of Parliament;*" and yet, in one part of his history, he admits that the presence of the bishops in the House of Lords; "was *not* so essential that no act could pass without them." Upon this passage Bishop Warburton makes the following just remark:—"But their presence is thus *essential* on the historian's principle, that the bishops constitute a distinct estate in Parliament. *But the principle is false.* If they did constitute a distinct estate, they must have a *negative voice*, as every other of the distinct estates have. Their having it not, shows they are no such distinct estate."—[Times.]

Specimen of Irish Reasoning.—"Och! Grace, honey, it would do your heart good to hear the fine discourse I heard from Tim Fogarty, the schoolmaster at Abbey side, whin he was converting Dick Nowlan. Dick, like a poor ignorant creathure as he is, said that the Protestant religion was the best, for says he, 'Isn't it the *reformed* religion, and a'n't ye all crying ont for reform from morning till night, and here's a reformed religion ready made to your hand?' 'Wey then bad luck to you, ye spalpeen,' says Tim, 'sure the *Roman* is the only old thrue faith; didn't you see or hear of Paul's Epistle (which means a letther) to the Romans?' 'Yis, I did, sure enough,' says Dick. 'Well, then,' says Tim, 'did ye ever see or hear of Paul, or any other of the saints, writing a letter to the Protestants? Now, Dick, what have you got to say?' "Faith, Grace honey, that foolish fellow, Dick Nowlan, was dumb founded, and could not say bo to a goose; and who after that, could doubt the Roman Catholic religion being the only thrue one; and who could help wishing to convert the good masther and Parson Disney, and the rest of the good people, to it?"—[The Repealers.]

How are the Stars the Poetry of Nature?—Not certainly on account of their visible splendor: for the gas lamps in a single street of this metropolis outshine the whole hemisphere on the clearest winter evening: nor on account of their beautiful configurations; for the devices chalked on the floor of a fashionable ball-room, to the mere animal eye, would be more captivating. It is from causes having affinity to mind, not matter; to truth, not semblance; that the stars may, indeed, be called the poetry of heaven.—The bodies alone appear to us the identical luminaries, in size, lustre, movement, and relative position, which they appeared to Adam and Eve, in Paradise, when—

> "At their shady lodge arrived, both stood,
> Both turned, and under open sky adored
> The God that made both sky, air, earth and heaven,
> Which they beheld; the moon's resplendent globe,
> And starry pole."—*Paradise Lost, Book IV.*

They appear to us the same as they did to Noah and his family, when they descended from the ark in the silence of an unpeopled world; and, as they did to the builders of Babel, when the latter projected a tower whose top should reach heaven. [By the by we do not know whether La Place would agree to this.] Once more—and oh! how touching the thought—the stars, the unchanging stars, appear to us with the same placid magnificence as they were seen by the Redeemer of the world, when, having sent the multitude away, he went up into a mountain apart to pray; and when evening was come he was there alone, "and continued all night in prayer to God."—Matt. xiv. 23.—Luke vi. 12.

> "Cold mountains and the midnight air,
> Witness'd the fervor of thy prayer;
> The desert his temptation knew,
> His conflict and his victory too."—*Watts.*

The stars, then, have been the points where all that ever lived have met; the great, the small, the evil, and the good; the prince, the warrior, statesman, sage; the high, the low, the rich, the poor; the bond and the free: Jew, Greek, Scythian, and Barbarian. Every man that has looked up from the earth to the firmament, has met every other man among the stars, for all have seen them alike, which can be said of no other images in the visible universe! Hence, by a sympathy neither affected nor overstrained, we can, at pleasure, bring our spirits into nearer contact with any being that has existed, illustrious or obscure, in any age or country, by fixing our eyes—to name no other—on the evening or the morning star, which that individual must have beheld a hundred times,

> "In that same place of heaven where now it shines,"

and with every aspect which the beautiful planet wears to us, and with which it will continue to smile over the couch of dying or the cradle of reviving day.—[James Montgomery's Lectures on Poetry, &c.]

Some years ago, when the famous Dr. Leib was figuring in political life, when prejudices were strong, and party feeling ran high, application was made to the Legislature of Pennsylvania to incorporate a "Life Insurance Company" for the term of fifty years. A zealous member rose and addressed Mr. Speaker with, "Sir, I don't like this bill, and shan't vote for it. The petitioners have asked to be incorporated to insure lives for fifty years, and what will be the consequences of granting their prayer? why, the first thing you'll know, that Dr. Leib will get his life insured for the whole time, and we shall have him tormenting us for half a century to come."—[N. E. Review.]

MARRIAGES.

This morning, at the Cathedral, by the very Rev. Dr. Power, AUGUSTE DE NAUTEUIL, of France, to ANGELE, second daughter of Lewis Binsse, Esq. of this city.

On Saturday evening last, by the Rev. Dr. McCartee, Mr. JACOB WILLSE, to Miss ELEANOR C. daughter of Mr. William More, all of this city.

On Sunday evening, Aug. 4, by the Rev. Wm. G. Miller, Mr. THOMAS T. HENDLEN, to Miss EMELINE TAYLOR, both of this city.

On Wednesday evening last, by the Rev. Mr. Baldwin, Mr. GEORGE F. SEARING, to Miss MARY ANN WOODHOUSE, all of this city.

Last evening, by the Rev. Wm. Patton, ANTHONY LANE, to ELIZABETH S., daughter of Oliver Willcox, Esq. all of this city.

On Tuesday, Mr. SAMUEL D. JOHNSON, to Miss EMELINE TICE.

On Monday evening, by the Rev. F. H. Cuming, JOHN MEEK, to Miss CATHERINE ADAMS.

On July 15, FRANKLIN WHITNEY, to MARY HENRIETTA GLADD.

At New-Orleans, J. M. Mason, to Miss Angeliner Eliza Sheils.

On the 31st July, at Bolton, (Mass.) by the Rev. J. W. Chickering, Mr. GUSTAVUS U. RICHARDS, of this city, to Miss ELECTA B., daughter of S. V. S. Wilder, Esq. of the former place

On Wednesday evening, July 31, by the Rev. Dr. Milnor, Mr. BENJAMIN RICHARDS to Miss JANE HAIGHT, daughter of the late Judge Scott, of Catskill.

On Wednesday morning, July 31, Mr. ALEX. MCKENZIE, to Miss MARY GARDNER.

On Monday evening, July 29, Mr. JOSEPH TAYLOR, to ELIZABETH KIZER.

On Monday, Mr. HENRY MILLER, of the firm of J. D. & H. Miller, to Miss Jane C. PHILIPS.

On Monday evening, Robert Cochran, to Agnes Kirkwood, both of Galway, N. Y.

At Albany, Edward S. Willet, to Miss Elizabeth M'Chesney.

On Monday evening, at St. George's Chapel, by the Rev. Dr. Milnor, EDW. F. WOODWARD, of England, to Miss SUSAN O., fourth daughter of the late Thos. Bette, Esq. of L.I.

On Wednesday evening, Mr. ANDREW KIRKWOOD, to Miss JANE NICHOL, both of Galway, N. Y.

DEATHS.

On Monday morning, 5th instant, WILLIAM, only son of Wm. Chapman, aged 13 months.

Suddenly, on Monday evening, 5th instant, in the 46th year of his age, Mr. GEORGE KINSHIMER.

On Friday last, HENRY COLMAN, aged 14 months, son of the Rev. F. H. Cummings.

Yesterday afternoon, WILLIAM FAGAN.

This morning, after a short and severe illness, Miss CATHERINE POOLE, aged 22 years.

At Yonkers, on the 2d inst. Joseph Oakley, in the 82d year of his age.

On Tuesday morning July 30, at Washington, N.C. in the 18th year of his age, Julius H. Bulkley, son of Edmund Bulkley, of this city.

On Sunday morning, 4th instant, of consumption, CHARLES RUSSELL BULLARD AVERY, infant son of the late Samuel P. Avery, aged 9 months and 22 days.

Sunday morning, 4th instant, Mr. ISAAC COUTANT, in the 36th year of his age.

Suddenly, on Saturday evening, August 3d, (at her late residence, No. 86 Grove st.) Miss Rebecca Herbert, in the 43d year of her age.

At Saratoga Springs, on the 31st ult., after a short illness Samuel Snow, Esq. of Petersburg, Virginia.

Last evening, after a long and painful illness, THOMAS STURM, Esq. aged 85 years.

On the 4th instant, Mr. ROBERT WAITE, eldest son of the late Robert N. Waite, Esq.

In this city, (Cincinnati, Ohio,) on Friday last, July 26th, (of bilious cholic, terminating in cholera,) Mr. Richard Phillips, Gilder, in the 34th year of his age, formerly of New-York.

The deceased arrived in this city in October last, where he continued to reside until his death. He was a young man of amiable manners and correct habits.

It is understood that the deceased has a brother and sister in New-York, as also a brother in Boston. Should the above notice reach them, and they wish to obtain any further particulars, they will please address C. W. James, Cincinnati. To this end the New-York and Boston papers will please notice the above.

Of Cholera, at Bardstown, Kentucky, after a few hours indisposition, WM. ROWAN, and Mrs. ROWAN, his wife—A. H. ROWAN, and MARY JANE STEELE, sons. daughter-in-law, and grand daughter of Judge John Rowan. On Friday 26th inst. all four of them were deposited in the same grave.

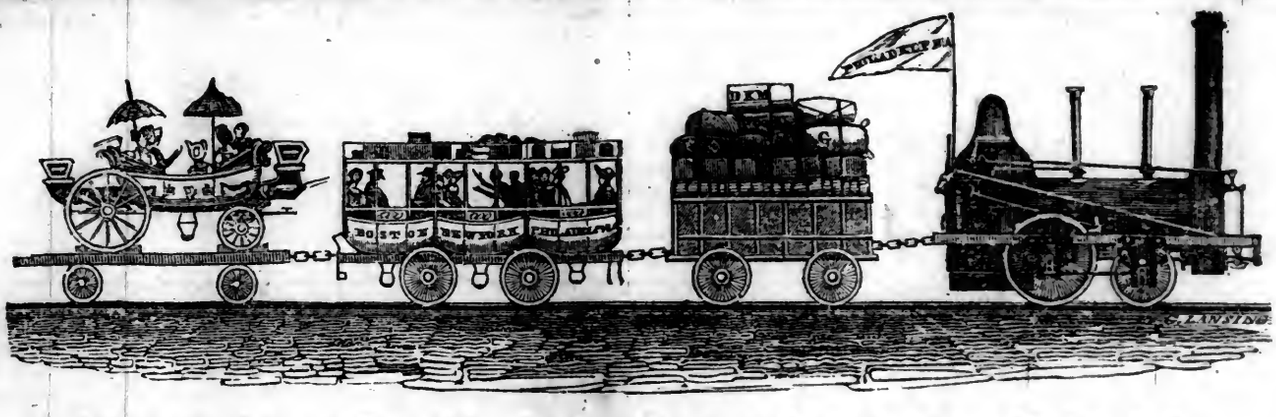
At Bloomingdale, on the 4th instant, RACHEL HEGEMAN, in the 53d year of her age, wife of Nicholas P. Hegeman.

Yesterday morning, at his late residence, Bushwick, Newtown, Colonel GEORGE GIBBS, in 57th year of his age, formerly of Newport, R.I. where the remains will be taken for interment.

At Fort Mitchell, Ala. Eliza, consort of Major James S. M'Intosh, of the U. S Army.

In Rockingham, Va. Frances W., wife of Wm. H. Gray.

ENGINEERING AND SURVEYING INSTRUMENTS.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, AUGUST 17, 1833.** [VOLUME II.—No. 33.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 17, 1833.

To Correspondents.—The communication of V. D. G. "on the construction of curves for arches," and of Mr. Sullivan, "in further reply to Mercator," are received, and will appear in our next. We are also indebted to J. M. Fessenden, Esq. for his late report upon the Boston and Worcester Railroad, and to an unknown friend for a late and interesting account of the South Carolina Railroad, both of which will receive an early notice.

In our last, we referred to the contemplated railroad through New-Jersey and Pennsylvania to the Great Bend of the Susquehanna river, near Binghampton, in the state of New-York, and we are now enabled to give the reports of the engineers who surveyed that part of the route in Pennsylvania, between the Water Gap on the Delaware, and Pittston on the Susquehanna, and one of the routes between Lackawanna Creek, near the centre of Blakely township, in Luzerne county, and the Great Bend of the Susquehanna. These reports show a more favorable route than we had anticipated. We shall refer to the subject again soon, and hope to be able to give some account of the line in New-Jersey, between Elizabethtown and Belvidere, and to the Water Gap.

Railroad Map; or, Map of Railroads.—We have often felt the want of a map upon which we could find delineated the *route, connection, and intersection*, of the various and numerous Railroads now constructing, and in contemplation, in the United States; but without any expectation of, at present, being relieved from the difficulty. We are, however, gratified to learn that a friend of ours, who has been much engaged in Railroad surveys and explorations, is now engaged and far advanced towards the completion of a map of that section of the United States lying north of the Potomac and east of Lake Erie, upon which he intends to delineate all the Railroads and Canals of which he has been able to obtain any account. There are several, however, of which he has been unable to obtain either a report or a map, and of course cannot rely upon the correctness of his accounts of them. We, therefore, once more ask of those of our friends who may have surplus copies of Railroad Reports, and especially those having maps attached to them, and of recent date, to oblige us with one—we promise to put them to good use, and hope to be able to return the favor in good time. It is a subject of no small importance at this time, when so much is said about Railroads, that there should be a map, showing the route, *connection*, and relative position of the different roads. Such a map will forcibly demonstrate the immense advantages of Railroads, but more especially of *long* and *continuous lines* of Railroads.

The following question has been submitted to us for publication, with a view of obtaining an expression of opinion upon the subject. We do not recollect to have seen any account of experiments having been made with a view of deciding that question, and are, therefore, the more desirous of eliciting information relative to it. Our friends, who may have made or witnessed experiments of the kind, or who can give the desired information, will greatly oblige us by communicating the facts for publication.

When the face of the country will admit of a location for a railroad, either for stationary or locomotive power, with the same expense of construction, how many feet per mile will a locomotive engine ascend, and be equal to the expense of stationary power, for the transportation of freight, allowing the freight equal both ways?

Short and Easy Sentences.—We like *brevity—especially* such as the following—which we most *feelingly* recommend to the thousands who do *not* take the Journal—it does us good to read them—but to the letters. The first reads as follows:

"*To the Editor of the Railroad Journal:*

"Sir,—I want your Journal. Enclosed I send you, *in advance*, one year's subscription, and am your friend, —— ——."

The other comes under somewhat different circumstances, but is none the less acceptable. It reads as follows:

"*To the Editor of the Railroad Journal:*

"Sir,—I have been a subscriber to your Journal since its commencement. I paid the *first* year in advance, and have never regretted it; but circumstances have prevented me from remitting, at an earlier date, for the *present* year. I therefore now send you $5, which you will place to my credit, and believe me still your friend, —— ——

"——, August 1, 1833."

We consider the foregoing as well worthy the attention of those who *are not* subscribers, or, being subscribers, have been too busy to remit, for the current year, for the Journal.

Parley's Magazine.—We have received the first part, consisting of seven numbers, of Parley's Magazine, done up in paper cover, by Messrs. Lilly, Wait, & Co., Boston. This work is particularly designed for children, and we know of no other so well calculated to give them a relish for reading. It is embellished with numerous engravings, with a description of each, which always affords instruction as well as amusement. Parley's Magazine is published every other Saturday, in a convenient form for use, with 16 pages to each number, at one dollar a year.

Important Railroad Improvement.—The Philadelphia Franklin Institute having offered a premium of $250 for the discovery of some mode to protect passengers and property from the sparks emitted from the Railroad Locomotives, we understand that Mr. Young, a skilful mechanic of Norfolk, Va., has invented a machine which entirely remedies the evil, the construction of which is simple and cheap.

MAD RIVER RAILROAD.—The annexed article from the *Western Pioneer*, printed at Springfield, Ohio, indicates a movement amongst those who are interested in this important link in the projected improvements in that growing state. It may truly be considered as one of the most important of the numerous contemplated railroads in Ohio. It will pass through one of the most fertile sections of that state, and open a direct, easy, and cheap mode of travel and transportation, by which the value of property, contiguous to it, say within ten miles on each side, will be increased, when the road is ready for use—more than twice the cost of the railroad. The thousands of acres, at present, of uncultivated land, will soon be made to contribute to the already immense business of our canals and our contemplated railroads. The forest will be made to blossom as the rose; towns and villages will spring up with their numerous dwellings and beautiful public edifices, where now is only to be found the lofty forest trees of a thousand years' growth, amidst which reside a few lingering remnants of those numerous and warlike tribes of red men, who were, but a few years since, masters of the boundless west.

The natural make of the country is highly favorable to the construction of a railroad; which may be made at a very cheap rate, and used either with horse, or locomotive power, as may best suit the business and wants of the country.

Should the commissioners decide to open their books in this city, they will find, we trust, that the measure is duly appreciated by those who have the means of increasing the business and prosperity of this city, by securing to it the trade of the thousands of square miles of the most fertile country in the world, west and southwest of Lake Erie. It is an object well worth the attention even of the first commercial city of the new world; but, if secured at all, it must be done by *immediate* and *strenuous* efforts, as New-York has two rivals, of no small consideration; and, if they do not count a population as numerous, they can at least boast of their enterprise, and the progress they have already made in their works towards the grand object for which we are *all* aiming, *the trade of the West,—the increase of which will, in twenty years, be equal to the present entire trade of the whole United States, and afford constant employment to all the canals and railroads which can be made in the mean time, to connect it with the sea-board.*

MAD RIVER AND LAKE ERIE RAILROAD.—We understand that a general meeting of the commissioners of the Mad River and Lake Erie Railroad has been called, and is to take place on Wednesday next, 31st. inst. at this place. We are much pleased to see that some interest is beginning to be felt on this important subject. The interests of a large body of our citizens, inhabiting a tract of country stretching from Dayton to the Lake, unrivalled for the fertility of its soil, capable of supporting a dense population, and which needs only an outlet for its produce to render it one of the best portions of the State, are deeply involved in the measures that may be adopted at this meeting.

It is understood that an estimate of the cost of the road, together with such other information as will enable the Commissioners to make arrangements for opening the books for subscriptions, without delay, will be laid before the Board, by the U. S. Engineers, by whom the survey has been made. These gentlemen have been busily engaged in making the necessary surveys during the present season, and we understand that their opinion of the cheapness and excellence of the route is in the highest degree favorable. The grade of the road, we are informed, need in no case exceed 50 feet in the mile, and will reach that only in a few instances, and for short distances. The radius of curvature will not be less than 5000 feet, and in some cases will be more than four miles. The proportion of curves to straight lines is very small.

Upon the whole, from all the information we can gain upon the subject, we believe that no route has been examined in the United States presenting anything like as many facilities for the cheap and easy construction of a work of this description. In no instance that we ever heard of, has a railroad been located 150 miles in length, requiring no change of the power employed in transportation upon it. But on the road in question, no such change will be necessary; a locomotive engine, with its train of cars, can traverse its whole distance with ease, as there is not an inclined plane upon the route rendering the intervention of stationary power necessary.

A slight inspection of the map of the United States will be sufficient to satisfy any one of the importance of this route, as a link in the chain of communication from Albany to the Ohio River; indeed, from Buffalo to Dayton, *via* Sandusky City, the route is as direct as could be desired. Its importance to the commercial interests of the State of New-York is self-evident. It will be the only work that can at all prevent the trade of this country, especially that of Cincinnati, from being diverted to Baltimore and Philadelphia, when that great work, the Baltimore and Ohio Railroad, shall be finished to the Ohio. The facility with which our merchants could then travel over the mountains would be a great inducement for them to take that route, independent of the advantages of a choice of three markets. Should this road, however, be constructed, merchandise from New-York and Philadelphia could reach the Ohio in less time than by any other way, especially should a railroad be made from the Hudson to Lake Erie, as is contemplated. The Baltimoreans are fully aware of this, and are pushing on their great enterprise with all the energy of which they are capable. It is to New-York then that we must look for the means for the construction of this road, and we think we may look for it with confidence, as, without taking into consideration the great advantages to be reaped by her, especially from its construction, no doubt can be entertained that the stock will pay a handsome interest, considered merely in the light of an individual investment.

We suppose the course of the Commissioners at the coming meeting will be to despatch agents to the eastern cities to open the books and obtain subscriptions to the stock, as soon as may be. Should suitable men be obtained for this purpose, not the slightest difficulty, we apprehend, will occur in raising the requisite sum. No time ought to be lost, if such a course be adopted. Railroad stock is in good odor now, and there is a "tide" in railroad, and all other stocks, as well as "in the affairs of man." Let intelligent and respectable men be sent immediately to Albany, New-York, Buffalo and Rochester, to lay the claims of this great work properly before the capitalists there. In the selection of these agents, if men could be found personally known to these capitalists, so much the better If men of respectability, their representations will command respect and credence.

We have thrown these remarks hastily together, to call the attention of our readers to this subject. It is one in which all are deeply interested, and which is intimately connected with the prosperity of the whole of that part of the State through which the road will pass. Should any farther information come into our possesion after the meeting of the Board of Commissioners, our friends may depend upon receiving it at as early a day as possible.

In conclusion, we exhort all friends of the enterprise to join heart and hand, and do what they can to forward it to its completion. Let us put our own shoulder to the wheel, and then call on Hercules, and we may be sure of success.

A Report of the Chief Engineer on the Survey of a Route for the proposed Susquehanna and Delaware Railroad, from Pittston, on the Susquehanna, to the Delaware River, at the Water Gap.

To David Scott, and others, *Commissioners, &c.:*

GENTLEMEN,—In compliance with a request from your Board, communicated to me in the early part of the past summer, I examined the country between the Susquehanna at Pittston, at the junction of the Lackawanna and the Delaware River, at its pass through the Blue Ridge, called the Delaware Water Gap; and also directed the execution of such surveys as were deemed necessary to determine the feasibility and probable expense, of constructing a Railroad between those points, by which it appears that the scheme is not only practicable, but that the object may be effected without encountering any inordinary difficulties, and at a comparatively reasonable expense.

Time and circumstances permitted the survey of but one route, in which the survey and levels were minutely taken, and the surrounding country as much explored as the nature of the case would permit, for which I am bound to acknowledge my obligation to the intelligence and assiduity of R. J. Germain, Esq., Civil Engineer, assisted by Messrs. Provoost and party.

The surveyed route being that which forms the basis of the estimate, will be the subject of the following remarks.

It commences at the junction of the Lackawanna with the Susquehanna River at Pittston, and runs from thence up the Lackawanna Valley to the mouth of Roaring Brook, thence up the valley of that stream to Lake Henry, a tributary of Roaring Brook, and from thence, crossing the head waters of Lehigh upon the table lands which form the dividing ridge between the Susquehanna and Delaware Rivers to the head waters of Anatomak or Broadhead's Creek, passing down the Pocono, one of its tributaries, through Stroudsburgh, thence down the main stream, approaching the Delaware in front of Detottsburgh at the head of the Water Gap.

The elevation of the summit above the Susquehanna and Delaware Rivers respectively, is 1366 feet and 1599 feet, and the distance about 70 miles. This we divide into two, the Eastern and Western Division, which for the sake of perspicuity is divided into sections corresponding with the different grades to which the line is best adapted, as suggested by the various features of the ground.

It is, however, worthy of remark, that on either side of the summit through the valleys of Roaring Brook and Broadhead's Creek and its tributaries, the location will be upon a transverse slope, where any grade may be sustained that the circumstances of the case may require, hence, such grade was assumed in the survey as would admit of the advantageous use of locomotive engines. The maximum angle of ascent on the Western Division in the direction of the greatest trade, being 26 feet per mile, that on the Eastern Division, in the opposite direction, 40 feet per mile, which is not objectionable, in as much as the power necessary to transact the regular business of the Western Division, would perform the return business up a much steeper grade.

In the arrangement of the different grades for the application of locomotive, mechanical, or animal power, 666.5 feet of elevation is overcome on the Western Division, and 774 feet on the Eastern Division, leaving to be surmounted, by inclined planes requiring stationary power, 699.5 feet on the Western, and 855 feet on the Eastern Division, for which, as indicated by the survey, six inclined planes will be necessary, three upon each division. To those on the

Western Division the waters of Roaring Brook may be introduced as the moving power.

In descending from the summit eastward into the Valley of Pocono, the line may be much improved and shortened by dividing inclined planes No. 1 and 2 into three planes, in such manner that neither shall overcome an elevation exceeding 250 feet, nor occupy a distance of more than half a mile; the line in consequence will be more direct—the inclined planes being reduced—better adapted to a great trade, and their location such, that the head waters of Pocono and Broadhead's Creek may be introduced at their summits as the propelling power. With this arrangement there will be seven inclined planes upon the whole route, to all of which water may be introduced in quantities sufficient to equal the greatest trade that can ever be anticipated, and may be used as a substitute for steam power, either in propelling machinery or as a preponderating power upon a self-acting plane.

In addition to the improvements suggested, there is no doubt that upon a more thorough examination many more will suggest themselves, whereby the line may be much improved, and distance diminished, without increasing expense.

Suitable materials for the execution of all mechanical constructions are abundant and convenient; in short, in computing the estimate I have had particular reference to the copious field notes and observations taken upon the ground, and, while on the one hand I have intended not to swell the amount to an extravagant degree, so, on the other, I have endeavored to make it fully adequate to the construction of the work, in a permanent manner.

The line generally is favorable in regard to curves, none very abrupt occurring, consequently no extra expense will be required to avoid them.

The formation of the road-bed should be calculated for a double track, in as much as that from its location it cannot be long after the first is completed before a second will be required, and should the grading be omitted until such necessity is experienced, the additional expense of widening the grade beyond what it would have been in the first instance, would be very great. Not so with the superstructure; the effect is different, and good policy would dictate the laying down first a single track, and make its advantages available in the transportation of materials for the second. An advantage, too, to be derived in grading in the first instance for a double track is, that by the time the second is required, the road-bed becomes settled and prepared for the reception of permanent materials; accordingly the following estimate of cost for forming the road-bed is with a view to a double track.

The *Eastern Division* includes all that part of the line between the main branch of the Lehigh River and the eastern termination upon the Delaware, and embraces the following grades:

No. of Grade.	Remarks.	Length of each grade in miles.	Descent in feet per mile.	Descent of each grade in feet.	Expense of forming the road bed of each grade
1.	From Lehigh River Eastward	11.	Level		$51416 75
2.	Commencement of eastern slope	4.	22.5	90.	13408 24
3.	Grouse Plain do.	2.30	Level		21406 66
4.	Descending side of Pocono Mountain	4.98	40.	199.	24880 40
5.	Inclined Plane No. 1	0.62		350.	943 00
6.	Inclined Plane No 2, including short level between planes	0.75		355.	18641 40
7.	Along Pocono Valley	7.	40.	280.	21083 48
8.	Inclined Plane No. 3	0.34		150.	675 00
9.	Passes Stroudsburgh and Anatomak Mills	3.	35.	105.	7690 03
10.	Passing Industry Mills	2.80	25.	70.	8486 69
11.	Along the bank of the Delaware to Detotsburgh	0.69	Level		2610 51
	Total Eastern Division	37.48		1599.	171242 16

The *Western Division* extends from the River Lehigh to the western termination at Pittston.

No. of Grade.	Remarks.	Length of each grade in miles.	Descent in feet per mile.	Descent of each grade in feet.	Expense of forming the road bed of each gra
1.	From Lehigh to Western Slope	2.68	Level		$15999 86
2.	Descends the Valley of Roaring Brook	7.50	26.	195.	20338 75
3.	Inclined Plane No. 1	0.68		234.5	2425 00
4.	Indications of Coal, Roaring Brook Deep Hollow	8.50	26.	221.	26080 00
5.	Inclined Plane No. 2, end of Moosick Mountain	0.60		240.	3405 00
6.	Ditto Ditto	2.85	26.	74.1	14220 20
7.	Inclined Plane No. 3, A. Slocum's Mills	0.75		225.	3895 00
8.	Down Lackawanna to Pittston	9.54	18.5	176.4	27611 33
	Total Western Division	33.10		1366.	$113975 14
	Sum for Eastern and Western Divisions	70.58		2965.	$285217 30
	Add for engineering and unforeseen contingencies 10 per cent.				28521 73
	Aggregate cost of graduation				$313739 03
	Average per mile				4445 15

Next to be considered is SUPERSTRUCTURE. And, although stone blocks may conveniently be obtained for the support of wooden string pieces, upon the plan adopted by the Mohawk and Hudson Railroad Company—or, stone sills superceding entirely the use of wood, upon the plan adopted by the Baltimore and Ohio Company on part of their road, suitable stone abounding in the valleys of Roaring Brook and Broadhead's Creek; yet, for various reasons, timber should be preferred in the first construction.

1st. As matter of economy, costing $1500 to $3000 less per mile than the other plans.

2d. Should any unevenness occur in the road-bed in the line of the ways, to which a new road is very susceptible, it is much more easily adjusted.

3d. By the time the road-bed is properly settled and business requires a second track, the various plans now in progress of construction will be tested and the selection may then be dictated by actual experience, and

4th. Great economy and advantage will be derived from this, in delivering upon the spot the materials for a permanent superstructure.

The route passing through a district of country abounding with timber of various kinds, and of excellent quality, such as white oak, yellow pine, red beech, hemlock, &c. all of which can be obtained at a very low rate, therefore the estimate is predicated upon a construction entirely of wood, with wrought iron rail plates 2¼ by ⅝ inch thick, and one turnout per mile of 300 feet in length.

COST OF ONE MILE.

10560	lineal feet Hemlock timber, at 3 cts.	$330 00
14080	Do. Do. durable timber, 8 feet long for turns, at 3 cts.	440 00
2640	cubic feet durable timber for string pieces at 12½ cts.	330 00
3520	Locust wedges, at 1 ct.	35 20
22	tons railplates, and transportation, $65.	1430 00
½	ton spikes	100 00
600	lbs. connecting plates, 10 cts.	60 00
	Labor putting down rails, drains, &c.	960 00
300	feet turnout	225 00
	Cost of one mile superstructure	$3910 20
	Average cost of one mile graduation	4445 15
	Average cost of railroad per mile	8355 35
	Cost of 70.58 miles	$589720 60

The location of the inclined planes being such as to render water available as the propelling power, a question arises as to its most judicious application, whether in the operation of machinery, or as a preponderating power upon a self-acting inclined plane.

Self-acting planes are at present only used where the preponderance of the descending trade is sufficient to draw up the ascending, but I see no reason why they cannot be used with equal advantage in an ascending, or fluctuating trade, where water, in sufficient quantities, can, at all times be commanded at their head.

The plan recommended by M. Robinson, Esq., Civil Engineer to the managers of Danville and Pottsville Railroad Company;

I would therefore recommend for your consideratien, as matter of economy, as well as preferable improvement, the construction of inclined planes upon the principle of those upon the east end of the Carbondale Railroad, with carss ustaining tanks or cisterns capable of containing water sufficient to preponderate any necessary ascending load, to be disgorged of their load at the foot, and return with the next ascending train.

Cost of seven inclined planes, at $5000	$35000 00
Cost of grading and superstructure 589720 60	
Aggregate cost of road	$624720 60

The capacity of a Railroad for the transaction of business, like that of a Canal, is measured by the facilities afforded in overcoming elevation.

Without troubling you with far-fetched theories upon this subject, I will refer you for example to the inclined planes upon the Carbondale Railroad; their ordinary progress upon the road, while making their transit, is at the rate of six miles per hour. From the favorable features of the ground on this route, for the location of the inclined planes, any angle of acclivity may be adopted that the nature of the case will justify; we shall assume therefore five degrees, as the angle best adapted to practical operations, hence, about half a mile will be the length of the planes on the Western Division, their acclivity being in the direction of the trade will regulate the business.

Assuming six miles per hour, according to the foregoing example, each transit will be performed in five minutes; allow for casual detentions 2½ minutes, will make 7½ minutes or 8 transits per hour. Assuming also 10 tons for the load, independent of the cars, is 80 tons per hour, and at 12 hours is 960 tons per day, and, making liberal allowance for all necessary delays, 250 days or 240,000 tons per year.

The experience upon railroads in this country does not yet furnish data whereby to calculate the expense of transportation; suppose then the tolls to be one cent per ton per mile, and the transportation one and a half cents per ton per mile, (which is about the expense on canals,) the amount for tolls on 70 miles is $168,000, and for transportation, including tolls, $420,000. This calculation may appear too large; suppose, then, that only half that business should offer, (which, from its location, there can be no doubt it shortly would,) the tolls would then be $84,000, and transporration, including tolls, $210,000.

A great inducement to this belief is, that more than 18 miles of the western end of this route is through a coal region, 6 miles of which is above inclined plane No. 2., along the valley of Roaring Brook, on the east side of Moosick Mountain, where indications of coal are of frequent occurrence.

The location of inclined plane No. 2, is at the south-western extremity of Moosick Mountain, from the head of which a line of road may be graded on the west side of the said mountain, declining 16 feet per mile, 13 miles to Carbondale, which, together with the extension of the Susquehanna, will make at least 27 miles, with which this vast coal field, embracing the valley of the Lackawanna, may be accommodated with a Railroad in a longitudinal direction, thus offering inducements to the individual

enterprise of this district, by affording a cheap and expeditious communication to market, which may defy competition from any other quarter.

From the eastern termination of this route the road may be extended along the bank of the Delaware to Easton, which the Company is authorized by their charter to do, from whence a choice of markets is offered to Philadelphia by the Pennsylvania Canal, or to New-York by the Morris Canal; or, for a more direct communication to New-York, the Delaware may be crossed at the Water Gap, and a tolerably direct route may be obtained to the summit of the Morris Canal, or, a line may be extended up the valley of Paulinskill, on or near the line of the late contemplated Sussex and Orange Canal to, the Hudson, at or near Newburgh: on neither of the above routes will any stationary power be required.

But as it may be important for the Company so to extend their work as to maintain an entire uninterrupted communication to market during the winter season, I beg leave further to state that a very direct route may be obtained on which a Railroad can be constructed without encountering any formidable difficulties from the Delaware Water Gap, approaching the Hudson River opposite the City of New-York. Respectfully submitted,

EPHRAIM BEACH, Civil Engineer.

December 31st, 1831.

Report of James Seymour, Esq., Engineer, upon the Route of a Railroad from the line of the Susquehanna and Delaware Railroad, at Lackawanna, to the State Line, near the Great Bend of the Susquehanna River.

To Samuel Calender, Abel Gritman, Wm. Finn, and others:

GENTLEMEN,—The examinations and surveys, made agreeably to your instructions, in the months of December, 1832, and January, 1833, will be given in the following manner, and known as the 1st, 2d, and 3d routes, by beginning with the first examined.

It will not, I presume, be necessary for me to enter into long and tedious details of cursory examinations, (as time and circumstances would not admit of a minute examination,) and only determine the general feasibility and practicability of the routes. Definite locations alone will enable an exact estimate to be made of the amount of labor necessary to effect the construction of a Railway. I shall, therefore, confine myself to a statement of the most prominent points of the routes, or of those which will affect them, either favorably or otherwise.

FIRST ROUTE.—The point at which this route commences is near John Decker's saw-mill, at a convenient place for crossing the Lackawanna Creek, about the centre of Blakely, Luzerne county, Pennsylvania, and will be designated Lackawanna, in the following statement:

It is situated about 8 miles S. W. from Carbondale, and 14 miles N. E. from the junction of the Lackawanna Creek with the Susquehanna River. Its level above tide water is 865 feet—197 feet above Centreville—and 180 feet below Carbondale. It varies a little from a direct line between Cobb's Gap, which bounds the Lackawanna Creek, easterly, and Calendar's, westerly; the gap through which the line of survey passes, at an elevation of 559 feet above Lackawanna, by a cut on the summit which will not exceed 40,000 cubic yards—a distance of 3 miles requiring two stationary powers in reaching the summit, which is the head of a tributary stream putting into the Lackawanna Creek, near Samuel Calendar's, also the head of a tributary stream putting into the main branch of the Tunkhannock, known as one of the south branches. Thence by keeping on the southerly side of said creek, a distance of 5 miles, descending 360 feet, requiring one stationary power for 260 feet, and the remaining 100 on a grade of 20 feet per mile, which brings the level about 40 feet above the bed of the creek, at which point it will be necessary to cross to the opposite side. Thence on the northerly side, a distance of 5 miles, by rising at the rate of 18 feet per mile, to near the level of the Bassett Pond. Thence on a level, passing Finn's Pond, (to a point from which it will be necessary to descend to the main branch of the Tunkhannock,) a distance of 3¾ miles. Thence to the main branch of the Tunkhannock, near the mouth of Martin's Creek, a descent of 420 feet, a distance of 1 mile, requiring two stationary powers in getting down sufficiently low for crossing Tunkhannock, making the distance 17¼ miles from Lackawanna to the mouth of Martin's Creek. The point where Martin's Creek empties into the main branch of the Tunkhannock, is about 12 miles N. E. from the Susquehanna River, (at the junction of the main branch with the Susquehanna.)

The line of survey from the Lackawanna to the mouth of Martin's Creek, will vary but a little from a direct line, as it may be seen by correct maps of the country that the stream itself, from its head, runs nearly in the same direction to the point proposed by this survey for crossing, and that the line diverging from the creek, soon after crossed by passing the Bassett and Finn Ponds to the mouth of Martin's Creek, as before described, is nearly direct. The face of the country is generally regular and uniform in the immediate vicinity of the line, (which is seldom found to be the case in this part of Pennsylvania.) Timber and stone are convenient throughout the line, and a railway may be constructed without encountering many difficulties, and comparatively at a small expense, as will be seen by the following estimate. Four viaducts will be necessary—one across the south branch of Tunkhannock—one across the Crooked and Mud Ponds' outlet, after their junction with each other—one across the main branch of Tunkhannock, and one across Martin's Creek, in order to follow up the west side of the last mentioned creek. The banks approach each other so nearly where the viaducts are required, that it will not require much labor, and consequently not much expense for construction.

Estimate.

17¼ miles of Railway, exclusive of engines, machinery, and viaducts, will cost, at $8,000 per mile,	$138,000
5 Stationary Engines, at $5,000 each,	25,000
4 Viaducts, at $1,000 each,	4,000
	$167,000
See Leggit's Gap Report from the mouth of Martin's Creek to the State Line, 29½ miles,	192,250
	$359,250
Extra for flange plates on curve lines,	2,000
	$361,250
Add 10 per cent. for contingent expenses,	36,125
Making in all,	$397,375

It may be well here to remark, that the face of the country is such, that a different location may be made by a more expensive plan, and save 480 feet elevation and depression, together with one stationary power, by rising from Lackawanna 400 feet, to near Calendar's Summit, thence a cut for one quarter of a mile in distance, which will not exceed 50,000 yards; thence a tunnel for half a mile in distance, which will not exceed 8,000 yards; thence a cut on the opposite or westerly side of tha summit, which shall not exceed 50,000 yards, which will carry the line through; thence to the point for crossing the south branch of Tunkhannock, about 5 miles distance, on a grade of 30 feet per mile to a point 100 feet above the bed of the creek. At this elevation above the creek, the banks approach each other so nearly, that they will not, in distance, exceed 10 chains apart, at the level of the proposed line, and approach each other at the bed of the creek; thence on a level to the point for descending to the main branch of the Tunkhannock, near the mouth o. Martin's Creek, by crossing the outlet of Mud and Crooked Ponds, at the same point before proposed—the banks situated similar to those last described—also by lowering the Bassett Pond 30 feet—it being 45 feet above Finn's—will still leave the line of road 15 feet above the level of Finn's Pond; although this pond outlets into the south branch of the Tunkhannock, still it will not be necessary for the line of Railroad to rise from the level, 15 feet above said pond, in order to reach the height of ground between it and the main branch of the Tunkhannock, and remain upon fair ground for the construction of a Railway—thence to the main branch of the Tunkhannock, near the mouth of Martin's Creek.

With the last above proposed location, the line will be shortened one mile by crossing a ridge near Gorden White's, bounding the outlets of the Crooked and Mud Ponds west, which was necessary to go around, with the first proposed location, and may go around with the present, but the earth necessary to be removed will be wanted as embankment in crossing the outlet of said ponds, therefore it is preferable to take the course with the line, leaving the distance 16¼ miles from Lackawana to the mouth of Martin's Creek, and the location as follows: Rising from Lackawana 400 feet, requiring two stationary powers, thence on a grade of 30 feet per mile, to the point for crossing the south branch of Tunkhannock, thence on a level to a point necessary to descend to the main branch of Tunkhannock, near the mouth of Martin's Creek, thence to the main branch of Tunkhannock, a descent of 390 feet, requiring two stationary powers in getting down sufficiently low for crossing, in order to intersect the line of survey made up the Martin Creek, and thence to the States' line, a distance of 29½ miles, on a grade of 20 feet per mile, making the whole distance from Lackawana to the States' line, 46 miles.

Estimate.

First proposed location from Lackawana to the mouth of Martin's creek		$167,000
Deduct for one stationary power	$5,000	
Deduct 40,000 yards of excavation on summit, at 20 cents per yard	8,000	
Deduct one mile for railway saved	8,000—	21,000
		146,000
Add for the cuts at Calendar's summit, 100,000 yards at 20 cents		20,000
Tunnel, 8,000 yards, at $5		40,000
Crossing south branch of Tunkhannock, extra		5,000
Crossing Mud and Crooked Ponds' outlet		5,000
Draining the Bassett Pond		20,000
		236,000
See Legget's Gap Report from the mouth of Martin's creek to the States' line		192,250
		428,250
Add 10 per cent. for contingent expenses		44,625
Making in all		472,875

PORTSMOUTH AND ROANOKE RAILROAD.—Desirous of saying something respecting the progress of this work from personal observation, we availed ourselves of the invitation of one of the Directors on Wednesday afternoon, and proceeded with him along the line of the road as far as it has been opened, a distance of about four miles from Portsmouth. But little remains to complete the raising and graduating the road to that distance, and the work, as far as it is done, is *well* done, The hands have lately been taken from the high land to complete the road through the Gum Swamp, while the dry weather continues. Through this swamp the distance is a little over a mile, and on each side a mile and a half has been nearly finished. To persons unacquainted with the nature of swamp

lands, it may appear a very laborious, tedious and expensive undertaking to get a solid foundation for a railroad, the idea over them prevailing that it is of the nature of a bog, and therefore requires to be piled in order to prevent it from settling or sinking; but this is a great mistake. It is true, that these lands are overflowed in wet seasons, and often remain so during the greater part of the year; but when the summer drought dries up the water, the earth soon becomes firm and tough, and the laborer finds it harder to excavate than the high land. Of course the great Dismal Swamp is an exception to this rule.

One of the greatest difficulties anticipated in this railroad, was that of the swamps which lie in its route, and which were supposed to require uncommon exertion and expense to render them passable; but it is a fact that the road can be made through them on a firmer foundation and at little if any more cost than that of the level high land.

It will be attempted, and it is confidently believed to be within the power of the company, to complete the whole line from Portsmouth to Suffolk, (sixteen miles,) by next Christmas. The operations at the upper end of the line have been prosecuted with much greater rapidity than at this: there, they have 150 hands employed—here, only half that number. Although as yet but little has been done, comparatively, (for the work has only been two or three months in progress,) there is enough to show to inspire confidence in the success of the undertaking, and in the judicious management of the Directors. Every advantage appears to be taken of circumstances: in crossing the head of Scott's Creek, we perceive the expense of piling for a foundation has been avoided, by building a culvert on a knoll of solid ground projecting into the marsh, and turning the drain through it; and temporary but substantial wooden bridges are thrown over the ravines, until the materials to build them of stone can be conveyed in the cars, which will expunge a very material item of expense. The level and almost unbroken face of the country, indeed, is peculiarly favorable to the rapid progress of the work, and to its execution upon the lowest possible terms; and its friends need entertain no fears about its success.—[Norfolk Herald.]

Railroad in Florida.—The Floridian of the 27th ultimo states, that a subscription has been started in Tallahassee and more than nine hundred Shares, at twenty dollars each, have already been taken, for the purpose of establishing a Railroad from Tallahassee, to some point on the St. Marks or Waukulla River. Three-fourths of the subscribers have said they would double the amount of their subscriptions, if necessary. Application will be made to the legislative council for a charter, at its next session, and to Congress for the necessary appropriation of land, &c. &c. Is it not time for Georgians to strain every nerve, if they do not wish to see one of the Old Thirteen outstripped in enterprise by the citizens of a Territory but lately acknowledged as a part of our domain.

Port Kent and Keeseville Railroad.—We learn that a survey and level of the contemplated route or routes has been made by J. N. M'Cumber, Esq., under the superintendance of Messrs. Watson and Keese; and that the distance by one route is 4¾ miles, with an average rise of forty feet to the mile: that by the high bridge the distance is 5¾ miles, making an average rise of thirty-one feet to a mile—without any obstruction by hills, and, as the surveyor reports, "Requiring little or no excavation the whole distance; and running through a sandy surface, and passing on the borders of an extensive cedar forest; and inexhaustible stone quarries lying above the surface, of the first quality."—[Argus.]

Railroad in Canada.—A charter has been granted by the Legislature of Lower Canada, for making a railroad from Montreal to St. John, on Lake Champlain.

Railroads.—The number and extent of new lines of railroad now in progress and in contemplation have caused a considerable rise in the price of iron. In addition to those now forming in England, very large orders have arrived from America. In one instance, near Wolverhampton, we have heard of an order to the amount of several thousand pounds for cast iron chairs alone.

A magnificent undertaking is in contemplation by the French government—the formation of a grand line of railway from Paris to Rouen, Havre, Lyons, and Marseilles. The government, with this intent, have already demanded a vote of £20,000 for the preliminary survey. This is part of a vote of £4,000,000 sterling just obtained for the completion of public edifices, monuments, canals, and roads.

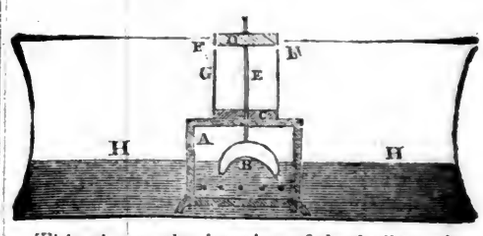
The heavy work of that great undertaking, the Newcastle and Carlisle Railway, on the line from Carlisle eastward, for about ten miles, is now in a state of considerable forwardness. The tremendous excavation at the Cawran hills is about half finished, and some idea may now be formed of the grand appearance which this portion of the road will present. The length of the cut is about 800 yards, the depth in many places at least 40, and consisting of 1,000,000 cubic yards of earth, sand, and stone.

Another heavy piece of work, three miles nearer Carlisle than the Cawran hills, is the viaduct of five arches, over Corbyneck Valley; it is now in a forward state, and is a handsome structure. Within 200 or 300 yards of this, is the stupendous viaduct over the river Eden, and the adjoining glen at Wetherall, to connect the lofty rocks on each side. This is a magnificent object: its entire length is 600 feet, and breadth 20 feet within the parapets; it has five arches of 80 feet span each. From Wetherall to within a mile and a half of Carlisle, the work is also in a state of forwardness. Nearer to Carlisle nothing of any consequence has been set about, with the exception of the bridge over the Petterel, near Maine's cotton works, which is now completed.—[London Repertory of Arts for July.]

Safety Apparatus for Steam Boilers. By F. H. [Communicated for the Mechanics' Magazine.]

Conceiving that there cannot be any invention more requisite than that of a safety apparatus for preventing the explosion of steam boilers, induced me most willingly to accept an invitation through a friend, to witness an experiment on a machine invented by Mr. Kennedy, of Fourth street, for that purpose, which, although tried on a small scale, evinced a capacity to embrace in the fullest sense a power to avert the awful calamity of the bursting of steam boilers. It is, on all hands, an admitted fact, that the cause of bursting or collapsing arises from a deficiency of water in the boiler; to ascertain the quantity, gauge cocks are used, which, at the most important time, are known to be uncertain, for, when the water is low, a quantity of it as condensed steam may yet remain in the cock, which, on opening, will cause a jet of water, that in too many cases satisfies the engineer. To obviate this, and to place the apparatus beyond the control of any person after it is fixed in the boiler, to simplify its formation and actions, and do away with the gauge cock, is evidently the object of the inventor, to which points he has certainly arrived, and which are fully demonstrable by the annexed engraving and reference.

Mr. Kennedy, agreeably to request, having communicated his plan to the Secretary of the United States Treasury, conceives that he has done his duty, and awaits the result. I have a different opinion, and, having obtained his permission, I wish through your useful magazine to lay a description of it before the public, with a desire to form a company which would put the apparatus into full operation, and probably save the lives and property of thousands.



This shows the interior of the boiler, also of the apparatus. A is a box containing the float. B the concave float, (concave at bottom and concave at top). C, soap-stone. D, a wadded stopper, connected by a rod, E, with the float, which, when lowered by the sinking of the float below the holes F, in the upper part of the tube, admits the steam to rush out, which will show the want of water in the boiler, agreeably to the adjustment between the float and stopper. G is a tube attached to the box A, and passes through the upper part of the boiler, in which the stopper acts, and at the top of which are four holes exactly opposite each other, through which the steam rushes when the water becomes low in the boiler.

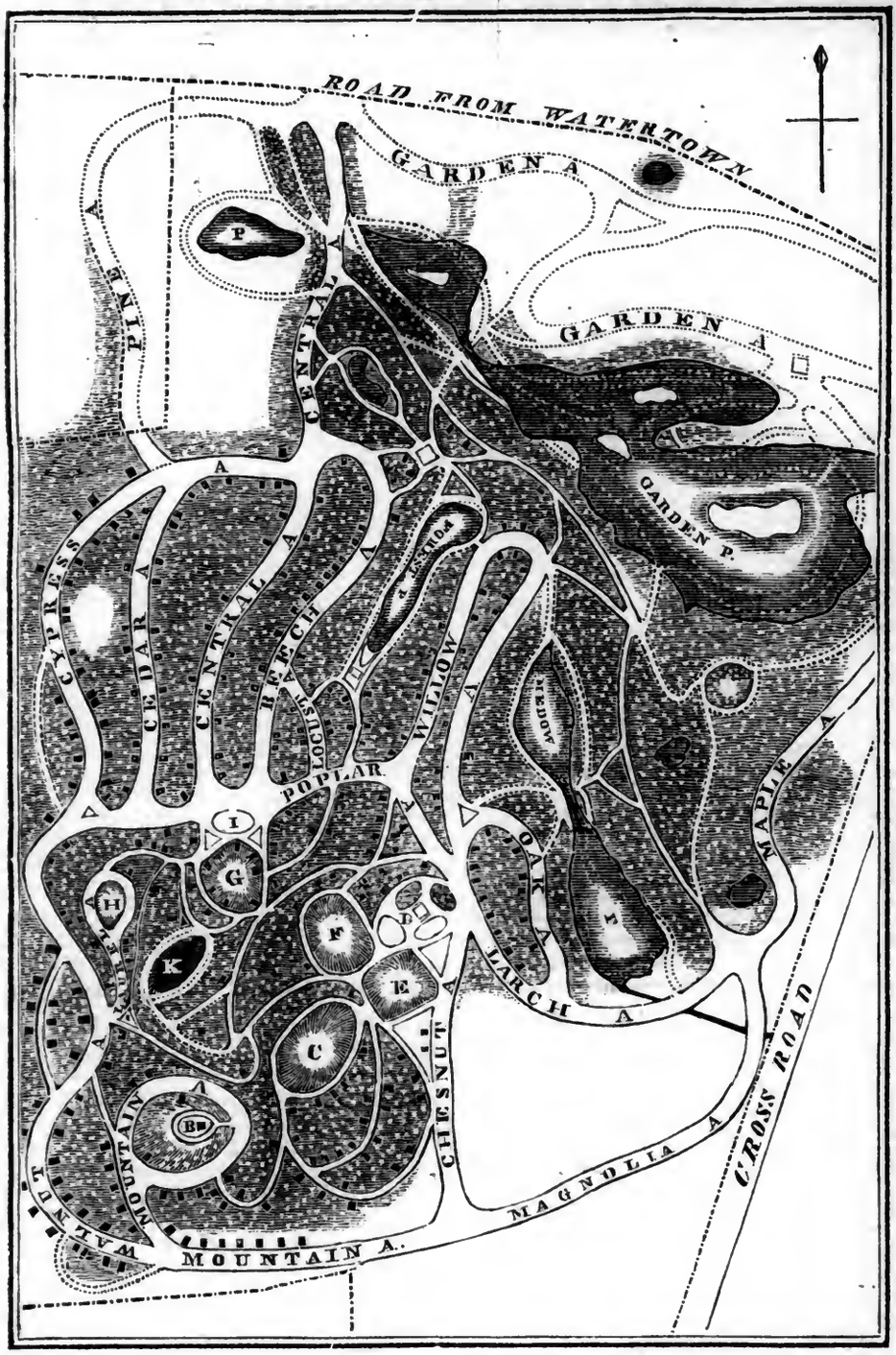
The reasons assigned by Mr. Kennedy for adopting this peculiar formation of the apparatus are,—first, in order to prevent ebulition affecting the float, he incloses it in a box, A, and admits water to it through the sides, not at top or bottom; second, it being well known that the gasses connected with steam will cause a firm adhesion of any metals which touch each other, and which are exposed to steam, he therefore substitutes soap-stone for the guidance of the rod which connects the float and stopper: this being completely saturated with oil in the first instance, and kept so by a small additional supply through the stopper, along the rod E, insures a certain action. The holes at the top of the tube being directly opposite each other, neutralize the power of the steam, and prevent any partial pressure on the stopper. A concave float will retain rarified air or steam, which will promote its buoyancy, but which never can elevate it beyond the surface of the water.

This plan is evidently void of complexity, either in its working or formation, having but one simple operation; therefore, in every respect highly commendable. F. H.

Quick Travelling.—A gentleman left Boston on Friday morning at 5 o'clock, and arrived by stages, steamboats and rail-ways at the wharf in Baltimore, at 20 minutes before 2 on Sunday morning—making the journey in 44 hours and 40 minutes, from city to city—distance about 500 miles.

A singular case of a severe burn cured by the solution of the chloride of soda, is recorded in the London Lancet. An attorney, in attempting to put out the flames that had attacked the curtains of his bed, had got his hands burned, blistered but not broken. He sent for a couple of quarts of the lotion, (4 oz. of the solution to a pint of water) had it poured into soup plates, wrapped his hands in lint, as no skin was broken; and so kept them for some time. Next morning he was so perfectly well that only one small dried patch of burn remained; yet an hour and a half had elapsed before the application. The same solution has been equally effectual in scalds and bruises. It never fails almost immediately to heal a 'black eye.' When the chloride is used for scalds, it is necessary to use with it in the after applications some spermaceti ointment.

PLAN OF THE GROUNDS FORMING THE CEMETERY AT MOUNT AUBURN, NEAR BOSTON.



Mount Auburn Cemetery.—The following plan of the Mount Auburn Cemetery, together with the proceedings of the Boston Horticultural Society, are taken from the N. Y. Farmer and Am'n Gardener's Magazine; and we are sure that it will be read by none with greater interest than by those who read the Mechanics' Magazine. It can be read by no person who has a taste for eloquence, or who ever reflects upon the subject to which it refers—*the last resting-place of all mankind in this world*,—without producing a salutary influence upon his feelings, and possibly upon his future life.

Rural Cemetery.—In our last we alluded to the establishment of a rural cemetery in the immediate vicinity of Boston, and promised a more minute description of it in a subsequent number; we proceed, therefore, to redeem that promise, by giving the following account of the origin of the plan, together with the eloquent address of Judge Story at its consecration, and a plan of the grounds as laid out for cultivation.

Who that reads the following truly appropriate address will not join with us in urging our prominent citizens to step forward and give the weight of their influence to a similar measure? Why not the *New-York*, as well as the Boston Horticultural Society adopt a similar measure, and thereby prevent its falling into the hands of speculators?

In the plan, the dotted lines show the contemplated paths and avenues, also the contraction of the ponds; and the square dots along the paths and avenues show the lots of 200 square feet purchased by individuals. The other references are as follow: A, Avenues; B, Mount Auburn; C, Harvard Hill; D, Temple Hill; E, Juniper Hill; F, Cedar Hill; G, Pine Hill; H, Laurel Hill; I, Central Square; K, Consecrated Dell; P, Ponds.

"Six or seven years ago meetings were held and measures taken, to carry into effect the plan of a private Rural Cemetery. But although there appeared to be no want of interest in the design, and of numbers sufficient to effect its execution, yet the scheme was suspended, from the difficulty of obtaining, at that time, a lot of land in all respects eligible for the purpose.

"After the establishment of the Massachusetts Horticultural Society, in 1829, it occurred to some of its members that a cemetery, of the character which had been desired, might with great propriety be instituted under the auspices of this new society, and that by a union of the interests of each institution, the success and permanency of their objects might be reciprocally promoted. Upon a notification, signed by Dr. J. Bigelow and John C. Gray, Esq. a meeting of gentlemen was held at the Exchange Coffee House, November 27, 1830, for the general consideration of the subject. At this meeting it was announced that a tract of ground, of about seventy acres, at the place then called Sweet Auburn, and owned by G. W. Brimmer, Esq. would be placed at the disposal of the society. A committee was appointed at a cotemporaneous meeting of the Horticultural Society, to consider the expediency of making this purchase, and to devise measures for forwarding the design of a Rural Cemetery and Experimental Garden. This committee afterwards obtained leave to fill their own vacancies, and to enlarge their number by the addition of persons not members of the Horticultural Society. A report in behalf of this committee was afterwards made by General H. A. S. Dearborn, President of the Society, and published in the newspapers, in which an extensive and able exposition was made of the advantages of the undertaking.

"At a meeting of persons favorably disposed towards the design, held at the Horticultural Rooms, June 8th, 1831, a strong and general wish was manifested for the immediate prosecution of the undertaking. A committee of twenty was chosen to consider and report upon a general plan of proceedings. The following gentlemen constituted this committee: Messrs. Joseph Story, Daniel Webster, Henry A. S. Dearborn, Samuel Appleton, Charles Lowell, Jacob Bigelow, Edward Everett, George Bond, George W. Brimmer, Abbot Lawrence, Jacob T. Austin, Franklin Dexter, Alexander H. Everett, Charles P. Curtis, Joseph P. Bradlee, John Pierpont, Zebedee Cook, jr. Charles Tappan, Lucius M. Sargeant, and George W. Pratt. This committee subsequently offered the following report, which was accepted, and made the basis of subscription for those who might become proprietors.

"The Committee of the Horticultural Society, to whom was referred the method of raising subscriptions for the Experimental Garden and Cemetery, beg leave to report:

"1. That it is expedient to purchase, for a Garden and Cemetery, a tract of land commonly known by the name of Sweet Auburn, near the road leading from Cambridge to Watertown, containing about seventy-two acres, for the sum of six thousand dollars; provided this sum can be raised in the manner proposed in the second article of this report.

"2. That a subscription be opened for lots of ground in the said tract, containing not less than two hundred square feet each, at the price of sixty dollars for each lot,—the sub-

scription not to be binding until one hundred lots are subscribed for.

"3. That when a hundred or more lots are taken, the right of choice shall be disposed of at an auction, of which seasonable notice shall be given to the subscribers.

"4. That those subscribers who do not offer a premium for the right of choosing, shall have their lots assigned to them by lot.

"5. That the fee of the land shall be vested in the Massachusetts Horticultural Society, but that the use of the lots, agreeably to an act of the Legislature respecting the same, shall be secured to the subscribers, their heirs, and assigns, forever.

"6. That the land devoted to the purpose of a Cemetery shall contain not less than forty acres.

"7. That every subscriber, upon paying for his lot, shall become a member for life, of the Massachusetts Horticultural Society, without being subject to assessments.

"8. That a Garden and Cemetery Committee, of nine persons, shall be chosen annually, first by the subscribers, and afterwards by the Horticultural Society, whose duty it shall be to cause the necessary surveys and allotments to be made, to assign a suitable tract of land for the Garden of the Society, and to direct all matters appertaining to the regulation of the Garden and Cemetery; and five at least of this committee shall be persons having rights in the Cemetery.

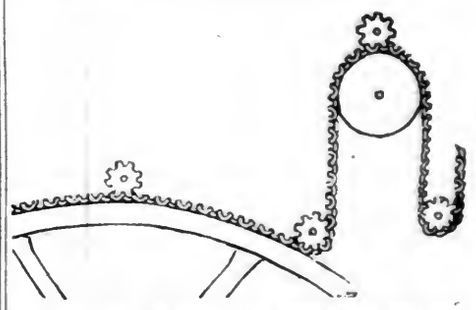
"The tract of land which has received the name of Mount Auburn, is situated on the southerly side of the main road leading from Cambridge to Watertown, and is partly within the limits of each of those towns. Its distance from Boston is about four miles. The place was formerly known by the name of Stone's Woods, the title to most of the land having remained in the family of Stone from an early period after the settlement of the country. Within a few years, the hill and part of the woodland were offered for sale, and were purchased by George W. Brimmer, Esq. whose object was to prevent the destruction of the trees, and to preserve so beautiful a spot for some public or appropriate use. The purchase which has now been made by the Horticultural Society includes between seventy and eighty acres, extending from the road nearly to the banks of Charles river. A portion of the lane situated next to the road, and now under cultivation, is intended to constitute the Experimental Garden of the Horticultural Society. A long water-course extending between this tract and the interior woodland forms a natural boundary, separating the two sections. The inner portion, which is set apart for the purposes of a Cemetery, is covered throughout most of its extent with a vigorous growth of forest trees, many of them of large size, and comprising an unusual variety of kinds. This tract is beautifully undulating in its surface, containing a number of bold eminences, steep acclivities, and deep shadowy vallies. A remarkable natural ridge with a level surface runs through the ground from south-east to north-west, and has for many years been known as a secluded and favorite walk. The principal eminence, called Mount Auburn in the plan, is one hundred and twenty-five feet above the level of Charles river, and commands from its summit one of the finest prospects which can be obtained in the environs of Boston. On one side is the city in full view, connected at its extremities with Charleston and Roxbury. The serpentine course of Charles river, with the cultivated hills and fields rising beyond it, and having the Blue Hills of Milton in the distance, occupies another portion of the landscape. The village of Cambridge, with the venerable edifices of Harvard University, are situated about a mile to the eastward. On the north, at a very small distance, Fresh Pond appears, a handsome sheet of water, finely diversified by its woody and irregular shores. Country seats and cottages, seen in various directions, and especially those on the elevated land at Watertown, add much to the picturesque effect of the scene. It is proposed to erect, on the summit of Mount Auburn, a tower, after some classic model, of sufficient height to rise above the tops of the surrounding trees. This will serve the double purpose of a landmark to identify the spot from a distance, and of an observatory, commanding an uninterrupted view of the country around it. From the foot of this monument will be seen in detail the features of the landscape, as they are successively presented through the different vistas which have been opened among the trees; while, from its summit, a magnificent and unbroken panorama, embracing one of the most delightful tracts in New-England, will be spread out beneath the eye. Not only the contiguous country, but the harbor and bay of Boston, with their ships and islands, and, in a clear atmosphere, the distant mountains of Wachusett, and probably even of Monadnock, will be comprehended within the range of vision.

"The grounds of the cemetery have been laid out with intersecting avenues, so as to render every part of the wood accessible. These avenues are curved and variously winding in their course, so as to be adapted to the natural inequalities of the surface. By this arrangement the greatest economy of the land is produced, combining at the same time the picturesque effect of landscape gardening. Over the more level portions the avenues are made twenty feet wide, and are suitable for carriage roads. The more broken and precipitous parts are approached by foot-paths, which are six feet in width. These passage-ways are to be smoothly gravelled, and planted on both sides with flowers and ornamental shrubs. Lots of ground, containing each three hundred square feet, are set off as family burial places, at suitable distances, on the sides of the avenues and paths. The perpetual right of inclosing and of using these lots, as places of sepulture, is conveyed to the purchasers of them by the Horticultural Society. It is confidently expected that many of the proprietors will, without delay, proceed to erect upon their lots such monuments and appropriate structures as will give to the place a part of the solemnity and beauty which it is destined ultimately to acquire.

"It has been voted to procure, or construct, a receiving tomb in Boston, and another at Mount Auburn, at which, if desired, funerals may terminate, and in which the remains of the deceased may be deposited until such time as the friends shall choose to direct their removal to the Cemetery; this period, however, not to exceed six months.

"The principal entrance to Mount Auburn will be through a lofty Egyptian gateway, which it is proposed to erect on the main road, at the commencement of the Central Avenue. Another entrance or gateway is provided on the cross road, at the eastern foot of the hill. Whenever the funds of the corporation shall justify the expense, it is proposed that a small Grecian or Gothic Temple shall be erected on a conspicuous eastern eminence, which in reference to this allotment has received the prospective name of Temple Hill.

"The recent purchase and disposition of the grounds at Mount Auburn has effected the consummation of the two designs, which, for a considerable time, have been cherished by numerous members of the community in the city of Boston and its vicinity. One of these is the institution of a garden for the promotion of Scientific Horticulture; the other, the establishment in the environs of the city of a retired and ornamented place of sepulture."



Gearing Chain.—An ingenious and useful construction of gearing chain for connecting cog-wheels, has lately been invented by Mr. Oldham, engineer, of the Bank of Ireland, which we think highly deserving of the attention of machinists, as it is so extensively applicable to various kinds of machinery, such as carding engines; and indeed in almost every situation where a series of toothed wheels are required to be driven by one mover. It consists of a peculiarly constructed chain, with curved links, which when passed round a drum will serve as teeth, and act as a cog-wheel to turn pinions, &c.; and when stretched out straight, or placed on a flat surface, will form an endless rack. It may also be passed over and under a series of rollers, pinions, &c., forming a carrying-chain, instead of the commonly constructed chains, in which spiked wheels are employed to take in the links.

In carding engines, and various other kinds of machinery, this improved chain will work with much better effect in connection with pinions, or wheels with common teeth, into which it is suited to gear, than the old chains, and without the possibility of slipping off, or riding over the points of spiked wheels, having a broader surface of contact; and it is not at all liable to get out of order, being much stronger than the old linked chain used with spur pinions.

It is formed by crescent-shaped plates constituting links, which are connected together; and one and two plates alternately, or two and three, or more, placed side by side; the alternate links fitting in between each other at the joints, where they are connected by pins, or bolts, passed through their eyes in lateral directions.

It will be obvious that these curved links present on one surface of the chain semicircular hollows like a rack, for the teeth of the pinions to take into, and that the ends of the links, where the bolts or rivets are passed through, are also formed semi-circular, and the same size as the spaces or hollows of the links. These ends constitute teeth on the chain, and take into the spaces between

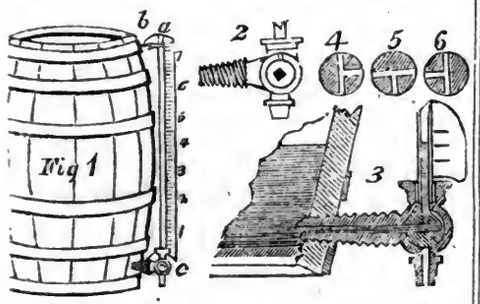
the teeth of the pinions or wheels, and consequently drive them; or the chain itself may be driven by such pinions or wheels in the same way as a rack.

It is evident that such a chain may be passed in various directions over wheels, on its face, and over drums at its back, and may be used with certainty of effect: as whatever motion is given to the chain will be communicated to all that is in gear with it.

The accompanying engraving shows such a chain, supposed to be endless, carried over part of the periphery of a carding cylinder, and constituting a circular rack or toothed rim, which drives all the pinions connected to it; the back of the chain is conducted over a roller, and brought into gear with other pinions or wheels; but as numerous illustrations might be produced of its applicability, it is unnecessary to say more, as its adaptation to every wide range of machinery will at once be perceived by every practical mechanic.—[British Cyclopædia.]

Hennekey's Gauge for Standing Casks. [From the London Mechanics' Magazine.]

We extract from the last part of the "Transactions of the Society of Arts" the following more particular description of the new mode of gauging casks introduced by Mr. Hennekey, of London. The invention is of such manifest utility, that it can scarcely fail to come into universal use; and has very deservedly obtained for the inventor the honor of the Society's silver Isis Medal.



"Fig. 1 is an elevation of a cask with the gauge applied to it. Fig. 2 is the cock *c* in fig. 1, on a large scale; it has three openings, one above, one below, and one in the side; by means of the screw in the latter opening, it is fixed firmly into the cask, as shown in the section, fig. 3. An upright wooden bar is then secured to the outside of the cask, having a groove *b* in it, corresponding with, and being, as it were, a continuation of the upper pipe of the cock *c*; in this groove is placed a glass tube, open at both ends, the lower part of which drops into the upper pipe of the cock, and is fixed there by means of white lead, or any other cement not acted on by spirit or by water; the tube is also secured above by a ring or cap. Parallel with the tube is a brass plate, on which the divisions are subsequently to be marked. The plug of the cock has three ways or openings, as shown in figs. 3, 4, 5, 6. A tongue or index projects from the plug, indicating the position of one of these ways; it may be seen in fig. 2—the position of which corresponds with that of the sectional view, fig. 3.

"The apparatus being complete as above described, the cock is turned to the position fig. 3, and the cask is filled by a hole at the top. It is evident, therefore, that the liquor will stand in the tubes at the same height it does in the cask, provided the tube is wide enough to avoid any sensible error from capillary attraction: this height is marked as the *b* or zero of the scale. The plug of the cock is then turned to the position fig. 6, and a given measure is drawn off, forming the unit of the scale. In the large standing casks, the quantity that is found practically the most convenient is five gallons. The plug is then returned to its former position, and the column of liquor in the tube will now be lower than the zero; the point at which it stands is to be marked on the scale as before. Proceeding in this manner to draw off successively five gallons at a time, the whole contents of the cask are thus transferred to the scale, each division of which represents five gallons, and the scale may be numbered upwards or downwards, as may be found the most convenient. The scale should not be continued to the bottom of the tube, but should terminate at the point where the dregs are usually found to begin. It is best not to leave a column of liquid constantly in the tube, as a deposit in that case takes place on the inside, which obscures it; when, therefore, any liquor has been drawn off, the plug of the cock should be brought to the position fig. 4, and previously to drawing off a fresh quantity, the plug should be brought to the position fig. 6.

"By the adoption of this method of graduation, the liquor dealer may take stock every day in a few minutes, by merely turning the plugs to the position fig. 3, and then reading the number corresponding with the height of liquor in the glass tube attached to each cask.

"Mr. Hennekey also finds these graduated casks to save much time and give greater precision, in making different liquids to form those compounds which are required by his customers. If, for example, he wants to mix together spirit and syrup in any given proportion, he puts the two liquors into separate casks on the ground floor, and places an empty cask, also graduated, on the platform above, and then pumps from the lower casks into the upper one the determined quantity of each ingredient; he then allows the mixture to remain for twenty-four hours, after which he reads off the quantity, and, by comparing this with the previously known quantity of the separate ingredients, ascertains how much has been lost in volume by condensation, and therefore how much additional price must be charged as an equivalent."

Hints for the Packing up of Machinery, and preserving it in working order. [From the London Mechanics' Magazine.]

Extract from a letter from James Watt, Esq., of Soho, to John Barrow, Esq., of the Admiralty, London:

"Before sending off the materials of engines, the bored or turned cast iron parts are all well greased, and the latter wrapped with rope-yarn, and the outside of the castings receive a coat of oil paint; the polished wrought iron work is well greased and packed in boxes with dry saw-dust. The precautions do not, however, prevent rust for any great length of time; this was experienced in the materials of his Majesty's steamer, the Alban, which we delivered at Deptford yard, in May or June, 1826; but the vessel not being ready, the boxes with the wrought iron goods were deposited in what appeared to be a dry storeroom, and, as far as I recollect, the saw-dust removed. On proceeding to erect the engines some six months afterwards, the wrought iron work was found to be much corroded by rust, and the repolishing and refitting was attended with considerable expense and loss of time. We find also that in our hands here, when similar materials are laid by for any length of time in the driest rooms we have, they require repolishing. This would be the case if the engines were erected, but we do not think the expense incurred in keeping the parts in order would be much increased;* indeed, I have adopted this plan myself in an iron work belonging to me, where I have had occasion to increase the power without the hope of letting it out in the present time. . . . . If the engines are not to be erected, the boxes should be immediately opened, the saw-dust removed, and all the wrought iron work well cleaned and fresh greased. It should be kept in a dry storehouse, and, if possible, in one occasionally heated; the cylinders, air pumps, &c. should also be cleaned out and fresh greased, and all the castings, as well as the boilers, should be put under sheds, to protect them from the wet, &c."

* The meaning is here somewhat obscure; but we understand it to be, that the expense of keeping an engine in good working order, by having a person to attend to it, and working it occasionally, is not much more than the cost of repolishing and refitting.—Ed. M. M.

Family Steamer.—Scarcely ever (says the Nashville Banner) have we seen a little apparatus so admirably adapted, for its simplicity, its easy application, and its various and important uses, to the convenience and comfort of the neat and industrious housewife, as that which has recently fallen under our notice with the above appropriate title. It is a portable steam generator, whose principal object is to assist in creating and preserving cleanliness, to destroy noxious insects and vermin, and to prevent their increase. It is used without trouble or inconvenience, and supercedes the annoying application of water in many cases. That vexatious but indispensable ceremony, which is after all too often ineffectual, the cleaning of bedsteads, may be performed most thoroughly by the aid of this apparatus, without taking them apart or removing them, and without the slightest injury to the floor or carpet upon which they stand. Not a bug or other insect can possibly escape the searching and destructive power of this instrument. For cleansing furniture, removing spots from paint, purifying varnish, cleaning windows, and looking-glasses, picture frames, maps, &c. it is most completely adapted. Its penetrating power is truly wonderful. The smallest crack or fissure may be thoroughly searched, and every thing harbored there effectually removed. It may be useful, too, to destroy worms, which so often infest fruit trees, without injuring the trees themselves; and to remove skippers from bacon without affecting the meat. In fine, in those numerous essential family operations, which, while they contribute to neatness, health, and comfort, are so often full of trouble and vexation to the matron, and to all about her, it is an almost invaluable auxiliary, and when it shall be introduced into general use, we have no doubt it will rank among the most valuable and indispensible articles of housewifery. It is capable likewise of being employed in many cooking operations to great advantage. It will, for example, boil eggs or potatoes with great ease, and in a most excellent manner.

HYDRAULIC DRY DOCK.

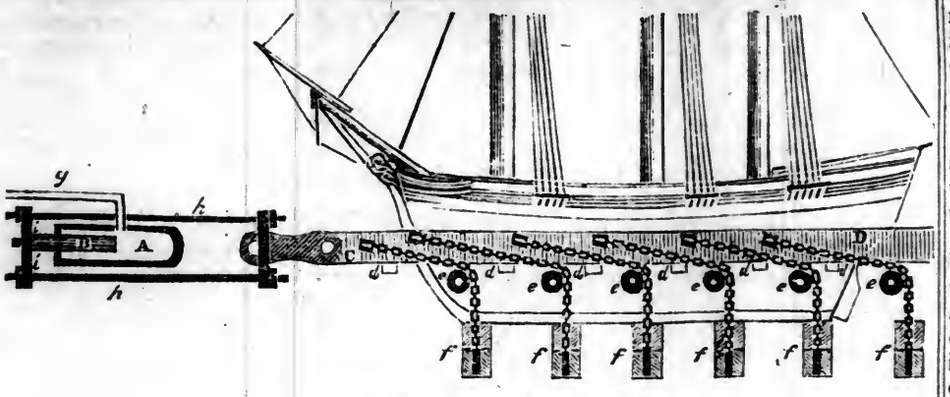
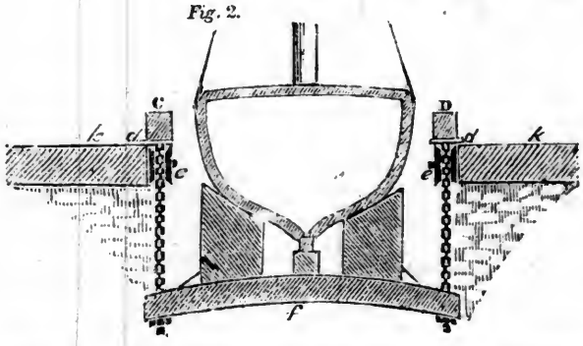


Fig. 2.



Hydraulic Dry Dock. [Communicated for the Mechanics' Magazine, and Register of Inventions and Improvements.]

Mr. Editor—Agreeably to your request, I visited the hydraulic dry dock of Messrs. Ring & Co., in this city, and was highly gratified and unutterably astonished at witnessing the gigantic power of a little machine called a hydraulic ram. A ship of 300 tons was raised in my presence, in the short space of an hour, together with the other heavy apparatus, high and dry, out of the water!

The hydraulic ram is nothing more than a hollow cylinder, equal in length to the immersed part of the vessel to be raised; it is provided with a stuffed collar, water-tight, thro' which passes a turned iron plug, called a ram; to one end of this ram is fixed a strong iron plate, connected to a corresponding one at some distance beyond the cylinder, by strong iron bars, and also connected with a sliding beam; to this beam a powerful set of chains are attached, passing over pulleys fixed to the wharf, and passing down into the water, where they are fastened to the timbers of the cradle, in which the ship is to be placed. As I have thus far only described one apparatus, it will be necessary to mention that there are two wharves, and two sets of apparatus, exactly alike—one of which I have given a longitudinal section of.

References.—A, the cylinder; B, the ram; C D, the sliding beam; *d*, stationary slats, on which the sliding beam moves; *e*, the pulleys; *f*, timbers of the cradle; *g*, the tube, which in this case is 80 feet long; *h*, bars connecting the two plates; *i i*, the two plates; *k k*, the wharves. Fig. 2 is a transverse section, with the references to correspond with the other.

The mode of raising a ship is as follows: She is brought in between the two wharves, exactly over the cradle—the chains are then tightened, so as to make the blocks come in contact with the keel—water is then forced into the cylinder, through a small tube, by means of a pump, which causes the ram to be forced out, drawing with it the sliding beams, raising the cradle with the ship, in a slow but majestic manner, to the required height.

Respectfully, yours,
G. Lansing.

New-York, Aug. 8, 1833.

Incombustible Wash and Stucco White Wash.—The basis for both is lime, which must be first slacked with hot water, in a small tub or piggin, and covered, to keep in the steam; it then should be passed, in a fluid form, through a fine sieve, to obtain the flour of the lime. It must be put on with a painter's brush—two coats are best for outside work.

First. To make a fluid for the roof, and other parts of wooden houses, to render them incombustible, and coating for brick tile, stone work and rough cast, to render them impervious to the water, and give them a durable and handsome appearance.—The proportions in each receipt are five gallons. Slack your lime as before directed, say six quarts, into which put one quart of clean rock salt for each gallon of water, to be entirely dissolved by boiling, and skimmed clean; then add to the five gallons one pound of alum, half a pound of copperas, three-fourths of a pound of potash—the last to be gradually added; four quarts of fine sand or hard wood ashes must also be added; any coloring matter may be mixed in such quantity as to give it the requisite shade. It will look better than paint, and be as lasting as slate. It must be put on hot. Old shingles must be first cleaned with a stiff broom, when this may be applied. It will stop the small leaks, prevent moss from growing, render them incombustible, and last many years.

Second. To make a brilliant Stucco White Wash for the Buildings, inside and out.—Take clean lumps of well burnt stone lime; slack the same as before; add one-fourth of a pound of whiting or burnt alum pulverized, one pound of loaf or other sugar, three pints of rice flour made into a very thin and well boiled paste, starch, or jelly, and one pound clean glue, dissolved in the same manner as cabinet-makers do. This may be applied cold within doors, but warm outside. It will be more brilliant than plaister of paris, and retain its brilliancy for many years, say from fifty to one hundred. It is superior, nothing equal. The east end of the President's house in Washington is washed with it.

Process for Silvering Iron.—Iron is not easily silvered. The following process will be found convenient in its application to both large and small iron utensils.

After having scoured the piece of iron to be silvered, let it be very evenly rubbed with sand paper, and then dipped into a warm solution of sulphate of copper, (blue vitriol,) or of acetate of copper, (verdigris); when its surface has become red, immerse it in clean water. Should the copper not cover the surface equally, it must be again dipped into the solution. The solution of the salt of copper should not be so strong as to produce a precipitate of small particles of copper. Melt silver in a crucible, and let the iron be immersed in it, and rubbed over with a proper tool, so that the silver may adhere equally to its surface. This operation of immersing and rubbing is repeated until the silver is very evenly applied. Care should be taken to press, and not to rub, the surface, lest the thin coat of copper, which facilitates the adhesion of the silver, should be scraped off. When the silvering seems complete, the articles are removed from the crucible and polished.—[Journal des Connaissances Usuelles.]

Water Spout on the Lake of Geneva.—M. Mayor, who resides at Mollard Place, Geneva, in looking through his window, which faces the lake, saw, to his astonishment, on the third of December last, about a quarter before eight in the morning, in the direction of *Paquis* and *Secheron*, a vertical column of water, at least sixty or eighty feet high, and several feet in diameter, larger at its base than its summit, of a grey color, and appearing animated with a gyratory motion. The column rested on the lake below, and was bent towards the top in the form of a bow. It remained nearly two minutes without any sensible change of place; and then sunk, by degrees, from above, by diffusing itself in a shower of rain. At this juncture a south-west wind ruffled the surface of the lake; the sky was entirely covered with thick vapors, which occupied the upper regions, while there were, properly speaking, no clouds in the horizon.

This is not the first spout seen on Lake Leman. One which occurred in 1741 was described in the French Academy. It lasted several minutes. Another was seen in 1764, in the month of August, which continued nearly an hour.

In the spout witnessed by M. Mayor, the top of the column had no communication with thick clouds, as is sometimes the case, no trace of any such cloud was to be seen, neither above the column nor in its neighborhood,—hence there were no indications of electrical attraction to which the effect could be attributed, and there seems no means of accounting for the prodigious force then exerted to sustain a column of water of such height, except that which ascribes it to a current or whirlwind of excessive intensity.—[Bib. Univ. 1833.]

A Chain Saw has been invented by Mr. P. P. Quimby, of Belfast, Me. The teeth are rivetted together, and the saw is placed round a cylinder in a groove.

NEW-YORK AMERICAN.

AUGUST 10, 12, 13, 14, 15, 16—1833.

LITERARY NOTICES.

THE PHILOSOPHY OF THE MORAL FEELINGS, by JOHN ABERCROMBIE, M. D. being Vol. LVIII of *Harpers' Family Library: N. Y.*—The former work of Dr. Abercrombie, on the Intellectual Powers of Man and the Investigation of Truth, which was published some time ago, as No. XXXVII of this same series, will ensure a welcome to his new treatise on a cognate branch of mental philosophy. There is no profession which, in our judgment, affords so good and so frequent opportunities of thoroughy studying the phenomena of our intellectual and moral existence, as that of a physician. While ministering to the bodily ailments which are more or less the lot of all, he has not less to consider and consult the state of the mind and feelings, which react so powerfully upon the material frame with which they are allied, and through which they act and suffer. He sees the human being—animal in so many of his propensities and wants—godlike in his longings after immortality, and in the reach of his lofty intellect—stript of all disguise, and acting naturally. If then he have an observing spirit—previous cultivation and acquirement—and withal a turn for metaphysics—the physician in the sick room has advantages for verifying the many and conflicting hypotheses respecting the intellectual functions—superior to all others. We think Dr. Abercrombie has profited by these advantages, and that in this, the sequel in some sort to his former work, he traces with a steady hand and good discrimination—and withal in a practical manner—"the principles which ought to regulate our volitions, and our conduct, as moral and responsible beings." A more important subject, or one of greater interest to each and all of us, can hardly be discussed. We propose by some extracts to show how it is here disposed of.

After laying down the position that the "sense of justice is a primary and essential part of our moral constitution, conveying the distinct impression of certain conduct which a man owes to his fellow men without regard to any considerations of a personal nature, and apart from all enactments or laws, divine or human," the author thus proceeds to define this "sense of justice," and illustrate its operation.

The sense of justice consists in a feeling experienced by every man, of a certain line of conduct which he owes to other men in given circumstances; and this seems to be referable to the following heads;—attending to their interest,—not interfering with their freedom of action,—preserving their reputation,—estimating their character and motives,—judging of their opinions,—consulting their feelings—and preserving or improving their moral condition. As a guide for his conduct in particular instances, a man has usually a distinct impression of what he thinks due by other men towards himself; justice requires that he rightly extend to others the same feelings and conduct which, in similar circumstances, he expects from them.

(1.) Justice is due to the persons, property, and interests of others. This constitutes Integrity or Honesty. It, of course, implies abstaining from every kind of injury, and preserving a conscientious regard to their rights. In this last respect, it allows us to exercise a prudent attention to our own interest, provided the means be fair and honourable, and that we carefully abstain from injuring others by the measures we employ for this purpose. The great rule for our guidance in all such cases is found in the immutable principles of moral recitude; the test of our conduct in regard to individual instances is, that it be such as, were our own interest concerned, we should think fair and honorable in other men.

(2.) Justice requires us not to interfere with the freedom of action of others. This constitutes personal liberty; but in all civil communities the right is liable to certain restrictions: as when a man uses his freedom of action to the danger or injury of other men. The principles of justice may also recognize a man's surrendering, to a certain extent, his personal liberty, by mutual and voluntary compact, as in the case of servants, apprentices, soldiers, &c.; but they are opposed to slavery, in which the individual concerned is not a party to the agreement.

(3.) Justice enjoins a regard to the reputation of others. This consists in avoiding every thing that could be injurious to their good name, either by direct evil-speaking, or such insinuations as might give rise to suspicion or prejudice against them. It must extend also to the countenancing of such insinuations when we hear them made by others, especially in circumstances in which the individual injured has no opportunity of defending himself. It includes, further, that we do not deny to others, even to rivals, any praise or credit which is justly due to them.—There is, however, one modification, equally consistent with justice, to which the former of these rules is liable; namely, that in certain cases, we may be required to make a statement prejudicial to an individual, when duty to a third party or to the public makes it incumbent on us to do so. In such a case, a person guided by the rules of justice will go no farther than is actually required by the circumstances; and will at all times beware of propagating a report injurious to another, though he should know it to be strictly true, unless he is called upon by special duty to communicate it.

(4.) Justice requires us not only to avoid injuring an individual in the estimation of other men, but to exercise the same fairness in forming our own opinion of his character, without being misled or biassed by passion or prejudice. This consists in estimating his conduct and motives with calmness and impartiality; in regard to particular instances, making full allowance for the circumstances in which he was placed, and the feelings by which he was, or might be, at the time, naturally influenced. When an action admits of being referred to different motives, justice consists in taking the more favorable view, if we can do so with strict regard to truth, instead of harshly and hastily assigning a motive which is unworthy. Such justice in regard to character and motives we require to exercise with peculiar care, when the conduct referred to has been in any way opposed to our own self-love. In these cases we must be especially on our guard against the influence of the selfish principle, which might lead to partial and distorted views of actions and motives, less favorable to others, and more favorable to ourselves, than justice warrants. When viewed in this manner, we may often perceive, that conduct which gave rise to emotions of displeasure, as injurious to us, was fully warranted by some conduct on our own part, or was required be some high duty which the individual owed to another.

(5.) Justice is to be exercised in judging of the opinions and statements of others. This constitutes Candor. It consists in giving a fair and deliberate hearing to their opinions, statements, and arguments, and weighing fairly and honestly their tendency. It is, therefore, opposed to prejudice, blind attachment to preconceived opinions, and that narrow disputatious spirit which delights in captious criticism, and will hear nothing with calmness that is opposed to its own views; which distorts or misrepresents the sentiments of its opponents, ascribing them to unworthy motives, or deducing from them conclusions which they do not warrant. Candor, accordingly, may be considered as a compound of justice and the love of truth. It leads us to give due attention to the opinions and statements of others,—in all cases to be chiefly solicitous to discover truth, and in statements of a mixed character, containing perhaps much error and fallacy, anxiously to discover and separate what is true. It has accordingly been remarked, that a turn for acute disputation, and minute and rigid criticism, is often the characteristic of a contracted and prejudiced mind; and that the most enlarged understandings are always the most indulgent to the statements of others,—their leading object being to discover truth.

(6.) Justice is due to the feelings of others; and this applies to many circumstances which do not affect either their interest or their reputation. Without injuring them in any of these respects, or in our own good opinion, we may behave to them in such a manner as to wound their feelings. There are minds of an extreme delicacy, which, in this respect, are peculiarly sensitive; towards such, a person of correct feelings strives to conduct himself with suitable tenderness. We may find, however, persons of honest and upright minds, who would shrink from the least approach to real injury, but yet neglect the necessary attention to the feelings; and may even confer a real benefit in such a manner as to wound the individual to whom they intended kindness. The lower degrees of this principle pertain to what is called mere good-breeding, which has been defined "benevolence in trifles;" but the higher degrees may restrain from conduct which, without any real injury, inflicts permanent pain. To this head we may perhaps also refer a due regard to the estimate which we lead a man to form of himself. This is opposed to flattery on the one hand, and on the other to any unnecessary depreciation of his character. Flattery indeed is also to be considered as a violation of veracity.

How much is there in the above extract for useful meditation!

Self-love is, according to *La Rochefoucauld*, the one unfailing principle of human actions—even to the extent, as one of his maxims alleges, of enabling us to derive some gratification from the calamities of our best friends. We give Dr. Abercrombie's just and clear chapter upon this subject:

SELF-LOVE.—There has been some dispute respecting the term Self-love, both as to its general propriety, and as to the mental feelings which ought to be referred to it. There can be no doubt that there is, in our constitution, a principle or propensity which leads us to study our own interest, gratification, and comfort; and that in many instances, it becomes the ruling principle of the character. It is in this sense that I use the term self-love, without entering into any discussion regarding the strict logical propriety of it. Like the other mental feelings, it is to be considered as part of our moral constitution, and calculated to answer important purposes, provided it be kept in its proper place, and do not encroach upon the duties and affections which we owe to other men. When thus regulated, it constitutes prudence, or a just regard to our own interest, safety, and happiness; when it becomes morbid in its exercise, it degenerates into selfishness.

A sound and rational self-love ought to lead us to seek our own true happiness, and should prove a check upon those appetites and passions which interfere with this; for many of them, it must be allowed, may not be less adverse to our own real interest and comfort than they are to our duty to other men. It should lead us, therefore, to avoid every thing, not only that is opposed to our interest, but that is calculated to impair our peace of mind, and that harmony of the moral feelings without which there can be no real happiness. This includes a due regulation of the desires, and a due exercise of the affections, as a moral condition which promotes our own happiness and comfort. Self-love, viewed in this manner, appears to be placed as a regulating principle among the other powers,—much inferior indeed to the great principle of conscience, so far as regards the moral condition of the individual,—but calculated to answer important purposes in promoting the harmonies of society. The impression on which its influence rests appears to be simply the comfort and satisfaction which arises to ourselves from a certain regulation of the desires, and a certain exercise of the affections, and the feelings of an opposite kind which follow a different conduct. These sources of satisfaction are manifold. We may reckon among them the pleasure attached to the exercise of the affections themselves, a feature of our moral constitution of the most interesting kind, the true mental peace and enjoyment which spring from benevolence, friendship, meekness, forgiveness, and the whole train of the kindly feelings,—the gratitude of those who have experienced the effects of our kindness,—the respect and approbation of those whose esteem we feel to be valuable,—and the return of similar affections and good offices from other men. On the other hand, we have to keep in mind the mental agony and distraction which arises from jealousy, envy, hatred, and resentment,—the sense of shame and disgrace which follow a certain line of conduct,—and the distress which often arises purely from the contempt and disapprobation of our fellowmen. "Disgrace," says Butler, "is as much avoided as bodily pain,"—we may safely say that it is much more avoided, and that it inflicts a suffering of a much more severe and permanent nature. It must likewise accord with the observation of every one, that among the circumstances which most frequently injure our peace and impair our comfort, are those which ruffle the mind by mortifying our self-love. There is also a feeling of dissatisfaction and self-reproach which follows any neglect of a due exercise of the affections, and which, in a well-regulated mind, disturbs the mental tranquillity fully as much as the disapprobation of other men. It is further evident, that the man of ungoverned passions and ill-regulated affections impairs his own peace and happiness as much as he violates his duties to others,—for his course of life is productive, not only of degradation in the eyes of his fellow-men,

but often of mental anguish, misery, disease, and premature death. To run the risk of such consequences for the gratification of a present appetite or passion, is clearly opposed to the dictates of a sound self-love, as has been distinctly shown by Bishop Butler; and when, in such a case, self-love prevails over an appetite or passion, we perceive it operating as a regulating principle in the moral system. It does so, indeed, merely by the impression, that a certain regulation of the moral feelings is conducive to our own true and present happiness; and this shows a wonderful power of compensation among these feelings, referable entirely to this source. But it is quite distinct from the great principle of conscience, which directs us to a certain line of conduct on the pure and high principle of moral duty, apart from all considerations of a personal nature—which leads a man to act upon nobler motives than those which result from the most refined self-love, and calls for the mortification of all personal feelings, when these interfere in the smallest degree with requirements of duty. This distinction I conceive to be of the utmost practical importance . as it shows a principle of regulation among the moral feelings themselves, by which a certain exercise of the affections is carried on in a manner which contributes in a high degree to the harmonies of society, but which does not convey any impression of moral approbation or merit that can be applied to the agent.

Self-love, then, leads us to consult our own feelings, and to seek directly our own interest and happiness. The affections lead us to allow for the feelings; and consider the advantage and comfort of other men; and a certain balance between these principles is essential to the healthy state of the moral being.—It is seldom that the affections are like to acquire an undue influence. but there is great danger of self-love degenerating into selfishness, which interferes with the duties we owe to others. We have formerly alluded to the means, referable to the due exercise of the affections, and even to a sound and rational self-love, by which this should be in part prevented.—When these are not sufficient, the appeal is to conscience; or a distinct reference of individual cases is made to the great principle of moral rectitude.—We find, accordingly, this principle called into action when a man has become sensible of important defects in his moral habits. Thus, we may see a man, who has long given way to a peevish or irascible disposition, that is, to selfish acting upon his own feelings, without due regard to the feelings of others, setting himself to contend with this propensity upon the score of moral duty; while another, of a placid disposition, has no need of bringing the principle into action for such a purpose. In the same manner, a person who has indulged a cold contracted selfishness may, under the influence of the same great principle, perform deeds of benevolence and kindness. Thus we perceive that the moral principle or sense of duty, when it is made the regulating motive of action, is calculated to control self-love, and preserve the proper harmony between it and the exercise of the affections.

When the principle of self-love becomes deranged in its exercise and objects, it leads to those habits by which a man seeks his own gratification in a way which interferes with his duties to other men. This he may do by an undue pursuit of any of the desires—whether avarice, ambition, love of eminence, or love of fame; and the desire of knowledge itself may be so indulged as to assume the same character. Even deeds of benevolence and kindness may be performed on this principle,—as when a man, by such actions, seeks only the applause of the public, or the approbation of certain individuals, from whom, it may be, he expects to derive advantage. Hence the value we attach, in the exercise of all the affections, to what we call disinterested conduct,—to him who does good by stealth, or who performs acts of exalted justice, generosity, or forbearance, under circumstances which exclude every idea of a selfish motive,—or when self-interest and personal feeling are strongly and obviously opposed to them. Such conduct commands the cordial approbation of all classes of men; and it is striking to remark how, in the highest conception of such a character that fancy can delineate, we are met by the sublime morality of the sacred writings, impressed upon us by the purest of all motives, the imitation of him who is the Giver of all good; "love your enemies,—bless them that curse you;—do good to them that hate you,—and pray for them which despitefully use you and persecute you; that ye may be the children of your Father which is in heaven; for he maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust." "If any man will be my disciple," says the same great Author of Christianity, "let him deny himself."

A New Theory of Terrestrial Magnetism, *read before the New York Lyceum of Natural History, by* Samuel L. Metcalfe, M. D. New York: G. & C. & H. Carvill.—The polarity of the needle is the civilizer of mankind. Without it this western world would yet have been an unknown region; and commerce—the handmaid of religion, of science, and of all that humanizes and embellishes life—instead of covering every sea, and visiting every shore, would still be timidly creeping along the coasts which bound the great Ocean, dreaming never of launching forth into the world of trackless waters. Yet though all admit this truth, and use has reconciled us to unquestioning confidence in a guide so apparently insignificant as a thin wire of magnetized steel, no one has yet resolved the philosophy of this wonderful phenomenon. A young American physician has, in the treatise before us, attempted this solution—with what success we are unequal to pronounce; but that he has brought to the discussion much force of reasoning, many striking analogies, and fortunate illustrations, we are quite sure.

The essay is divided into two parts. In the first part some striking analogies between electricity and caloric are traced, whence it is assumed that they 'are radically the same subtle, imponderable and all pervading elements;" and especially are capillary and cohesive attraction explained by reason of "an unequal distribution of calorie, and of its attraction for ponderable matter." In the second part the connection "between caloric and terrestrial magnetism" is sought to be established; and we are sure that the process of the reasoning and the facts stated in its support will be read with general satisfaction. We cannot do better to show the spirit, as well as the talent with which Dr. Metcalfe writes, than to give an extract from the conclusion of Part I of the essay:

141. The truth is, that we live, move, and breathe constantly, in an atmosphere of unseen, but living fire. It is that which gives beauty and lustre to the blue empyrean dome—which dissolves and suspends the waters of the ocean on high—and which lets them fall in "fruitful showers to cheer the plains below." It is the active spirit of the storm and tempest—while it clothes the fields with living green, and causes all nature to rejoice.

142. Whoever unfolds aright, the grandeur and harmony of these manifestations of Infinite Wisdom, may be said, in the language of the eloquent Galen, "to chaunt a solemn hymn of lofty adoration to the Author of the universe."

143. Observations were made with the microscope some years ago in France, which led some philosophers to adopt the ancient doctrine, that all the elementary atoms of matter were alive—that they were composed each of separate, moving animalcules,—In short, that all nature was alive. Now there can be no doubt that the atoms of all matter are more or less in perpetual motion, caused by the transitions of caloric from one portion, to another. These chemical motions were probably mistaken for animalcular movements.

144. It is self evident that oxygen which supports combustion by giving out caloric, is also the supporter of animal life. When the oxygen of the atmosphere is inspired, it is charged with caloric positively—when expired, in combination with carbon, it is negative; having imparted a portion of its caloric to the blood. The same thing is true in every case of oxidation or combustion, respiration of plants, &c. This is a law of vast importanee, and explains almost every chemical combination which takes place throughout matter.

145. How is it that carbonic acid gas, when inhaled, destroys animal life? Is it owing to the insufficient supply of caloric it affords? It cannot be by a poisonous operation, because it is formed continually in the lungs, and is therefore in perpetual contact with them. It must be owing to the fact of its having lost that portion of latent caloric, which is necessary to vital action.

146. We have endeavored to prove that caloric is the cause of capillary and cohesive attraction—that its existing in different states in different elements, is the cause of chemical attraction, and that its unequal distribution in different bodies, causes an attraction between distant as well as proximate masses.

147. To say that it is the bond of union between the heavenly bodies, might be considered too bold a stretch of generalization. It must be acknowledged, however, that the sun is one million times larger than the earth. If, then, the sun contains one million times as much caloric as the earth, he must be *positive* in relation to all the planets and comets—while they are negative in relation to him. Sir Isaac Newton maintained, that there must be some connecting medium between the celestial bodies by which they are retained in their orbits, which he called "ether," and which he supposed was more subtle than light. Does not caloric answer to this subtle medium?* Does it not extend from the centre, to the circumference of the universe? Is it not the cause of all the motions and transmutations of terrestrial matter?—of decomposition and recombination—of secretion, nutrition, growth, &c.? Is it not the semperviving energy of universal nature?

148. If the facts and principles which we have thus endeavored to unfold, be founded in truth, we can perceive no limits to their application. They are intimately connected with all the phenomena of living and dead matter, and therefore with every department of human knowledge. The philosophy of chemical affinity is still in its infancy, and presents a far more extensive field for discovery, than has ever yet been explored. He who enters upon it with enlarged views, and cultivates it with unwearied application, will greatly extend the boundaries of science, and will derive from his labors more imperishable renown, than that of the conqueror who wades to the diadem, through the blood and tears of suffering humanity. To control the operations of nature, and render her elements subservient to the happiness of millions, is the most noble prerogative of enlightened and philanthropic man; and raises him to communion with the ever blessed SPIRIT OF ETERNAL TRUTH, to whom be ascribed all glory and dominion, for ever.

* If we suppose caloric to be the cause of gravity, we must also suppose that it is itself without gravity—otherwise we shall only explain the phenomena of gravity by itself, which would be absurd.

An Elementary Treatise on Mechanics, *translated from the French of* M. Boucharlat, *with additions and emendations, designed to adapt it to the use of the Cadets of the United States Military Academy; by* Edward H. Courtenay, *Professor of Natural and Experimental Philosophy in the Academy.* New York: *J. & J. Harper.* 1 vol. pp. 432.—The title of this work is explanatory of its objects; and the name of the eminent Professor who has translated and adapted it to the use of scientific students in this country, affords an ample pledge that it is a work good in itself, and that all he has done for it has been well done. It is however a treatise only for those whose previous mathematical studies will enable them to follow out the most useful application of high mathematics. The work is very well printed by the Harpers.

Military Memoirs *of Field Marshal* the Duke of Wellington, *by Capt.* Moyle Sherer. 2 vols. *Philadelphia:* Carey & Lea.—"The Conqueror of Napoleon," as since the battle of Waterloo it has been the pride of England to designate the Duke of Wellington, has not lacked historians of his deeds of arms; though heretofore they have been celebrated in the general history of the wars in which he was engaged. The volumes before us relate moredirectly and solely to himself, and as personal memoirs enter of course largely into detail. The author entertains manifestly the profoundest admiration for his hero, and speaks of his military character as "unrivalled." Success sometimes makes great men of those whom nature hardly designed for such, and always blinds the judgment to faults. The closing scene in Lord Wellington's military career was so striking, and the results for Europe and the world of the victory of Waterloo were indeed so important, that it gave a crowning glory to the conqueror, which battles demanding and evincing much more of skill and science in the Commander have failed to impart. Without then sharing the unlimited admiration of the writer for the military career of the

Duke, we may nevertheless say that the perusal of these volumes is fitted to impress every one with the conviction that, though not "unrivalled," the military career of Wellington denotes throughout, the possession in an eminent degree of the peculiar talents of a great commander. The style of the writer is attractive; his opinions, for an Englishman, impartial; and his sources of information apparently copious and accurate.

The extract we subjoin relates to the death of *Sir John Moore*, at *Corunna*—a death which the beautiful lines of Wolfe have made known to thousands who never heard of the battle, and which is well commemorated by Capt. Sherer.

Marshal Soult had 20,000 men under arms. From the lighter guns along his front, and from a battery of heavy calibre on his left, he opened a smart cannonade, and under cover of the fire moved down in three weighty columns to the attack. The first of these, throwing out its voltigeurs, and driving in the pickets, attacked the British right, assailing the front and flank of general Baird's division. The second column marched upon the British centre. The third, with less of earnest intention in the character of its attack, moved upon the British left, where the troops were commanded by Sir John Hope.

The horse of the commander in-chief stood saddled for him, to visit the outposts, just as the alarm was given. He rode thankful to the field. The thunder of the guns and the rolling of the musketry was already begun as he galloped to the summons with a grave joy.

The battle was most furious near the village of Elvina, on the British right. In this quarter of the field Sir David Baird was severely wounded; and here, while earnestly watching the progress of the stern combat in Elvina, Sir John Moore himself was struck upon the left breast by a cannon-shot: it threw him from his horse; but, though the laceration was dreadful, it did not deprive him of his mental energy; he sat upon the ground, and watched the battle.—His eye was steadfast and intent, and it brightened as he saw that all went bravely and well. The soldiers now put him in a blanket to carry him to the rear; as they did so, the hilt of his sword struck upon his wound, and caused him a sudden pang. Captain Hardinge would have taken off the sword, but the general stopped him, saying, "It is as well as it is: I had rather it should go out of the field with me!" With these words he was borne from the battle. It was a long way to the town, and the torture of the motion was great; but the expression of his countenance was calm and resolute, and he did not sigh. Several times he made his attendants stop, and turn him round, that he might gaze upon the field of battle.

After he was laid down upon a couch in his lodgings, the pain of his wound increased. He spoke with difficulty, and at intervals. He often asked how the battle went; and being at last told that the enemy were defeated, he said instantly, "It is a great satisfaction to me to know that we have beaten the French." He was firm and composed to the last; once only, when speaking of his mother, he betrayed great emotion. "You know," said he to his old friend Colonel Anderson, "that I always wished to die this way!" The bitter agony of spirit which he had long endured was thus mournfully evidenced. "I hope," he exclaimed, "the people of England will be satisfied! I hope my country will do me justice!" These precious sentences were among the last he uttered; his sufferings were not long; he expired with the hand of Colonel Anderson pressed firmly in his own.

We shall not further describe the action than by saying, that when darkness put an end to the work of battle, not only had the French been repulsed at all points, but the line of the English was considerably advanced beyond the original position. The loss of the French was, by their own admission, 3000; that of the British was about 800 killed and wounded.

The brigade of General Hill and that of General Beresford remained on shore the 17th, to cover the embarkation of the army, which began soon after the close of the engagement. By night the victorious troops filed down from the field of battle to their boats, and embarked. There was a moon, but it gave only a wan and feeble light; for the weather was misty and chill. Soon after nightfall, the remains of Sir John Moore were quietly interred in the citadel of Corunna. Soldiers dug a grave; soldiers laid him in the earth. He was buried in his military cloak, and was left asleep, and alone, upon a bastion—a bed of honor well chosen for a hero's resting-place. This last duty done, the officers of his personal staff went on shipboard, "in soldiers' sadness, the silent mourning of men who know no tears."

Sir John Moore had signalized his name in the West Indies, in Holland, and in Egypt. His life was spent among the troops; among the troops he died; and, to this hour, it is a distinction to any officer to have learned his duty under the eye and the voice of Moore. We admire his character; we glory in his warrior-like death; we consider his fame hallowed by his end;—but we think that, with the deep knowledge of human nature he possessed, the state of Spanish society, under the actual circumstances of peril and bewilderment, ought not to have surprized him, far les to have irritated him to the extent to which it certainly did. That time was lost at Salamanca, is a matter of fact, and a subject of regret. The value of a day, or of an hour, in war, is great. It is vain to ask what might have been the consequences of a movement into the heart of Spain, which was never made, and which, according to able and acute men, never should have been contemplated; but it is certain that between that measure and a retreat of Portugal, Sir John Moore wavered long in his decisions. War, we are told, and truly, by all good officers, is a science; and we are shown how accurate and profound are, and ought to be, the calculations of a commander; yet, "nothing venture, nothing have," has passed into a proverb with mankind.

In all undertakings, we must leave something in a state too incomplete to command the certainly of success. We must exercise our trust in Providence, whatever be our aim and end: for "the lot is cast into the lap, the whole disposing thereof is of the Lord;" and undoubtedly, with a righteous cause, we may look hopefully for help. We are not of the number of those who dare to speak lightly of the spirit of Moore; for we know the help of Heaven was that to which he looked; and we believe that it was an act of conscientious self-denial, which made him hesitate to risk the lives of so many thousands on the desperate hazards of a chivalric effort.

FOREIGN INTELLIGENCE.

In France the ministers have a breathing spell, the Chambers having been prorogued on the 26th, immediately after the passing of the budget, which was done in considerable haste by the Peers. The mode of this prorogation was summary enough—no speech from the King in person, or by commission, but at a given hour M. d'Argout entered the Chamber of Deputies, accompanied by three of his colleagues, and proceeded forthwith to read a royal ordonnance, which declared the session of 1833 at an end. This laconic announcement was subsequently repeated to the Peers; and thus is the King at liberty, and, as far as the supplies can do it, enabled to carry on the Government for eighteen months to come, without assembling the legislative bodies.

Portugal.—The Steamboat City of Waterford had arrived at Falmouth, with news to the 30th June, from Lagos. Count Villa Flor and Admiral Napier were carrying all before them. They had landed at Villa Real, and were marching to the interior.

Deputations from the neighboring towns had sent in their adhesion.

"Every where the people came forward, and hailed them with enthusiasm; gifts of money, horses, and arms were made, and numbers of the people have joined the expeditionary troops as volunteers. In Villa Real, Don Pedro's troops found 30 pieces of cannon, and £5000 in the military chests, with some hundred stands of arms, plenty of ammunition, &c."

"It is calculated that he had already been joined by upwards of 2,000 men, the greater part of whom are regular troops."

"Letters have been received from Faro of the 27th ult., and from Lagos of the 20th, which state that the expedition from Oporto had met with the most favorable reception, being in both places hailed as a deliverer, and joined by the militia, and the regular troops in the vicinity, and there was no doubt that in less than a month the flag of Donna Maria would be floating over every town in the province of Algarve."

The expedition of Donna Maria's adherents to Algarve seems, according to the accounts received yesterday, to promise well—both by land and water. Captain Napier—we forget his Portuguese title—had sailed for Lisbon with all his squadron, and we have today a report by Captain Clark, of the brig Splendid, which arrived last evening from Tarragona, "that Don Pedro's squadron had captured that of Don Miguel, and had put the whole coast under blockade." Capt. Clark passed Gibraltar on the 11th, and received this report from the brig Commerce, for Tampico, which came out of Gibraltar that morning. This report derives confirmation from the fact mentioned by a Gibraltar paper of the 8th July received in Boston, and quoted by the papers of that city, which says that a vessel arrived there on the 6th, which stated that on the morning of the 4th, about 15 miles from Cape St. Vincent, *the Miguelite and the Patriot squadrons* were seen sailing in two parallel lines, though wide apart, in the direction of Cape St. Mary—the former consisting of eleven and the latter of nine vessels—and that after they had been lost sight of, the report of cannon was heard.

We add some items of general news.

The Irish Reform Bill passed Parliament 274 to 94.

The West India Slavery Bill had been postponed to the 15th.

According to letters from Havre, there were at that port 30 whalers fitting out for fishing voyages. This branch of industry was scarcely known in France three or four years ago.

Gen Solignac had followed the example of Admiral Sartorius, and left the service of Donna Maria.—Marshal Bourmont, on the other hand, had arrived in London, on his way, it was said, to take command of the Miguelite forces.

The accounts from Berlin (received to the 15th instant) state that a number of foreigners had been arrested in that city, on suspicion of fomenting discontents among the people. Several Englishmen were among the number; and, notwithstanding the remonstrance of our Ambassador, Lord Minto, had been sent out of the Prussian dominions on three days' notice.

In consequence of the frequent desertion of the soldiers into France, several Prussian regiments, stationed in the Rhenish provinces, have been ordered into the interior.

It now appears that the conspiracy lately discovered in Naples was confined to the military. An officer, and six sub-officers of one of the cavalry regiment, have been arrested in that city, charged with having plotted to assassinate the King! Reports were in circulation, in Paris, that an insurrection had taken place in Turin: but private letters doubt the correctness of the rumour, admitting, however, that great excitement still prevailed in the Sardinian territories. A barrister, and six serjeants of different regiments, had been capitally convicted of high treason, by courtsmartial, at Turin and Alexandria: five of the latter were executed on the 15th inst.—The Bonaparte family are said to have been mixed up with the affair.

Paris, July 6.—The King has returned from his short journey and has every reason to be satisfied with reception even at Dieppe, which was the favourite spot of the Duchess de Berri; during his absence the political quidnunes has of course been torturing their brains to concoct new modifications in the cabinet, but there is no reason to suppose that any such will take place at present.

Paris, July 6.—The last accounts from Naples state that the Duchess of Berry was expected at Palermo about the end of June, and that the Prince of Campo Franco, the father of the Count de Lucchesi Palli had prepared a magnificent palace for the reception of his daughter-in-law, but the Duchess could not find her husband there, as he had disappeared and his family did not know what had become of him.—[Messager.]

London, July 24—Several letters from the frontiers of Poland announce that the young lady Haweeker, aged 18, was recently shot at Lublin by the Russians, accused of having furnished to the insurgents provisions; she proceeded quietly to the place of execution between a file of Russian soldiers.

In *Spain*, the ceremony of the *Jura* or swearing allegiance by the members of the Cortes to the daughter of Ferdinand as successor to his throne, was conducted with the usual solemnity and finery. No mention was made in any part of the proceedings of *Don Carlos*. The King of Naples, however, had, through his *Chargé d'Affaires* at Madrid, protested against this departure from the Salic law, as contrary, among other things, to his rights. The protest, which was communicated to the diplomatic corps, is published in the London papers. The poor little Princess to whom each of the Deputies in turn bent his knee, and kissed her hand, as that of his future Queen, was alarmed at the ceremony. A letter from Madrid, published in the London Times, says

—"The young Princess, not accustomed to such bustle, became frightened at the number of times that her hand was kissed, and frequently burst into tears. There was some difficulty in appeasing her, and this was always done by giving her sugar plums."!

In a Liverpool paper of a late date (Gore's Advertiser of 4th July,) we find this paragraph about new packets:

We understand that it is in contemplation to establish a new line of British-built packets between Liverpool and New York. They are to be of about 300 tons register, and constructed for fast sailing. It is not intended in the first instance to carry passengers, the American-built packets having at present a monopoly of this trade, and which they have attained by their regularity, despatch, and superior accommodation; but as it is deemed a reproach to British art and enterprize, that we do not compete with the Americans in this branch of commerce, it is determined to make the attempt in the conveyance of goods, in which respect the vessels will be admirably adapted. At present our merchants have no medium of communication with the United States, but by the American packets, to which there are many objections, and in the way of which some obstacles have been raised by the Government. These, however, will be removed by employing British-built ships.

Among the deaths recorded in late London papers, we find that of *Anne*, second daughter of *Sir Walter Scott*, who died in London on the 25th June. The immediate cause of her death was brain fever—although she is said never to have entirely rallied after her father's death.

Mr. Ellice, the Secretary of War, stated to the House, that flogging in the army within the United Kingdom would henceforth be restricted to cases of "mutiny and drunkenness on duty." This was virtually the proposition of Mr. Hume, which the House refused, not long ago, to concur in.

The giant mortar, which made so much noise during the siege of Antwerp, burst at the camp on the heath at Braschaat on the 18th inst. Some artillery men were practising with it, preparatory to its being exhibited at a review by the King. It had been three times charged, first with 21, then with 17, and afterwards with 15 kilogrammes of powder, and it was ascertained that it carried the shell to the same distance and with the same force with the smaller as with the greater quantity. On being fired the fourth time, it was charged with only 9 kilogrammes of powder; but probably being too closely rammed, it split in two, throwing a piece of iron, weighing 3,000 kilogrammes, or nearly 6,107 English pounds, to a distance of above 20 feet. Happily no one was wounded.—[Galignani's Messenger.]

Loss by Forgeries.—It is averred by the Bank of England, in an account delivered to the Committee of Parliament, that its average annual loss by forgeries in the public funds (and not of bank notes) is *forty thousand pounds*, or *one hundred and seventy-seven thousand, seven hundred and seventy-seven dollars!* The Bank is the agent of Government, for paying the interest on the public funds, and assumes the risk of forged certificates, transfers, receipts, &c.

SUMMARY.

On Monday, the officers of the United States ship Delaware and St. Louis, and some others, of the Navy and Army, were entertained by the Common Council. They assembled at the City Hall, and were thence conveyed to the public buildings at Bellevue, after examining which, they passed over in boats to Blackwell's Island, where, having viewed the new Penitentiary, and other public works there, they dined under an arbour prepared for the occasion. These civilities between our civil and military functionaries all tend to good.

The South at least one step before their northern friends in Female Education.—At the late commencement at Mississippi College, in the town of Clinton, in the state of Mississippi, the following *young ladies* graduated with the usual honors: Narcissa Pleasants, Adaline Brown, Jane and Mary Mills, Margaret Teediman, Charlotte Wolcott, Maria Andrews, Frances Roberts, Virginia Flournoy, and Harriet N. Battle.

Hon. John Stanley.—In reference to the death of this individual, which took place at Newbern, N. C. on the 3d instant, the Raleigh Star says

"It will be recollected that during the session of the Legislature of 1826-'27, while Mr. Stanley was engaged in the duties of Speaker of the House of Commons, and was in the act of delivering a speech, his course was suddenly arrested by an attack of Hemiplegia, and he was borne from the House in a perfect helpless state, having entirely lost the use of one side, and almost the power of speech. In this painful condition he remained until he was delivered by the hand of death. Thus has descended to the tomb one of North Carolina's most distinguished and useful sons. He had devoted a great portion of his life to the public service—chiefly in our State Legislature and in the Congress of the United States; in both of which offices he held a prominent rank, especially as a debater; in which capacity he had few equals—superiors none."

The Papers of the late Robert C. Sands being now arranged for the press, it is earnestly requested that all persons holding subscription papers for the proposed publication would return them to this office, or that of the Evening Post, or Commercial Advertiser, as most convenient.

Among the deaths by Cholera, at Frankfort, (Ky.) is that of Henry Madison, a free colored man, who was a pressman in the office of the Commonwealth. He had been liberated sometime ago by the Rev. R. J. Breckenridge, on condition of becoming a citizen of Liberia. He accepted these terms, with the privilege or remaining in this country until the proceeds of his labor should be sufficient to purchase his wife and child. He had in this state of things, turned his attention to the art of printing; he had acquired some knowledge of type setting, and was an admirable pressman. His object was, to establish a newspaper in Liberia, and the editor of the Commonwealth says, "he must have succeeded," as he was a man of strong natural intellect, and of the most unexceptionable morality. With these laudable objects in view, he employed himself diligently, until his course was arrested, and himself cut off by the cholera. His death is considered a serious loss to the colony.

The Natchez Journal estimates the number of slaves in that State, (Mississippi) who have died of Cholera, at not over 1000, and in Louisiana at 10,000, or about 8 per cent. of the entire slave population. Valuing each slave at $400, which is not an exaggerated average, this would make the pecuniary loss alone of Louisiana *four millions*.

The woods near Sandy Point, Westmoreland county, Va., were set on fire by lightning, last week, and much valuable timber was destroyed and other damage done before the flames could be extinguished.

No "proper place" for it.—A law of Virginia allows the retailing of spirituous liquors at "*proper places*," in the different counties. In one of the counties, the magistrates have decided that there is no "*proper place*" within their jurisdiction for such a purpose.

Decision in the Case of the Ship Henry Ewbank.—His Honor Judge Davis gave his opinion yesterday in the District Court in the case of the claimants for salvage, on the ship Henry Ewbank and her cargo. He decided that the abandonment of the ship by her officers and crew was not premature, as alleged by the underwriters, but, in the circumstances of their situation, was justifiable. The ship as found at sea was a clear case of derelict property. The claim of George Wheelwright for himself and those who navigated the ship into Boston, as sole salvors, on the ground of a new enterprize, the Judge said could not be sustained. The natural and true place for Mr. W. was with the master and owners of brig Padang.

The nett amount of the sale of the ship and cargo, deducting expenses, would be about $30,000. Of this sum he decreed a moiety,—viz, $15,000 to the salvors. The various claims set up he reduced to two, the claims in behalf of the British bark Hope, and the claim in behalf of the American brig Padang.

To the brig Padang, her master, officers and crew, he decreed $9000; to Captain Brewster, $1284; Geo. Wheelwright, mate, $642;—$428 each to the seamen of the brig who assisted in bringing in the Henry Ewbank, and $214 to each of the remainder of her crew.

To the bark Hope he decreed $600—$510 to the master; $255 to Metcalf, the mate; $170 to those of the crew who assisted in navigating the ship; and $85 to each of the nine seamen who remained on board the Hope.—[Boston Atlas.]

Bishop M'Ilvaine has arrived at Gambier, Ohio, with his family, and taken up his permanent residence at that place. It is understood, says the Cincinnati Advertiser, that he has succeeded in collecting funds to progress extensi
deemed necessary for Kenyon
Theological Seminary has been
the time of its foundation.

Our Harbor.—The recent en
the United States Ship *Delawar*
viest vessels afloat, probably, in
naturally enough aroused attention
tive neglect of the harbor of New
val station, by the General Gover
blush, it would seem that the gre
city of the Continent—the port which r
vessels annually than any other three p
whole Union, and which, by consequence,
in like proportion, employment to more of
sans connected in every way with shipping, an
sesses more resources and facilities of every sor
equipping vessels—would of course be the port b
adapted for a great naval station. In such a port, there are always thousands of experienced hands, which—habitually employed in satisfying the ever-recurring wants of an active and prosperous commercial navigation—may, at a moment's warning, be transferred, in a case of emergency, to the public service; and, the work required once done, be returned again to their accustomed labors, without any expense to the Government beyond that of the time and labor given to the particular object. This, of course, renders unnecessary those permanent engagements which, in order to secure competent services, when required, are sometimes, on stations of less resources than this, unavoidably entered into. If, for example, there be urgent occasion to finish, in the shortest possible time, a vessel upon the stocks, the Commander of the Brooklyn Yard has only to send his boat across the river, and, in a few hours he may obtain from one to five hundred ship carpenters, as the need may be. How could such a demand be met at Norfolk, or Washington, or Newport, or even Boston? This is but a single illustration of the manifold advantages which a naval station must derive from proximity to a great commercial city. Every reader, at all conversant with such matters, will readily understand how much this illustration might be extended. But, unhappily, through prejudice or inaccurate information, the bar off Sandy Hook has been thought to present an objection outweighing all the incontrovertible advantages of New-York as a naval port; and this seems to have been so systematically acted upon, that it was almost passing into an axiom, that a line of battle ship of the larger class could not safely enter our harbor. Happily, through some good influence—we willingly suppose it to have been in part, at least, that of the excellent officer, and not less excellent man, recently transferred from the command at Brooklyn to the office of Navy Commissioner—the Delaware was ordered here. She came from the *pet* Yard at Norfolk, whence she was forced down, *though light*, for miles through a bed of soft mud, took in her stores below, and arrived off here drawing near 26 feet: the wind not being fair, she was towed over the bar by steamboats, having nearly *four feet* water to spare in the shallowest part, extending perhaps not more than two or three times her length. She has now gone to sea, beating down the bay like a pilot-boat, passing the bar under sail, and, though the swell of a heavy south-easter had not subsided, having always more than half a fathom to spare.

With these facts before us, and conceiving that by them the only plausible reason for not making New York the great naval station of the country, is removed, it may be assumed, we trust, with some certainty, that we shall not hereafter hear any more of such a bugbear as the bar off Sandy Hook.

Munificent Gift.—James Boorman, Esq. of this city has presented to the New York Institution for the Blind, a ten years lease of the buildings and ground formerly called Abingdon Place, a short distance beyond the paved part of the city, and between the 8th and 9th Avenues. The main building on the premises is a large substantial two-story house, 100 by 54 feet, situated on a rising ground overlooking the Hudson river. There are also two stone kitchens apart from the main building, and a well of good water near the house. The ground is now in good order, under cultivation as a garden, and contains a little over two acres. The situation is stated to be one of the pleasantest on Manhattan Island, in the immediate vicinity of the city, and offers fine air, good soil for cultivation, a shady grove and flower garden, with wide and level paths. The house is very large, two stories high, with a spacious attick, abundantly large enough for a work shop and place for exercise in bad weather, while the distance from the City Hall is only about three miles.—[Gazette.]

Chinese Courier.]

URES IN METAL.—Among the Chinese manufactures in metal , the composition of which is pper in certain proportions, to s a small quantity of silver is of annealing the alloy in such a its being hammered was discov- since in France, where gongs are d. Owing to some peculiarity in , the metal in the state we see it is *hort* and brittle, and this property for defied the ingenuity of the workmen who to hammer it. It was at length found that g the metal to a red heat, and plunging it d water, it was rendered malleable, and when rocess of hammering was completed, it was only essary to suffer it to cool gradually, in order to estore its brittleness. The sonorous quality of the gong is well known, and it has been introduced with success on board ships to be used in foggy weather, when a bell is scarcely audible. The Chinese prohibit the exportation, as well as that of all military implements whatever, The gong constitutes an indispensable instrument in the frightful discords of a Chinese orchestra, and is always a symbol of official rank preceding the mandarins when going from place to place with their attendants.

In boats, flat and inferior gongs are used for the purposes of saluting, and in the shops at Canton may be seen instruments of every kind, from the small disc of a few inches, used by beggars, to those of two feet in diameter.

Among the ancient Chinese, a sonorous metal of somewhat similar composition was used for making a peculiar kind of bell which was struck in religious ceremonies, and for constructing small figures of divinities, spear heads, &c. These may sometimes be met with in the shops where antiques and old China are sold, though most frequently the specimens offered for sale as such are mere modern imitations.

Many of the castings in brass and composition metal are curious, and even beautiful. The forms of the censers used for holding burning sandal wood, and odoriferous matches are sometimes exceedingly graceful and always curious. Specimens are occasionally met with which are delicately inlaid with arabesque devices in silver, others gilt and elaborately embossed, for which the most extravagant prices are demanded. To these vessels which the Chinese call *fun-heang* belong as *pendants*, jars of the same material similarly decorated, which contain the brazen implements used for spreading the *ashes* which are preserved in the censers, and into which the bamboo stems of the matches are stuck when lighted. One of these is an indispensible article in the furniture of an altar, and of the little shrines which may be seen at gates of houses and streets, in boats and in the principal apartments of all Chinese dwellings.

A composition is used for casting large medals covered with mystic characters, which are suspended from the necks of children to protect them from evil influences, in which the Chinese place implicit faith. They are usually shaped like the common coin, or cash, and are from one to three or four inches in diameter.

Brass is extensively manufactured for purposes similar to those for which it is used by Europeans. The economical propensities of the native workmen induce them, however, to put more zinc into their brass than is necessary, and the metal is thereby rendered less tenacious, and of an inferior color. The pans in which the extract of opium used for smoking is made, are large polished brass hemispheres, which are chosen in preference to iron or tin. The rolled brass and copper used here is imported from Europe, the Chinese inventions for the purpose being exceedingly imperfect.

The so-called bronze of China is little else than brass, the surface of which is colored by means of an acid. Few specimens of an alloy answering to bronze are to be found, and those chiefly of ancient date.

Immense quantities of lead are used in China for the interior casing of tea-chests. The sheet lead is very much thinner than that of Europe, and the mode in which it is made is extremely curious. The workman has before him a flat earthen tile of about 18 inches square, neatly covered with brown paper, and another of the same kind placed above it, the papered surfaces of the tiles being in contact. When about to cast a sheet of lead, a sort of slip or check is placed between the tiles to regulate the thickness, and the workman sitting on his haunches on the upper tile, adroitly lifts the edge sufficiently to enable him to dash a quantity of the melted lead between the two; he then suffers it to descend with the weight of his body: the superfluous metal is forced out at the sides and falls to the ground, while the sheet of thin lead remains between the tiles. These sheets are trimmed upon the edges, and soldered together by another person, to form pieces of the proper size for the chest linings.

GAMA GRASS.—The following account of this extraordinary Grass, appears in the last Fayetteville (N. C.) Observer. We do not know whether in this region the "Gama Grass" would thrive, but its yield is so prodigious that it may be worth the trial.

Sampson County, July 20, 1833.

MR. HALE: When we were together, a short time since, I promised to send you some account and description of the Gama Grass, with the result of such experiments as I made with it.

The first notice I saw of this Grass, was by Dr. Hardeman, of Missouri; whose account of its wonderful production, and valuable properties, may be found in the 8th vol, of the American Farmer, page 244. I considered the calculations he made of results, visionary, and had forgotten it.

It, however, attracted the attention of Mr. James Magoffin, of Alabama, who procured some seed, and has, now, been cultivating it several years.—The result of his experiments may be seen in the 13th vol. of the American Farmer, pages 50, 143, and 215. Also, in the 4th vol. of the Southern Agriculturalist, pages 312 and 475.

Further experiments with this grass are detailed by Mr. William Ellison, in the 4th vol. of the Southern Agriculturalist, page 404, and 5th vol. of the same work, page 5. To these several communications, I would refer such of your readers as have those works, for a better and more particular description of the grass, than I can give them.

The combined results of the experiments of these gentlemen show, that the quantity af hay which this grass yields, is far greater than any hitherto tried.—the quality of the hay is equal to any other; and that, both when green and when cured, it is greedily eaten by stock of all kinds. Mr. Magoffin informs us, he has actually made at the rate of ninety tons of green hay per acre in one year—equal to between 20 and 30 tons of cured hay. Dr. Hardeman states, that a single root, covering a circle, the diameter of which was two feet, yielded at one cutting 52 lbs. of green hay, which when dried weighed 20 lbs.; and consequently, that an acre of ground, filled with roots equally productive, would yield more than 270 tons of hay. However exorbitant these accounts may appear at first, the high standing of these gentlemen leaves no room to doubt their accuracy. My own experiments induce me to believe, that under circumstances, *in all regards* favorable, they may be realized.

Of the immense value of this grass to us, in a hot climate, and on sandy soil, no doubts can exist.

I have ascertained the following facts with certainty, that it grows spontaneously and luxuriantly, in our country, on alluvial bottom and rotten limestone lands. I have planted it in a poor sandy loam, on a clay foundation, (such as is the general quality of the stiff pine lands of our country) and on a sand hill, originally as barren and as arid as the deserts of Arabia. These soils, *well manured*, produce it abundantly. Even the long drought of 1832, (which, with me, continued from 23d May to 1st August, with the exception of one slight rain on the 9th of July) did not materially affect its growth. It may be cut as early as the 1st of May, and the cutting repeated every thirty days, until frost. It ought to be planted in drills three feet apart, and two feet space between the roots. An acre will then contain 7,350 roots. A single root of the second year's growth, (on the dry sand hill,) at three cuttings, has this year already yielded 7 1-2 lbs. of green hay, and will without doubt yield at least as much more before frost. At that rate, an acre of *pure sand hill*, well manured, would yield 55 tons of green hay, equal to about 18 tons of cured hay, of a quality as good as the *best blade fodder*.

In January last, I drilled some seed, in drills two feet apart, with seed dropped at intervals of six inches, intended for transplanting next Fall. The whole ground is now covered with a mass of grass 2 1-2 feet high. On the 10th of this month I cut and weighed the product of one drill 35 feet long. It yielded 25 lbs. of green hay, which, when cured, produced 8 lbs. of delightful forage. At this rate, an acre would yield 15,750 lbs. of green hay at one cutting. It may yet be cut three times more, and consequently, the product would be 63,000 lbs. of green hay, from seed planted in January last. The product of old roots is from two to three fold.—These seeds are planted on pine land, with a poor sandy loam on the surface, with a clay foundation—*well manured*. I have not made any experiment with this grass, on any other soils than those above specified, but I know it grows much more luxuriantly on alluvial bottom, and rotten lime stone lands.

Mr. Magoffin is *certainly mistaken* when he supposes this grass is found *indigenous only* in the western prairies. He furnished me with a few seeds of his own raising. I also procured some from Mr. Ellison, of South Carolina, which grew in Fairfield District, and some from Gen. Owen, which grew spontaneously on his plantation in Bladen county in this State, on the alluvial soil of Cape Fear.*

They are all planted near each other; and are, unquestionably, the same species of grass. There is not the least difference between that found in this State, and that from South Carolina. That sent me by Mr. Magoffin, from Alabama, is a little different in color, being of a pale hue, and of a little finer texture.

This grass is, without doubt, the 'Tripsacum' of botanists. In Elliott's Botany of South Carolina and Georgia, vol. 2d, page 552, two varieties are described:

"1st. Dactyloides—Root perennial—Stem 4 to 5 feet long—Leaves large, 3 feet long, 1 1-2 inches wide—Flowers, in terminal spikes—Spikes numerous—Very rare—have only seen it growing on the margin of the Ogeechee river—Flowers from May to July."

"2d. Monostachyon—Root perennial—Stem. 3 to 5 feet long—Leaves 1 to 3 feet long, 1 inch wide—Spike, solitary—Flowers in terminal spikes—Grows abundantly on the Sea Islands, (particularly on Paris Island) and along the margin of the salt water—Flowers from August to October."

For any practical purpose, there is no difference between these two varieties. They are found growing together.

The following characteristics will render this Grass obvious to common observers:

It grows in tufts or bunches, measuring about two feet across and three in height, which tufts are composed of numerous branches, springing from a common root, which is tuberous in its form for about three inches, and terminates in many small, but strong radicles. These branches, in their origin, form the common root, and have a peculiar arrangement; being produced from two opposite sides of the tuberous portion only, and departing from it at an angle in opposite directions, gives to this part of the plant a flat shape.

The leaves which (previous to the period of flowering) all issue from the root, are of a deep green color, from two to three feet long, and from one to one and a half inches wide, are shaped like a blade of fodder, but are sawed or rough on the edges, particularly towards the point. The leaves commence in a sheath, at the bottom, which encloses and covers the origin of several other interior leaves.—About the last of May, a number of flower stems shoot up from different parts of the bunch, and grow from 3 to 7 feet high, and terminate in one, two, or more finger-like appendages (called by botanists spikes.) The upper end of the spike resembles a single spike of the tassel of Indian corn, and has a blossom (farina) on it. The seeds, which vary from 3 to 6 inches on each spike, are embedded immediately below this tassel, and when flowering, each has a single tag, of a purple color, resembling the silk of Indian corn. The tassel drops as soon as it has shed its pollen, and then the seeds ripen, one by one, and drop off. The seeds are embedded on opposite sides, of the stem, and attached together, after the manner of the rattles of a rattle snake.

The flower stem is jointed and clothed with leaves, much shorter than those which proceed from the root, the sheaths of which embrace the stem, to within a short space of the next joint. It is channeled on alternate sides, like a stalk of corn. When full grown, it puts out branches at nearly every joint, which terminate and produce seeds like the main stem.

I have been thus particular in my description, to enable persons to search out this grass. I am satisfied it will be a source of much wealth and comfort in our *pine* country particularly. It is certainly the spontaneous product of our own State. I know it grows in New Hanover, Brunswick, and Bladen counties, and have been informed it is found in Craven and Orange, and may, probably, on any of our alluvial bottoms.

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* A well known writer in the Newbern Spectator of the 19th instant, (H. C. B.) states that during the last year he found the Gama grass on the shore of the Neuse river, and that a gentleman in Florida assured him he had found it in that Territory,—[Editor of the Observer.]

Now is the time to search for it. It is in bloom, and more readily identified by the peculiarity of the seed. When not in bloom, it very much resembles some other grasses which are different in their nature, and not so valuable. I might add much more regarding it, but again refer your readers to the essays above referred to.

Very respectfully, yours,
WM. B. MEARES.

[N. B. Such Farmers as can afford to pay the cost of the American Farmer, and Southern Agriculturalist, or New York Farmer, and neglect to subscribe for them, or one of them, do not deserve the benefit of any improvement or discovery in Agriculture.]

New Process of extracting Cream.—It is considered a great object by the farmers to extract from milk the greatest quantity of cream in the least possible space of time. To effect the separation of cream from serum, which chemists suppose to be combined merely in a state of mechanical mixture, it is well known, by those conversant in dairy management, that some metallic substances more readily act than others, and it is notorious that, in almost all the great diaries, the milk is suffered to stand in lead, copper, or brass vessels, in which a larger quantity of cream is thrown up, than in either wooden or earthen pans. As the dairy-man obtains additional profit, in proportion to the quantity of cream which is thrown up, so it is to his interest to keep it in these vessels as long as he can until the whole of the cream is separated, by which additional standing it often acidifies, and will consequently dissolve the metal with greater facility. With respect to the lead taken up in solution in the cream, sufficient instances of its noxious effects have been pointed out by Mr. Parkes in his chemical essays.—Mr. Booth, who has resumed the subject of inquiry, has proved that in a very great variety of cases, which have come before his notice, not only lead but even copper sometimes exists to a considerable extent in butter. May not the conflicting opinions of medical writers respecting the wholesomness or unwholesomeness of butter have been founded upon observations of its purity, or accidental or mischievous contaminations collected from vessels used in the process of making it? It would appear that, although new to this country, the practice has for some time been adopted in America, of introducing spelter into the milk for the purpose of facilitating the separation of the cream, and with much advantage and success; but more latterly the application of zinc vessels to the purpose of extracting cream has produced results to an extent hitherto unattainable, whilst none of the serious effects before described can arise from the use of this metal. A very ingenious apparatus has been constructed for this purpose by Mr. Keyser, who has brought the manufacture of articles from malleable zinc to a high degree of perfection, one of which is deposited for exhibition at the National Gallery of Practical Science, and in which vessel, the separation of the cream is still further facilitated by the application of heat, by which means it is that the celebrated clotted Devonshire cream is procured. Into the basin containing the milk is introduced a plate of perforated zinc, the area of which is equal to the bottom of the basin: in the course of a few hours, all the cream will have been separated, and will be of that consistence, that it may be lifted off by the fingers and thumb. In these vessels, the increase of the quantity of cream is 12 1-2 per cent., and of the butter upwards of 11 per cent. The advantages are not, however, limited to this increase of quantity, as, in this process, ten or eleven minutes churning is sufficient to make butter, which, in the ordinary process, requires ninety minutes, whilst a butter similar to that prepared in Devonshire may be made simply by the brisk agitation of the cream without recourse to a churn. It may be observed that analysis proves the serum of milk, which has been submitted to this process, is more or less impregnated with the soluble salts of zinc, and which, from their emetic and astringent quality in a state of moderate concentration, might be considered noxious, if introduced into the animal economy, but is equally fitted for the support of pigs, who thrive and grow rapidly fat upon it.—[London New Monthly Mag.]

Formation of the Brain.—The brain of man excels that of any other animal in complexity of organization and fullness of development. But this is only attained by slow and gradual steps. Examined at the earliest period that it is cognizable to the senses, it appears a simple fold of nervous matter, with difficulty distinguishable into three parts, while a little tail-like prolongation towards the hinder part is the only representation of a spinal marrow. Now in this state it perfectly resembles the brain of an adult fish, thus assuming, *in transitu*, the form that in the fish is permanent. In a short time, however, the structure is become more complex, the parts more distinct, the spinal marrow better marked; it is now the brain of a reptile. The change continues; by a singular motion certain parts (*corpora quadrigemina*) which hitherto appeared on the upper surface, now pass towards the lower; the former is their permanent situation in fishes and reptiles, the latter in birds and mammalia. This is another advance in the scale, but more remains yet to be done. The complication of the organ increases; cavities, termed *ventricles*, are formed, which do not exist in either fishes, reptiles, or birds; curiously organized parts, such as the *corpora striata*, are added,—it is now the brain of the mammalia. Its last and final change alone seems wanting, that which shall render it the brain of MAN. We thus see that man, considered merely as an animal, is, by his organization, superior to every other being;—and that, in the growth of a single individual, nature exhausts, as it were, the structure of all other animals before she arrives at this her *chef-d'œuvre*. But we have not yet done with the human brain M. Serres has made the still more singular observation, that in the advance towards the perfect brain of the Caucasian, or highest variety of the human species, this organ not only goes through the animal transmigrations we have mentioned, but successively represents the characters with which it is found in the Negro, Malay, American, and Mongolian nations. Nay, farther, the face partakes in these alterations. One of the earliest points in which ossification commences, is in the lower jaw. This bone is, consequently, completed sooner than the other bones of the head, and acquires a predominance which, as is well known, it never loses in the Negro. During the soft pliant state of the bones of the skull, the oblong form which they naturally assume, approaches nearly the permanent shape of the American. At birth, the flattened face, and broad smooth forehead of the infant, the position of the eyes rather towards the side of the head, and the widening space between, represent the Mongolian form; while it is only as the child advances towards maturity that the oval face, the arched forehead, and the marked features of the true Caucasian become perfectly developed. —[Athenæum.]

POETRY.

NAUTILUS.

By HARTLEY COLERIDGE.

Where Ausonian summers glowing,
Warm the deep to life and joyance,
And gentle zephyrs nimbly blowing;
Wanton with the waves that flowing
By many a land of ancient glory,
And many an isle renowned in story,
Leap along with gladsome buoyance,
There Marinere,
Do'st thou appear,
In fairy pinnace gaily flashing,
Through the white foam proudly dashing,
The joyous playmate of the buxom breeze,
The fearless fondling of the mighty seas.

Thou the light sail boldly spreadest,
O'er the furrow'd waters gliding,
Thou nor wreck, nor foeman dreadest;
Thou nor helm nor compass needest,
While the sun is bright above thee,
While the bounding surges love thee,
In their deepening bosoms hiding,
Thou canst not fear,
Small Marinere,
For though the tides with restless motion,
Bear thee to the desert ocean,
Far as the ocean stretches to the sky
'Tis all thine own, 'tis all thy empery.

Lame is art, and her endeavor
Follows nature's course but slowly,
Guessing, toiling, seeking ever,
Still improving, perfect never;
Little Nautilus, thou shewest
Deeper wisdom than thou knowest,
Lore, which man should study lowly.
Bold faith and cheer,
Small Marinere,
Are thine within thy pearly dwelling,
Thine, a law of life compelling,
Obedience, perfect, simple, glad and free,
To the great will that animates the sea.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 1st to the 12th day of August, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Aug. 1....	6 a. m.	63	29.97	WSW	light	NW	fair
	10	68	29.98	..	..	..	..
	2 p. m.	79	29 93	..	..	..	..
	6	78	29.90	SW	..	..	..
	10	72	29.91	..	..	..	..
" 2....	6 a. m.	67	29.95	SW—WSW	..	..	cloudy
	10	74	29.98	..	..	WNW	fair
	2 p. m.	82	29.98	SW	..	W	showory —fair
	6	74	29.98	..	..	W by S	fair
	10	72	30.02	..	..	..	..
" 3....	6 a. m.	65	30.06	NE	..	ENE	.., and low scuds from ENE
	10	70	30.06	ENE—SSE	..	ENE—SE	..
	2 p. m.	78	30.05	SSW	..		clear —upper wind from SSE
	6	74	30.02	..	..		..
	10	70	30.03	E	..		..
" 4....	5 p. m.	71	30.02	SE—SSW	..	WSW	cloudy
	10	76	30.02	SSW	..	..	..
	2 p. m.	82	29.99	WSW	moderate	..	fair—cloudy at 4—rain and thunder
	6	72	30.02	WSW—WNW	..	..	rain
	10	70	30.03	NNW	light		cloudy —rain
" 5....	6 a. m.	68	30.04	NNE	faint	W by S / E—SE	cloudy—scuds from ENE
	10	76	30.05	E—SE	light	W by N / SE	fair —cloudy
	2 p. m.	82	30.05	SE	moderate	W by N / WNW	cloudy
	6	76	30.05	..	..	WNW / WSW	..
	10	73	30.05	..	..		..
" 6....	6 a. m.	73	30.04	..	light	SW / SE	..
	10	78	30.05	SSE	moderate	SW / SSE	.. —rainy
	2 p. m.	73	29.99	..	gale		rain—thermometer falls at 5.30
	6	68	29.95	..	gale--strong	WSW / S	thunder and rain —cloudy
	10	67	29.98	..	moderate		cloudy
" 7....	6 a. m.	70	29.95	SW—NW	light	WSW / NW	fair —cloudy
	10	78	29.98	NW—WSW	..	..	..
	2 p. m.	82	29.97	SW	..	WSW	..
	6	73	29.97	SSW	..	..	..
	10	75	30.00	..	..		clear
" 8....	6 a. m.	68	30.08	NNW	moderate	WSW	fair
	10	72	30.10	NW—N	..	..	—haze bank at s
	2 p. m.	76	30.08	N—NE	light	NW	..
	6	75	30.04	ENE—E	..	..	..
	10	70	30.01	S	..	..	.. —rain in the night
" 9....	6 a. m.	70	29.88	SSW—NW	moderate	WSW / WNW / SSW	brisk cloudy—wind NW at 8--clouds WSW / NW
	10	71	29.90	NW—N	fresh	W by S / NW-W-SSE	fair
	2 p. m.	72	29.92	NNW	..	W by S / NNE	..
	6	70	29.95	N	moderate	..	..
	10	66	30.00	..	light	..	..
" 10....	6 a. m.	60	30.10	..	..	..	..
	10	64	30.12	NW	..	..	..
	2 p. m.	77	30.11	NW—SSW	..	W by S / SW	..
	6	70	30.10	SSW	..	..	..
	10	66	30.11	..	..	..	..
" 11....	6 a. m.	66	30.10	SW by W	..	W by S	..
	10	72	30.11	..—SSW	moderate	.. / S	..
	2 p. m.	78	30.10	SSE	..	.. / SSE	..
	6	73	30.06	..	..	..	..
	10	68	30.06	..	..	..	—bank at w
" 12....	6 a. m.	70	29.97	..	..	WSW	cloudy
	10	76	29.99	S by E	fresh	WSW / SSW	..
	2 p. m.	82	29.90	..	strong	WSW / S	fair
	6	78	29.84	..	moderate	..	.. —cloudy at w
	20	75	29.80	..	..	SSW	cloudy

MARRIAGES.

On 24th ult. Dr. D. O. HARRISON, to ELIZABETH, daughter o Mr. Horace Butler.

On Thursday afternoon, August 1st, by the Rev. Dr. Dewitt, Mr. JOHN RICHARDSON, of New-Orleans, to Miss AURELIA, eldest daughter of Capt. Robert Waterman, of Brooklyn. L.I.

On Wednesday, July 31st, by the Rev. Dr. Clark, Mr. Henry Carter, of Boston, to Anne, daughter of Mr. James Bolton, of New-York.

On Thursday evening, by the Rev. Dr. Creighton, Mr. Robert Stuyvesant, to Miss Margaret, daughter of C. Mildeberger, Esq. both of this city.

At Hempstead, L.I. Jones Pearsall, of New-York, to Miss Mary Ketcham, of Huntington South.

On Monday, at Weehawken, N. Jersey, by the Rev. Dr. Geisenhaeiner, senr., Mr. HERMAN VON DREHLE, of Quackenbruck, Germany, to Miss LOUISA H. LOSS, daughter of the late Charles Loss, Esq.; also, Mr. HENRY WILLIAM QUITZOW, of Hamburg, Germany, to Miss EUPHEMIA AGATHA KALLENBACH, step daughter of Mrs. Frederica Loss.

At Newark, N. J. August 6th, by the Rev, Matthew H. Henderson, Rector of Trinity Church, William S. Faltoute, Esq. to Susan Caroline, elder daughter of Sheldon Smith, Esq.

At the same time, by the same, Lieutenant Henry Eagle, of the United States Navy, to Minerva, younger daughter of Sheldon Smith, Esq.

At the Personage in Hempstead, on the evening of the 17th ult. by the Rev. R. D. Hull, Rector of St. Georges, Mr. Sylvanus Brewer, to Miss Ann Tredwell, daughter of Benjamin Tredwell.

In Sag Harbor, Mr. Aaron Oakley, to Miss Esther King.

DEATHS.

On Wednesday, MICHAEL SCHULER, aged 53.

On Tuesday, PATRICK M'KENNY, aged 32 years.

On Tuesday, JOSEPH V. JENKS, in his 28th year, of Pawtucket, R. I.

On Tuesday, JOHN BURNETT, youngest son of Captain Benj. Morrell, aged near 2 years.

On Monday, Mrs. PRUDENCE, widow of the late Daniel N. Tucker, aged 40 years.

On Wednesday, JAMES WILSON, in his 49th year.

Last evening at the residence of her Grandfather, in Shrewsbury, N.J., where she had gone for the restoration of her health, ANN ELIZA WHITLOCK, daughter of the late Thaddeus Whitlock, of New-York, aged 22 years, 8 months and 8 days.

Last evening, of apoplexy, Mrs. ELIZABETH ROBSON, widow of the late Capt. Joseph Robson, in her 51st year.

Last evening, at Newtown, (near Hallets Cove) L. I., Mrs. Maria, wife of Thomas R. Lawrence.

On Tuesday evening, of hydrocephalus, JOHN JACOB LANSING, infant son of Cornelius Dickinson, M. D., aged 7 months.

In Hudson, WM. F. HADDOCK, aged 26.

In Virginia, CHARLOTTE, daughter of Hugh Nelson, aged 22.

At Williamsport, Pa., WM. BOYD SMITH, Esq.

In Albany, Mrs. CATHARINE VROMAN.

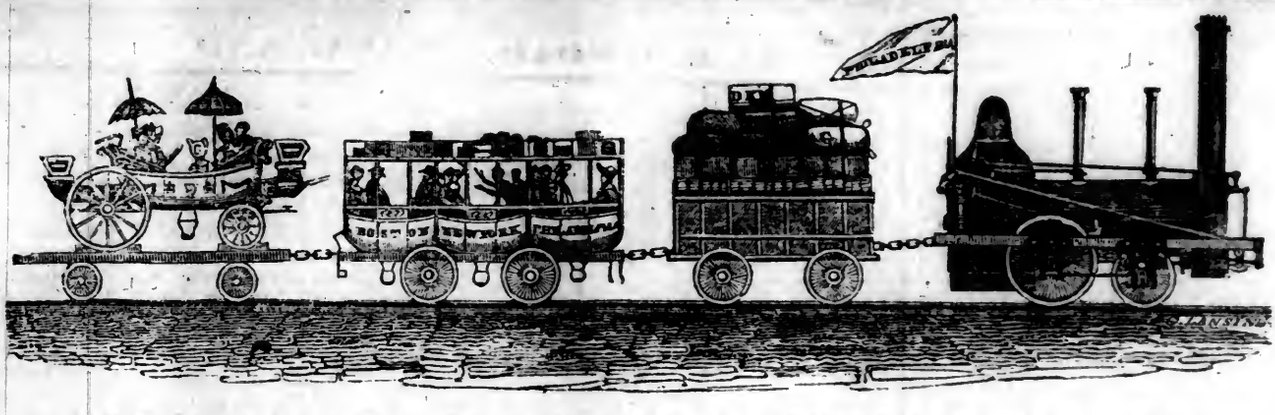
At Fayetteville, N.C. Duncan Thompson, Esq.

At Philadelphia, on 28th ult., William Hitchcock, youngest son of Lieut. John G. Reynolds, of the U. S. Marine Corps.

At Fredericksburg, Va. on Saturday morning last, in the 61st year of his age, Captain Robert Parrott, long a highly respected citizen of that place.

At Belgrade, Washington County, N. C., on the 4th instant, Mrs. MARY PETTEGREW, aged 84 years, 7 months and 20 days. This venerable and estimable lady was the consort of the Rev. Charles Pettegrew, first Bishop elect of the Protestant Episcopal Church of North Carolina.

Obituary.—It becomes our painful task to record the death of another of our most eminent physicians. Dr. JAMES M. STAUGHTON died yesterday about 5 o'clock, after a lingering illness of three weeks. He came among us but a few years since an entire stranger. His high professional character soon pointed him out as a proper person to discharge the responsible duties of a professor in our medical college, and it is but justice to say that he filled his station with great credit to himself and much honor to the institution. He has been cut off in the prime of life and in the midst of his usefulness. In his death society has sustained a heavy loss, and the poor have in particular been deprived of a most active and efficient friend, who was ever ready to administer to their necessities. Throughout his his protracted illness and suffering, he was sustained by that hope which *alone* can rob death of its sting and the grave of its victory.—[Cincinnati Gazette, Aug. 8.]



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] | SATURDAY, AUGUST 24, 1833. | [VOLUME II.—No. 34.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 24, 1833.

Boston and Worcester Railroad.—By a letter from J. M. Fessenden, Esq., Chief Engineer of the Boston and Worcester Railroad, we learn that thirteen miles of the road will be completed and in use this fall—probably in October. The next thirteen miles are contracted for, and the grading progresses rapidly; and the remaining seventeen will soon be put under contract, and probably the whole route will be completed next year. The Boston and Worcester road will, in a few years, have an immense travel. This is, probably, only the commencement of a long line of railroad, which will eventually reach far into the western country. We cannot doubt but that the enterprize which has already commenced *three* very important lines of Railroad—the Providence, the Lowell, and the Worcester—will push this one on, and surmount all the difficulties, great even as they are, in order to compete with New-York for a part of the trade of the west. With a Railroad to Albany, suitable for locomotive engines, so constructed as to be used in winter, Boston would take no trifling share of the western produce direct, instead of by the circuitous route of New-York. There would be so much time saved, no changing from car to barge, and then to sloop or other vessel, as now. The cars from the far west would continue directly through, and deposit their load where they are to be used or shipped.

That period may, by some, be thought *far, very far* off, but they may rest assured that *it is not so far distant as is that of the commencement of the Erie Canal*, 1817.

The location of this road may be considered an uncommonly favorable one, as, with a single exception of less than one-eighth of a mile, with 1150 feet radius, there will be no less a radius than about 1500 feet, and its maximum inclination is only 30, and its average only 12 *feet per mile*. It is to be constructed with an edge rail, of a new form, with a greater bearing surface than the Liverpool and Manchester, and rails that will weigh 60 lbs. to the yard, and the chairs 15 lbs. each, laid upon large cedar sleepers, placed transversely upon ruble stone, in longitudinal trenches of different depths, according as the frost penetrates the earth.

The Report of the Chief Engineer, which accompanies this letter, will be found in Railroad Journal, Vol. I, page 242.

The stock of the Tonawanda Railroad, which is designed, we believe, to be constructed from Rochester, through Le Roy and Batavia, to Attica, in Genesee county, N. Y., was taken a few days since in a few hours after the books were opened, although when previously opened for the same purpose a few months since, no stock was taken.

This circumstance would be sufficient, if further evidence were necessary, to show the present feeling of capitalists relative to the importance of Railroads. Railroad stock, in judicious locations, will, ere long, be equal, if not superior, to any other investment.

Petersburgh Railroad.—This road has been completed to Blakely, and the Company's cars have passed several trips through the entire line. The inclined plane from the depot at Blakely to the river, (only a few hundred feet) is also nearly completed. Thus we see a *Railroad* in successful operation in the "Old Dominion." It is fair a beginning for Virginia, and its influence will be felt to the extreme parts of the State. It will cause the worn out plantations and deserted mansions of lower Virginia to be again inhabited—again the seat of prosperity and hospitality—and it will, we hesitate not to repeat what we have before said, be of more importance to Virginia than all her previous public works, as it will at once show them that of which they could, in no other way, be fully convinced, the superiority of railroads over canals. It is now a short road, but it will not long be so. It will be continued northward to Richmond, to Fredericksburg, to Washington, and by that time a road will have been completed from New-York to Washington,—thus forming an entire line of railroad from New-York to the Roanoke river, a distance of 450 miles, which may, aye, and will, within seven years, be travelled in less than 48 hours, or two days. The Roanoke, however, will not be the southern termination of this railroad. South Carolina has done nobly, and will do more. She will extend her road to Columbia, Camden, and Cheraw. Georgia will not remain long an idle spectator. She is, indeed, already awake. A meeting has already been held, with a view of devising measures to construct a railroad from Athens to the South Carolina railroad at Augusta. North Carolina, too, will do her part towards continuing the line. Another effort has recently been made in North Carolina, and such men as William Gaston, have come forward in aid of the cause and surely such leaders as GASTON, in a cause of so much importance to every landholder and business in the State, as that of railroads, will not be in want of followers. A line of railroad will therefore be completed, within seven years from this date, from New-York to Athens, Georgia. There will, also, be completed within the same period of time, more than 3000 miles of other railroad within the United States, in addition to what is now in use, which will open to our Atlantic cities new sources of business and wealth, and to the interior increased facilities for the transportation of produce and merchandize, and cause a state of prosperity scarce to be imagined by those who are only in the habit of contemplating events as they transpire.

The ground was broken on the 14th inst. for the New-York, Providence, and Boston Railroad, in presence of the Governors of Connecticut and Rhode-Island, and about 1500 ladies and gentlemen, who partook of a dinner provided by the Company.

Mr. Sullivan in further reply to Mercator.

[Communicated for the American Railroad Journal.]

Mr. Editor,—It may be some excuse for the protracted length of this discussion, that it is defensive.

In offering a specification to your columns, I intended to enregister a very obvious device among the many useful things in which they already abound: and I am led to perceive it to be of some importance by the opinion of one of our most eminent Engineers, Maj. Wilson, as expressed in his report on the proposed railroad between Philadelphia and Baltimore, that timber is the best material for our country to use at this period.

Hence it must be important to protect or defend the most exposed parts of the structure against causes of early decay—the effects of the weather.

The question is whether Hydraulic and Roman cement are pervious to water, when practically and skilfully applied?

It is not indeed a matter of quite so much importance as the cement of the Union, though relating to one of its bonds, commercial roads.

The question Mercator has raised however relates only to one of my expedients, offered to notice in your paper of the 6th July: that of surrounding the posts or piles when used to support a railway, at the surface of the ground and a little above and below it, with fragments of stone cemented together and to the post. The other relates to the protection of the upper surface of the bearing timber by a resinous coating, to fill cracks and keep off the rain; and by hardening the surface under the iron-way by *driven nails*, preventing the rails from indenting the timber, and making lodgements for water.

The former is called in question on the ground that lime, hydraulic lime, and Roman cement, will not keep off the water, but be a conductor of it to the wood.

The former I did not contemplate using, unless in combination with tar or pitch. He rests his assertion that the last mentioned cements, commonly considered impervious, will, when made into balls and placed in a dish of water, absorb it by capillary attraction, and therefore transmit it to the post.

The absorption of water by the balls of cement mentioned may be accounted for in the supposition that they do not undergo any pressure, and when the water contained in them evaporates, they are left with interstices among the particles, which are of course filled with air, and which gives place to the water as high as they are immersed, and it is very possible they may exhibit its wetness higher.

But if Mercator's *discovery*, that these cements are conductors of water, is sound, we must ask him to account on some new principle for their preventing the passage of water when practically applied? If it will reach wood through it, why not stone, and why not every surface of stone in a lock wall? If it does not transmit water thus, there is no reason to suppose it will when properly worked and applied around posts.

His objection to pitch was that its duration on a ship's bottom does not exceed three months. Although I do not subscribe to this, yet, were it so, it is accounted for by the action to which it is in that situation subjected. We know that even copper sheathing will wear out.

But Mercator accuses me of "*coining*" expressions for him, and then calling them absurd. This would indeed be very absurd. I perceive that, in writing a hasty reply, it was addressed rather to the spirit, than the letter, of his animadversion. I certainly did not intend to misrepresent him, in return for his courtesy in coupling *common lime* mortar and cellar air with my very different location and purpose.

He had just been speaking of *pitch* as lasting but a short time under water, and why? because either worn off or penetrated by it. He then speaks of *lime*, water lime, and roman cement—all three as being conductors of water by capillary attraction. And I perceive, as he says, that I coupled *pitch with Roman cement*, as being *absurdly* said by him to be conductors of water.

It is true this was an inadvertency, which required to be set right, but does not require that I should retract my opinion of the absurdity of attributing the opposite properties in Roman cement of being a *conductor*, and yet a *defence* against water. If he had said it also of pitch, it would not have been more so.

As to pitch, Mercator says, (page 498, 4th paragraph,) "He well knows that a coating of pitch is impervious to water."

Of course he knows it is *adhesive*, and the inference is certainly very rational, that, if applied hot to the dry surface of a post, it would keep off water.

And if in order to keep off the heat also, a cemented mass of stone surrounds it, can it be correctly denied that this part of the post will be defended effectually?

But he doubts whether pitch in this situation would last longer than on a ship's bottom, and yet it is not pervious to water. Is it a perishable material? Is it not principally carbon; and is not charcoal imperishable?

If lime is mixt with it, the effect is to neutralize the acid of the wood, and check the decay of the surface. I believe this part of the post thus defended, instead of being the earliest, would be found the last to decay.

It appears to me there are three conditions of timber, in which their duration may be very long: perfect dryness—constant immersion in water—and by the effect of great heat (as steam) and of poison, as corrosive sublimate, according to late experiments in England, destroying the vitality of the albuminous principle within.

But all that an architect or engineer can do, perhaps on a large scale, is to prevent partial and premature decay where exposed to *concurrent causes* thereof.

The instance of dry rot alluded to in a ship at Baltimore is quite a different case, proving only that when a merchant, instead of keeping his ship's frame *cool with salt*, shuts in with *varnish* the natural dampness of the juices of the wood, and, in a hot situation, he should expect premature decay, or dry rot.

I hope, Sir, your readers will recollect that I proposed no permanent impossible preservation, but, by a very easy precaution, to prolong the duration of timber railroads perhaps three or four times as many years as they would otherwise last. But that I do not recommend timber in preference to stone, when at command. Duration is of consequence, not only as regards the cost, repairs and renovation, but as relates to the interruption of the route, and the tolls that can be afforded.

Another good effect of my mode of protecting the surface, by forming a hard bed for the rail, is not only that the resinous defence will remain, but that the rail, by not giving way under the wheel, will not as at present oppose additional resistance to the moving power.

I will only add, in conclusion, that there is a manifest advantage in a fictitious signature. It permits a writer to be unphilosophical without injury to the reputation of his understanding. He may assert absurdities without responsibility. He may pervert the meaning of the writer assailed, and give him the trouble of following wherever he may please to lead. Or if the assailed party is absent, or too much engaged to reply, an unfavorable impression of his improvement may be unjustly made.

I think an editor of a scientific journal should make this distinction: Anonymous disquisitions may be received, but not *marked* attacks of any invention with which a name is associated, because in this way you close your columns against those who, in their confidence of this degree of protection, commit their views of usefulness to your channel of communication with the public.

If a writer gives his signature, it is a proof of his sincerity and good intentions: both parties are then on a footing, and each will be responsible for his arguments and sentiments. I am respectfully, yours,

J. L. Sullivan.

On the Construction of Curves for Arches. By Van De Graaff. [For the American Railroad Journal.]

There is, perhaps, in the whole art of building, no subject which requires the exercise of more mathematical learning, than the construction of arches in equilibrio. And those who are unacquainted with the principles of statics, cannot but see with surprize the great deviation from a state of equilibrium produced by a small variation in the curvature of an arch. An example of this important fact may be given in the curves of a common and semi-cubical parabola: for to equilibrate the former, an uniform vertical pressure is required through the whole length, and yet, with regard to the latter, an infinite pressure is required at the crown to produce equilibrium. So great is the difference in the condition of equilibrium in those two curves; and hence is shown the importance of having judicious curvatures in the arches of aqueducts and bridges.

In the construction of flat arches the oval is usually taken as a substitute for the true ellipse; and, therefore, when such arches are equilibrated upon the supposition of an elliptical curve, it is necessary that the oval should coincide very nearly with it.

The ovals usually constructed with three centres are without the true semi-ellipse at the flanks, which are the weakest points; and they should, for that reason, not be used in the construction of arches, unless the span be very small. However, as the use of three centres has the advantage of simplicity, and may do for small spans, I will give a method of describing such an oval, which will meet the true ellipse at the flanks, and differ less from it at all other points, than by the method now in common use. It is not necessary to give a detail of the whole investigation. Take the rise of the arch as unity, and let a denote the semi-transverse, R the radius of the smaller arc, whose centre is in the transverse, R′ that of the greater arc, whose centre is in the conjugate axis. Compute the value of R from the following cubic:

$$R^3 - R^2 \times \left\{ \frac{a^2+1}{a} + 1 \right\} + R \times \left\{ \frac{a \times 1}{2a} \right|^2 + \frac{a^2+1}{a} + 1 \left\} - \frac{a^2+1}{a} = 0;$$

And find the value of R′ from the formula,

$$R' = R + \frac{R \times a - R \times \sqrt{a^2 - 1}}{2a - R \times \sqrt{a^2 + 1}}$$

Having obtained the values of R and R′, the position of the three centres will of course be given; and a straight line passing through those centres will give the meeting point of the arcs composing the required arch. A reference to the following table will save all the trouble of computation; it is calculated from the above expressions, and by taking proportional parts, it will serve for any span and height which may be required:

a	R	R′	a	R	R′
1.00	1.0000	1.0000	1.30	0.8304	1.5652
1.10	0.9347	1.1763	1.35	0.8085	1.6698
1.15	0.9057	1.2688	1.40	0.7879	1.7772
1.20	0.8788	1.3645	1.45	0.7685	1.8873
1.25	0.8538	1.4635	1.50	0.7500	2.0000

Example: Let the span of an arch be 30 feet, and the rise 10 feet: to find the radii of curvature for three centres. Here, $a = \frac{15}{10} = 1.5$; and hence $10 \times .7500 = 7.5$ feet, and $10 \times 2.0000 = 20$ feet, are the radii required.

But it is to be observed, that an oval described with three centres can have no point giving a true *normal* to the elliptical curve, excepting the springing points and crown; and the same thing is true when five centres are used. *The least number of centres which can be judiciously used in substituting an oval for an elliptical arch, is seven.* Such an oval may have one point in each flank giving a true *normal*. With eleven centres two normals may be obtained, and with fifteen centres three normals can be had, and so on for any number. There is no advantage in using the intermediate numbers 5, 9, 13, &c. *The oval usually given with eleven centres contains no one point having a true normal to the elliptical curve*, with the exceptions above mentioned.

By using seven centres with a correct *normal in each flank*, an oval will be had, which approaches so exceedingly near to the true ellipse that it may be very safely equilibrated for that curve. I have investigated several methods for determining the position of those centres, and the radii of curvature of the arcs. That which seems to be the most expeditious, is the following:

Let a denote the semi-transverse; b the semi-conjugate; m the given normal, whose position should be such as the eccentricity of the oval will require; p and q the corresponding co-ordinates, whose origin is at the vertex of the semi-transverse; n the sub-normal; f the angle formed by the curve and the ordinate q.

Put $k = \frac{m}{n} \times \sqrt{a - p - n}$, and $s = \frac{q}{n} \times \sqrt{a - p - n}$.

From known methods, the following expression for the angle f is readily obtained by taking radius unity:

$$\text{Tan.} f = \frac{p \cdot 2\sqrt{a-p}}{q \cdot a - p}$$

Let e denote the complement of f; and compute the values of two angles, z and u, from the following equations:

1st. To find z,

$$m - \frac{\frac{2ab^2}{a^2-b^2}}{\frac{a^2+b^2}{a^2-b^2} + Cos\ z} - \frac{n+p-m}{2\ sin\ \frac{1}{2}\ f} \times \frac{Cos.\frac{1}{2}(f+z)}{sin\ \frac{1}{2}\ z} = o;$$

2d. To find u,

$$\frac{m+k-b-s}{2\ sin\ \frac{1}{2}\ e} \times \frac{Cos.\ \frac{1}{2}\ (e+u)}{sin\ \frac{1}{2}\ u} - \frac{\frac{2\,b\,a^2}{a^2-b^2}}{\frac{a^2+b^2}{a^2-b^2} - Cos.\ u} + m + k = o.$$

The formulas for the radii of curvature of the arcs are then the following:

1. $$R' = \frac{\frac{2ab^2}{a^2-b^2}}{\frac{a^2+b^2}{a^2-b^2} + Cos.\ s}$$

2. $$R' = R + \sqrt{n + p - R} \times \frac{sin\ f}{sin\ (f - z)}$$

3. $$R''' = \frac{\frac{2ba^2}{a^2-b^2}}{\frac{a^2+b^2}{a^2-b^2} - Cos.\ u}$$

4. $$R'' = R''' - \sqrt{R''' - b - s} \times \frac{Cos.\ f}{Cos.\ (f+u)}$$

In the above expressions, R denotes the radius of the arc whose centre is in the transverse axis of the arch; and the number of degrees in the first arc is expressed by the angle z. The quantity R‴ is the radius of the arc whose centre is in the conjugate axis produced if necessary; and the number of degrees in that arc is expressed by the angle $2u$. The radii R′ and R″ belong to the two arcs whose centres are in the given normal produced; R′ being the smaller, and R″ the greater. The number of degrees in the first of these two arcs will be expressed by $f - z$; and the second by $e - u$. This furnishes data for an easy computation of the whole length of the arch and of each constituent arc.

When an arch is to be made with a view of sustaining the weight of a heavy embankment, it presents the following problem to those who direct the construction: To determine an arch which will be equilibrated with sufficient security by means of the superincumbent weight, and whose voussoirs may be cut normal to the curve without subjecting the workmen to needless liability to error from a complicated manner of construction. Supposing the road-way to be horizontal, or nearly so, the curve of strict mathematical equilibrium will be difficult to construct. I will, therefore, give a method of computing the ratio of the axes of an ellipsis, and their actual values, such that a segment will coincide with the arch of true equilibrium very nearly; and such a segment, being of easy practical construction, should always be preferred to the semi-circle under heavy embankments; for thus, much of the masonry usually required about such arches will be saved, and a more secure equilibrium obtained.

Let p denote the rise and q the half span of the required arch; h the height of embankment upon the crown; r the thickness of the arch, or length of the voussoirs; c the specific gravity of the embankment; c' the specific gravity of the materials composing the arch. The following expressions for the values of the semi-axes of the required ellipse may then be had from an investigation conducted upon received principles of statics:

1st. To find the semi-transverse:

$$a = \frac{1}{3}\ p \times \frac{\left\{\frac{c'.3r+p+3ch}{3c'r+3ch}\right\}^{\frac{1}{3}}}{\left\{\frac{c'.3r+p+3ch}{3c'r+3ch}\right\}^{\frac{1}{3}} - 1};$$

2d. To find the semi-conjugate:

$$b = \frac{aq}{\sqrt{p \cdot 2a - p}}$$

Hence is demonstrated the following

Theorem: An arch of given rise and span having to sustain in equilibrio a given superincumbent weight with a horizontal top surface: I say, an ellipsis may always be found, of which the required arch will be a segment very nearly.

In the construction of aqueducts and bridges the *segments of circles* are frequently used for arches, without any regard to their *equilibration*. Such an arch would instantly fall when the centering is removed, if it were not for the adhesion of the cement and superincumbent matter. But an arch properly equilibrated, *agreeably to the above theorem*, will still have those advantages, and the work will, in consequence, be perfectly secure.

The method of tracing such an elliptical segment will be obvious from the preceding remarks. Two of the four formulas, marked 1, 2, 3, 4, will apply to this case when three centres only are used; the last two when the transverse axis is horizontal, and the first two when that axis is vertical. When seven centres are taken, one true normal may be introduced into each flank of the *segment*, and then the formulas just mentioned will give only two of the radii. The other two radii will in this case be different; but the investigation is not difficult, and I cannot pursue that subject further in the present number of this Journal.

The mathematical principles of inverted arches should be understood by practical men. A scientific article upon that subject, accompanied with plain practical results, and communicated to the public through the medium of this Journal, would, perhaps, be useful to those engaged in the construction of such works.

V. D. G.

Lexington, Ky., August 1, 1833.

South Carolina Railroad.—We have frequently published accounts and descriptions of this railroad, but nothing has hitherto reached us which gives, in so small a compass, so correct an idea of the work as the following description by Mr. Dexter, one of the resident engineers. We give it entire, together with his detailed account of its cost, that those who are not familiar with that mode of construction of railroads may be enabled to form a good idea of its cost, as they will undoubtedly soon hear of the wonderful facilities which it will afford to the inhabitants in its vicinity, and of the greatly enhanced value of property on its line, as well as at its extreme points. It is not saying too much, and we have no fears of contradiction, when we say that the *value* of property, within five miles of the road, has increased already *more than the road has cost*; and we hesitate not to say that the increased value for five years to come will be greater than for the same period past, even if the railroad should not extend beyond the limits of South Carolina; but we should be unwilling to believe that those who have done so much for the State, by their devotion to this important work, will now rest easy. They who saw so clearly the importance of such a work to arrest the evils which the mode of cultivating the soil at the South has brought upon them, will surely not be satisfied now they have so nearly accomplished their *first* grand object, to rest easy while so much is yet to be done. The *South Carolina Railroad will be continued into Tennessee*, if not, *also*, through the *northern part of Georgia into Alabama*. There are serious natural obstructions to encounter in passing the mountains, there is no doubt; but, in comparison with the importance to the improvement of the country of such a channel of communication, these difficulties dwindle into insignificance. The great mass of the people are becoming enlightened upon the subject—they begin to see, that in no other manner can they do so much to promote their own interest, and at the same time that of the community at large, as by contributing to works of easy and rapid internal communication. They find that their own profits are greatly enhanced in value—in proportion, indeed, to their distance from market, and their proximity to the improvement. Under the influence of such a state of things there cannot be a doubt of the continuance of such a work as the Charleston and Augusta Railroad.

The city of Charleston has felt too sensibly already the beneficial influence of her Railroad and Steam Packets, to rest short of a free and cheap mode of communicating with the fertile

country so near her, which has no other seaport so convenient, or so accessible, when a railroad shall have been constructed over the mountain.

The route will probably be up the Saluda and then down the French Broad and the Hiplston rivers to Knoxville, or up the Savannah, Tugaloo, and Turroree rivers, and down the south branch of the Tennessee—both of which routes pass through a corner of North Carolina, and the latter one through a corner of Georgia, also. With such an improvement as this, and others in various directions, which will naturally follow as a matter of course, CHARLESTON may look forward to a degree of prosperity which she has never known. She may well anticipate becoming *one* of the most, if not the *most*, important Southern sea-port of the Union, except New-Orleans. In such an event, what will be the value of the present work to its stockholders? If it is now, when not entirely completed, worth 10 or 12 per cent. above par, may we not safely calculate upon its reaching 100 per cent. above par in five years?

It is true we know very little about stock, but if we had the means of purchasing, we know of no other which we should be more willing to hold, as their charter is, we believe, perpetual, and for 35 years they have the entire control, or monopoly, of railroads in that section of the state, as well as the privilege of regulating their own charges on freight, whilst the rate for passengers is fixed at five cents per mile.

By a reference to page 179, volume I, of the Railroad Journal, an interesting communication will be found from Henry N. Cruger and Horatio Allen, Esqs., relative to the construction of this contemplated Railroad, which terminates very appropriately and truly, as follows, viz.: "This great work will assuredly be one day accomplished. Its seed is now in the ground—already the resources of the country are adequate to its easy maturity. The *only* question is whether *we*, our *children*, or *the stranger*, shall reap its benefits."

GENERAL DESCRIPTION.—We will preface our description with the remark, that in the establishment of a Railroad through a well timbered country, like that through which this road passes, there can be no doubt of the judicious economy of the general plan of pile construction, which has been adopted in preference to the expensive system of embankments which prevails at the north. Besides the increase in the first cost, the expense of keeping the embankments in repair, owing to the injuries sustained from settlings, washes, slides, derangement of culverts, &c. is unquestionably greater than that attending the occasional renewal of decayed timbers.

The profile of the South Carolina Railroad, embracing, generally, a remarkably uniform surface of country, may be compared to that of a continued bridge, sometimes resting on the earth, but generally elevated above the soil about five or six feet.

The road extending from the city of Charleston to Hamburgh, is 135 miles in length; and the rails were laid in continued line complete, about the 1st of June, 26 months from the period when the whole line was located and put under contract. A few miles of the road, near Charleston, were made, and in use with hand cars, about two years prior to this period.

The road crosses the Edisto river about 400 yards below the junction of the North and South Fork, 65 miles from Charleston, after passing over, in that distance, six difficult streams and depressions, Saw Mill Creek, Cypress Swamp, Four Hole River, Indian Fields, Poke Swamp, and Cattle Creek. The road continues its course on the dividing ridge between the Edisto and the branches of the Savannah, passing nine miles to the north of Barnwell village, until it reaches the head of the valley of Wise's Creek, a branch of Big Horse Creek.

At this point, which is only 21 miles south of Edgefield Court House, the road attains its highest altitude of 510 feet above the level at Charleston, and 360 feet above the Augusta bridge, 16 miles distant. One hundred and eighty feet of this descent to the valley of the Savannah is conquered at this point by an inclined plane, 3,800 feet long, having three grades of ascent, the steepest of which is one to thirteen.

From the foot of the plane the remainder of the descent is overcome in 10 miles, having an average inclination of 18 feet in a mile.

At Hamburgh two spacious depositories are in course of construction, of brick, with zinc roofs, on a commodious lot of six acres, gratuitously bestowed on the Company by Henry Shultz, Esq.

There is only one bridge of importance on the whole route—that crossing the Edisto river—which is 400 feet long, has a single arch over the main stream of 66 feet span, and cost $1,800.

The road is a single track, except at the inclined plane, where there is one mile of double road, and at the turn outs and depositories about three miles more.

Two stationary engines, which work on the same crank, of about 25 horse power each, now erected at the head of the inclined plane, and nearly in readiness for operation, will effect the passage of loaded trains and passenger cars over the plane at the rate of about ten miles an hour.

The 7th Residency, embracing the distance of 15 miles from the foot of the inclined plane to Hamburgh, was much the most difficult and expensive part of the road—a more costly plan of construction being frequently necessary, owing to the badness of the foundation and the height of the work. The excavation of this road cost nearly $1,000 per mile, while that of the rest of the road will not average $300 per mile. The high price of materials was one great cause of the increased expense of this section.

The profile of the South Carolina Railroad is remarkably favorable, as the entire length of inclination, as great as 1 in 150, or 35 feet in a mile, is but 1¾ miles, the occasional ascents not exceeding 1 in 200, or 26 feet in a mile.

The straight lines, with the exception of the 7th Residency, are generally uncommonly long, and the curves easy. There is one straight line 25 miles in length, and several courses of from 6 to 10 miles. The first 65 miles from Charleston varies in length but half a mile from a uniformly straight line.

The road is now ironed a distance of 100 miles from Charleston, to which point the steam-engines have frequently passed. All the iron would have been on, and the road in complete operation, but for unexpected delay in the arrival of the locomotive engines, three of which, contracted to be delivered in Charleston by the 1st of March last, have not yet arrived. The engines in use do not afford sufficient power to transport the iron for the road, and at the same time comply with their mail and passenger arrangements, and the public convenience in the constant carriage of freight.

Two of the engines now in use are built on an entirely novel plan, according to the instructions of H. Allen, Esq., Chief Engineer of this road. They are supported upon eight wheels, by which means the weight is diffused, and a more powerful engine is obtained with the same stress upon the road.

This engine, however, is more complicated in its construction, and more liable to derangement, than a four wheeled engine, and therefore at present less generally approved—but it is to be hoped that the few practical difficulties which attend the use of an engine so well adopted to powerful transportation, in this and other roads, which may be built on a similar plan, may vanish before superior skill and experience.

When in order, these engines, for a few miles, detached from their train, have frequently attained a speed of 40 miles, and in one or two instances of more than 50 miles per hour. These engines will carry 30 tons of freight, besides passengers, with ease 15 miles an hour, at a cost of about $20 per day, including all expenses of fuel, attendance, and wear and tear of engine. The Phœnix, a light engine on four wheels, has twice run from Charleston, a distance of 72 miles, to Midway and back, in the day, a distance of 144 miles, placing it, therefore, beyond a doubt, that the travel from Augusta to Charleston can be effected in 10 and 12 hours.

If the engines which have so long disappointed us should arrive in the course of this month, the whole road can be in use by the 15th day of September. The 15 miles from Hamburgh to the foot of the inclined plane, is ironed, and used with hand cars. The mail is now carried 105 miles on the road.

DETAILS OF CONSTRUCTION.—There are four different plans of construction made use of on this road, the adoption of which was determined by the character of the soil and the height of the line of grade: these are, the Sleeper Plan No. 1—the Sleeper Plan No. 2—the Pile Construction, and the Truss Work.

Sleeper Plan No. 1.—The Sleeper Plan No. 1, which is a very cheap construction, answers well on a good clay or gravel foundation. In this construction, the rails, 6 by 10, are supported on transverse sills, 10 by 12, laid six and a half feet apart; these sills are ten feet long, of good lightwood or heart pine, well hewed. In trimming up the excavations and bermes, and preparing the side drains, enough earth is obtained to cover the transverse sills entirely, and afford a solid bearing to the whole length of the rail. Most of our road on this plan has been built by contract, for $1,450 per mile—the excavation, draining, and filling in, not included. We have about five miles of this road.

Sleeper Plan No. 2.—This plan likewise is used in excavation, and forms an admirable structure, preferable to the other, in being less liable to settling and lateral derangement. In this case, the size of the rail and distance apart of the supports remain the same. The caps, into which the rails are let a depth of three inches, and secured by wedges, as before, are 6 by 9, and 9 feet long, fastened down at each end by a two-inch trenail to a longitudinal sill, which is firmly bedded to nearly its full depth in the ground.

These longitudinal sills are put three feet from the centre of the road, each way, which brings them nearly on a line, under the rails. The size never was allowed to be less than 9 by 9, generally well hewed in the upper and lower surfaces, and blocked off on the edges. It is better to jog the caps into the sills by a gain in the latter, and use a wedge in preference to the trenail, as the pin hole admits water and engenders decay.

On this plan the inclined plane is built, but the lower sills are 12 by 12—all heart of the best pitch pine, well hewed on all sides, and the ends lapped.

The average cost of work on this construction, is about the same with that of piling on the same grade—from $1,800 to $2,200 per mile. There are about 28 miles built on this plan in the whole road.

One considerable advantage attending this plan of construction is the facility of repairing it, and renewing the decayed supports. Another important consideration is, that timber will last longer horizontally placed than vertically—as in the Pile Construction.

Pile Construction.—In this construction the posts are generally of lightwood or of the heart of the pine tree, round, with the butt end in the earth, and from 10 to 15 inches in diameter. The posts are in no case allowed to be less than 4 feet in the ground—8 feet apart trans-

versely, by 6½ feet longitudinally. Where the ground is soft the piles are sometimes driven to a depth of 25 feet—the distance in the earth being entirely governed by the descent, under a given weight, at the last blow of the hammer.

The weight of the hammer used varied from 600 to 1000 lbs. The best piling machines were 35 feet in height, fixed on large wooden rollers, with moveable ears for disconnecting the ram block, at different heights, secured by bolts and nuts to the uprights. Under a hammer of 900 lbs. with a clear fall of 20 feet at the last blow, the pile was allowed to sink two inches. As the success of the road in a great measure depended on the stability of the piles, competent testers, under the pay of the Company, compelled by their presence the faithful execution of this important part of the work.

Holes were generally dug about 3½ feet deep into the soil before the pile was introduced, by means of *tongs*—a kind of double spade, made for the purpose. In hard soil this previous digging is a great saving in expense, and by allowing the pile to be introduced with nearly its full size at the end, is a material aid to its permanency.

The piles, after being sawed off and tenanted on the true and even line of graduation established by the levels of the engineer, are connected transversely by caps 9 feet long, 6 by 9. These are mortised and draw-bored on to the piles.

The rails, 6 by 10, and never less than three stretches, or 19½ feet in length, are let into the caps three inches, and secured by wedges driven on the inside of the rail in each cap. About ¾ of an inch is taken off the inner sides of the rails by a chamfer four inches deep, to a line on which the edges of the iron plates are laid, precisely five feet apart across the road, in the clear. Great care is necessary that the top surface of the rail be perfectly smooth and uniform, so as to afford the iron a solid bearing.

The confidence which the projectors and advocates of the pile construction felt in predicting the economy and stability of the plan, is entirely justified by the result. So far the settling of the road, even in parts which have been in use four years, is confined to a few points, and then the introduction of a few additional supports remedies the evil. Not the slightest yield is observable in any part of the road where the driving was properly attended to.

The cost of our pile construction has been from $1900 to $3000 per mile, averaging about $2300, the bracing being extra. The piling machines, with blocks and gearing, are furnished to the contractors by the company, at an expense of about $100 for each complete.

We have some pile construction 15 feet in height—strengthened by outside braces, supported against short piles driven about 8 feet from the road on each side of the main track.

No bracing is requisite where the height is under 7 feet, if the soil be firm. From 7 to 10 feet, one brace of 4 by 5 scantling between each pair of posts is sufficient. Above 10 feet, two braces between each pair of posts, placed somewhat in the shape of a letter X, are introduced.

One mile of single bracing, average height, costs about $150: of double bracing, $400.

Truss construction.—Where the bottom is bad, and the work over 12 feet in height, the truss construction is advisable.

A foundation must be made of piles, well driven, supporting a large bottom sill, 12 by 12, which may be embanked to the top, or a foundation of transverse and longitudinal sills, firmly imbedded in a solid sand embankment, may be used. This last plan we have frequently had occasion to adopt in the 7th residency. Four posts, 8 by 10, making something the shape of an inverted W, connected at the top by a cap 10 by 12, are mortised into the bottom sill 12 by 12. The trusses or bents may be put 12 or 13 feet apart, when the size of the rail should be 12 by 12. Ten feet apart with rails 9 by 12, is a convenient distance. The cost of this construction, the solidity and strength of which has given great satisfaction, is very variable, depending on the difficulty of the foundation, the price of materials, and the height of the work. It varies from $6,000 to $10,000 per mile. There is one connected piece of road on this plan, almost half a mile in length, the height of which is from 18 to 25 feet. There is, altogether, about 5 miles of the truss construction.

The Iron.—The iron plates used on this road are 2½ inches wide, ¼ inch thick, and in length from 10 to 15 feet, secured to the rails by spikes 5 inches long, the heads of which fall into a countersink below the level of the surface. A mile of road requires 17 tons of this iron, costing something like $45 per ton landed in Charleston. Spikes cost about 9 cents per lb. or $90 to the mile.

17 tons of iron at $45 - -	$765 00
1000 lbs. of spikes at 9 cts. -	90 00
Transportation from Charleston along the line, on an average, including steamboat freight of 20 miles of iron to Augusta, -	100 00
	$955 00

After the top surface is prepared the iron can be laid on the road, and spiked down at $25 per mile. Iron ¾ of an inch thick, having a rectangular flange on one side, to project down on the inner edge of the rail, about ½ inch, would have been greatly preferable to that used, in preserving a rigid uniformity of top surface, and lessening lateral friction on the wheel of the locomotive. The use of iron of this description was strongly recommended by the chief engineer, but was not adopted, from considerations of economy. The increased cost of using iron ¾ of an inch thick, with a flange ¾ of an inch in thickness, would not exceed $200 per mile, while it would be of incalculable benefit in promoting the successful running of the engines.

Turn outs or passing places.—A turn out or passing place, about 600 feet in length, the centre of which is 30 feet distant from the main track, into which it curves easily at each end, is placed at every 7 miles along the road. Here is the well and wood station, supplying the engine with fuel and water. We seldom have to dig more than 15 feet for water, and wood is obtained in abundance at from $1 25 to $1 50 per cord. Our turn outs leave the main track in a curve of 772 feet radius.

At each end of the turn out, about 20 feet of the railway is detached, and made to turn at pleasure on vertical hinges, from the general track into the sideling; and the old plan of switches, always liable to derangement, is entirely dispensed with.

The transportation may hereafter require intervening turn outs between those already established, but by this means the necessity of a double road may be entirely obviated.

Turn outs are built complete at 50 cents per lineal foot—iron work not included.

A revolving platform is generally placed in the centre of the turn out, by which means a loaded car can be taken in a few minutes off the main track, or a rectangular road, into the depository.

Excavation.—The greater part of the excavation on the South Carolina Railroad has been shallow, the deepest cut not exceeding 25 feet. In proportion to the depth the excavation has been expensive—the soil, though a loose sand on the top, generally changed, at from one to two feet in depth, to a very solid red and yellow clay. Most of this excavation was done by contract, at 10 cents per cubic yard, although the actual cost to the contractors was, perhaps, 14 cents per yard.

The section of the cutting is 16 feet wide on the bottom, with slopes forming an angle of 45 degrees with the horizon.

Where the soil is very solid, and the cutting under 10 feet, the slopes will stand very well at as great an angle as 67½ degrees with the horizon.

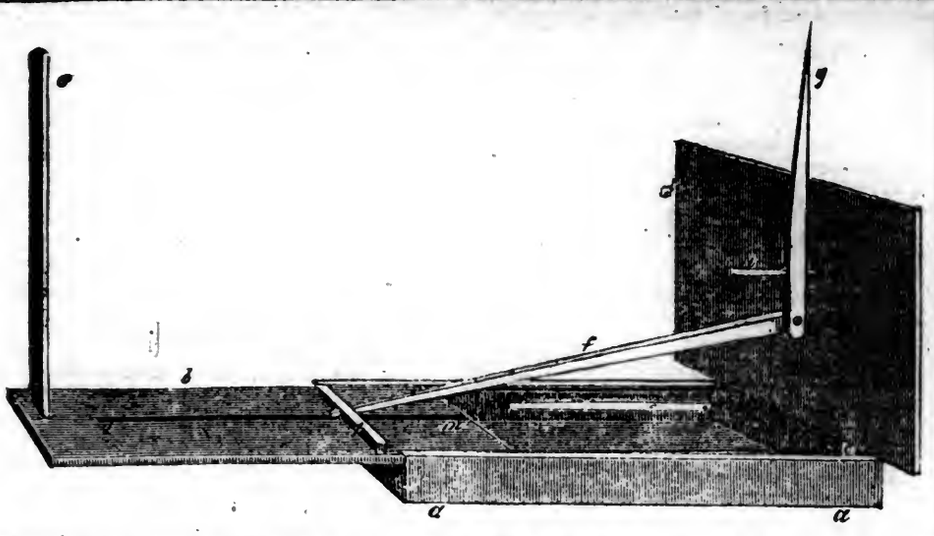
About one-fifth part of the whole line is constructed in excavation.

In the 16 feet on the bottom of the excavation, there is room left in each side of the road, which occupies but 9 feet, for lateral drains, which are important auxiliaries in carrying off the water, and maintaining solidity of foundation.

There is about 500,000 cubic yards of excavation, and about 20,000 cubic yards of embankment, in the whole line. The entire road could not have been embanked, in the general plan of the northern roads, short of $400,000, full 75 per cent. of which would have been *extra over the cost of the present road*, as the sleeper construction, which is necessary where the embankments are made, costs nearly as much per mile as the average pile construction.

Estimate of the Cost.—We have no correct data before us on which to base an accurate statement of the cost, but the following will be an approximate estimate:

135 miles of road, including all expense of preliminary surveys, of locomotive engines, cars, depositories, inclined plane and stationary engine, expense of engineer department, general superintendence, land purchases, negroes, &c. all complete at $6,700 -	$904,500 00
Of this sum, we will say, for the repository in Charleston, and land purchased with view to future use of timber, and increased value -	12,000 00
For negro labor and mechanics -	6,600 00
For the inclined plane with double road, truss work, and 25,000 yards of embankment and excavation, and half a mile extra double road	20 000 00
Stationary engine at inclined plane, and all fixtures complete - -	10,000 00
Seven locomotive engines delivered on the road, $6000 each - -	42,000 00
Ten freight cars, at $120 each, and four passenger cars at $425 each, to an engine, equals 2900 ÷ 7 -	20,300 00
Pile gearing and ram block and tools and machinery on hand - -	5,000 00
Surveying, superintendence, engineer department, &c. - -	53,000 00
Iron and spikes, $132,580—transportation of the same, $13,500 -	146,350 00
Expense of workshops in Charleston, deducting worth of cars and carriages made - - -	16,000 00
Excavation $45,000—embankment $1,800—Edisto bridge $1,800 -	48,600 00
Crossing of Horse Creek $500—culverts $100—road and plantation bridges $2,000 - - - -	2,600 00
Ditches under the road at entrance into fields - - - - -	1,000 00
Expense of pitching 70 miles of road with tar and turpentine -	4,900 00
Extra expenditure in making a more substantial road than contemplated in the original plan, by truss work in high grades and bad foundations - - - - - -	35,000 00
Bracing and other extra work -	25,000 00
Damage sustained by avalanche from a side hill near Hamburgh - -	500 00
Draining and filling in excavations -	8,000 00
Opening the tracks 200 feet wide through the forest, and burning undergrowth - - - - -	6,000 00
Twenty turn outs with water stations, revolving platforms, &c. $500 each - - - - -	10,000 00
Depositories with rectangular tracks, workshops, offices, &c. - -	11,000 00
Repairs on the part of the road in use, equal to 40 miles for one year at $75 - - - - - -	3,000 00
Police on do. and expense of running locomotives, &c. - - - -	8,000 00
Wood construction of 134 miles, and all other expenses at $3,057 8-100 per mile - - - - -	409,649 00
Total cost - - -	$904,499 00



Machine for making Drawings of Landscapes. [Communicated by G. Lansing, for the Mechanics' Magazine.]

Dear Sir—I enclose you a drawing of a little machine I have invented for making drawings of landscapes, buildings, machinery, &c., of which the following is a description: *a a* is a box, say nine inches long, three wide, and three quarters of an inch deep, in every way similar to a water color box; *b* is the lid, or top, made to slide in or out at pleasure.

On the inside of the box, towards the right of the drawing, are screwed two supports, *c c*, which can be raised up or turned down; these are to be turned up when in use, to support the drawing-board (to which the paper is fixed) in a vertical position. On the end of the slide is placed an upright piece, half as high again as the drawing board, *d*, near the top of which is a small hole, *e*, for the eye to look through.

The next thing to be described is the apparatus for drawing, which is made of two pieces of wood, *f g*, say 12 or 13 inches long—*f* to be three-quarters of an inch wide, and one-quarter thick; *g* the same width, but thicker, lapping together at *h*, and fastened by a small screw, thereby forming a joint, that must work easy, but true. The piece *g* is brought to a point at the top, and also to an edge on the side, towards *d*, and has at the lower end, two and a half inches from the bottom, a hole to admit a pencil, *i*.

On the piece *f* is a cross bar, *k*, of lead, three inches long, and weighing three or four ounces—it having a pin on the under side, working very loosely in a slit, *l m*, in the lid or slide of the box, the object of which is to keep the point, *g*, in a vertical position.

In using this machine, (supposing the drawing-board to be a foot wide,) the eye must be at least ten and a half inches from the board, *d*; for if it be nearer, the boundary of view at the sides will subtend an angle too large for the eye to take in without straining, and will cause the outward parts of the drawing to have a disagreeable appearance. To avoid this, it will be necessary to draw the slide *b*, till it be fourteen and a half inches from *d*, and the whole view above *d* will not subtend an angle above forty-five degrees, which will give a more pleasing view to the eye and picture.

Whatever width you intend your picture to be, the distance from the eye should be in proportion—as twelve is to the width, so fourteen and a half to the distance from the eye.

Now, having adjusted the machine as above, you will begin by placing your eye at the hole *e*; take hold of the pencil, and bring the point of *g* to that part of the object where you wish to begin, (which will seem to touch the object itself); gently pressing the pencil, *g*, against the board, *d*, follow the outline of the distant object with the point, *g*, and you will find a correct outline on the paper fixed on *d*. The piece containing the eye-hole should be made to take out, when not in use, and inclosed in the box with the rest of the apparatus, when it may be carried in the pocket. A portfolio, or the cover of a book, may be substituted for the board *d*.

This machine I have had in use for some years, and believe it to be entirely original—it is at least with me. I have not applied for a patent, nor shall I. I shall think myself sufficiently rewarded in finding it of use to my fellow artists and mechanics.

Should you think it worthy of a place in your useful Magazine, you will oblige yours, &c. G. Lansing, Engraver.

Equality of Mankind.—All civil distinctions disappear before a thing being. He sees the same passions, the same ideas, pervade the mind of the peer and the peasant; a gloss only is discernible in the language and appearance of the one, which the other does not possess. If any difference distinguishes them, it is to the advantage of him who wears the mask. The people show themselves as they are and they are not amiable; the great know the necessity of disguising themselves; were they to exhibit themselves as they are, they would excite horror.—[Swift.]

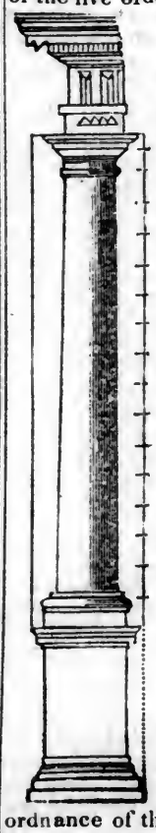
Of the Orders of Architecture.—We have already stated (see page —) that the orders as now executed are five in number, viz. the Tuscan, Doric, Ionic, Corinthian, and Composite; the first and last of which are Roman, and the others Greek. These orders are chiefly distinguished from each other by the *column* with its *base* and *capital*, and by the *entablature*.*

Tuscan Order.—The title of this order leads us to assign its origin to Tuscany, in Italy; and this conjecture is strengthened by the inhabitants of that country being admitted to be the offspring of the *Dorians*.

The Tuscan order is characterized by its plain and robust appearance, and is therefore used only in works where strength and plainness are required: it has been used with great effect and elegance in that durable monument of ancient grandeur, Trajan's Column, at Rome. But the best modern example of this order is St. Paul's Church, Covent Garden, London.

No ancient remains of this order having been discovered with *entablatures*, it is only from the accounts given by Vitruvius, that the form and ratio of its members can be determined; he allows *seven diameters* for the *height* of the *columns*, and diminishes the upper part one fourth of half the diameter; the *base* is half a diameter in height, one half of which is given to a circular *plinth*, and the other to a *torus*;* the *capital* is also half a diameter in height, and one in breadth upon the *abacus*;† the height is divided into three parts, one of which is given to the *abacus*, one to the *eschinus*, and the third to the *hypotrachelian* and *apophygis*; the *architrave* has two faces, with an aperture between them of about an inch and a half, for the admission of air to preserve the beams; the lower face is vertical upon the edge of the top of the column; the *frieze* is plain and flat; the *mutules*, or ornamental parts of the *cornice*, project over the beams, equal to one fourth of the height of the column.

Doric Order.—This is the most ancient of the five orders, and while employed by the Greeks, was without a base; the surface of its shaft is usually found worked into twenty very flat flutes, meeting each other at an edge, which is sometimes a little rounded; the upper member of the capital is a square abacus or thin plinth, under which is a large and elegantly formed ovolo, with a great projection; immediately under the ovolo, there are three fillets or annulets, which project from the continued line of the under part of the ovolo, and have equally recessed spaces between them; the flutings of the column are terminated by the under side of the last of these three fillets, and either partly or entirely in a plane at right angles with the axis of the column.



The *architrave* is composed of one vertical face, with a band or fillet at its upper edge; to the under side of this band are suspended a small fillet and conical drops, or *guttæ*, which, for their position, are dependent upon the ordnance of the frieze.

* The Entablature is an ornament or assemblage of parts, supported by a column over the capital: each order of columns has a peculiar entablature divided into three principal parts, the architrave, frieze, and cornice, (see p. 284.)

* A *torus* or tore is a large semi-circular moulding, used in the base of a column.

† The *abacus* is the upper member of a column, which serves as a covering to the capital.

The *frieze* consists of rectangular projections and recesses placed alternately. The height of each projection or tablet is rather more than its breadth.

The recesses are either perfectly or nearly square. The tablets are each cut vertically into two angular channels, with two half ones on the extreme edges; each channel is formed by two planes meeting at its bottom at a right angle, and each forming an angle of 135° with the face of the tablet.

The upper ends of the channels are terminated in various forms; the tablets are, from their channelings, named triglyphs; in a direction immediately under each triglyph, and equal to its breadth, a small fillet is attached to the lower side of the architrave crowning band, and from it depend six guttæ or drops, which are generally the *frustra*, or lower parts of cones, with their bases downwards, tho' they are sometimes of a cylindrical shape.

The square spaces in the frieze between the triglyphs, are named metopes, and are frequently decorated with sculptures.

The *cornice* is strongly marked by a corona of great projection, forming a very distinct separation between its upper and lower parts; and by having, below the corona, and immediately over the triglyphs, blocks, named mutules, which also project considerably, and have the plane of their soffits with an inclination from their roofs towards the horizon, and these have likewise guttæ or drops depending from their soffits.

The established proportions for the construction of the Doric order are the following. Considering the diameter that of a circle, at the lower end of a shaft, the column is six diameters in height. The thickness of the upper end of the shaft is three-fourths of the lower, or it diminishes one-fourth of the diameter.

The height of the capital is half a diameter. That of the ovolo, with the annulets, and that of the abacus, are each one quarter of the upper diameter. The annulets are one-fifth of one of the parts. The horizontal dimensions of each face of the abacus is six times its height. The entablature is divided into four equal parts; the upper one is the height of the cornice; the remaining ones are divided equally between the architrave and frieze. The inner edge of the angular triglyph is placed in a vertical line with the axis of the column. The height of the triglyph is divided into five equal parts; three of these parts give the distance of its returning face, and determine also that of the *epistyle*, and consequently include the breadth of the triglyph. The height of the capital of the triglyph is one-seventh of its whole height, and the capital of the metope one-ninth. The breadth of the triglyph is divided into nine equal parts, giving two to each *glyph*, one to each semi-glyph, and one to each of the three inter-glyphs.

The metopes are square. The height of the cornice is divided into five equal parts; the lower is given to the fillet, the mutules, and drops; the next two to the corona; and the remaining two parts are subdivided and disposed among the members.

The projection of the cornice is equal to its height; it is divided into four equal parts, giving three to the projection of the corona.

The number of annulets in the capital vary from three to five; and the number of horizontal grooves, which separate the shaft from the capital, vary from one to three.

In the application of the Doric order to temples, the shafts of the columns are generally placed upon three steps, which are not proportioned like those in a common stair, but to the magnitude of the edifice.

Ionic Order.—The origin of the Ionic Order is problematical. Vitruvius reports it to have been made in representation of the curls in the head-dress of females; but other hints are quite as probable, such as the spiral shape of the horns of rams, or that assumed by the barks of some trees, when dried in the sun, or the beautiful spiral forms of some sea shells.*

In the *architrave* and *frieze* of this order, all appearances of triglyphs and guttæ are omitted; and in the *cornice*, instead of the bold mutules of the Doric order, the ends of smaller pieces of wood, to which the covering tiles were fixed, are represented by what are termed dentils, or teeth. This order differs also from the Doric, by having a *base* at the lower extremity of the shaft; the propriety of this might have arisen from the diameter of the shaft being much less than that of the Doric, in proportion to the height of the order, or the weight it had to sustain.

The rest of the Ionic order is not so precisely defined, nor so uniformly adhered to, as similar parts of the Doric.

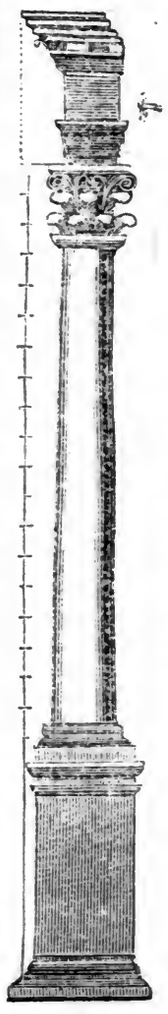
In all the Greek Ionics, the height of the cornice, measured from the lower edge of the corona upwards, appears to have a constant ratio to the total height of the entablature, viz. nearly as 2 to 9, which seems the true one to accord with the character of the order. The great recess of mouldings, under the corona, gives it a striking prominence, and prevents the cornice from appearing too heavy, tho' both the dentile band and *cymatium* of the frieze are introduced under it. On account of the frieze being wanting in most of the Asiatic remains, although the architrave and cornice have been accurately measured, the height of the entablature cannot be ascertained. The only instance in which a frieze has been discovered is in the theatre of Laodicea; and there it is rather less than one-fifth of the entablature. In the temple of Bacchus at Zeos, and Minerva Polias at Priene, the architraves are divided into three faciæ below the cymatium. Their proportions are very different from those at Athens, though also elegant in character and effect.

The *height* of the Ionic columns was originally *eight* diameters, taken at the bottom; but the moderns have increased it to *nine*.

The shaft is generally cut into 24 flutes, with as many fillets. The altitude of the entablature may, in general, be two diameters; but it may be increased, and should not be less than one-fourth of the height of the column in works of magnificence.

It is said that the temple of Diana at Ephesus, the most celebrated edifice of all antiquity, was of this order. At present it is much used in churches, courts of justice, and buildings connected with the arts of peace.

Corinthian Order.—This order is said to have been introduced in the fourth century before the Christian era, by Scopas, who employed it in the upper range of columns in the ancient temple of Minerva, at Tega. —Vitruvius, however, ascribes the invention of the Corinthian capital to Callimachus, who is said to have been an Athenian sculptor, contemporary with Phidias, about 540 B. C.



In all the examples of Stuart's Athens, this order has an attic base; the upper fillet of the trochilus or scotia projects as far as the upper torus.

Vitruvius observes that the shaft has the same proportions as the Ionic, except the difference that arose from the greater height of the capital, it being a whole diameter, whereas the Ionic is only two-thirds of it. But this column, including the base and capital, has, by the moderns, been increased to *ten* diameters in height. If the entablature is enriched, the shaft should be fluted. The number of flutes and fillets are generally 24; and frequently the lower one-third of the height has cables or reeds, husks, spirally twisted rib-bands, or some sort of flowers, inserted on them.

The great distinguishing feature of this order is its *capital*, which has for 2000 years been acknowledged the greatest ornament of this school of architecture. The height is *one* diameter of the column, to which the moderns have added *one-sixth* more.—The body, or nucleus, is in the shape of a bell, basket, or vase, crowned with a quadrilateral abacus, with concave sides, each diagonal of which is equal to two diameters of the column. The lower part of the capital consists of two rows of leaves, eight in each row; one of the upper leaves fronting each side of the abacus. The height of each row is one-seventh, and that of the abacus one-eighth, of the whole height of the capital. The space which remains between the upper leaves and the abacus is occupied by little stalks, or slender caulicolæ, which spring from between every two leaves in the upper row, and proceed to the corners, and also to the middle of the abacus, where they are formed into delicate volutes. The sides of the abacus are moulded, and the curves of the sides are continued until they meet in a sharp horn or point. In the attic capital, the small divisions of the leaves were pointed in imitation of the acanthus. In Italy they most generally resembled the olive.

It may be observed generally, in the Greek

* This part of the order is called the *volute*, and forms the principal characteristic and ornament of the Ionic Order. It is also used in the Composite Order.

Corinthian, that the volutes terminate in a point in the natural spiral, without either coiling round a circular eye, or bending backwards in a serpentine form, as in most of the Roman specimens.

This order seems never to have been much employed in Greece before the time of the Roman conquest; but this powerful people employed it almost exclusively in every part of their extensive empire; and it is accordingly in edifices constructed under their influence, that the most perfect specimens are found.

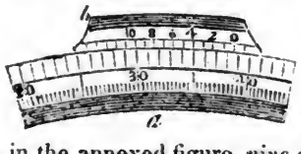
Of the celebrated modern architects who have treated of this order, Palladio makes the column 9½ diameters high, one-fifth of which he gives to the entablature, consisting of a cornice with modillions and dentils, a flat frieze, and an architrave with three faciæ, divided by astragals; the base is attic. The design of Scammozzi bears a general resemblance to that of Palladio, but his column has ten diameters in its altitude; his entablature is one-fifth of this height; the cornice has modillions, the architrave consists of three faciæ, divided by astragals, and the base is attic. Serlio, following Vitruvius, has given this order an Ionic entablature, with dentils, and the same proportion of the capital; his column is nine diameters high, and has a Corinthian base. Vignola's Corinthian is a grand and beautiful composition, chiefly imitative of the three columns. He makes the column ten diameters and a half in height; the entablature is a fourth of that altitude; the cornice has modillions and dentils, the frieze is plain, the architrave of three faciæ, divided by mouldings, and the base is attic.

Sir William Chambers has observed, that "the Corinthian order is proper for all buildings where elegance, gaiety, and magnificence, are required. The ancients employed it in temples dedicated to Venus, Flora, Proserpine, and the nymphs of fountains; because the flowers, foliage, and volutes, with which it is adorned, seemed well adapted to the delicacy and elegance of such deities."

On the Vernier Scale.—The method of dividing what is termed a vernier scale is founded on the difference of two approximating scales, one of which is moveable and the other fixed.

Thus, if a given space on the limb of an instrument be divided into any number of equal parts, and an equal space on an attached moveable scale be divided into *one more* part, it is evident that each of them will be smaller than the former, by that part of one division into which this attached sliding scale is divided.

Therefore, on shifting the attached scale forward, the quantity of aberration, or difference, will diminish at each successive division, till a new coincidence again takes place, and then the number of divisions on the sliding scale will mark the fractional value of the displacement, which will be equal to one of the divisions on the *vernier* or sliding scale.



Thus, in the annexed figure, *nine* divisions of the primary, or fixed scale, *a*, occupy a space equal to ten on the sliding scale, *b*, and the moveable *zero* stands beyond the thirty-eighth and thirty-ninth division; therefore, to find how much more than one whole division is indicated by the vernier, it is only necessary to observe where the opposite sections or lines on the scales coincide, which, in this instance, is opposite to the fourth division of the vernier, or sliding scale. The whole quantity is therefore 38·1.

It is evident that any *fractional* part of a whole division, on a primary or fixed scale, must bear the same proportion to an equal space on the vernier as a *whole* division, or the space occupied by the whole divisions of the vernier.

Hence, one division of the vernier is always equal in value to the quotient of the smallest division on the primary scale, divided by the number of divisions on the vernier.

Thus, suppose one degree on the limb of a Hadley's quadrant to be divided into three equal parts, and that the attached vernier is divided into twenty equal parts: then one division on the vernier indicates one minute, for the third part of a degree is twenty minutes, which, divided by *twenty*, the number of divisions on the vernier, quotes *one* minute.

Hence, we have the following simple rule for ascertaining the value of one division of any vernier, attached to a primary scale.

Find the value of the smallest division on the primary scale, and divide this value by the number of divisions on the vernier, and the quotient will be the value of one division on the vernier of the same denomination, as that to which the smallest on the primary scale was reduced, previous to dividing by the divisions on the vernier.

Chloride of Lime and Pulmonary Complaints.

[From the New-England Farmer.]

The following communication and certificate annexed afford a fair promise of a specific against one of the most formidable and obstinate of all the diseases to which mankind are liable.

Mr. Editor—I hope you will not think me guilty of flattery when I speak of the value to myself and the public of your interesting Journal. You publish experiments upon the human system of gentlemen of high respectability, as well as essays, &c. on agriculture. On reading the experiments so very interesting in pulmonary complaints by Dr. Cotteren (N. E. Farmer, Vol. XI, No. 19, page 147,) in Paris, France, on patients afflicted with consumption, I ventured to try the experiment of inhaling the gaseous perfume of chlorate of lime on a young man, a nephew to my wife, whose certificate accompanies this communication, and which I took myself; after his health had so improved as to visit me, (a ride of five miles.) He is about twenty-five years of age, of steady habits, and industrious. I visited him after he had been sick 5 or 6 weeks, and thought him not so sick as I expected to find him, although much reduced. I returned home in hopes I should hear he was better, but every day brought tidings of his growing worse. A second physician was called, a gentleman of eminence in his profession: I saw him, who informed me he feared his case was doubtful. Some of my family visited him, the answer was he grew worse, was wasting very fast, and according to human view was rapidly approaching the close of life. All this time the article above alluded to never entered my mind, till the young man was in the last stages of a consumption. One Sabbath evening, after retiring, not having much inclination to sleep, I was thinking of this distressed family: Dr. Cotteren's experiment darted into my mind. The next morning I spoke of it in my family—my oldest son (who had witnessed the surprising effect which chloride of lime had upon the corpse of a young man who had been dead four days, and brought almost sixty miles in a waggon over a rough road in a new country, one year ago in June last,) was very urgent for the application to his cousin. It was procured by sending four miles; my son went with it, and administered it, watching through the night. Neither of us possessing any medical knowledge, I advised him to use it with caution, and at first there was no apparatus used. Some was prepared by putting a quarter of a pound into a junk bottle, filling the bottle with soft water, shaking it a little, letting it stand till settled, pouring it into a saucer, and to a gill adding half as much vinegar, when it is then fit for use. The saucer was placed near the bed; finding no unpleasant sensations it was put near to his mouth and nose, advising the sick man to shut his mouth and inhale the fumes through the proper orifice to the lungs. A free use was made of it all the night; the liquid in a vessel was rather inconvenient, a rag was wet, he said he received it stronger from the rag than any other way. My son left him in the morning more comfortable than he had been for several days. The use of it was continued, and the sick man's health improved, to the astonishment of all who saw him. The above, together with the certificate, are the facts as they took place; and the young man's health has improved so much in the short space of time, that he is able to transact business, and do some labor every day, at the date of this communication.

I hope that a further trial will be made by those afflicted with disordered lungs and the result published, as the ingredient is so cheap, and the application so simple and easy, and it is obtainable by every person in every situation of life. I hope that this case may be published in every Journal, as there was no other medicine used and the effect was so salutary. Yours, respectfully,

James Walker.

Fryeburg, Me., Aug. 3, 1833.

Certificate.—I hereby certify that I was taken sick the sixth day of April, 1833, with an inflammatory fever, as my physician called it. My complaint was a pain in the left side, in the greatest extreme, which caused an inflammation on my lungs, which, of course, ulcerated, attended with a distressing cough, which brought up the matter that had suppurated upon my lungs in such quantities that I was almost strangled by the discharge. I was sick nearly three months; was so much reduced that I could not sit in a chair without being supported by one person, while another made my bed. I called a second physician, who met my former doctor; they examined my case and considered it doubtful. I followed the direction of both the gentlemen, but my lungs were so diseased that I grew worse every day. My case was now considered hopeless. My doctor told me he could do no more for me. At this stage of my disorder I was advised by my uncle Walker to inhale the fume of chloride of lime, which I did, and received immediate relief. About the 25th of June, when I was at the lowest, some days I brought up more than two quarts of matter from my lungs in the course of 24 hours; but after inhaling the fume of the lime a

short space my cough abated, and I ceased to bring up the matter from my lungs as I had done before. I never brought up any but once after inhaling the lime; my health improved much faster than I could expect. In six days I could walk about the room; the ninth I walked out of doors; the twelfth I rode a mile on horseback, and now my health is fast improving. I made use of no other kind of medicine whatever.

CALEB WARREN, JR.

Denmark, Me., July 13, 1833.

List of New English Patents. [From the Repertory of Patent Inventions.]

Archibald Douglass, of Manchester, in the county of Lancaster, manufacturer, for certain improvements on power looms, and the shuttles used therein—dated April 30, 1833.

Charles Collinge, of No. 22, Bridge Road, Lambeth, in the county of Surrey, engineer, for an improvement or improvements in the making or manufacture of axle-trees—dated May 2, 1833.

John Holmes, of Birmingham, in the county of Warwick, engineer, for an improvement in metallic shanks for buttons—dated May 4, 1833.

James Fraser, of Bevis Marks, Saint Mary Axe, in the city of London, engineer, for certain improvements in steam boilers, and in the arrangement of the machinery attached thereto, as applicable to land carriages—dated May 7, 1833.

Thomas Spinney, of Cheltenham, in the county of Gloucester, gas engineer, of "a new combination of materials for the manufacture of crucibles, melting pots, and fire bricks"—dated May 11, 1833.

Louis Paul Lefort, late of Grand Couroune, near Rouen, France, but now residing in Cornhill, in the city of London, merchant, for certain improvements in machinery or apparatus for making or manufacturing lace, commonly called bobbin net. Communicated by a foreigner—dated May 22, 1833.

James Noble, of Little Horton, in the parish of Bradford, in the West Riding of the county of York, worsted spinner, for a machine for combing wool and other fibrous materials—dated April 25, 1833.

Christopher Robinson, of Athlone, in the county of Roscommon, in Ireland, for certain new or improved machinery for transferring caloric from aeriaform or fluid bodies to other bodies of the like description, and applicable to other useful purposes—dated May 2, 1833.

Henry Jones and Thomas Jones, both of Marple, in the county of Chester, weavers, for a certain method of expanding or stretching cloth, and keeping it even during the process of weaving, and of preserving the selvages thereof—dated May 4, 1833.

William Norvell, of the town and county of Newcastle-upon-Tyne, engineer, for an improvement of the machinery now in use for making strands from the yarns, and laying ropes by such machinery, at one and the same time—dated May 7, 1833.

William Graham, jr., of the city of Glasgow, cotton spinner and power loom manufacturer, for a self-acting temple to be used in the operations of weaving by power or hand loom. Communicated by a foreigner—dated May 22, 8133.

PREMIUM WINE.—At the second fair of the Georgia Agricultural Society, the wine that obtained the premium was made of grapes from a seedling vine of a very flourishing growth.

Patent granted to David Redmund, London, for Improvements in the Steam Engine. [From the Repertory of Patent Inventions.]

This invention has to do with the boiler only. It is portable, and intended to suit any fire-place that it might be applied to in domestic or other purposes. It consists of a series of chambers exposed to the action of heat by a corresponding series of flues.

The chambers are made of rolled copper or other suitable metal. The side pieces are formed into semi-circular half tubes, separated from each other by sharp doublings of the metal, so as to present alternate semi-circles and acute angles in the edge. Resting on the frame, it appears to be supported by so many arches, which give it strength and solidity. These side pieces are so constructed that the points of one shall meet the centres of the semi-circle in the other: the ends of these side pieces being made to overlap each other from the ends of the chambers.

The top is of rolled metal, and hollowed, or channelled, or fluted, as the side pieces; the bottom is of cast metal and troughed out in a corresponding manner. When two of these chambers are placed together, the semi-circular flutings form complete tubes, and while the chambers have direct access to the supply of water, and unite in a common egress for the escape of steam, the tubes or flues have a similar communication with the source of heat, and its circulation is similarly promoted.

The whole is fixed in a very strong case of iron for the prevention of accidents, and the increase of heat. The patentee prefers a fire, the bars of which are semi-cylindrical tubes.

The claim is made for the boiler as above described.

[*From the Albany Argus.*]

DEPOSITE OF THE CHENANGO CANAL FUND.—Yesterday was the day specified in the Comptroller's advertisement, for opening the proposals for the deposite of the money loaned for the construction of the Chenango canal. The following offers for the deposite were received, viz:

From the Madison County Bank, Cazenovia, for either 40 or $50,000, an interest at the rate of 4 per cent. per annum.

From the Broome County Bank, Binghamton, for $50,000, an interest at the rate of 4 3-4 per cent.

From the Canal Bank of Albany, for $40,000, at 4 1-2 per cent., and for $50,000, at 4 3-4 per cent.

From the Ontario Branch Bank, Utica, for the whole sum, $90,000, or either sum separately, 5 per cent. per annum.

From the Merchants' & Mechanics' Bank of Troy, for $40,000, at 5 per cent., and for $50,000, at 5 3-8 per cent.

The terms offered by the Merchants' & Mechanics' Bank of Troy, being, for the whole sum, the most favorable to the interests of the fund, the Commissioners of the Canal Fund determined to give the deposite, $90,000, to that bank.

The deposite of the amount of the premium, $15,000, obtained on the $100,000 loaned for the Chenango Canal, was given a few weeks since to the Ontario Br. Bank, at an interest of 5 per cent. per annum: The act for the construction of the canal, requiring that all premiums obtained upon the stock issued, should be deposited in some bank, and not be drawn upon, except to pay the interest upon the money borrowed.

The deposite given yesterday to the Merchants' & Mechanics' Bank of Troy, and for which an interest of 5 and 5 3.8 per cent. is paid quarterly, is made on condition that the principal is to be drawn for as the same may be wanted for the construction of the Chenango canal.

Rideau Canal.—A correspondent of the Commercial Advertiser, who dates from "Lake Ontario," after giving a description of the Rideau Canal, which, in connexion with lakes and rivers, forms a water communication, navigable by steamboats, between Kingston and Montreal, a distance of 270 miles, adds,

From what I have seen and heard, I am fully of the opinion that unless the state of New York reduces the Canal toll greatly on all produce coming to the sea-board markets, the internal communication in the Canadas will be the means of drawing a very considerable portion of your western produce to Montreal. While I was there a considerable quantity came in direct from Ohio, via the Welland Canal; and I understood that the importation this year had increased, in the article of flour, over one hundred per cent.; and on most articles exceeded fifty per cent. This ought to be looked to in season, before the trade is diverted. The present situation of the canal fund, will certainly enable the state to make a large reduction from the present tariff.

Utica and Schenectady Railroad.—We learn that the Chancellor yesterday informed the counsel for both parties, that the injunction against the Commissioners, which had been applied for by Thomas R. Walker, would be denied: And that at the opening of the court on Tuesday next, he should be prepared to give his reasons at length upon most, if not all, of the questions which had been discussed on the argument. The election for directors will of course be held this day, pursuant to notice.—[Albany Argus of Saturday.]

A few days since, two cars laden with bricks, weighing altogether more than *eight tons*, were taken by one horse, the whole length of the Westchester railroad, three miles of which have a grade of forty feet in the mile. On an ordinary road, this weight would have required about sixteen horses.

We are informed that the stockholders of the Port Kent Railroad assembled at Keeseville on the 14th instant, and made choice of the following Directors:

Elkanah Watson, Richard Keese, Aaron Ward, Josiah Fisk, Charles M. Watson, Peter Comstock, Robert Gilchrist, John Townsend, William L. Strong, Ezra Williams, Richard P. Hart, David Milligan, Oliver D. Peabody.

We understand, says the Albany Evening Journal, that the following gentlemen were, this day, elected Directors of the Schenectady and Utica Railroad:

Utica.—Alfred Munson, Nicholas Devereaux, Henry Seymour.

Herkimer.—Nathaniel S. Benton.

Montgomery.—T. A. Stoutenburgh.

Schenectady.—Alonzo C. Paige.

Albany.—John Townsend, Lewis Benedict, Erastus Corning, James Porter.

Dutchess.—James Hooker.

New-York.—John Mason, Churchill C. Cambreleng.

To the Editor of the American Railroad Journal:

SIR,—Could you not, consistent with your arrangements, insert in your next number the truly eloquent Address of Judge Story on the Consecration of the Auburn Cemetery, the description of which appeared in your last Journal. I file your paper, and should wish to preserve an effusion which does so much credit to the Christian and accomplished scholar. By so doing, you will oblige more than

ONE SUBSCRIBER.

August 19, 1833.

We should be happy to comply with the above request, but are unable so to do, as we were obliged to return it to *case*, being in want of the *letter*; not, however, until we had printed it in three different shapes, to wit: in the New-York Farmer, New-York American, and *Mechanics' Magazine*—for the last of which we had it *stereotyped*. It will be found, with many other interesting articles, in the Mechanics' Magazine, No. 7, for July, or in the New-York Farmer, No. 8, for August.

NEW-YORK AMERICAN.

AUGUST 17, 19, 20, 21, 22, 23—1833.

LITERARY NOTICES.

THE POSTHUMOUS WORKS OF THE LATE RT. REV. JOHN HENRY HOBART, D. D. *Bishop of the Protestant Episcopal Church of N. Y. with a Memoir of his Life; by the* REV. WM. BERRIAN, D. D., *Rector of Trinity Church, New York.* 3 vols. 8vo. N. Y. *Swords, Stanford & Co.*—Although three years have elapsed since death snatched from the midst of us one for whom—to judge from his unbroken frame of body and of mind, his incessant activity and energy, and his yet fresh and ardent feelings—many years of most honorable and successful exertion in the holiest of vocations, seemed still in reserve,—the name of Bishop Hobart is never yet pronounced without awakening anew those deep regrets, and that sense of individual bereavement, which his too early fate called forth in almost every member of his congregation throughout this wide-spread diocese. Though later, therefore, than originally contemplated by his biographer, this Memoir of the Life of Bishop Hobart, and the two accompanying volumes of his Sermons, are yet in time to operate upon the sympathies which his loss excited in so remarkable a degree. They will be welcome to the members of the communion of which he was so able and loved a chief—they should be welcome to all, of whatever communion, who know how to honor truth, earnestness, ability, and, above all, fearlessness in the fulfilment of the duties of a Soldier of the Cross. Dr. Berrian's Memoir aims not to produce effect by any elaborate eulogy, or swelling periods. It is an honest narrative of a life and career which could not be commemorated with tinsel ornament, without impairing their truth and effect. It is a frank exposition of the character of one who was himself frank, almost to a fault; who was, indeed, ever too much in earnest to be otherwise than frank: and we offer our thanks to the reverend author of the Memoir for thus preparing it. He has, too, we think, in the account which it was indispensable for him to give, of some of the leading controversies in which the Bishop was engaged, acquitted himself with fairness to all parties, siding, as from his association and well-known opinions, it was matter of course he should do, with the Bishop, but not stating the less impartially the arguments of his opponents. There is, however, want of method and arrangement in the Memoir, especially as to the manner of introducing some of the foreign correspondence of the Bishop; which is interspersed without any order or connection, and frequently to the interruption of the course of the narrative. We have not room for many extracts, but we cannot refuse to ourselves, and to the many warm friends of the Rev. CORNELIUS R. DUFFIE, too early lost to them and to the Church, the pleasure of making public a letter from him to the Bishop, which we find in the Memoir. Those who knew Mr. Duffie, will see in this letter the purity, gentleness, and sincerity, which made up the loveliness of his character. The object of this letter is explained by its import.

"*New-York, October* 10, 1821.

"RIGHT REV. SIR—I come to give you notice of my desire to present myself as a candidate for holy orders, and of my readiness to enter upon such preparatory exercises as you may appoint.

"If the time of life at which I have arrived is not without disadvantages, I believe it has brought a due sense of the responsibility of the sacred office, and of the importance of deliberating well before it is assumed. I hope I have not deceived myself in judging of the motives which govern me; but lest I may have overlooked any objection to the reasonableness of my intention, or to the prospect of my usefulness, I submit my purpose, with entire deference, to your consideration and revision.

"I cannot, however, avoid perceiving that the events of my life for some time past, and the dispositions they have produced in my mind, tend strongly to point out the path I have chosen; and as far as these may be regarded as indications proceeding from the Spirit of God, I am compelled, though it be with apprehension and self-distrust, to allow their influence.

"A few years of practical acquaintance with the world, by showing me that fortune and the fairest prospects were often vain and deceptive, and that even success and prosperity were less to be desired than feared for their tendency to make men forgetful of themselves, had forced upon me a sober, and perhaps a severe estimate of life. But that last and most overwhelming of all earthly bereavements which I have recently suffered, has made me feel the uncertain tenure even of the most cherished and valued happiness, and by disconnecting me in a great measure from the ordinary motives to exertion, has taken from me all inclination or ability for mere worldly pursuits.

"It is now not less necessary to my health and tranquility, than to my sense of duty, that I should place before me some great and useful object, in the prosecution of which I may occupy my time and my thoughts; and I am confirmed in believing the one which I have now in view to be that to which, in the providence of God, I am called, because in no other can I be sure of the permanent approbation of my own mind, or find motives sufficiently powerful to excite its exertions.

"If you, Right Rev. Sir, shall approve my decision, my former habits of study will be revived and pursued with a dilligence proportioned to the importance of their object; and though I do not expect by these means to escape from the recollections which depress me, yet I hope they will become less painful by being improved to the same great purpose.

"My highest wishes will be gratified, if I shall be able to fill up the residue of my life in the conscientious endeavour to incite all within my power to the love and service of Him who has ever continued to me the conviction and acknowledgment of his infinite wisdom and goodness; and who has made me to see and to know that in the Gospel of Jesus Christ there is unfailing support under all the circumstances in life, as well as abounding consolation and triumph at the mortal hour.

"I beg you to excuse the details of motives and views into which this letter has extended, but which I thought necessary, to enable you to come to a proper determination upon the subject of it.—With perfect respect, I am, Right Rev. Sir, your most obedient servant, CORNELIUS R. DUFFIE."

We make only one more extract, and that one tending to set the character of the Bishop forth in a point of view, which to us always rendered it so attractive—a scorn of all compromise or equivocation, when truth and character were concerned.

The annual Convention of the diocese was held shortly after his return [from Europe.] The feelings of the clergy and laity from all parts of the State were in unison with those which prevailed in the city, and there was therefore a general desire to make a public demonstration of them on this interesting occasion. But though there were none who did not wish to unite in this testimony of gratitude for the happy return of the Bishop, yet there were a few who, not agreeing with him in some of his opinions, and in the main points of his policy, were anxious that the resolutions should be so framed as merely to express their sentiments of personal attachment and respect, and their high sense of his usefulness, piety, and worth.—With a view, therefore, to render it an unanimous act, some of his friends, who agreed with him in all points, unhappily yielded to this consideration, and in a spirit of accommodation, as unusual as it was unwise, drew them up in such a vague and general form as deprived them of all the force, character, and value which could make them worthy of his acceptance. The Bishop had met his clergy and people with a generous warmth, which was most cordially reciprocated. He knew that, with very few exceptions, they were *of one heart and one soul.* He knew on what accounts he was particularly distinguished and esteemed. Any good and amiable prelate, however weak, irresolute and wavering, might have received this praise, and therefore, on the day after the resolutions were adopted, he rose in his place, and in the bitterness of a jealous and wounded affection rejected it with acorn. Never did I hear any person, in voice, manner, or expression, so eloquent. It was all nature, feeling, and passion wrought up to the highest pitch. He represented this proceeding as a crafty device of his opposers, and an act of weak compliance on the part of his friends. Under the appearance of congratulation and praise, it left out all those notices of the characteristic and prominent points in his principles and policy which it had been the labours of his life to extend, through *good and evil report,* and in which he placed his glory and his pride. It neither exhibited him as he was known at home, nor as he was valued abroad. It was not agreeable to the just and affectionate tribute which had been presented to him on his departure, nor was it the kind of commendation which he coveted on his return. It was a diluted and weakened praise, which was in no way applicable to one who had always stemmed the current of popular opinion, and he therefore requested that the resolution should be expunged from the minutes.

This is the mere faint and imperfect recollection of a speech which was so bold and powerful, as to bow the hearts of the whole assembly as of one man. The justness and force of it were in the main universally felt. The particular friends of the Bishop were grieved at the pain which they had given him, and mortified by the error into which they had fallen. The resolutions were modified in such a way as to give them an appropriate character; and this fearless vindication of his fame, so far from being regarded as a display of arrogance and pride, was only considered as a proof of that elevation of mind which glories in an honorable course, rather than in undistinguishing and popular applause.

THE DAUGHTER'S OWN BOOK; *or Practical Hints from a Futher to a Daughter.* 1 vol. Boston, LILLY, WAIT, COLMAN & HOLDEN.—We find a great many things in this pretty volume to approve—none absolutely to disapprove; but some to doubt about. We doubt, for instance, whether the recommendations which regard reading, society, and amusements, be not too *strait-laced*—whether they do not inhibit enjoyments which are not morally wrong and do not necessarily lead to moral wrong, and without which it *may* be, that this would be but a sour and austere world to the young; and such a world, it may be humbly assumed, it was not by its beneficent Creator intended to be. We speak with hesitation, for we know how difficult it is to mark the line when amusement ceases to be properly allowable: yet we speak with some confidence, too, when we say, that virtually to proscribe from a course of reading for females, all dramatic writers, even Shakspeare, and from their amusement, all dancing, except with their own sex, and that in private, is to deprive them of rational and harmless sources of instruction and recreation. From the chapter on conversation, we make a long extract; for we think it inculcates happily the principles and the restraints which should govern that inestimable privilege:

Let me caution you to beware of talking too much. If you do not talk to the purpose, the less you say the better; but even if you do, and if withal, you are gifted with the best powers of conversation, it will be wise for you to guard against the imputation of excessive loquacity. I would not, by any means, have you yield to a prudish reserve; but I know not whether that were a more offensive extreme than to monopolize the conversation of a whole circle. You are to remember that as the gift of speech is common to all, so there are few who are not inclined to use it; and it is a rare case indeed, that you will meet with an individual who will feel satisfied to sit down and hear another talk continually, and have the conversation addressed to himself, without bearing any part in it. But, at any rate, you are never to make yourself very conspicuous in conversation, without due regard to circumstances. If, for instance, you are among persons who are your superiors in age or standing in society, there must be strong circumstances to justify you in bearing more than a moderate share in the conversation. And if you should actually take the lead in it, let it appear manifest that it is not because you are predisposed to do so, but because it is the wish of others that you should. If you talk out of proportion to your relative circumstances, even though it should be to the amusement or edification of those who listen, it is more than probable that it will be set down to the score of vanity. It were far better to leave a circle, wishing, from what you have actually said, that you had said more, than out of patience with you for having talked so much.

It is only an extension of the thought to which I have just adverted when I remark further, that you should beware of talking without reflection, or when you have nothing to say. It is far better to be silent

than to talk in this manner, or in these circumstances; for you cannot hope to edify any one, and you certainly expose yourself. Let the subject be what it may, accustom yourself always to reflect before you speak; in other words, to have thoughts before you utter them. You cannot look around in society, without perceiving that incautious speaking is one of the most fruitful sources of mischief. Whether you are discussing a grave subject, or talking about the most familiar occurrences of life, let it be a rule from which you never deviate to say nothing without reflection. You may easily form this habit, and the advantage of it will be incalculable; or you may perhaps, with still greater ease, form the opposite habit, and it will not improbably subject you to serious evils as long as you live.

Take care that you never subject yourself to the charge of egotism. This is apt to be a consequence of excessive garrulity; for there are few persons who talk a great deal, that do not find it convenient to magnify their own importance. And let me say that this is a foible which is more likely to escape the observation of the person who is subject to it than almost any other; and yet there is perhaps no other which by every one else is more easily detected; and, I may add, none which excites more universal disgust. Guard your lips, then, whenever you find it in your heart to make yourself the heroine of your own story. Never say any thing of yourself which even indirectly involves commendation, unless under circumstances of very rare occurrence. If you watch the operations of your heart, you will probably be surprised to find how strong is the propensity to bring one's self into view, as often and to as great advantage as possible. Whenever you can illustrate any subject on which you may be conversing by a reference to the experience of any one else, it is better, in all ordinary cases, to avail yourself of it, than to refer even indirectly to your own. I have known some persons, who have manifested a strange kind of egotism, in speaking freely and unnecessarily of their own past errors; when it appeared to me that genuine humility should have led them to silent repentance. You may rest assured that it is an exceedingly difficult thing to allude much either to one's own faults or excellencies; difficult, I mean, without leaving an impression that it is the offspring of a foolish self-complacency; in other words, without getting, and deservedly getting, the character of an egotist.

Avoid even the appearance of pedantry. If you are conversing with persons of very limited attainments, you will make yourself far more acceptable as well as useful to them, by accommodating yourself to their capacities, than by compelling them to listen to what they cannot understand. I do not say that you may not in some instances make them stare at your supposed wisdom, and perhaps they may even quote you as an oracle of learning; but it is much more probable that even they will smile at such an exhibition as a contemptible weakness. With the intelligent and discerning, this effect certainly will be produced; and that whether your pretensions to learning are well founded or not: the simple fact that you aim to appear learned, that you deal much in allusions to the classics or the various departments of science, with an evident intention to display your familiarity with them, will be more intolerable than even absolute ignorance. If you are really a proficient in science or literature, you need have no apprehension that your acquisitions will not be known without your making a formal proclamation of them. If you are only a superficial student, and make pretensions to learning which your acquirements do not justify, you will inevitably have to encounter a mortifying defeat; for you may set it down that in cultivated society you will pass for nothing more than you are really worth. My advice to you is, to acquire as much useful information as you can, and to use it in conversation where there is manifestly occasion for it; but in no case whatever to volunteer a learned remark where there is no higher purpose to be answered than mere personal display. And never venture on a subject, especially with an air of confidence and erudition, upon which you are conscious your attainments are too shallow to justify it. It is an experiment always fraught with danger; and many instances have I known in which it has resulted in a humiliating exposure both of ignorance and weakness. You are at liberty, indeed, to converse upon subjects on which you are not well informed; this, as I have elsewhere intimated, is one important means of increasing your information: but, in every such case, do not attempt to get more credit for intelligence than you really deserve: do not assume the air of a teacher when you are conscious that the attitude of a learner belongs to you. In this respect, as well as in every other, honesty is the safest and best policy.

Let me caution you still further against a habit of light conversation. I have known young females with whom this habit had become so confirmed, that it seemed as if they could scarcely speak but to trifle; and who would even choose to remain silent, rather than join in conversation in which their favourite passion could not be indulged. You cannot contract such a habit but at the expense of forfeiting the esteem of the wise and good, of sacrificing true dignity of character, and throwing yourself into a current of temptation in which there is every probability that you will be irrecoverably lost. Scarcely any habit more than this imparts a disrelish for the society of all except triflers, and hardens the heart against the influences of religion. I do not wish ever to see you gloomy, or austere, or spiritless; but as you value all that is most precious in time and eternity, I pray you never to give yourself up to a habit of levity. Avoid even the most distant approach to it; for it is the nature of every habit, and especially of this, to make an insidious beginning, and to grow strong by indulgence. If you are thrown into company in which it is the fashion to trifle, get out of it as soon as possible; and while you are in it, have decision enough to let it appear that you are not in your favourite element; and if you should even have so much as to express your disapprobation, and to administer a gentle yet dignified reproof, I venture to say, that the greatest trifler in the circle would respect you the more for it. There is no apology to be made for such a habit on the ground of constitution, education, or any thing else; and if you yield to it, I must again remind you that you do it at the expense of character, usefulness, and happiness.

Be careful also how you indulge in sarcasm. If you are constitutionally inclined to this, you will find there is no point in your character which needs to be more faithfully guarded. There are some few cases in which severe irony may be employed to advantage; cases in which vice and error will shrink before it, when they will unhesitatingly confront every other species of opposition. But it too often happens that those who possess this talent use it too indiscriminately; and even more frequently to confound modest and retiring virtue, than to abash bold and insolent vice. But be assured that it is a contemptible triumph that is gained, when, by the force of sarcasm, the lips of a deserving individual are sealed, and the countenance crimsoned with blushes. And there are only a few cases—cases in which the cast of character is peculiar—that will warrant the use of this weapon against vice itself. You may take it for granted, in all ordinary cases in which a sarcastic remark has done its office, that you have excited feelings of no very friendly character towards yourself. You may be flattered by the compliment which you imagine those around you are paying to your wit, but it were more reasonable for you to grieve at the reflection that you have not improbably lost a friend.

In connection with sarcasm as displayed towards those with whom you converse, let me say a word in respect to your treatment of absent characters. Never volunteer unnecessarily in speaking ill of any body. You may indeed be placed in circumstances in which it may be proper and even necessary that you should express an unfavourable opinion of characters; that you should state facts concerning them of the most disagreeable nature. But what I object to is that you should do this when circumstances do not require it, and when no good will be likely to result from it; for it at once indicates a bad disposition, and is a means by which that disposition will gain strength. But in no case allow yourself to make any unfavourable representation of a character, unless you have ample evidence that is accordant with truth. By neglecting to observe this direction, you may do an injury to an innocent person, which it will afterwards never be in your power to retrieve, and acquire for yourself the reputation of a slanderer. There is an idle way of discussing characters, in which less is usually meant than meets the ear, and which often seems resorted to merely for the sake of filling up the time. Remember that if you allow yourself to join in this kind of conversation, you always do it at the hazard of making for yourself enemies; for though your remarks may be made with perfectly harmless intentions, and may convey no bad impressions to the individual to whom they are addressed, yet when they reach the ear of the person who is the subject of them, unaccompanied by the manner in which they were uttered, and not improbably in an exaggerated form, they will almost of course be regarded as indicating diminished friendship, if not decided hostility. Above all, never venture censorious remarks upon characters when you are thrown among strangers. Many instances have occurred in which an individual who has ventured upon this experiment has afterwards made the mortifying discovery that the person who was the subject of his remarks was listening to them; or if not, that they were heard by some relative or near friend.

The only prudent course in such circumstances, is to say nothing which will expose your own feelings or the feelings of others in view of any disclosure that may be made.

THE TESTIMONY OF NATURE AND REVELATION TO THE BEING, PERFECTIONS, AND GOVERNMENT OF GOD, by HENRY FERGUS, *Dumfermline*; 1 vol. *Philadelphia*, KEY & BIDDLE.—The chief aim of this publication is to answer and refute the objections sometimes urged against the attributes, and even the being of the Deity—from the existence in the world of moral and physical evil, from "the structure of the earth, the qualities of some of the inferior animals, and the vices and miseries of mankind." As these are topics, however, which no finite understanding can comprehend, and much less explain, the utmost that can be hoped from the attempt to reconcile apparent contradictions in a system vastly above our scrutiny, is by a train of logical deductions, to make that appear probable to the understanding, which the heart, when rightly touched, adopts without misgiving. After Paley's Natural Theology, there is not much left to be said on that branch of the subject, and accordingly the author has availed himself occasionally of his labors, and of those of others who have touched the same matters, while he has fortified the lessons of Nature by the proofs from Revelation. Altogether this is a book likely to be useful, for it is of moderate size, and is attractive, as mere reading, by its style and mode of illustrating the main argument.

THE RUDIMENTS OF LATIN GRAMMAR; BY THOMAS RUDDIMAN: *with a Complete System of* PROSODY *annexed*. By WILLIAM BURKE, Principal of the Seminary of Richmond, (Va.) Richmond, SAMUEL SHEPHERD & Co.—This strikes us as a good Grammar, particularly in its prosody, which is carefully prepared and intelligently explained. It is in prosody, too, that American classical instruction most needs improvement. We willingly infer from the care obviously bestowed upon this part by Mr. Burke, that it is called for by the increasing demand for such knowledge.

MARY OF BURGUNDY; OR THE REVOLT OF GHENT: by the Author of 'Richelieu.'—As a historical novel writer, Mr. James is certainly far in advance of any of the competitors for the mantle of Sir Walter. His first effort in 'Richelieu' was honored, if we mistake not, with the warm commendation of the great master himself; and his last production previous to this, 'Henry Masterton,' was very generally admired. A perusal of the first volume of 'Mary of Burgundy,' induces us to believe that the work will be as great a favorite as any that has preceded it from the same hand. The style at the commencement is so close an imitation of that of Scott, as almost to excite a smile occasionally in the reader; but as the story proceeds, and the writer warms with the creations of his fancy, he dresses them out in colors from his own mind, and succeeds at last, as becometh all true story tellers, so to interest his hearer, that he forgets the narrator, and fights, loves, robs, eats, and drinks, as the good people do with whom he is for the time associated.

It has often occurred to us, that the materials out of which Mr. James has built up his fiction of the Revolt of Ghent, offer the finest subjects for a striking book that history presents. For, did any man of half his genius take the pains to rescue the cause of the trading classes of Europe, in the struggle for liberty with a semi-barbarous nobility, that Scott has done to hallow those feudal oppressors, in our associations of everything that is dazzling in action, and romantic in feeling—he would build up a monument of heroism for the world, and of glory to himself,

more enviable even than that which immortalizes the Scottish Boccaccio. It was among those classes stigmatized as "money-getting burghers," by the rapacious marauders whose noble occupation it was to cut their purse-strings, that the spirit of liberty—the last records of the lost rights of men—were cherished and preserved in feudal Europe. It was among them too, chiefly, that, next to the clerical ranks, the little intelligence that was scattered abroad was diffused: and though they knew not that pure light of Freedom which has since been shed abroad upon the earth, they were still the medium through which those luminous minds, that issued in streams of glory from the meridian of Greek and Roman civilization, have penetrated through ages of darkness and barbarism, to kindle our happier day. They kept the sacred fire burning, when the altar had grown into contempt; and, though voiceless themselves, until the Art of Printing taught them how to give utterance to their gathered cry for emancipation, they were still the humble instruments through which mind called unto mind, through centuries of ignorance and oppression. Blessed be the endeavor of him who shall attempt to rescue these calumniated classes from the forbidding associations with which the pen of genius has too often invested their humble fortunes!

New Work on Constitutional Law.—Messrs. Collins & Hannay, of this city, have now in the press and will speedily publish, in a duodecimo volume of about 200 pages, "*Outlines of the Constitutional Jurisprudence of the United States, designed as a Text Book for Lecturers, as a Class Book for Academies and Common Schools, and as a Manual for popular use.* By William A. Duer, LL. D., President of Columbia College." This work was drawn up at the request of "The American Lyceum," communicated to the author in a resolution passed at their last annual meeting in this city in May last, at which time we took occasion to notice and express our approbation of the proceeding. The measure was understood to have originated from a conviction on the part of a respectable and learned association of persons, chiefly engaged in the instruction of youth, that the study of our political institutions ought to be rendered a branch of general education; and that none of the existing treatises on Constitutional Law were adapted to that purpose. President Duer was applied to to prepare a work of a more popular character and reduced form; and was selected for the task, not merely from his professional education and character, but from being known to have been engaged in the regular delivery of lectures on the subject in Columbia College, where Constitutional Law forms a part of the studies of the senior year. The importance of that study, however, in this country, and at the present moment, we conceive to be such as to render it highly desirable that it should be more widely diffused and circulated at an early age. From the plan of the work, of which we have had the opportunity of reading a part in MS., the low price at which it will, we understand, be offered, and the clearness, method, and skill with which it is executed, we think it well calculated for the ends for which it is designed; which not only comprehend the instruction of youth, but the information of persons of all ages, who may feel the necessity of a more accurate and full knowledge of the principles and powers of the National Government than is readily accessible, except to those conversant with books of a professional and technical character.

In Bell's Weekly Messenger of the 14th, we are sorry to find the death of that accomplished young nobleman, Lord Dover, announced.

Lord Dover was warmly attached to literary pursuits, and was an author of some reputation; his last work was "Correspondence of Horace Walpole with Sir Horace Mann," published from the originals in the possession of Earl Waldgrave. He also wrote the "Life of Frederick the Great, King of Prussia."

FOREIGN INTELLIGENCE.

By the packet ship Europe, Capt. Maxwell, we have received our regular files of English papers to the 16th ult.

Among the presentations to the King at his Levee on 10th July, was that of *Joseph M. White*, delegate from Florida, by the *Chargé d' Affaires* of the United States, *Mr. Vail.*

The most important item of intelligence is a confirmation of the report received by the way of Gibralter, of the destruction of Dom Miguels fleet by Admiral Napier, the particulars of which will be found below.

Belgian papers just received state that the new terms proposed by the King of Holland as the bases of a final arbitration are, that Belgium shall bear a larger proportion of the debt than was at first suggested, and that till such adoption he forbears to say a word in the admission of the inderendence of the new kingdom. In this proposal may be discerned the germs of a fresh crop of protocols.

The Paris papers of Wednesday mention the arrest, in that capital, of a Polish Priest, implicated in some political designs, and state that several other Poles have been ordered to leave Paris. The Chamber of Deputies of Baden have, it appears, passed a resolution in reference to the answer of the Grand Duke to their address, in which they re-assert that any infringement of the liberty of the press will be illegal.

The Neapolitan and Sardinian governments have communicated to the court of France their protest against the alteration made by the Spanish government in the law for regulating the succession to the Crown of Spain.

The German papers give an account of the reception of the Prussian Ambassador at the Porte, where he appears to have been received with special marks of favor. It is stated that the Sultan expressed great admiration of the Prussian military system, and mentioned his intention of sending a number of young Turks to Berlin to learn the art of war.—Advices from Greece in these Papers represent that new kingdom to be in a state of tranquillity and the people to be enthusiastically loyal to their young King, who has fixed upon Athens as the place of his residence.

The dispatches from the Marquis Palmella and Colonel Napier, are dated the 30th ult. off Lagos.

These dispatches state, that the expedition attempted to land, in the first instance, at Villa Real; this was on the 24th. In this attempt it was opposed by the garrison, which consisted of a force of about 12 or 1400 men. On the demonstration of their opposition, however, Captain Napier immediately drew up his ships in line against the batteries of the garrison; and after a brief cannonading, the garrison, it appears, being divided in opinion, part of the troops fled from the town, and part declared for Donna Maria. After a short interval, however, a portion of the troops who had retired from the garrison, returned and joined the troops of the Queen; making the number of these adherents about 600. Count Villa Flor having taken the necessary measures for securing the possession of the town, and having left therein a sufficient number of men, divided the remainder of his force into two divisions. With one of these divisions the Count directed his march to the north, in pursuit of the Miguelite Governor, Count Molellos, towards Beja, in the province of Alemtejo, in which province the inhabitants are said to be strongly in favor of the Queen. The inhabitants of Villa Real and its neighborhood, voluntarily assisted them with 400 horses.

The other division, headed by the Marquis of Palmella, marched westward, through Tuvira and Faro, to Lagos. At Tavira and Faro they were joined by the garrisons, and joyfully received by the inhabitants. Deputations and addresses were received from all the towns and principal villages near which they passed, and the Constitutional flag of the Queen was universally hoisted throughout the whole of the kingdom of the Algarves.

Thus, the last accounts leave the Marquis of Palmella at Lagos; having succeeded, without bloodshed, in placing the ancient kingdom of Algarves under the rule of Donna Maria, and having afforded the inhabitants of that rich and important part of Portugal the opportunity of showing their attachment to the Constitutional cause.

At Villa Real they found 30 pieces of cannon, and about £5,000 in money.

[*From the London Times of 15th July.*]

Napier (for Captain, or Admiral, or Count, are mere insignificant designations in comparison with his name) has gained a great and decisive victory over the Miguelite fleet. Seamen only can appreciate the merits of this action in a professional point of view: they only can understand the difficuly of the combat—they only can tell what extraordinary skill and courage were necessary to undertake the attack and accomplish the capture of ships of the line by frigates! But all can understand and all admire, in a general sense, the gallantry of the enterprize, and all can see that this important victory affords the last and crowning proof of the immediate necessity of a recognition of the rights of the Queen of Portugal. Probably while we are still writing Napier has realized his ardent hope of planting the standard of Donna Maria in the grand square of Lisbon.

"Falmouth, 13th July.—The steamer Birmingham, Captain Beazley, arrived here last evening, having on board M. Mendybell, who brought despatches from Lagos, and set off immediately for London. She brings intelligence that the squadron under the command of Admiral Napier, three frigates and a covette, a brig, and a schooner, sailed from Lagos Bay 2d inst. and the following day came in sight of the Migulite fleet, nine sail; then calm.—a breeze springing up, bore down upon them, and after a severe action, succeeded in capturing the Admiral's ship, Don John. 74 guns; the Nar Rainha, 74; a large store ship, 52 guns; the Princess Real, frigate, and a corvette, which were all carried into Lagos, where they are immediately to be refitted, for the service of her Majesty, Donna Maria.—Officers killed,—Captain George, of the Pedro, Admiral's flag ship; Captain Goblet, of the Donna Maria; Lieutenant Miller, marines; the Master of the Rainha da Portugal, and Lieutenant Woolridge, Flag Lieutenant, severely wounded, since dead. Wounded,—Captain Napier, Jun., Captain Reeves, Lieutenant Edmonds, and Captain Vancello, of marines, all severely. The loss on the part of the Miguelites was very great.

"The Tagus is blockaded. The number of troops which had declared for the Queen at Algarve, is from 6000 to 7000 men, and makes the force now under Compte Villa Flor about 10,000."

On the return of the squadron with their prizes to Lagos, the corporate body presented Admiral Napier with a crown formed of laurel.

The Paris evening papers of Wednesday say that General Romarino had arrived near Bordeaux, with 200 volunteers for the service of Don Pedro, and equipments for 500 more.

The agents of Miguel are very active in London. They have purchased four steamers—the Lord of the Isles, the United Kingdom, and two others—on his account. These are to take about 300 sailors on board at Plymouth and Portsmouth, and sail immediately for the Tagus.

Letters from Madrid state, that the Spanish Government have offered assistance to Miguel, upon condition of the Usurper granting a comprehensive amnesty, a constitutional charter, and making a change in his Ministry. Such a charter as King Ferdinand would stipulate for, is not very likely, we should imagine, to be refused by Miguel.

Connected with these movements in Spain and Portugal, is that of a French army of observation, to be stationed in the Pyrenees, in order, it is said, to counteract any measures which the Spanish Government may take in behalf of Miguel. Marshal Clausel os named as the commander of this force.

The following sketch of the relative positions, population, and resources, of the cities and country lately taken from Don Miguel, by the forces of Donna Maria, may be interesting at this moment:—

The little province of Algarve, which formerly constituted a part of the Moorish kingdom of that name, extended nearly over the whole of the southern coast of Spain, and included a part of Africa, though still denominated a kingdom, is very much curtailed. It is separated on the north from Alentejo by the mountains of Moncheque and Caldiero, and from Spain by the Guadiana; the southern part is bounded by the Atlantic Ocean. Its situation is peculiarly favourable for commerce, possessing a greater number of good harbours than any other equal portion of the country. Its greatest length is 76 miles from east to west, and from 17 to 30 broad.

from north to south. It containss, 4 cities, 12 towns, 60 villages, and about 94,000 inhabitants. The country, however, wants corn, from neglect of tillage, for the land is good, and produces wine, oil, raisins, and many other fruits, of which several cargoes are yearly exported; there is also a good fishery on the coast. Lagos, formerly the capital of this kingdom, is an ancient city, seated on a bay of the same name, navigable by the largest ships: it is 118 miles distant south by east of London, and contains nearly 3000 inhabitants. It is irregularly fortified, and two forts defend the harbor. Tavira, the present capital of Algarve, is a rather considerable city. It stands in a fertile and pleasant neighborhood, 135 miles south-east of Lisbon, and 58 from Lagos; it has an excellent harbor, and is divided by a river into the east and west towns. There are some very old fortifications and a castle, besides two forts that defend the barbor. It contains 1400 houses, and above 5000 inhabitants. Faro is a city, with modern fortifications and a castle. It is situated in a level country, on a bay 20 miles south by west of Tavira, and has a good but difficult harbor for ships not exceeding 200 tons burden. It is the see of a bishop, and contains nearly 5000 inhabitants, who carry on a considerable trade in wine, salt, fruits, &c. Its low situation renders it rather unhealthy. It suffered much in the great earthquake in 1755, by which entire streets were converted into ruins. The jurisdiction of this district and city belongs to the Queen of Portugal, whose ouvidir resides here, to collect her revenues, administer the laws, &c. All these cities have a sufficient number of churches, convents, &c.

Cape de Verds.—Capt. Marriner, of the brig Zipporah, who left these Islands on the 23d ult, states seven cargoes of provisions had been received there from the U. States for the suffering inhabitants, and one cargo of corn from Africa.

Mr. Martin, a merchant at Bonavista, informed him that about 18,000 was the number that had died by starvation in the whole Islands and not 40,000, as has been stated. Mr. Martin was of opinion that if the rain should fall as usual this month, (Aug) they would do very well; otherwise, they would again need assistance from the United States. They are very greatful to the people of this country for their goodness, heretofore, towards them.

The schr. Halcyon has arrived at New Orleans from Tampico, with $220,000 specie. The letters by this vessel are to the 16th ult., which state that throughout, that country remained in the same unsettled state as per last advices. The troops which left Matamoras to reduce Tampico, staid a few days in that neighbourhood, without making any offensive movement, and afterwards took up their line of march back for Matamoras. One letter says,—"The accounts from Mexico by the last mail are, if any thing, worse than before. The government troops that went in pursuit of the rebels, have been defeated, and Gen. St. Anna has again been obliged to take command of the army." The Cholera was raging at San Luis, Potosi.

SUMMARY.

The remarkable exemption of New York from even the ordinary degree of summer sickness, as contrasted with the melancholy scenes of last year, presents a striking result. All now is bustle, activity, life, and movement—then stillness, melancholy, and apprehension reigned, almost undisturbed. In looking now at what then were scenes of desolation, and reverting to the yet recent past, one cannot help admiring that elasticity of spirit and enterprize, which rebounds at once when the pressure is removed, and repairs so immediately, or effaces, the effects or the traces of previous misfortune.

In every department at present business is unusually active. There has been scarcely any summer interval this year, hardly any intermission in the incessant din of prosperous industry. Universally too—or so much so as hardly to render any qualification of that term necessary—the commercial operations of the year are said to be fortunate; the footing of business remarkably secure; and all are contented, or as much so as the ever restless spirit of commerce—happily restless—will permit its votaries to be.

The Norfolk Herald of Friday says:—The President's health, we learn, has been much benefited by his sojourn at the Rip-Raps; the situation evidently agrees with him. On Tuesday he took an excursion to the Capes, in the Revenue Cutter *Jefferson*, Capt. Webster, and on Wednesday he was gratified with an exhibition of the skill of the Artillery School of Practice, at Fortress Monroe, in target firing, which, we are informed, was executed at a mile's distance, with almost the precision of rifle shooting.

The Hygeia Hotel continues to be crowded with fashionable visiters.

Another first rate ship was added, on Saturday, to the number of splendid vessels that our ship yards have furnished for the mercantile service of our country. The launch of the "Hark! away," a noble vessel of 550 tons burden, took place in fine style on Saturday afternoon, from the navy yard of her builder, Mr. James Beacham.—[Balt. American.]

The Eleventh Ship.—Another fine substantial vessel has been added to our fleet of whalers. She is called the Helvetia, three years old, of 330 tons, and cost $17,000. The Helvetia will be immediately fitted out for a three years' cruise in the Pacific, under the command of Captain Cottle, the veteran and enterprizing commander of the America, on her last passage.—[Hudson Gaz.]

The last mail brought news of the death of Judge Henderson, of the State of North Carolina, and for many years one of the most honored and respected citizens of that State.

An Elephant, said to be the largest ever seen in this country, has made his *entree* among the Philadelphians. The price asked for him is $6000, and he measures 35 feet 3 inches in length, and is 8 feet 9 inches high. He arrived in the brig Treaty, from Calcutta.

Explosion.—We understand by a gentleman from Newburg, that on Saturday afternoon last, the finishing house attached to the powder mills of D. Rogers, Esq. near Newburg, Orange county, was accidentally blown up, and one man, the only one in the house at the time, was instantly killed. This is, we believe, the fourth or fifth accident of the kind which has occurred at that establishment in a few years.—[Ulster Co. Echo.]

Emigroting Indians.—The Wabash Mercury of August 1st, says that on the Tuesday previous "between three and four hundred of the Pottawattamie Indians passed down the Grand Prairie, five miles west of Lafayette, on their journey to their allotted territory west of Mississippi. We learn they were accompanied by Col. Pepper, the removing agent, and Lieutenant Montgomery, of the army, as assistant. They are in good health, and removing condition.

[*From the Globe.*]

Official.—The Convention between the United States and the King of the two Sicilies, concluded at Naples on the 14th of October, 1832, having been ratified by the two parties; the ratifications of the same were duly exchanged in that Capital, by Mr. Auguste 'Davezac, on the part of the United States, and the Prince of Cassaro, on the part of the King of the two Sicilies, on the 8th June, in the present year.

The Vicksburgh, Mississippi, paper says that a school-master in a neighboring township, has laid aside Murray's "Exercises," and placed the Acts of the last Legislature of Mississippi in the hands of his pupils, for the purpose of instructing them in the art of turning bad English and bad grammar into good. He is of opinion, that the pamphlet containing the acts, is richer in solecisms and violations of the rules of grammar, than any book in the language —*except* the pamphlets containing the acts of the preceding nine years.

St. Louis, Missouri, 6th August.—A detachment of United States dragoons, under the command of Lieuts. D. Perkins and C. C. Davis, arrived at this port on Sunday last, in the steamboat Peoria, from the Illinois river, and immediately proceeded to Jefferson Barracks. They numbered seventy-one men, recruited at, and mostly of the city of New York. We understand that they are fine looking, intelligent young men, of respectable trades and professions in the city from whence they came; and must add respectability to the army, and reflect credit upon the officers commanding.

The detachment was about twenty-five days in performing the trip from New York, via Buffalo and Chicago, to this city; and have reached their destination in good health, notwithstanding the unfavorable time at which they travelled. The result of the trip offers a practical argument in favor of the route, as being most advantageous for the transportation of troops, as well as preferable for emigrants destined for the west.—[Missouri Republican.]

On the morning of the 9th instant, one of the powder mills at Sumneytown, Montgomery County Pa. was blown up, by which a Mr. J. Shuler, one of the hands employed there, lost his life. He has left *twelve* children and a widow, whose only support he was, to mourn their sudden and disastrous loss. The accident can in no way be accounted for.

Philosophy.—The following annunciation, which we find in the Pittsburg Gazette, shows philosophy in an innkeeper worthy of imitation:

"*Fire.*—The Black Horse Tavern, situated on the Pittsburg and Greensburg Turnpike Road, about four miles from this city, was burned down last night. We have not learned exactly how it originated, except that it was accidental. The loss is said to be about $3,000. We were pleased with the remark of the proprietor—'I never liked the house, any how. I will now put up a tavern worthy of the stand, and in which travellers and visiters, with their families, may be properly accommodated.'"

The Milk Sickness.—The Danbury Herald contains a letter dated Vincennes (Indiana) July 11th, of which the following is an extract:

"At Logansport, on the banks of the Wabash, I was cautioned by an elderly lady against using either milk, butter or beef, on my way o Vincennes. As a reason for her caution, she informed me that the milk sickness was common in this State. I had heard of it before, but knew little of it. She informed me that very many deaths occurred annually by this dreadful malady. There is a difference of opinion as to the cause that produces it: but the general opinion is, that it is occasioned by the yellow oxyd of arsenic in the low ground and woodland, and particularly near the Wabash river, and that some weed (yet unknown) imbibes the poison, and when eaten by cattle, causes them to quiver, stagger and die within a few hours. If cows eat it the milk is poisoned, or butter that is made from the milk; and is also as sure death to those who use the milk or butter as it is to the animal that eats the weed. Great care is taken to bury such cattle as die with it; for if dogs, &c., eat their flesh, they share the same fate, and it operates upon them as violently as upon the creature that was first affected with it. The butcher uniformly, in this State, runs the victim for his knife a mile, to heat his blood, and if it has eaten the weed, it will at once on stopping quiver and shake; if it does not, it is considered safe to butcher, and this is the uniform test even when beef cattle show no sign of having ate the weed. Indiana is not alone in this misfortune: there have been many cases in some parts of Ohio and south of St. Louis, and other of the south-western States. I have seen many farms, with comfortable buildings and improvements, entirely abandoned, and their owners fled into other quarters to avoid the dreadful curse. And yet I confess I have never seen any section of country superior in soil, to the land adjoining the Wabash, and this is the only objection to it. Yours, &c."

[For the New York American.]

Mr. Editor—In viewing the beautiful and fine Man of War, the Delaware, it occasioned the following suggestions:

A National Marine School!—To be established upon one of the small Islands in the river—say for instance upon Great Barn Island, or any other suitable and convenient.

All boys in Alms or Poor houses, boys wandering and prowling about the streets without homes, or desertion by neglect of worthless parents and left destitute, such should bo the only objects of this Marine School. Thus would one of the greatest pests in society be converted into a means of national glory.

The dress should be a blue jacket and trowsers, and the education, to make thorough seamen and valuable sailors (not to make Captains of them, and teach them Latin and Greek) but to make good seamen.

After passing examination by a Nautical Board, what Captain would not covet a boy thus instructed and passed by the Nautical Board? The being brought up in the American Marine School, would become a certificate for employment all over the world.

A small sloop might be the school room, and its various parts and duties lessons.

From whence would the means arise to pay for all this?

1. Concentrate all moneys at present applied for such provisions of desertion and wretchedness in the various places.
2. From the School Fund.
3. From the State.
4. Emigrant and trading vessels a trifle.
5. Voluntary subscriptions, and myself, as a Blue Jacket, will pay the first ten dollars toward it.

Let us hope some patriotic pen will further advance this Marine School. Old Blue Jacket.

The subjoined article is recommended in the Gazette, to the notice of the Corporation of this city, and the Chief Engineer of the Fire Department:—

A London paper gives the following account of a simple invention, which, may be the means of saving many lives.

Wednesday afternoon, an interesting experiment of a new but simple mode of assisting the inmates of a house when on fire to escape from impending destruction, took place in Bridge road, Borough, near the police station.

The apparatus is the invention of Mr. Wecks, the brewer, of Stockwell, and consists of a broad sheet of canvas, with numerous loop-holes at the border, to admit the grasp of persons in attendance in the stretching of the sheet. The foreman and firemen of the Protector Fire Office, as also numerous police constables, were in attendance, and a considerable number of scientific and other persons were present. The canvas being stretched by the assistance of the firemen, policemen, and passengers, a young man named Norris, a sergeant of police, and several other persons, leaped several times from the roof and other parts of the house, and alighted in perfect safety. Several magistrates and other distinguished persons witnessed the proceedings, and seemed convinced that, of every means of rescuing the inmates of houses, when on fire, from the risk of perishing in the flames, this simple canvas sheet is most effective, the most portable, and the most certain of being adopted as an effectual life preserver.

[*From the Globe.*]

Official.—The Convention between the United States and the King of the two Sicilies, concluded at Naples on the 14th of October, 1832, having been ratified by the two parties; the ratifications of the same were duly exchanged in that Capital, by Mr. Auguste 'Davezac, on the part of the United States, and the Prince of Cassaro, on the part of the King of the two Sicilies, on the 8th of June, in the present year.

The Vicksburgh, Missiasippi, paper says that a school-master in a neighboring township, has laid aside Murray's "Exercises," and placed the Acts of the last Legislature of Mississippi in the hands of his pupils, for the purpose of instructing them in the art of turning bad English and bad grammar into good. He is of opinion, that the pamphlet containing the acts, is richer in solecisms and violations of the rules of grammar, than any book in the language —*except* the pamphlets containing the acts of the preceding nine years.

St. Louis, Missouri, 6th August.—A detachment of United States dragoons, under the command of Lieuts. D. Perkins and C C. Davis, arrived at this port on Sunday last, in the steamboat Peoria, from the Illinois river, and immediately proceeded to Jefferson Barracks. They numbered seventy-one men, recruited at, and mostly of the city of New York. We understand that they are fine looking, intelligent young men, of respectable trades and professions in the city from whence they came; and must add respectability to the army, and reflect credit upon the officers commanding.

The detachment was about twenty-five days in performing the trip from New York, via Buffalo and Chicago, to this city; and have reached their destination in good health, notwithstanding the unfavorable time at which they travelled. The result of the trip offers a practical argument in favor of the route, as being most advantageous for the transportation of troops, as well as preferable for emigrants destined for the west.—[Missouri Republican.]

On the morning of the 9th instant, one of the powder mills at Sumneytown, Montgomery County Pa. was blown up, by which a Mr. J. Shuler, one of the hands employed there, lost his life. He has left *twelve* children and a widow, whose only support he was, to mourn their sudden and disastrous loss. The accident can in no way be accounted for.

MISCELLANY.

[*From the London Athenæum.*]

Sir John Malcolm.—It is with much pain we state that Sir John Malcolm died after a short but severe illness, at his house in Princes Street, on the 30th May, in the sixty-fifth year of his age; he was all but recovered from a paralytic stroke, when he ventured out in the east wind; was attacked with influenza and hurried to the grave. His loss will be felt by his countrymen, more particularly, by persons connected with India: to worth he was kind and friendly, and to genius he ever lent, without solicitation, a helping hand. He was much beloved in Bombay, and during his lifetime, his comrades in council and in arms, ordered his statue as a companion to that of Elphinstone. He abounded in anecdote; his happy gaiety of nature and unrestrained kindness of heart, made his company acceptable to the most fastidious; nor did we ever meet with a man, who, like him, could pass so readily from the comic to the serious—could smooth his brow in the midst of the most joyous laughter, and give wholesome counsel and solemn advice.

He was known and beloved from the centre of Persia to the frontiers of the Birman Empire; he spoke the language of the East with fluency, and was intimate with the natures and social manners of all the tribes of the East. His literary works will continue his memory with honour among us: his History of Central India; his Political History of the East; his Persian Sketches; his Account of John Leyden; and lastly, his Life of Lord Clive, unpublished, but completed to the last chapter, are works that cannot soon die; they show a skilful scholar, a shrewd biographer, and an accurate and eloquent historian. The close of his life may be reckoned unfortunate. Relying on the influence of his talents, the good deeds he had done, and, moreover, on his right of birth, he offered himself as a member of the Dumfries Boroughs, and was rejected.

The last time we saw Sir John was at the Abbotsford subscription meeting: he looked pale and exhausted—we still think we hear him saying, "And should all our endeavors fail—and they surely cannot—it will be a consolation to think, that when on some distant day my son passes along the Tweed, and Abbotsford in ruins, he can truly say, 'My father tried to save you from destruction, but was not seconded by his country.'" Nor shall we soon forget the anecdote he told us of Lord Clive:

"When Clive was a young man a friend called on him one day, and found him sitting with books and a pistol on the table. 'Take that pistol,' said Clive to his visiter, 'and fire it out of the window:' he did so at once; before the smoke subsided, and while the room rung with the report, Clive sprang to his feet, exclaiming, 'God has something for me to do yet—I snapped that pistol twice at my head before you came in—yet it did not go off—God has work for me yet.'" We hope a full and ample memoir will be written of this distinguished man.

LA BELLA CENCI.

Among the pictures which adorn the Palazzo Colonna at Rome, there is one that might move the heart of a stone. The contrast of youth and loveliness it presents with the abandonment of grief, of all earthly hope, is so affecting, that hot tears have poured from many an eye, while gazing on the settled sorrow, the prophetic melancholy of this early victim of crime.

It is the portrait of the beautiful but ill-fated *Beatrice Cenci*, whose misfortune the pencil of Guido Reni has immortalized;—of her who, young, beautiful, and noble, became criminal through virtue, and who thought to escape dishonor through parricide.—So angelic is the countenance, the spectator credits with reluctance that so sweet, so expressive a face, so gentle a form, harbored a soul that, with cool premeditation, could imbrue her hands in her father's blood. But, of such a father! to whose crimes it is difficult to give a name; they were such at which humanity shudders; such as a fiend incarnate might have rejoiced to have perpetrated! The brutal insults, the diabolical suffering, of which he made his innocunt children the victims, were not the worst—he was a man who had exhausted the whole catalogue of human enormity. And it was his daughter who, in the silent midnight, when even the iron hearts of the ruffians she had hired relented, seized the avengin dagger from their nerveless arm, and, by a display of dauntless energy, determined their wavering resolution.

The parricide of the Centi family is one of the deepest tragedies in the page of history. It happened in the 16th century, under the Pontificate of Clement VIIIth, and is one of the bloody catastrophies which, in the lapse of ages, is enshrined among the most marvellous of popular traditions. For a length of time this event was enshrouded in the deepest mystery; the only real evidence of the crime of this young creature was the admirable picture of Guido, who has represented her at the very moment she was going to execution. It appears that Guido, struck with her transceudant beauty, solicited Clement the VIIIth to grant her a short respite, of which he profited to enter her dungeon and take her portrait, with a view of making it serve as a model for a Virgin he was then painting for the chapel of the Vatican

The real nature of the crime which led to the trial of Beatrice Cenci, was known but in a very inexact manner; the details had come down, disfigured by two hundred years of popular tradition, when the learned Abbe Maio, librarian of the Vatican, whose erudite researches have rendered such eminent service to the republic of letters, discovered among the manuscripts of the 16th century, the History of the Cenci Family ('Istoria della Famiglia Cenci.') We shall venture to offer to our readers a few fragments of this curious MS. which, in the most affecting and simple manner, traces the principal episodes of the crime, the trial, and the execution of the criminals.

"Man dies as he has lived: if the vengeance of heaven be slow in its operation, it is only to strike the surer. A splendid proof of this truth is afforded by Francesco Cenci, a noble Roman, whose scandalous and criminal mode of life led to his own tragical end, and that of his whole family.

"He was a stranger to no vice—he had accumulated crime upon crime, and even attempted to violate the honor of his second daughter, Beatrice.—She long resisted his solicitations with courage; but, reduced at least to dispair by an accumulation of unheard of barbarities, she resolved to rid herself of her father. This beautiful creature, who if born under happier suspices, would have been the model of her sex, no longer breathed but for blood and vengeance.

"It was on the 9th of September, 1598, that these two ladies—Beatrice, and Lucretia, her mother-in-law—administered to Francesco a soporific portion, that presently plunged him into a profound slumber. At midnight, two assassins were secretely introduced into Francesco's chamber, while the ladies awaited the event in adjoining an apartment. Suddenly they saw, issuing from the victim's chamber, the two ruffians, pale and disconcerted, who told them that pity had withered their arms, and that they could not immolate the old man as he slept. 'Wretches!' exclaimed Beatrice, 'you are then brave but in words—cowards as you are! It is I alone who will undertake to rid the earth of this monster. Follow me!' she added, drawing a poniard from her bosom; 'but I swear to you, that the same blow shall make you bear him company.'

"This threat terrified the two assassins: accompanied by Lucretia and Beatrice, they rushed once more into Francesco's chamber and murdered him.

"But God willed not that a parricide should go unpunished. Marcio, one of the assassins, arrested at Naples for some other crime, divulged the whole history of the tragical end of Francesco.

"The Cenci were put to the rack. The brothers, Bernardino and Giacomo, and Lucretia, were unable to endure the torture, and confessed the crime. But Beatrice, with heroic courage, resisted to the last. It was only at the moment they were preparing to cut off her beautiful hair, that her firmness abandoned her, and that she requested that Lucretia and her elder brother should be introduced to her. This was done. When they saw the unfortunate girl, whom they so tenderly loved, overwhelmed with suffering, they said to her, "Dearest Beatrice, we committed the crime, and we have confessed it; it is utterly useless, therefore, to brave any longer the torture.' 'You have then willed,' replied Beatrice, with great vehemence, 'that our ancient house should be disgraced by an eternal opprobrium. Why have you not rather preferred to expire under the most refined torments of the rack, than under the hand of the executioner!' This idea threw her into a state of convulsion that it would be difficult to describe. After a short silence, she cried, in a mournful tone, 'But since you have willed it, let it be so;' and, addressing herself in a firm tone of voice to the executioners, 'Wretches!' she said to them, 'unbind me; let the act of accusation be read to me. I will say only what I ought to say, and conceal what is fitting should be concealed.' Her wish having been complied with, she signed her confession without adding to it a word.

"The whole family was condemned to death.—The sentence was announced to them only at five o'clock, on the morning of the day fixed for their execution. The accused were locked in profound sleep when the messengers of death arrived. What an awaking was theirs! Beatrice!" says the M.S. "fairly howled with rage. Lucretia displayed great courage, and requested to be led to the chapel, in order to prepare herself for death. Beatrice also, on recovering her serenity displayed the greatest firmness, and served as an example to her whole family.

"She made her will, and ordered her body to be buried in the Church of San Pietro il Montorio. She left three hundred crowns to the congregation of the Holy Wounds; and further deposed that her marriage portion should be employed in marrying fifty poor girls. At the foot almost of the bloody scaffold

her mind was occupied by ideas of love and happiness.

"When the fatal moment had arrived the nuns of a neighboring convent came for them. The two criminals delivered themselves up with firmness, and and mutually assisted each other to arrange their dress. On their sides Giacomo and Bernardino dino left the prison of Tardinova, and having arrived with the procession before the 'Procuratore fiscale,' he said to them, Signor Barnardino Cenci, the most holy father Clement the Eighth pardons you. He is content that you should accompany your brother to the scaffold; forget not to pray to God for the repose of his soul.'

"The women arrived on feet thickly veiled: their arms were slightly bound, but their hands were free. In one they held a handkerchief, and in the other a crucifix. Beatrice appeared as though she had been walking to her triumph; her expressive eye looked upon the surrounding objects with the calm serenity of her soul. On passing a church she prayed with a loud voice.

"Arrived at the place of execution, the Cenci were assembled in a chapel. Giacomo and Bernardino were the first led out. Lucretia's turn came next; she was stript to the shoulders, and her hands bound behind her back. At the humiliation of this public exhibition, and the sight of the hatchet suspended over her head, she burst into tears—'O God!' she cried, 'pardon and mercy!'

"The executioner, reeking in her blood, now approached Beatrice, in order to bind her. She was on her knees, and praying with a loud voice —'Oh, my God! you died for me on the cross, and, guilty as I am, a drop of thy sacred blood has flowed for me,—I trust in thy infinite mercy!' She then stretched out her arms to the executioner, and said to him, "Thou hast my body for its punishment, mayst thou at the same time release my soul for its safety.' At the foot of the scaffold she took off her shoes, ascended the steps with heroic firmness, and laying her head on the block, and arranging her clothes so that her modesty might have nothing to fear, she tranquilly awaited the fatal blow.

"The Pope had retired to a country house some distance from Rome. The discharge of three pieces of cannon announced the moment of execution. At this signal he was deeply affected, and wept over the fate of this unfortunate family; and, stretching forth his arms to Heaven, he gave that plenary absolution to the Cenci which they had solicited.

"A profound silence succeeded to the confused tumult of voices of a whole people, whose prayers were confounded with the agonizing groan of the criminals.

"The body of Beatrice was interred in the church of San Pietro Il Montorio, near the grand altar, which Raphael's picture of the Transfiguration has rendered so celebrated."

The whole catalogue of human misery contains not a deeper tale of wo, than the story of La Bella Beatrice Cenci.

[*From the Chinese Courier, March 20th.*]

PUNISHMENT IN CHINA.—Perhaps the most dreadful punishments are inflicted upon criminals in the "Celestial Empire," and crimes are probably here committed more frequently, than in any other country.

For murder of a parent or near relative, or for rebellion, the prisoner is made to undergo a punishment called Ling-che, which is performed by cutting him to pieces by degrees, commencing at the feet or hands. In case he has any relative who can bribe the executioner, the torture may be abridged, and his sufferings cease by piercing to the heart; at times this may be done for a small sum. Another punishment for the same offenee is the following:—

The culprit is fastened with his back to a large cross, placed in the ground, with his hands and feet so tied that he cannot move an inch in any direction. An incision is then made across the forehead, and the skin pull d down over the eyes and face; then the feet, hands, legs, arms, and head, are successively cut off from the trunk, which is finally pierced to the heart. Beheading is a punishment for adultery, murder, &c. The prisoner is made to kneel (in some public place, but not exposed on a scaffold) towards the throne of the "Son of Heaven," and as if returning thanks for the punishment about to be received, he bows, and while raising his head, it is struck off by one blow of a sword; the head is then put into a cage, sent to the place where the crime was committed, and hung at the end of a pole or against a wall. The men employed in this service are very expert and strong, and go to their work with as much composure as a butcher to the slaughter. Prisoners are often, after being confined some time in goal, let loose and branded on the forehead with a hot iron, so that they will be known wherever they go. For stealing, the perpetrator of the crime is dragged through the streets by a party of soldiers, who alternately lash him with a thong of plaited rattans on the bare back, and beat a large gong to give the people notice, that they may witness the punishment. In some cases, the knees and ancles are compressed in iron machines made for the purpose; this is extremely painful. There is no punishment more common and unmercifully executed than that of whipping. Smuggling saltpetre into the country, from which powder may be manufactured, is punished by decapitation. Strangling is also a very common punishment The criminal is tied to a strong upright stake, with his hands and feet fastened: a stout cord is then put round his neck, and passed through a hole pierced in the stake. A stick of about 1 1-2 inch in diameter is attached to the cord, and the executioner standing behind him wrenches it around. The eyes soon start from their sockets, and the tongue is seen issuing from the mouth which foams and bleeds excessively, finally the neck is cut through by the cord and the head falls to the gronnd. No cap or covering of any kind is placed over the face during the execution.

The following crimes which should come as well under the cognizance of the law as others, are very lenently punished.

A grandfather or grandmother killing a grandchild a father or mother wilfully murdering their son or daughter, and a master or mistress putting to death a domestic slave, are only punished with 60 to 70 blows, and should they wish to lay the murder falsely on some other person, the punishment is but 80 blows and three years transportation.

Splendid Bedstead.—There has been lately exhibited in the Palace of the Tamedo, at St. Petersburgh, a state bed, constructed at the royal manufactory by order of the Emperor, to be sent as a present to the Schah of Persia. It is formed of solid crystal, resplendent with silver ornaments. It is ascended by steps of blue glass, and has a fountain underneath, so contrived as to throw out on each side jets of odoriferous waters. The effect when the chamber is lighted up is absolutely dazzling, as it has the appearance of myriads of diamonds.—[Galignani's Messenger.]

POETRY.

[FROM THE NEW YORK AMERICAN.]

THE AMERICAN EXILE.

Thou'rt in a fairy clime, sweet one!
'Mid the bright and loveliest thou,
Yet a shade is o'er thy bosom cast,
And o'er thy sunny brow.

Dost thou pine for thine own far distant land,
With its forests vast and drear,
For the wild bird's call o'er the clear blue lake,
And the bounding of the deer?

Or weep'st thou for a Mother's form,
By thy lonely couch to kneel;
Or the holy kiss of a Father's love
On thy pale sweet brow to feel?

Both, both, though the wintry wind may sweep
O'er the forest in its pride;
Though the echo of each sweet note may cease
The ruffled lake beside;

Though the deer no more with its graceful step
O'er the sun-clad hills may leap;
I pine, I pine, for that far, far shore,—
For my parents' voice I weep. ELLA.

[FOR THE NEW YORK AMERICAN.]

THE BATTERY AT THE CITY OF NEW YORK.

In Imitation of Lines in Beattie's Minstrel.

To —— on leaving the vicinity of the Battery for the Springs.

Oh how canst thou renounce this various store
Of charms, which Nature to her votary yields,
The *Ocean's billow* murmuring on the shore;
The *Greensward* vying with fair Tempe's fields;
The *Bird's sweet* note who wakes his matin lay;
The *Choral Band* which charms the ear at even;
The *Moonbeam* sleeping on the placid bay;
The *Setting Sun* which gilds with burnished gold the Heavens;
The *War Ship* whence Columbia's banner streams
Bearing bold hearts of whom their country's proud;
The *distant sail* which like a feather seems
Borne on the bosom of the rising cloud:
The *Sylphid* forms which brush the morning dew,
And drink health's balmy breezes at mild even:
To yield to these thy heart canst thou refuse?
And canst thou these renounce and hope to be forgiven?

These are beautiful lines; simple, touching, and most true:—

[FOR THE NEW-YORK AMERICAN.]

THE CONSUMPTIVE.

'Twas nothing that her simplest smile was worth
A seraph's brightest—nothing that her eye,
Or rolling bright or brightly calm, gave birth
To all the freshness of life's morning sky:
The blight that desolates the household hearth
Came o'er her, and she knew that she must die.
Then bow'd her gentle head beneath the blow
Which laid, at once, earth's hope and mercy low.

And her pure cheek grew cold and darkly pale
As snows by mountain caverns hid from day—
It was as if a shadow of the vale
Of death had fallen on her living clay.
And waited, ere all hold on earth should fail,
To fit her soul to walk that gloomy way;
And teach her breast to shudder at the doom
Which gather'd round to darken o'er her tomb.

Sometimes—as if she kindled at the art
Of him who subtly woo'd her—a warm flame
That fir'd anew each chill and pallid part
With vital lustre, glided through her frame.
Yet, drop by drop, life left her weary heart,
Till, failing like a springless fount, she came
To human nothingness—a faded flower
That knew a world to bloom upon no more. E. L.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 12th to the 19th day of August, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Aug. 13....	6 a. m.	76	29.70	SW	moderate	SW	fair
	10	83	29.72	..	..	WSW	..
	2 p. m.	85	29.70	WSW	..	..	..
	6	82	29.71	..	..	..	..
	10	75	29.78	..	..		clear
" 14....	6 a. m.	69	29.82	WSW—WNW	.	NW	fair
	10	76	29.90	WNW	..	WNW	..
	2 p. m.	83	29.88	WSW—WNW	..	W by S	..
	6	79	29.88	WNW	light		clear
	10	72	29.90	SSW			..
" 15....	6 a. m.	70	29.88	S—SSE	faint	WSW	fair
	10	78	29.90	SSE—ENE	light	SW	.. —cloudy at NW
	2 p. m.	83	29.89	..	..	WSW	.. —cloudy
	6	77	29.88	ESE—W	..	..	cloudy and thunder—rain at 8 o'clock
	10	68	29.90	W	fresh	..	rain
" 16....	6 a. m.	70	29.93	ENE—SSW	light	..	cloudy
	10	74	29.96	S—SSE	moderate	WSW / SSW	..
	2 p. m.	81	29.96	SSE—SE	..	WSW / SE—ENE	fair —cloudy
	6	76	29.97	NW	..	WSW	thunder shower —rain
	10	65	30.00	N	..	..	cloudy
" 17....	6 a. m.	66	30.00	..	light	SW by W / NW	.. —fair
	10	76	30.00	..	..	SW by W / ENE	fair
	2 p. m.	83	30.00	N—NNW	moderate	NW	..
	6	76	30.00	N	..	..	..
	10	68	30.01	..	light		clear
" 18....	6 a. m.	65	30.02	NW	moderate		..
	10	72	30.04	..	..	NNW	fair
	2 p. m	75	30.00	NNW	fresh	NW	..
	6	73	30.01	NNE	..		clear
	10	63	30.06	NW	moderate		..
" 19....	6 a. m.	62	30.11	NNW			..
	10	70	30.15	SW	moderate	NNW	fair
	2 p. m.	78	30.11	NW	light	..	..
	6	75	30.10	NW—E	faint	.	..
	10	71	30.11	..	light	..	..

Average temperature of the week, 74°.11.

MARRIAGES.

In this city, on Sunday evening, 18th August, by the Rev. Dr. Milnor, Mr. OWEN MORRIS to Miss ELIZABETH ANTHONY—both of England.

On Thursday evening, Mr. WM. HULL, to Miss JANE DELLINGHAM.

Tuesday morning, 20th instant, at Zion's Church, by the Rev. Thos. Brientnell, Mr. WILLIAM CALLENDER, Jr. to Miss ANN MARIA, daughter of Mr. Samuel Sparks, all of this city.

On Monday evening, by the Rev. Dr. Berrian, Mr. HENRY AUGUSTUS CHEESEBROUGH, to Miss MARION MAXWELL WOODHULL, all of this city.

Last evening, by the Rev. Dr. Dewitt,—Rev. Henry A. Rowland, of Fayetteville, North Carolina, to Miss Harriet, daughter of the late Isaac Heyer, Esq. of this city.

At Morristown, N J., on the 3d instant, by the Rev. Mr. Hoover, Doctor N. W. CONDIT, to JULIA ELMER, daughter of Mr. Aaron Coe, all of Morristown.

At Woodbridge, New Jersey, on the 8th instant, Mr. Elias Dixon, of this city, to Miss Pamela Mellick, of the former place.

At Poughkeepsie, on the 5th inst., by the Rev. A. Perkins, Mr. JOHN EGERTON, of this city, to Miss JANE A. RAYMOND, of that place.

In Albany, 6th inst., by the Rev. Dr. Sprague, the Hon. Micah Sterling, of Watertown, Jefferson Co., to Miss Ruth Benedict, of Albany.

In Syracuse, on the 1st inst., by the Rev. Palmer Dyer, Mr. Henry Agnew, of the firm of Agnew & Wood, to Miss Margaret Jane Phillips.

On the 6th instant, in Palmyra, Wayne Co., by the Rev. Mr. Whipley, Mr. George E. Pomeroy, to Miss Helen E., daughter of the late Doct. Robinson, all of Palmyra.

At Leesburg, Va. on the 8th inst., by the Rev. Mr. Adee, Gen. THOMAS T. WHEELER, of Maryland, to Miss HESTER ANN McLEOD, of this city.

DEATHS.

On the 1st inst., by the rupture of a blood vessel, Mrs. Sarah Mitchell, in the 66th year of her age, wife of Mr. Gerard Mitchell, of Onondaga Co.

On Saturday morning, GEORGE MAIN, infant son of John V. Greenfield.

On Sunday afternoon, of a lingering illness, Mrs. SARAH, widow of the late Wm. Crolius, in the 73d year of her age.

On Saturday evening, in the 35th year of his age, JOHN DOHERTY.

Last evening, Mr. Gilbert Lewis, after a lingering illness, in the 33d year of his age.

On Wednesday morning, Catharine, daughter of Jacob Seguine.

In Brooklyn, on Wednesday evening, Mr. William G. Cunningham, in the 41st year of his age, son of Wm. Cunningham, Esq.

At Narrows, L. I., on the 12th inst., RULUF VAN BRUNT, aged 37 years.

At Poughkeepsie, on the 7th instant, Col. Gilbert Ketchman, formerly sheriff of Dutchess County. Col. K. was Lieut.-Col. in Hawkins's Regiment U. States Artillery Volunteers in the late war, and commanded during that service, either at the Narrows or Sandy Hook.

In Ulysses, Tompkins County, on the 6th inst., Isaac Thorn, Esq. formerly of the city of New York, in the 44th year of his age.

In Oswego, on Monday last, Mr. CHARLES KNAPP, son of Mr. David C. Knapp, aged about 21 years.

In the Poor House, New Orleans, on the 14th of July, ABRAHAM BOGARD, aged 118 years and 4 days. He never drank spirits, or was ever sick, and retained his faculties until his death. [Let those who indulge in ardent spirits, reflect on the awful consequences of self destruction.]

At Dublin, Dr. LAFFAN, Roman Catholic Archbishop of Cashel.

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, AUGUST 31, 1833. [VOLUME II.—No. 35.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 31, 1833.

We have received the Reports of the President and Directors, and Chief Engineer, of the Ithaca and Owego Railroad, which will be published, or at least a part of it, as soon as we can find room for it.

We have also on hand a communication from Mr. Bulkley, in reply to Mr. Boyden, upon the subject of the "Guard Rail," which will also receive attention as soon as other matters will permit.

We are much obliged to E. F. W. for his communication of the 15th inst. It will be found in this number of the Journal. If he can do us the further favor to furnish us with correct drawings of the different inventions of Mr. Fairman, we shall take much pleasure in bringing them before the public, through our *Mechanics' Magazine, and Register of Inventions and Improvements*, a work established expressly to aid the cause in which he labors. We are particularly desirous to obtain drawings of his "Reciprocating Rotary Compound Steam Engine," "Machine for making Wrought Nails," and "Rotary Pump."

Communications from Mr. Fairman, or from E. F. W., will find ready access to the Journal or Mechanics' Magazine.

We would also call attention to the advertisement of Mr. Fairman, which is inserted to-day, offering for sale his Nail Machine.

Track Roads.—We publish to-day a communication from John S. Williams, Esq., of Cincinnati, Ohio, referring to the communication of Mr. Hartman, published in No. 29 of the Railroad Journal, or 20th July last, upon the subject named at the head of this article. It was our intention when we gave Mr. Hartman's communication to the printer, to refer to Mr. Williams' Report upon the same subject, published, with engravings, by us some time previous in the Mechanics' Magazine, New-York Farmer, and *also* in this Journal, No. 19, or 11th of May last, (although it seems to have escaped the notice of Mr. Williams,) but from the multiplicity of our engagements it was omitted, as were our remarks upon Mr. Hartman's communication also.

On the receipt of Mr. Hartman's communication we referred to Mr. Williams' Report, previously published, to ascertain how nearly the two plans resembled each other, and found that all the principles embodied in the latter were also to be found in the former, and may be applied to use, probably, with greater effect and at less expense. As to the priority of dates of the two patents, we are unable to speak. That is a matter which may be determined, we should imagine, without difficulty.

Wabash and Erie Canal.—We are gratified to learn by the following extract from the Fort Wayne (Indiana) Sentinel, that the Wabash and Erie Canal, which has been so long delayed, is now in a fair way to be completed.

Indiana, but a few years since uninhabited, except by Indians, is now performing what few of the older States dared, until within a few years, to undertake. She is now making a Canal, which will, in connection with the Wabash River, form the most direct communication between Lake Erie and St. Louis, and the Mississippi and Missouri Rivers. The completion of this Canal will serve only to stimulate the inhabitants of that thriving State to other works of internal improvement. Her Railroads, already chartered, will also be constructed, and others projected from different parts of the State, either to intersect them, or to communicate directly with the Lakes and the Ohio River. The route of this Canal is undoubtedly the most *direct* between Buffalo and St. Louis, or New-Orleans, and it must become a great thoroughfare of business and travel.

This section, it will be observed by a reference to the map, forms the summit level, and opens, at seasons of high water, a passage for keel-boats from one route to the other, and of course to the Lake.

Wabash and Erie Canal.—The citizens of Indiana will be glad to learn that this important work is progressing in the most satisfactory manner. Thirty-two miles are now under contract, the whole of which, there is every reason to expect, will be completed by the end of the next year, or early in the following spring. This part of the canal extends from within a mile of the Maumee to the Wabash, at Huntington. Its completion will doubtless be of great benefit to the State: the Wabash river being navigable for keel-boats to this point, at certain seasons of the year, we may then receive a considerable portion of our supplies of provisions from the Wabash country, by this route, instead of being dependent upon a tedious and uncertain land carriage, over roads almost impassable, as at present; and the Wabash merchants can also avail themselves of this route to receive their goods direct from New-York. The site of the Canal has been permanently located as far west as the mouth of the Mississinewa, and if the Legislature next winter will act in accordance with the views of the present efficient Board of Commissioners, we have no doubt that the progress of this work will fully equal the most sanguine expectations of its friends.—[Fort Wayne Sentinel.]

☞ *Rapid Travelling.*—The Locomotive Engine which left Saratoga on Friday at 5 o'clock, P. M., landed the passengers at Schenectady in *one* hour, *two* minutes and *fifty-two* seconds. The time actually consumed in running the distance—22 miles—was, *fifty-four minutes and thirty-three seconds!* being the quickest trip ever made.

	M. S.		M. S.
Saratoga to Balston, 6 miles,	17 31	Detention	5 7
Balston to ——— 8 do.	18 34	do.	3 12
—— to Schenectady, 8 do.	18 28		8 19
Running Time,	54 33		
Stoppages,	8 19		
Whole Time,	62 52		

—[Cour. and Enq.]

Ten Miles of Paper.—Paper used to be sold by the sheet, the quire, or the ream; but, in "the march of improvement" stationary will not remain stationary, and so it is now sold by measure. The following order was received from a pottery firm the other day. The writer, it will be observed, gives his orders with as much indifference as though they were not at all extraordinary:

Gentlemen—Please to send us ten miles of your best printing tissue paper, in length, six miles to be 30 inches broad, and four miles to be 22 inches broad, to be wrapped on wooden rollers, according to the plan given. The object of having the paper of such great length is, that it may be printed on engraved cylinders, in the same way as calicoes, &c.

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am aware that some of the
s of such a track road may be
by laying timber as above, by fur-
, guttering, or rebating both tracks, to
e the wheels, but I prefer to gutter or
oove one only."

I believe that Mr. Hartman and the public will at once see that every principle contained in his communication is also in the above extracts. I will go further, and say that I not only invented the plan, but that I can prove that I invented it, in all its parts, more than two years ago, and would long ere this have put it to the test of experiment upon a large scale, had not untoward circumstances prevented it. The graduation and timber are nearly ready for eight miles of it, and in a few days will be in progress of laying.

I am by no means disposed to quarrel with Mr. Hartman, but shall continue to grant rights upon terms which shall satisfy the public that individual aggrandizement was no moving cause of my taking out a patent therefor, cautioning all concerned against acting under an inferior title.

Should Mr. Hartman not be convinced that I have a priority of right in this matter, or fail to convince me that he has, I shall propose to him a reference of the whole matter to men competent to decide between our claims, and that they meet in Washington City sometime during the next session of Congress.

As to my preference for grooving or guttering one track only, it originated in my knowing that a guide for the wheels of one side of a waggon or carriage will in all cases answer as well as a guide for the wheels of each side; besides which, there is a difference of about eight inches in the span of axles as constructed in different states and places. This circumstance influenced me in favor of furrowing or guttering one track only, as, by the other track being left plain, vehicles cannot be injured by binding in the track. Again, in turning out, when one track alone is guttered, one half the labor only is necessary to overcome the obstacle. And further, by carriages entering upon the tracks, one only will be injured, and the jolts be less, where one gutter alone is dropped into. Add to all this, that one gutter will only cost half the amount of two, and I imagine the public will sanction the preference I have given.

As to tying the tracks together in the manner of railroad sills of wood, agreeably to Mr. Hartman's plan, and which is recognized in my patent, I shall not recommend it until experiment shall prove the necessity of it, not only on account of its expensiveness, but because almost every man's experience will convince him that at those intersections of timber against timber, decay will commence. At present I believe that timber well bedded in the road formation will be still enough and last longer, much longer, than for timber to be against timber. Where timbers are spliced, dowels or clamps may be necessary to join them, and where the substratum is likely to be soft, cross-blocks, of such a size as will support the joint, will be necessary.

In respect to forming the groove or gutter in the stick or out of the solid, I prefer it for similar reasons, as I am certain that the timber will be less likely to decay than where, by "attaching cheeks or sides to a plain surface," furrows or gutters are formed. All holes bored in timber, whether filled with spikes or trenails, and all joints or cracks in timber, should be carefully avoided, if we attend to the durability of it, particularly if exposed to the weather. And further, gutters or guides formed out of the solid will be less liable to derangement than those formed of "attached cheeks or sides," and I question if they will cost more, as laid timber may be ploughed as well as land, and in much the same way, and grooved as boards are grooved, and that by any sufficient motive power.

I hope, sir, that all those editors who have noticed Mr. Hartman's communication will give publicity to the above, as it will be adding interest to a subject of vital importance to the Union, and particularly those districts of it where stone is scarce and timber is plenty. The cheapness of the plan need not be doubted, and the liability of good timber to wear need not be feared, for more than two years of service upon timber here put down, agreeably to Mr. Hartman's proposition, convinces me of this. As to the freedom of timber from decay, where bedded in earth, I cannot ask you to publish so long an article as the investigation of that part of the subject makes in my report above mentioned; but I must crave the favor of you to publish the enclosed certificate of Col. Johnston, received since the report was printed. Col. Johnston was Indian Agent until within five or six years, and subsequently a Canal Commissioner in this state. He is one of the most amiable men of the west.

Yours, truly, JNO. S. WILLIAMS.

Cincinnati, Ohio, Aug. 10, 1833.

CERTIFICATE.

I came into the Indian Department in the service of the United States in Indiana and Ohio, soon after the operations of General Wayne's army had ceased, and the duties of my office frequently led me to travel over the roads, bridges, and causeways, made by the troops and artificers to facilitate the transportation of the munitions of war, and keep up the intercourse between the different stations and garrisons. It is within my recollection, that for upwards of twenty years after the making of those causeways, the timbers in many of them were perfectly sound, and I have no hesitation in saying that there were cases after a lapse of thirty years where they were sufficiently so to sustain the weight of the heaviest laden waggon.

JOHN JOHNSTON,
Formerly Agent for Indian Affairs in Ohio and Indiana.

Columbus, Ohio, Jan. 12, 1832.

AN ACT further to amend the several acts incorporating the Cincinnati, Columbus, and Wooster Turnpike Company:

Be it enacted by the General Assembly of the State of Ohio, that the President and Directors of the Cincinnati, Columbus, and Wooster Turnpike Company, be, and they are hereby authorised and empowered to construct any part of their said turnpike road on the plan of wood tracks, or timber laid lengthwise, on the principle recommended by John S. Williams, Engineer of said Company, in his report, dated December eighth, eighteen hundred and thirty one.

W. B. HUBBARD,
Speaker of the House of Representatives.

Wm. DOHERTY,
Speaker of the Senate.

January 19, 1832.

* The article here referred to, together with the drawings, were published in the Railroad Journal of the 11th of May last, page 292.

S. Fairman's Rotary Steam Engine, Machine for making Wrought Nails, &c. [Communicated for the American Railroad Journal.]

Lansingburgh, Aug. 15, 1833.

Dear Sir,—Having witnessed, with no small admiration, your untiring industry and zeal in helping forward to the most useful application the mental and physical resources of our country, and particularly in encouraging and bringing before the public the discoveries of mechanical genius, I take the liberty to invite your attention to some of the inventions of Simon Fairman, of this village, and sending you an advertisement of a *machine for making wrought nails* of different sizes, which I desire you to insert in your paper and all other suitable publications under your control. I think it is safe to estimate our Simon Fairman one of the most inventive mechanics now living. In the above nail machine he has exceeded many who have before spent years to effect it; but they have been years of toil unrewarded, for their object was not accomplished. Some, whom I have known even distinguished for their knowledge of mechanical philosophy, have attempted and failed. But the above nail machine is by no means the most important of his inventions: the admirers of discoveries in scientific power, or of new applications of mechanical power, are invited to call at Mr. J. Humphrey's machine shop in this village, and view a *reciprocating rotary compound steam engine*, invented and put in operation in this village, which is thought, by those who have seen it and are good judges, destined to take the place of all steam locomotives on land now in use; also, at the same place, may be seen and purchased at a low price, the *reciprocating rotary compound pump*, a new invention, by the same man, and now in use, which offers to the public a convenience not liable to be "*out of order*" or "*frozen up*," to which mankind have heretofore been strangers. Also, a *fluting machine* has been invented by said Fairman, which will greatly abridge the manual labor employed in preparing an important part of the machinery used in cotton factories. This last machine was long in successful and useful operation, but was destroyed in the late disastrous fire at Waterford.

Now, sir, it is an act of justice due to such inventive geniuses, who with bold and adventurous canvass dare to sail in unknown oceans, or with equally bold conceptions and courageous daring, venture beyond those bounds which have hitherto limited, circumscribed, confined, and hedged in, the operations of the faculties of other men, to bring them before the public, while living under the most favorable circumstances. It is a small reward for being made the subject of scepticism, criticism, and witticism, of those who, but for the manifestation of a bold and adventurous genius, might have been their friends and helpers.

It is a small compensation for taking the "heir loom of the poets," and all its inconveniences and mortifications, which has almost uniformly been the scourge of discoverers in the field of science and of art, as well as in the field of fancy and imagination. It is but a small reward for being made the victim of the deceptious promises of those who possess the means of alleviating the sufferings of genius, made to obtain without compensation the benefit of her superior skill, exertions, and sacrifices, while the possessor of genius is left to go supperless to bed, and his wife and children endure the want of the necessaries of life.

I do not say that this is the case of my neighbor, to whose history and circumstances I am a stranger. But if he has not had, or does not have something of this kind to complain of, he will enjoy a happy exemption from the common lot of his fellow adventurers in the same ship, from the days of Copernicus or the Marquis of Worcester to this day. I will, therefore, as one advocate of genius neglected, thank you, friend Minor, to lend a helping hand, to bring into more general notice an inventive genius of no ordinary skill and talent, by inviting the wise and skilful to call at the above named place in this village, and view some of the productions of Fairman's inventive mind and skilful hand, which they will not fail to admire and approve, whatever they may think of their final results.

Yours, respectfully, E. F. W.

P. S.—As soon as possible you may expect a drawing of the steam engine and pump.

Internal Improvements in Virginia.—It is indeed gratifying to learn that the Petersburg Railroad, in the "Old Dominion," has *really* produced a spirit of enterprize amongst those who, above all others—the planters, the owners of the soil—are most to be benefitted by such works. The great success of that road, as demonstrated below, will unquestionably produce, not only a spirit of inquiry into the immense advantages of such works to those who cultivate the soil, but also a spirit of *action*, which will ultimately render the Southern States as famous for their *high* state of cultivation as they now are for the reverse.

We know, from observation, that Virginia possesses *superior* advantages in the mildness of her climate, great *natural* fertility of her soil, and numerous rivers, affording an immense water power for manufacturing purposes, over her northern neighbors; and are satisfied that Virginians require only to be made sensible of the effect that an improvement of these advantages will produce upon the value of each man's property, to step forward, with a determination not easily to be diverted from its purpose, and with *united* effort, undertake—and not *only undertake*, but also *execute*—such preliminary works as will naturally lead to the construction of others.

The following statement of the performance of the "Liverpool," locomotive, must be highly satisfactory and gratifying to the friends of Railroads.

To the Editors of the Intelligencer:

Gentlemen,—The following account of the performance of one of our engines will, no doubt, interest you and some of your readers.

On Monday last the Liverpool brought in a train, consisting of fifteen cars and one coach, carrying 127 bales of cotton, 364 bushels of wheat, 162 bushels of corn, and about 30 persons, including passengers and agents of the Company. The gross weight in motion may be summed up as follows:

Produce and passengers,	-	83,620 lbs.
Cars, coach, engines, &c.	-	67,500
		151,120

or nearly 67½ tons. The weight of produce alone was upwards of 35 tons. This load was put in motion with great ease by the engine, and on level grades was carried at a speed of 15 miles per hour. It was twice set in motion on ascents of 30 feet to the mile, (on which we had occasion to stop to set down passengers,) and carried up them at a rate varying from 3 to 10 miles the hour.

This is the largest load which has ever been carried on the road at any single time, and when we compare it with the small size of the engine, and consider the various ascents on the Railroad, it may well be called immense. The Liverpool weighs about 5 tons, and has nine-inch cylinders, with a stroke of 18 inches, and drives her four wheels. Her general working pressure is 50 pounds, ranging up to 60, at which the lock-up valve blows off. I add these technical details in order that the performance of this engine may be justly appreciated by professional men.

Our steamboat has arrived at Blakely, and in the course of a few days we will open the road to the Roanoke. Of this desirable event we will of course give due notice through your advertising columns. Yours, respectfully,

Henry D. Bird.

Our readers may remember that, during the last winter, the Legislature ordered a survey of the Nottoway River, from its highest navigable point to its intersection with the Petersburg Railroad. We published some weeks ago the report of a party of gentlemen, who had explored the river in a large boat, and whose experiment afforded proof of the entire practicability of removing all obstructions to its navigation. Since that period, an intelligent Engineer has been engaged, under the authority of the Board of Public Works, in making a critical survey of the river, to whose politeness we are indebted for the annexed results of his labors. Mr. Thompson has described so clearly the advantages of this improvement, and the facility with which they may be realized, that we cannot believe that the planters on the Nottoway will any longer hesitate to take the necessary steps to insure the completion of a work in which they have so deep an interest.

Petersburg, August 21, 1833.

Gentlemen,—It is with pleasure I comply with the request to furnish you with the result of the survey and estimate for the contemplated improvement of the Nottoway River, from the Great Falls to the Railroad, a distance of 66 miles 613 yards: in which distance it flows through one of the richest and most fertile sections of country in the State of Virginia—and from the smallness of the amount required to open a useful navigation, and afford the planters in that section an easy, cheap, and expeditious mode of getting their produce to market, would lead to the hope that the work would be immediately and vigorously commenced, the advantages of which are almost incalculable, when compared with their present tardy mode of transportation over a wretched road, requiring twenty per cent. of the actual value of the article to land it at market.

There are 25 miles of slack-water navigation on the river, occasioned by the different mill-dams, which are probably rather an advantage than an injury, as they back the water over many shoals and falls in that distance. The locks are supposed 60 feet long, 8 feet wide, built of wood—sustained by dry walls, where the strength of the current or other circumstances may render it necessary. They last under ordinary circumstances from 8 to 10 years; when the increased amount of produce will, no doubt, warrant a more permanent structure. The river (independent of the locks in the different dams) will only require cleaning out, and occasionally wing dams to deepen the water on the shoals; the total cost of which is $29,406.

In a communication from gentlemen *above* the Forks of Nottoway, they state, that in the event of the river being made navigable, from that section of country alone they can send 2000 hhds. of Tobacco, and 60,000 bushels of wheat. From the forks to the railroad, a distance of 56 miles, there is an exceedingly fertile

country, which would add largely to the above amount—with a yearly increase on the whole amount from the increased facilities of transportation; which would seem to place beyond all doubt a handsome interest on the investment. At the very lowest calculation the saving to the planter will exceed 50 per cent. on the present cost of waggoning his tobacco, and on wheat in a much greater proportion.

Your obt. servant, W. B. Thompson.

Whilst upon the subject of the performance of Locomotive Engines, we will add one or two others equally interesting with the preceding, which must certainly convince any one who may have entertained doubts of their ultimately becoming in general use upon all railroads which are now, or may hereafter be, constructed in this country.

The first is from the Baltimore Gazette, and the other from the National Gazette.

Locomotives on Railroads.—Every friend of Internal Improvements will be gratified by reading the articles in this day's Gazette—one extracted from the National Gazette, the other from the Petersburg Intelligencer—giving accounts of the performance of locomotive engines on two of the railroads in the United States. We hope, however, that they will not be less gratified to learn, that a comparison highly favorable to American genius, talent, and industry, may be made between the performances of imported engines and those constructed in our own country. We feel it to be proper to draw the attention of the American people—and more especially the people of Baltimore—to this comparison, as we have often heard complaints made of the Directors of the Baltimore and Ohio Railroad, for not importing locomotives from England.

We found, on referring to our files of last July, that the performance of the Atlantic, steam engine, on the Baltimore and Ohio Railroad, will bear a most favorable comparison with the best efforts of the most celebrated English engines on any of our railroads. The Atlantic, it should be remembered, is entirely of American manufacture, both as to construction and design, and can fairly compete, in all the essentials, with the best locomotive of any other country. The following is an extract from the account of her performance, published in this Gazette last July:

The Atlantic has been running continually for the last three or four months, from Baltimore to the foot of the Inclined Planes, a distance of 40 miles, and back again, the same day. Upon this portion of the road, 33 miles are ascending, at various grades, of from ten to forty feet per mile, exceeding, in the ascent, 20 feet per mile, *on the average*, and the whole forty miles is almost a constant succession of curves, of 400 feet radius, and upwards. Up on this road the Atlantic has drawn, *on the outward, or ascending trip, thirty tons, at the least, at the rate of seventeen miles per hour*; with only 15 tons, her practical speed exceeds any safe limit on a curved road. The Atlantic has drawn 92 tons on a *level*, at a speed of nine miles to the hour, and has brought 72 tons from the half-way house, (six miles,) to Baltimore, at a rate of twelve miles to the hour, on the level parts of the road; passing two summits, of 16 feet per mile, for a half mile each, at the rate of six miles an hour. The motion of the piston compared with that of the wheels, or progressive motion of the engine, is as 1 to 5½. The fuel employed is Anthracite Coal, which burns without any difficulty, and it is believed with more economy and convenience than any other. The trip, of 80 miles per day, is performed with one ton of it. Although this engine is the first of this peculiar construction, and the first that has completely succeeded in burning the Anthracite, yet—in the small amount of its repairs, and the quantity of work that it is capable of performing—it is believed to be equal, if not superior, to any engine that has yet been made.—[Balt. Gazette.]

From the outset of the discussions and enterprizes in relation to Railroads and Locomotive Engines, we have been powerfully struck with the wonderful effects of which they seemed likely to be productive. As the subject has been developed in theory and practice, our attention and imagination have beeen more and more excited. All the new views and details have deepened and vivified our original impressions. We have so much confidence in American spirit, intelligence, and pecuniary resources, that we feel an assurance that the great railroads undertaken or projected, in different parts of the Union, will be duly accomplished, and realize the expectations of the most sanguine, respecting their various advantages. The moral or political, as well as the physical benefits, to accrue from them, are incalculable.

In the course of the present summer we have had occasion to be frequently in the immediate neighborhood of the Newcastle and Frenchtown Railroad, and to observe closely the management of both steamboats and land conveyance. It has constantly appeared to us so excellent that it must give universal satisfaction. The trip to and from Newcastle is generally effected in two and a half hours; sometimes in two and a quarter, or less. Last week we breakfasted at the Brandywine Springs, between six and seven o'clock; proceeded to Newcastle; reached Frenchtown, in the car line, in less than an hour; arrived at Baltimore at a quarter past two o'clock, and were again at the springs the next day before one o'clock, by the same route, having left Baltimore at six o'clock in the morning. The journey might be called imperceptible, except as to the positive gratifications of the passage. The fare on board of the steamboat is as good and as well served as that of the principal hotels in our large cities, and every attention is constantly paid to the comfort of travellers. If they suffer inconvenience, it must be from their own inobservance of the rules of mutual accommodation and general ease. The information which we casually collected touching the railroad, we now offer to our readers as it was set down in memoranda.

This road has been in operation since the 27th of February, 1832. In September, 1832, locomotive engines were permanently employed on it, and the use of horses for the transportation of passengers entirely dispensed with. The first locomotive used by the Company was called the Delaware, and was used *seventy days consecutively without losing a trip*, although a considerable portion of the time it conveyed the passengers of two lines per day across the road both ways, sixty-six miles. This fact is striking, in as much as it confutes an erroneous idea, which has obtained too generally in this country, that locomotive engines are frequently disabled, and of course do their work at a great expense. The Company has imported all its engines from England; they are from the factory of the celebrated Robert Stephenson & Co., of Newcastle-upon-Tyne. There are now, and have been all this season, three of them in use on the Newcastle and Frenchtown Railroad; a fourth has just arrived in the ship Delaware, from Liverpool.

The Company was a good deal annoyed, for a time, by the emission of sparks from the smoke-pipes of their engines; but that evil has been entirely overcome by the ingenuity of their engineer, (of locomotive power,) Edward A. Young, a native of Virginia, who has procured a patent for his invention. Thus the great desideratum in this country, of burning wood in locomotive engines, has been attained.

It is estimated that one hundred and fifty thousand persons have been transported across this road since it was put in operation, to not one of whom has the slightest accident occurred; and it is a remarkable fact, that in the whole progress of this work, from the commencement of its construction to the present day, not a single human being has suffered the loss of life or limb.

The arrangements of this Company for the transportation of their business are nearly perfect. The precision as to time with which the passengers are daily conveyed across their road, is matter of wonder; the variation is rarely, if ever, greater than five minutes—the time fixed being from 55 to 60 minutes: the distance is 16½ miles. Guards are placed along the road at convenient distances, and signal staffs erected, by means of which information can be transmitted from one end of the road to the other in *three minutes*. This is a great security as well as comfort to travellers; for it is the duty of these guards to keep all horses, cattle, &c. off the road; and in case of detention, from any cause, the telegraphic announcement of it would bring immediate succor. It is believed, however, that, with the exception of a delay caused by a snow storm, there has been but one instanee of detention upon this road worthy of being mentioned, and that was when the engine passed over a cow. The recurrence of such an accident—(no injury was sustained even then by any passenger)—is rendered almost impossible by the judicious precautions above mentioned.

A single locomotive has frequently conveyed over this road upwards of two hundred passengers, with their baggage. The train of cars is often thirteen or fourteen in number, and the sight of them all in motion, conducted by the gallant little steamer, is highly picturesque and interesting.—[National Gazette.]

A Treatise on Railway Improvements. By Richard Badnall, Esq. London, Sherwood & Co.

The volume now before us is of the argumentative kind, recommending the author's invention; and at p. 31, he thus describes his ideas on the subject: "The improvements in the formation or construction of railways, to which these pages principally refer, is the substitution of a curved or undulating, or, what I denominate, a 'serpentine railway, for the horizontal railway now in use. The impressions upon my mind, before the trial of any experiments, were, that by an undulating railway *a greater resistance would be opposed to the power of steam*, or any other locomotive power, than upon level railway; that much would be gained by the power of gravity multiplied by active power down a descent; and that, consequently, a locomotive engine of any power would travel at a greater speed, or drag a greater weight, than upon a horizontal railway." Such, then, is the proposition of the author, and we do not doubt that our readers will join us in expressing surprise at an invention so widely differing from all preconceived notions. In our early youth we were taught that the shortest distance between two points was a straight line; and further, as a continuation of the same proposition, that the two sides of any triangle are greater than the third. Mr. Badnall will therefore attribute the ignorance we display, in not conforming to his views, to our early education, and not to prejudice of any other kind. But to return to the subject: in p. 52, the author gives an account of a first experiment, by which he attempts to prove the utility of his invention. "I had (he says) a curve made of the following proportions: from A to B was four feet, depth of curve 2 inches; *a* is a roller, so constructed as to move easily along the curve, and to revolve upon its axis, to each end of which was attached the string *s*, which passes over a pulley at the opposite end, and a weight was attached to the string to propel the roller. The curve, it should be stated, was formed on a solid piece of wood, so that by turning it over it would be a horizontal surface of 4 feet.

"The following experiments were made

with different weights, just sufficient to move the roller along the surface when perfectly horizontal and at different inclinations.

Inclinations.	Over the horizontal plane	Over the curves.
On a perfect level	2½ sec. . . .	1½ sec.
Rise of 3 in. in 48 in. . .	3	2
" 4 in 48 . . .	5	2
" 2 in 48 . . .	5	2
" 6 in 48 . . .	6	2⅛

"*Thus showing that the greater the angle of the incline the longer was the time required in passing along the plane;* whilst on the curve, the same exact weight being employed at each experiment, *the speed scarcely varied, and at all times was considerably greater than upon the horizontal plane.*" We have taken the liberty of putting parts of this quotation in italics, because we consider they answer the proposition of the author. We grant the results to be sufficiently correct for argument, though they cannot be mathematically true; and we should have been surprized had they been much otherwise. But let us take experiment by experiment: first asking why he tried inclined planes against inclined planes? because his proposition is undulating railways in opposition to level or horizontal planes. In the first experiment, on a level 48 inches long, the roller was by a certain weight drawn from end to end in 2½ seconds, whilst by the same weight the same roller on the curve was drawn 48 inches in 1½ seconds, it will be evident that the roller in descending the first half of the curve would quickly get up its momentum, as would also the weight, whilst on the level plane the length of run would not more than admit the roller to arrive at its velocity; consequently this was by no means a fair trial. If the author had made a rail of 48 inches long, commencing with an inclination for the first 24 inches, the extent of rise being 2 inches, and then a descent of another 24 inches—this, if his proposition has any thing in it, would have been a more fair trial; the weight would cause the roller first to ascend 24 inches and descend the next 24 inches; and if, with such an arrangement, it had been discovered that the space of 48 inches was travelled in a less time than on a horizontal plane, we should be really inclined to look more seriously into the subject. Again, it will be seen in the second experiment, that of raising the level plane 3 inches at one end, which would produce an inclined plane of 3 inches in 48, whilst, on the other hand, in raising the curved surface 3 inches, the first half of the run would be very nearly on a level plane, and thus enable the roller to get up a momentum to meet the other half of the run, which would be an inclined plane of about 5 inches in 24; and such may be said of the other experiments of raising one end 4, 5, and 6 inches. It may be said of all the experiments described, that the length of the level plane is in no instance of sufficient length for the carriage or roller to get up its velocity till nearly to the end, whilst the carriage on the undulating road would get up its velocity by descending the first inclination. In making experiments either with a carriage or with boats, it is usual to commence marking time considerably after the same has started, so that it may be fairly considered to have got up its velocity; and had such a course been pursued in these experiments, very different results would undoubtedly have taken place. Thus, for instance, if the undulating road be 100 feet, and the horizontal plane be 100 feet, the speed or time ought not to be noticed till the carriage had travelled 40 or 50 feet; for the time of running of the carriage on the respective road should be only compared for the last 50 or 60 feet. In page 87, a quotation is given from Mr. Wood's admirable work on Railroads. The present author states that Mr. Wood (p. 202, second edition) calculates the resistance up a plane to be a given amount, say 56, and down the plane a given amount, say 22, and then draws his mean resistance or friction upon a level plane 39—thus:

$$\frac{56+22}{2} = 39$$

Mr. Badnall disputes this calculation of Mr. Wood, and states that the two powers of resistance added together and divided cannot show the mean resistance; he then says, "*I name this, because it particularly bears upon the principle on which I found my improvements; for if Mr. Wood be correct, it appears to me impossible that any advantage could accrue from the adoption of a curved or undulating line of road.*"

We finish our remarks with this last quotation, because it clearly expresses our opinion.—[Repertory of Arts.]

Patent Tinned Lead Pipes.—An article under this name is mentioned in the London papers, which seems likely to supercede the use of all other metals which hitherto have been employed for conduits. To lead alone, in pipes, cisterns, &c. it is well known that the most serious objections exist. For instance, the action of air on lead produces oxide, which water dissolves, and thus water becomes poisonous. Similar deleterious effects are caused by leaden pipes in beer engines. It was to remedy these evils that the new process of tinning lead pipes was brought to perfection, and Messrs. J. & R. Warner, the patentees, affirm that the additional cost for the improved article is very trifling.

American Iron.—It has been a study much attended to of late, to know the character of American and foreign iron, compared with each other.

The consumption of iron in the shape of boiler plates, and cast rails, is becoming enormous. The tenacity and character of the metal are yet to be thoroughly understood. The Baltimore iron is considered the best in the world for steamboats. As yet we do not fabricate wrought iron rails, but probably very soon shall, as machinery will be contrived to equalize the difference between the prices of American and English iron. Cast iron rails have been made with success at our own furnaces.

The American iron being melted by the heat of charcoal is allowed to be more tenacious than the English, which is melted by coke.

To put the matter completely at rest, however, very interesting experiments have been made at the apartments of the Franklin Institute, under the direction of Mr. Johnson, a scientific gentleman. The Secretary of the Treasury was authorized some years since, by an act of Congress, to expend a certain amount in constructing machines to make experiments on the tenacity of iron and other metals used in steam boilers. It was so constructed as to admit any degree of temperature up to 500 degrees Fahrenheit.

Some interesting results have thus been obtained. The Pennsylvanian, who is our authority for the assertion, says it is ascertained that the tenacity of good iron *is increased* by the application of any degree of heat under 450 degrees, which is contrary to previous entertained opinions. Some Tennessee iron (from the Cumberland works) was found equal to a resistance of from 59,000 to 64,000 pounds the square inch! The Pennsylvania and Connecticut iron exhibited the same qualities. No iron from our state was sent on for trial. We hope some of our proprietors of forges will not forget to submit specimens of their iron to the test of these experiments.

It was also found that common American iron was better than the best British, and the best American equal, and generally superior, to Swedish and Russian.—[Albany Daily Advertiser.]

Wonderful Invention.—A watchmaker of the name of Buschmann, living at Elsenburg, not far from Attenburg, in Saxony, has contrived a piece of machinery, which, without the assistance of steam, has been found strong enough to move a heavily laden waggon, placed in a fresh ploughed field, with the greatest ease, although sixteen horses could not stir it. The machine may be easily handled, and the vehicle moved by it most safely managed. The inventor has been offered $200,000 for the secret; but as he had obtained patents from all the principal German governments, he has refused all offers.—[Danville Reporter.]

New Invention.—A gum elastic cloak, lined with silk, has been invented in Baltimore. It is intended to be thrown over the shoulders in wet weather, and will effectually shield the person and clothes of the wearer. When not wanted, it can be folded up into a very small bulk, and, on this account, must be found very useful and convenient. We mean to have one ordered on for our own use, so as to be ready for the next fall elections.—[Cin. Rep.]

Cut Flowers.—To more conveniently enjoy the sight of flowers, they are often plucked and placed in jars of water in the dwelling. By changing the water, or adding alkalies every day, they may be perpetuated without fading for many days, even to the period of falling from the parent stem. Lime, magnesia, or soda, may be used in moderate quantities, such as to give natural sustenance to the detached shoots in preservation. They may be made a luxuriant and appropriate ornament to the drawing-room or parlor; and in the more humble dwelling of the laborer, how cheerful appears the white-washed room and broad fire-place,

> "Whose hearth, except when winter chills the day,
> With aspen boughs, and flowers, and fennel gay,"

throws out its soft perfume to the air.—[Ulmus.]

New Paddle Wheel.—A model of a newly invented paddle wheel for boats, which avoids the lifting of water, as in ordinary paddles, is now to be seen in the Hall of the Franklin Institute, Philadelphia. The inventors say that these paddles are brought into the water less obliquely than the common kind, and from the time they are vertical with the axis of the wheel retain a perpendicular position, until they are out of the water. This result is alleged to be the effect of a simple contrivance. The machine may be constructed of any requisite strength.

Babbage on the Economy of Manufactures.

[Continued from page 504.]

181. Some farther reflections are suggested by the preceding analysis; but it may be convenient, previously, to place before the reader a brief description of a machine for making pins, invented by an American. It is highly ingenious in point of contrivance, and, in respect to its economical principles, will furnish a strong and interesting contrast with the manufacture of pins by the human hand. In this machine a coil of brass wire is placed on an axis; one end of this wire is drawn by a pair of rollers through a small hole in a plate of steel, and is held there by a forceps. As soon as the machine is put in action—

1. The forceps draws the wire on to a distance equal in length to one pin: a cutting edge of steel then descends close to the hole through which the wire entered, and severs a piece equal in length to one pin.

2. The forceps holding this wire moves on until it brings the wire into the centre of the *chuck* of a small lathe, which opens to receive it. Whilst the forceps returns to fetch another piece of wire, the lathe revolves rapidly, and grinds the projecting end of the wire upon a steel mill, which advances towards it.

3. After this first or coarse pointing, the lathe stops, and another forceps takes hold of the half-pointed pin, (which is instantly released by the opening of the *chuck*,) and conveys it to a similar *chuck* of another lathe, which receives it, and finishes the pointing on a finer steel mill.

4. This mill again stops, and another forceps removes the pointed pin into a pair of strong steel clams, having a small groove in them, by which they hold the pin very firmly. A part of this groove, which terminates at that edge of the steel clams which is intended to form the head of the pin, is made conical. A small round steel punch is now driven forcibly against the end of the wire thus clamped, and the head of a pin is partially formed by compressing the wire into the conical cavity.

5. Another pair of forceps now removes the pin to another pair of clams, and the head of the pin is completed by a blow from a second punch, the end of which is slightly concave. Each pair of forceps returns as soon as it has delivered its burden; and thus there are always five pieces of wire at the same moment in different stages of advance towards a finished pin. The pins so formed are received in a tray, and whitened and papered in the usual manner. About sixty pins can thus be made by this machine in one minute; but each process occupies exactly the same time in performing.

182. In order to judge of the value of such a machine, compared with hand labor, it would be necessary to inquire: 1. To what defects pins so made are liable? 2. What advantages they possess over those made in the usual way? 3. What is the prime cost of a machine for making them? 4. What is the expense of keeping it in repair? 5. What is the expense of moving it and attending to it?

1. Pins made by the machine are more likely to bend, because as the head is punched up out of the solid wire, it ought to be in a soft state to admit of this process. 2. Pins made by the machine are better than common ones, because they are not subject to losing their heads. 3. With respect to the prime cost of a machine, it would be very much reduced if numbers should be required. 4. With regard to its wear and tear, experience only can decide the question: but it may be remarked, that the steel clams or dies in which the heads are punched up will wear quickly, unless the wire has been softened by annealing: and that if it has been softened, the bodies of the pins will bend too readily. Such an inconvenience might be remedied, either by making the machine spin the heads and fix them on, or by annealing only that end of the wire which is to become the head of the pin: but this would cause a delay between the operations, since the brass is too brittle while heated to bear a blow without crumbling. 5. On comparing the time occupied by the machine with that stated in the analysis, we find, except in the process of heading, if time alone is considered, that the human hand is more rapid. Three thousand six hundred pins are pointed by the machine in an hour, whilst a man can point fifteen thousand six hundred in the same time. But in the process of heading, the rapidity of the machine is two and a half times that of the human hand. It must, however, be observed, that the process of grinding does not require the application of force to the machine equal to that of one man; for all the processes we have described are executed at once by the machine, and one laborer can easily work it.

ON THE DIVISION OF MENTAL LABOR.

183. We have already mentioned what may, perhaps, appear paradoxical to some of our readers,—that the division of labor can be applied with equal success to mental operations, and that it insures, by its adoption, the same economy of time. A short account of its practical application, in the most extensive series of calculations ever executed, will offer an interesting illustration of this fact, whilst at the same time it will afford an occasion for showing that the arrangements which ought to regulate the interior economy of a manufactory are founded on principles of deeper root than may have been supposed, and are capable of being usefully employed in paving the road to some of the sublimest investigations of the human mind.

184. In the midst of that excitement which accompanied the Revolution of France and the succeeding wars, the ambition of the nation, unexhausted by its fatal passion for military renown, was at the same time directed to the nobler and more permanent triumphs which mark the era of a people's greatness,—and which receive the applause of posterity long after their conquests have been wrested from them, or even when their existence as a nation may be told only by the page of history. Amongst their enterprizes of science, the French government was desirous of producing a series of mathematical tables, which should facilitate the extension of the decimal system they had so recently adopted. They directed, therefore, their mathematicians to construct such tables, on the most extensive scale. Their most distinguished philosophers, responding fully to the call of their country, invented new methods for this laborious task; and a work, completely answering the large demands of the government, was produced in a remarkably short period of time. M. Prony, to whom the superintendance of this great undertaking was confided, in speaking of its commencement, observes: "Je m'y livrai avec toute l'ardeur dont j'etois capable, et je m'occupai d'abord du plan general de l'execution. Toutes les conditions que j'avois à remplir necessitoient l'emploi d'un grand nombre de calculateurs; et il me vint bientot à la pensee d'appliquer à la confection de ces tables *la division du travail*, dont les Arts de Commerce tirent un parti si avantageux pour reunir à la perfection de main-d'œuvre l'economie de la depense et du temps." The circumstance which gave rise to this singular application of the principle of *the division of labor* is so interesting, that no apology is necessary for introducing it from a small pamphlet printed at Paris a few years since, when a proposition was made by the English to the French government, that the two countries should print these tables at their joint expense.

185. The origin of the idea is related in the following extract:

"C'est à un chapitre d'un ouvrage Anglais, justement celebre, (I.) qu'est probablement due l'existence de l'ouvrage dont le gouvernement Britannique veut faire jouir le monde savant: [*An Inquiry into the Nature and Causes of the Wealth of Nations, by Adam Smith,*]

Voici l'anecdote: M. de Prony s'etait engage, avec les comites de gouvernement, a composer pour la division centesimale du cercle, des tables logarithmiques et trigonometriques, qui, non seulement ne laissassent rien a desirer quant a l'exactitude, mais qui formassent le monument de calcul le plus vaste et le plus imposant qui eut jamais ete execute, ou meme concu. Les logarithmes des nombres de 1 a 200,000 formaient a ce travail un supplement necessaire et exige. Il fut aise à M. de Prony de s'assurer que, meme en s'associant trois ou quatre habiles co-operateurs, la plus grande duree presumable de sa vie, ne lui suffirai pas pour remplir ses engagements. Il etait occupe de cette facheuse pensee lorsque, se trouvant devant la boutique d'un marchand de livres, il appercut la belle edition Anglaise de Smith, donnee a Londres en 1776; il ouvrit le livre au hazard, et tomba sur le premier chapitre, qui traite de *la division du travail*, et ou la fabrication des epingles est citee pour exemple. A peine avait-il parcouru les premieres pages, que, par une espece d'inspiration, il concut l'expedient de mettre ses logarithmes en *manufacture* comme les epingles. Il fa sait, en ce moment, a l'ecole polytechnique, des lecons sur une partie d'analyse liee a ce genre de travail, *la methode des differences*, et ses applications a *l'interpolation*. Il alla passer quelques jours a la campagne, et revint a Paris avec le plan de *fabrication*, qui a ete suivi dans l'execution. Il rassembla deux ateliers, qui faisaient separement les memes calculs, et se servaient de verification reciproque.*

186. The ancient methods of computing tables were quite inapplicable to such a proceeding. M. Prony, therefore, wished to avail himself of all the talent of his country, and formed the first section of those who were to take part in this enterprize, out of five or six of the most eminent mathematicians in France.

First Section.—The duty of this first section was to investigate, amongst the various analytical expressions which could be found for the same function, that which was most readily adapted to simple numerical calculation by many individuals employed at the same time. This section had little or nothing to do with the actual numerical work. When its labors were concluded, the formulæ, on the use of which it had decided, were delivered to the second section.

Second Section.—This section consisted of seven or eight persons of considerable acquaintance with mathematics: and their duty was to convert into numbers the formulæ put into their hands by the first section—an operation of great labor—and then to deliver out these formulæ to the members of the third section, and receive from them the finished calculations. The members of this second section had certain means of verifying these calculations without the necessity of repeating, or even of examining, the whole of the work done by the third section.

Third Section.—The members of this section, whose number varied from sixty to eighty, received certain numbers from the second section, and, using nothing more than simple addition and subtraction, they returned to that section the finished tables. It is remarkable that nine-tenths of this class had no knowledge of arithmetic beyond its two first rules which they were thus called upon to exercise, and that these persons were usually found more correct in their calculations than those who possessed a more extensive knowledge of the subject.

187. When it is stated that the tables thus computed occupy seventeen large folio volumes, some idea may perhaps be formed of the labor. From that part executed by the third class, which may almost be termed mechanical, requiring the least knowledge and by far the greatest labor, the first class were entirely exempt. Such labor can always be purchased at an easy rate. The duties of the second class, although requiring considerable skill in arithmetical operations, were yet in some measure relieved by the higher interest naturally felt in those more difficult operations. The exertions of the first

* Note sur la publication, proposee par le gouvernement Anglais, des grandes tables logarithmiques et trigonometriques de M. de Prony. De l'imprimerie de F. Didot, Dec. 1, 1820, p. 7.

class are not likely to require, upon another occasion, so much skill and labor as they did upon the first attempt to introduce such a method; but when the completion of a calculating engine shall have produced a substitute for the whole of the third section of computers, the attention of analysts will naturally be directed to simplifying its application, by a new discussion of the methods of converting analytical formulæ into numbers.

188. The proceeding of M. Prony, in this celebrated system of calculation, much resembles that of a skilful person about to construct a cotton or silk mill, or any similar establishment. Having, by his own genius, or through the aid of his friends, found that some improved machinery may be successfully applied to his pursuit, he makes drawings of his plans of the machinery, and may himself be considered as constituting the first section. He next requires the assistance of operative engineers, capable of executing the machinery he has designed, some of whom should understand the nature of the processes to be carried on; and these constitute his second section. When a sufficient number of machines have been made, a multitude of other persons, possessed of a lower degree of skill, must be employed in using them; these form the third section: but their work and the just performance of the machines must be still superintended by the second class.

189. As the possibility of performing arithmetical calculations by machinery may appear to non-mathematical readers to be rather too large a postulate, and as it is connected with the subject of the *division of labor*, I shall here endeavor, in a few lines, to give some slight perception of the manner in which this can be done—and thus to remove a small portion of the veil which covers that apparent mystery.

190. That nearly all tables of numbers which follow any law, however complicated, may be formed, to a greater or less extent, solely by the proper arrangement of the successive addition and subtraction of numbers befitting each table, is a general principle which can be demonstrated to those only who are well acquainted with mathematics; but the mind, even of the reader who is but very slightly acquainted with that science, will readily conceive that it is not impossible, by attending to the following example. Let us consider the subjoined table. This table is the beginning of one in very extensive use, which has been printed and reprinted very frequently in many countries, and is called *a table of square numbers*.

Terms of the table.	A. Table.	B. 1st Difference.	C. 2d Difference.
1	1		
		3	
2	4		2
		5	
3	9		2
		7	
4	16		2
		9	
5	25		2
		11	
6	36		2
		13	
7	40		

Any number in the table, column A, may be obtained, by multiplying the number which expresses the distance of that term from the commencement of the table by itself; thus, 25 is the fifth term from the beginning of the table, and 5 multiplied by itself, or by 5, is equal to 25. Let us now subtract each term of this table from the next succeeding term, and place the results in another column, (B,) which may be called first difference column. If we again subtract each term of this first difference from the succeeding term, we find the result is always the number 2, (column C;) and that the same number will always recur in that column, which may be called the second difference, will appear to any person who will take the trouble to carry on the table a few terms farther. Now when once this is admitted as a known fact, it is quite clear that, provided the first term (1) of the table, the first term (3) of the first differences, and the first term (2) of the second or constant difference, are originally given, we can continue the table of square numbers to any extent, merely by simple addition: for the series of the first differences may be formed by repeatedly adding the constant difference 2 to (3) the first number in column B, and we then necessarily have the series of odd numbers, 3, 5, 7, &c.: and, again, by successively adding each of these to the first number (1) of the table, we produce the square numbers.

191. Having thus, I hope, thrown some light upon the theoretical part of the question, I shall endeavor to show that the mechanical execution of such an engine, as would produce this series of numbers, is not so far removed from that of ordinary machinery as might be conceived. Let the reader imagine three clocks placed on a table side by side, each having only one hand, and each having a thousand divisions instead of twelve hours marked on the face; and every time a string is pulled, let them strike on a bell the numbers of the divisions to which their hands point. Let him farther suppose, that two of the clocks, for the sake of distinction called B and C, have some mechanism by which the clock C advances the hand of the clock B one division, for each stroke it makes upon its own bell; and let the clock B, by a similar contrivance, advance the hand of the clock A one division, for each stroke it makes on its own bell. With such an arrangement, having set the hand of the clock A to the division I., that of B to III., and that of C to II., let the reader imagine the repeating parts of the clocks to be set in motion continually, in the following order, viz.: pull the string of clock A; pull the string of clock B; pull the string of clock C.

Repetitions of process.	Movements.	Clock A. — Hand set to I.	Clock B. — Hand set to III.	Clock C. — Hand set to II.
		Table	1st difference	2d difference
1	Pull A.	A. strikes.....1	.....	.....
	B.	The hand is advanced (by B.) 3 divisions....	B. strikes.....3	.....
	C.	.....	The hand is advanced (by C.) 2 divisions.....	C. strikes 2
2	Pull A.	A. strikes....4	.....	.....
	B.	The hand is advanced (by B.) 5 divisions.....	B. strikes.....5	.....
	C.	.....	The hand is advanced (by C.) 2 divisions.....	C. strikes 2
3	Pull A.	A. strikes.....9	.....	.....
	B.	The hand is advanced (by B.) 7 divisions.....	B. strikes.....7	.....
	C.	.....	The hand is advanced (by C.) 2 divisions.....	C. strikes 2
4	Pull A.	A. strikes....16	.....	.....
	B.	The hand is advanced (by B.) 9 divisions.....	B. strikes.....9	.....
	C.	.....	The hand is advanced (by C.) 2 divisions.....	C. strikes 2

If now only those divisions struck or pointed at by the clock C be attended to and written down, it will be found that they produce the series of the squares of the natural numbers. Such a series could, of course, be carried by this mechanism only so far as the three first figures; but this may be sufficient to give some idea of the construction, and was, in fact, the point to which the first model of the calculating-engine, now in progress, extended.

192. We have seen, then, that the effect of the *division of labor*, both in the mechanical and mental processes, is, that it enables us to purchase and apply to each process precisely that quantity of skill and knowledge which is required for it: we avoid employing any part of the time of a man who can get eight or ten shillings a day by his skill in tempering needles, in turning a wheel, which can be done for six pence a day; and we equally avoid the loss arising from the employment of an accomplished mathematician in performing the lowest processes of arithmetic.

193. The *division of labor* cannot be successfully practised, unless there exists a great demand for its produce; and it requires larger capital to be employed in those arts in which it is used. In watch-making it has been carried, perhaps, to the greatest extent. In an examination before a Committee of the House of Commons, it was stated that there are a hundred and two distinct branches of this art, to each of which a boy may be put apprentice; and that he only learns his master's department, and is unable, after his apprenticeship has expired, without subsequent instruction, to work at any other branch. The watch-finisher, whose business it is to put together the scattered parts, is the only one, out of the hundred and two persons, who can work in any other department than his own.

ON THE SEPARATE COST OF EACH PROCESS IN A MANUFACTURE.

194. The great competition introduced by machinery, and the application of the principle of the subdivision of labor, render it continually necessary for each producer to be on the watch, to discover improved methods by which the cost of the article he manufactures may be reduced; and, with this view, it is of great importance to know the precise expense of every process, as well as of the wear and tear of machinery which is due to it. The same information is desirable for others, through whose hands the manufactured goods are distributed; because it enables them to give reasonable answers or explanations to the objections of inquirers, and also affords them a better chance of suggesting to the manufacturer changes in the fashion of his goods, which may be more suitable either to the tastes or to the finances of his customers. To the statesman such knowledge is still more important, as without it he must trust entirely to others, and can form no judgment, worthy of confidence, of the effect any tax may produce, or of the injury the manufacturer or the country may suffer by its imposition.

195. One of the first advantages which suggests itself as likely to arise from a correct analysis of the expense of the several processes of any manufacture, is the indication which it furnishes of the course in which improvement should be directed. If any method should be contrived of diminishing by one-fourth the time required for fixing on the heads of the pins, the expense of making them would be reduced about thirteen per cent., whilst a reduction of one half the time employed in spinning the coil of wire out of which the heads are cut, would scarcely make any sensible difference in the cost of the manufacture of the whole article. It is, therefore, obvious, that the attention would be much more advantageously directed to shortening the former than the latter process.

196. The expense of manufacturing, in a country where the machinery is of the rudest kind, and manual labor is very cheap, is curiously exhibited in the price of cotton cloth in the island of Java. The cotton, in the seed, is sold by the picul, which is a weight of about 133 lbs. Not above one-fourth or one-fifth of this weight, however, is cotton; and the natives, by means of rude wooden rollers, separate, at the expense of one day's labor, about 1¼ lb. of cotton from the seed. In this stage it is worth between four and five times its original cost: and the prices of the same substance, in its different stages of manufacture, are, for one picul: Cotton in the seed, 2 to 3 dollars—Clean cotton, 10 to 11—Cotton thread, 24—Cotton thread, dyed blue, 35—Good ordinary cotton cloth, 50.

Thus it appears that the expense of spinning in Java is 117 per cent. on the value of the raw material; that the expense of dying thread blue is 45 per cent. on its value; and that the

expense of weaving cotton thread into cloth is 117 per cent. on its value. The expense of spinning cotton into a fine thread is, in England, about 33 per cent.*

197. As an example of the cost of the different processes of a manufacture, perhaps an analytical statement of the expense of the volume now in the reader's hands† may not be uninteresting, more especially as it will afford an insight into the nature and extent of the taxes upon literature. It is found economical to print it upon paper of an unusually large size, so that although thirty-two pages are really contained in each sheet, this work is still called 8vo.

To printer for composing (per sheet of 32 pages) 3*l.* 1*s.*, 10¼ sheets,		£32	0 6
To printer for composing small type, as in extracts and contents, extra per sheet, 3*s.* 10*d.*		2	0 3
To printer for composing table-work, extra per sheet, 5*s.* 6*d.*		2	17 9
Average charge for corrections per sheet, 3*l.* 2*s.* 10*d.*		33	0 0
Press-work, 3,000 being printed off, per sheet, 3*l.* 10*s.*		36	15 0
Paper for 3,000, at 1*l.* 11*s.* 6*d.* per ream, weighing 28 lbs.: the duty on paper at 3*d.* per lb. amounts to 7*s.* per ream, so that the 63 reams which are required for the work will cost: Paper, 77*l.* 3*s.* 6*d.*—Excise Duty, 22*l.* 1*s.*,		99	4 6
Total expense of printing and paper,		205	18 0
Steel plate for title page,	£0 7 6		
Engraving on steel, letters	1 1 0		
Ditto Head of Bacon,	2 2 0		
Total expense of title page,		3	10 6
Printing title page, at 6*s.* per 100,		9	0 0
Paper for ditto, at 1*s.* 9*d.* per 100,		2	12 6
Expenses of advertising,		40	0 0
Sundries,		5	0 0
Total expense in sheets,		266	1 0
Cost of a single copy in sheets,		0	1 9¼
Extra boarding,		0	0 6
Cost of each copy, boarded,		0	2 3¼

198. This analysis requires some explanation. The printer usually charges for composition by the sheet, supposing the type to be all of one kind; and as this charge is regulated by the size of the letter, on which the quantity of it in a sheet depends, little dispute can arise after the price is agreed upon. If there are a few extracts, or other parts of the work, which require to be printed in smaller type, or if there are many notes, or several passages in Greek, or in other languages, requiring a different type, these are considered in the original contract, and a small additional price per sheet allowed. If there is a larger portion of small type, it is better to have a specific additional charge for it per sheet. If any work, with irregular lines, and many figures, and what the printers call rules, occurs, it is called table-work, and is charged at an advanced price per sheet. Examples of this are frequent in the present volume. If the page consists entirely of figures, as in mathematical tables, which require very careful correction, the charge for composition is usually doubled. A few years ago I printed a table of logarithms, on a large sized page, which required great additional labor and care from the readers, in rendering the proofs correct, for which several new types were cast, although new punches were not required, and for which stereotype plates were cast, costing about 2*l.* per sheet. In this case 11*l.* per sheet were charged, although ordinary composition, with the same sized letter, in demy octavo, could have been executed at thirty-eight shillings per sheet: but as the expense was ascertained before commencing the work, it gave rise to no difficulties.

199. The charge for *corrections* and *alterations* is one which, from the difficulty of measuring it, gives rise to the greatest inconvenience, and is as disagreeable to the publisher, (if he be the agent between the author and the printer,) and the master printer or his foreman, as it is to the author himself. If the author study economy, he should make the whole of his corrections in the manuscript, and should copy it out fairly: it will then be printed correctly, and he will have little to pay for corrections. But it is scarcely possible to judge of the effect of any passage correctly, without having it set up in type; and there are few subjects to which an author does not find he can add some details or explanations, when he sees his views in print. If, therefore, he wish to save his own labor in transcribing, and to give the last polish to the language, he may accomplish these objects at an increased expense. If the printer possess a sufficient stock of type, it will contribute still more to the convenience of the author to have his whole work put up in what are technically called *slips*,* and then to make all the corrections, and to have as few revises as he can. The present work was set up in slips, but the corrections were unusually large, and the revises frequent.

200. The press-work, or *printing off*, is charged at a price agreed upon for each two hundred and fifty sheets; any broken number is still considered as two hundred and fifty. When a large edition is required, the price for two hundred and fifty is reduced; thus, in the present volume, two hundred and fifty copies, if printed alone, would have been charged eleven shillings per sheet. The principle of this mode of charging is good, as it obviates all disputes; but it is to be regretted that the custom of charging for any small number the same price as for two hundred and fifty is so pertinaciously adhered to, that the master printers cannot get their men to agree to any other terms when only twenty or thirty copies are required, or even when only three or four are wanted for the sake of some experiment. Perhaps if all numbers above fifty were charged as two hundred and fifty, and all below as for half two hundred and fifty, both parties would derive an advantage.

201. The effect of the excise duty is to render the paper thin, in order that it may weigh little; but this is counteracted by the desire of the author to make his book look as thick as possible, in order that he may charge the public as much as he decently can; and so on that ground alone it is of no importance. There is, however, another effect of this duty, which both the public and the author feel; for they pay, not merely the duty which is charged, but also the profit on that duty, which the paper-maker requires for the use of additional capital; and also the profit to the publisher and bookseller on the increased price of the volume.

202. The estimated charge for advertisements is, in the present case, about the usual allowance for such a volume; and, as it is considered that advertisements in newspapers are the most effectual, where the smallest pays a duty of 3*s.* 6*d.*, nearly one half the charge of advertising is a tax.

203. It appears, then, that upon an expenditure of 276*l.* on the present volume, 42*l.* are paid in the shape of a direct tax. Whether the profits arising from such a mode of manufacturing will justify such a rate of taxation, can only be estimated when the returns from the volume are considered, a subject that will be discussed in our subsequent pages. It is at present sufficient to observe, that the tax on advertisements is an impolitic tax, when contrasted with that upon paper, and on other materials employed. The object of all advertisements is, by making known articles for sale, to procure for them a better price, if the sale is to be by auction; or a larger extent of sale, if by retail dealers. Now the more any article is known, the more quickly it is discovered whether it contributes to the comfort or advantage of the public, and the more quickly its consumption is assured if it is found valuable. It would appear, then, that every tax on communicating information respecting articles which are the subject of taxation in another shape, is one which must considerably reduce the amount that would have been raised had no impediment been placed in the way of making known to the public their qualities and their price.

ON THE CAUSES AND CONSEQUENCES OF LARGE FACTORIES.

204. On examining the analysis which has been previously given of the operations in the art of pin-making, it will be observed, that ten individuals are employed in it, and also that the time occupied in executing the several processes is very different. In order, however, to render more simple the reasoning which follows, it will be convenient to suppose that each of the six processes there described requires an equal quantity of time. This being supposed, it is at once apparent, that, to conduct an establishment for pin-making most profitably, the number of persons employed must be a multiple of ten. For if a person with small means has only sufficient capital to enable him to employ half that number of persons, they cannot each of them constantly adhere to the execution of the process; and if a manufacturer employs any number not a multiple of ten, a similar result must ensue with respect to some portion of them. The same reasoning extends to all manufactories which are conducted upon the principle of the *division of labor*, and we arrive at this general conclusion—

When (from the peculiar nature of the produce of each manufactory) the number of processes into which it is most advantageous to divide it is ascertained, as well as the number of individuals to be employed, then all other manufactories which do not employ a direct multiple of this number, will produce the article at a greater cost. This principle ought always to be kept in view in great establishments, although it is quite impossible, even with the best system of the *division of labor*, to carry it rigidly into execution. The proportion of the persons employed who possess the greatest skill is, of course, to be first attended to. That exact ratio which is most profitable for a factory employing a hundred workmen, may not be quite the most fit for one in which there are five hundred; and probably both admit of variations in their arrangements without materially increasing the cost of their produce. But it is quite certain that no individual, nor in the case of pin-making could any five individuals, ever hope to compete with an extensive establishment. Hence arises one of the causes of the great size of manufacturing establishments, which have increased with the progress of civilization. Other circumstances, however, contribute to the same end, and arise also from the same cause—*the division of labor.*

205. The material out of which the manufactured article is produced, must, in the several stages of its progress, be conveyed from one operator to the next in succession; this can be done at least expense when they are all working in the same establishment. If the material is heavy, this reason acts with additional force; but in cases where it is light, the danger arising from frequently removing it may render it desirable to have all the processes carried on in the same building. In the cutting and polishing of glass this is the case; whilst in the art of needle-making, several of the processes are carried on in the cottages of the workmen. It is, however, clear that the latter plan, which is attended with some advantages to the family of the workmen, can be adopted only where there exists a sure and quick method of knowing that the work has been well done, and that the whole of the materials given out have been really employed.

206. The inducement to contrive machines for any process of manufacture increases with the demand for the article; and the introduction of machinery, on the other hand, tends to increase the quantity produced, and to lead to the establishment of large factories. An illus-

* These facts are taken from Crawfurd's Indian Archipelago.

† This refers to the London edition, as published by Chas. Knight.

* Slips are long pieces of paper, on which sufficient matter is printed to form, when divided, from two to four pages of text.

tration of these principles may be found in the history of the manufacture of patent net.

The first machines for weaving this article were very expensive, costing from a thousand to twelve or thirteen hundred pounds. The possessor of one of these, though it greatly increased the quantity he could produce, was nevertheless unable, when working eight hours a day, to compete with the old methods. This arose from the large capital invested in the machinery; but he quickly perceived that, with the same expense of fixed capital and a small addition to his circulating capital, he could work the machine during the whole twenty-four hours. The profits thus realized soon induced other persons to direct their attention to the improvement of those machines; and the price was considerably reduced, at the same time that the rapidity of production of the patent net was increased. If machines be kept working through the twenty-four hours, it will be necessary that some person shall attend to admit the workmen at the time they relieve each other; and whether the porter or other servant so employed admit one person or twenty, his rest will be equally disturbed. It will also be necessary, occasionally, to adjust or repair the machine; and this will be done much better by a workman accustomed to machine making, than by the person who uses it. Now, since the good performance and the duration of machines depend to a very great extent upon correcting, as soon as it appears, every shake or imperfection in their parts, it will soon become apparent that a workman resident on the spot will reduce the expenditure arising from the wear and tear of machinery. But in the case of a single lace-frame, or a single loom, this would be too expensive a plan. Here, then, arises another circumstance which tends to enlarge the extent of a factory. It ought to consist of such a number of machines as shall occupy the whole time of one workman in keeping them in order, and in making any casual repairs: if it is extended beyond this, the same principle of economy would point out the necessity of doubling or tripling the number of machines, in order to employ the whole time of two or three skilful workmen.

207. Where one part of each workman's labor consists in the exertion of mere physical force, as in weaving and many similar arts, it will soon occur to the manufacturer, that if the loom or lace-frame were driven by a steam-engine, the same man might attend to two or more looms at once; and since we already suppose that he already employed one or more operative engineers, he may so arrange the number of his looms that the charge of keeping them and the steam-engine in order shall just fully occupy their time. One of the first effects will be, that the steam-engine can drive the looms twice as fast as human force; and as each man, when relieved from bodily labor, can attend to two looms, it will be found that one workman can now make as much cloth as four could do before. This increase was, however, greater than that which really took place at first; for the limit of the velocity of the parts of the loom depended upon the strength of the thread, and the quickness with which it commenced its motion: but an improvement was soon made, by which the motion commenced slowly, and gradually acquired greater velocity than it was safe to give it at once. This improvement increased the speed from 100 to about 120 strokes per minute.

208. Pursuing the same principles, the manufactory becomes gradually so enlarged, that the expense of lighting during the night amounts to a considerable sum; and as there are already attached to the establishment persons who are up all night, and can, therefore, constantly attend to it, and also engineers to make and keep in repair any machinery, the addition of an apparatus for making gas to light the factory introduces a new extension, at the same time that it contributes, by diminishing the expense of lighting, and the risk of accidents by fire, to reduce the cost of manufacturing.

209. Long before a factory has reached this extent, it will have been found necessary to establish an accountant's department, with clerks to pay the workmen, and to see that they arrive at their stated times; and this department must be in communication with the agents who purchase the raw produce, and with those who sell the manufactured article.

210. It would be of great importance, if, in every large establishment, the modes of paying the different persons employed could be so arranged, that each should derive advantage from the success of the whole, and that the profits of the individuals should advance as the factory itself produced profit, without the necessity of making any change in the wages agreed upon. This is by no means easy to effect, particularly amongst that class whose daily labor procures for them their daily meal. The system which has long been pursued in working the Cornish mines, although not exactly fulfilling these conditions, yet possesses advantages which make it worthy of attention, as having considerably approached towards them, and as tending to render fully effective the faculties of all engaged in it.

211. In the mines of Cornwall, almost the whole of the operations both above and below ground are contracted for. The manner of making the contract is nearly as follows. At the end of every two months, the *work* which it is proposed to carry on during the next period is marked out. It is of three kinds. 1. *Tut-work*, which consists in sinking shafts, driving levels, and making excavations; this is paid for by the fathom in depth, or in length, or by the cubic fathom. 2. *Tribute*, which is payment for raising and dressing the ore, by means of a certain part of its value when merchantable. It is this species of payment which produces such admirable effects. The miners, who are to be paid in proportion to the richness of the vein, and the quantity of metal actually extracted from it, naturally become quick-sighted in the discovery of ore, and in estimating its value; and it is their interest to avail themselves of every improvement that can bring it more cheaply to market. 3. *Dressing:* The tributors, who dig and dress the ore, can seldom afford to dress the coarsest parts of that which they raise at their contract price; they, therefore, leave it, and this portion is again let out to persons who agree to dress it at an advanced price. The lots of ore to be dressed, and the works to be carried on, having been marked out for some days, and having been examined by the men, a kind of auction is kept by the captains of the mine, in which each lot is put up, and bid for by different gangs of men. The work is then offered, at a price usually below that bid at the auction, to the lowest bidder, who rarely declines it at the rate proposed. The tribute is a certain sum out of every twenty shillings' worth of ore raised, and may vary from three pence in the pound to fourteen or fifteen shillings. The rate of earnings in tribute is very uncertain: if a vein, which was poor when taken, becomes rich, the men earn money rapidly; and instances have occurred in which each miner of a gang has earned a hundred pounds in two months. These extraordinary cases are, perhaps, of more advantage to the owners of the mine than even to the men; for whilst the skill and industry of the workmen are greatly stimulated, the owner himself always derives greater advantage from the improvement of the vein.* This system has been introduced, by Mr. Taylor, into the lead mines of Flintshire, into those at Skipton, in Yorkshire, and into some of the copper mines of Cumberland; and it is desirable that it should become general, because no other mode of payment affords to the workmen a measure of success so directly proportioned to the industry, the integrity, and the talent, which they exert.

212. We have seen that the application of the *division of labor* tends to produce cheaper articles: it thus increases the demand, and gradually, by the effect of competition, or the hope of increased gain, causes large capitals to be embarked in extensive factories. Let us now examine the influence of such accumulation of capital directed to one object. In the first place it enables the most important principle on which the *division of labor* rests, to be carried almost to its extreme limits: not merely the precise amount of skill is purchased which is necessary for the execution of each process, but throughout every stage from that in which the raw material is procured, to that by which the finished produce is conveyed into the hands of the consumer, the same economy of skill prevails. The quantity of work produced by a given number of people is greatly augmented by such an extended arrangement; and the result is necessarily a great reduction in the cost of the article which is brought to market.

213. Amongst the causes which tend to the cheap production of any article, and which require additional capital, may be mentioned the care which is taken to allow no part of the raw produce, out of which it is formed, to be absolutely wasted. An attention to this circumstance sometimes causes the union of two trades in one factory, which otherwise would naturally have been separated. An enumeration of the arts to which the horns of cattle are applicable, furnishes a striking example of this kind of economy. The tanner, who has purchased the hides, separates the horns, and sells them to the makers of combs and lanterns. The horn consists of two parts, an outward horny case, and an inward conical-shaped substance, somewhat intermediate between indurated hair and bone. The first process consists in separating these two parts, by means of a blow against a block of wood. The horny exterior is then cut into three portions by means of a frame-saw.

1. The lowest of these, next the root of the horn, after undergoing several processes, by which it is rendered flat, is made into combs.

2. The middle of the horn, after being flattened by heat, and its transparency improved by oil, is split into thin layers, and forms a substitute for glass in lanterns of the commonest kind.

3. The tip of the horn is used by the makers of knife-handles and of the tops of whips, and for other similar purposes.

4. The interior, or core of the horn, is boiled down in water. A large quantity of fat rises to the surface; this is put aside, and sold to the makers of yellow soap.

5. The liquid itself is used as a kind of glue, and is purchased by the cloth-dressers for stiffening.

6. The bony substance, which remains behind, is then sent to the mill, and, being ground down, is sold to the farmers for manure.

Besides these various purposes to which the different parts of the horn are applied, the clippings, which arise in comb-making, are sold to the farmer for manure at about one shilling a bushel. In the first year after they are spread over the soil they have comparatively little effect, but during the next four or five their efficacy is considerable. The shavings which form the refuse of the lantern-maker are of a much thinner texture: a few of them are cut into various figures and painted, and used as toys, for, being hygrometic, they curl up when placed in the palm of a warm hand. But the greater part of these shavings are sold also for manure, which, from their extremely thin and divided form, produces its full effect upon the first crop.

* For a detailed account of the method of working the Cornish mines, see a paper of Mr. John Taylor's, 'Transactions of the Geological Society,' vol. ii. p. 369.

A Petrifacion.—Baron Steuben died of apoplexy at Steuben, Oneida Co. N. Y. in November 1795.—Agreeably to his request his remains were wrapped in his cloak, enclosed in a plain coffin, and deposited in a grave without a stone. Many years after, as we learn by a memoir in the N. Y. Com. Advertiser, his body was disinterred for the purpose of burial in another place and it was found to have passed into a state of complete petrifaction, and is believed to remain in that state of preservation to this day. The features of his face were as unchanged as on the day of his interment.

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LITERARY NOTICES.

On the Penitentiary System of the United States, and its applicaton in France, with an Appendix, &c. by G. de Beaumont, and A. de Toqueville; translated from the French, with an Introduction, Notes, &c. by Francis Lieber: 1 vol. 8vo. Philadelphia, Carey, Lea & Blanchard.—Most of our readers will remember the journey which the authors of this book made a year or two ago, to this country, by order of their government, with a view of ascertaining, by actual inspection and inquiry on the spot, the principles and operation of our penitentiary systems. The volume before us is an abstract of these inquiries, furnishing the conclusions at which the commissioners arrived, and some of the documents on which those conclusions rest. It is not the report made to their government, for that was in much greater detail—but the summing up as it were of the whole matter. As Americans, we have great reason to be satisfied with the tone of this work, and with the facts so creditable to the practical good sense and humanity of our people, which it sets forth. It is but just to say too, that the whole inquiry seems to have been conducted by those enenlightened Frenchmen with an absence of prejudice or preconceived theories—alike rare on such occasions, and commendable. Their aim was the truth, and that they steadily pursued wherever it might lead. The penitentiary system is one of the contributions of America to the cause of humanity; and full credit is given us for it in these pages: and the principle upon which it rests, that of combining labor with individual isolation and solitude, is probably perfect, the only difference now being in the modes of applying this principle. In Pennsylvania, each prisoner is confined in a separate cell, which he never leaves, performing there the task assigned him, and ignorant of all around him, never seeing nor being seen by his fellow-convicts. In this State, according to what is known as the Auburn system, each prisoner is, in like manner, confined at night in a separate cell, but eats and works in public, that is, with all the other prisoners; but complete silence is inexorably enforced: a word, a sign, a look of intelligence exchanged between convicts, is punished on the spot with severe whipping. In this manner, a thousand convicts march to and from their cells, their refectory, and their workshops, as if they were so many shadows. The respective advantages of these systems are yet perhaps to be determined; though thus far the preference has been decidedly given to that of *Auburn* by all the States which have recently established penitentiaries. The French Commissioners also incline to that system. The intelligent translator, however, *Dr. Lieber*, prefers that of Pennsylvania, as upon the whole more soothing and sure. In an introductory article Dr. Lieber urges with zeal and unanswerable arguments, the great importance towards perfecting the Penitentiary system, of *Houses of Detention*. On this subject we shall again have occasion to refer to this work, which we must now dismiss with warm commendation of its usefulness and value—both of which are added to by the copious notes of the translator.

The Book of the Nursery, with Precepts for the Management of Infants, &c. By Walter C. Dendy, Member of the Royal College of London, &c. &c. New-York, Wm. Jackson.—This republication presents to mothers and nurses a judicious treatise, without any parade of professional learning, on the proper mode of bringing up infants, morally and physically;—we say morally, for it is hardly suspected by other than the most observing parents, how soon the infant is susceptible of moral impressions. It is a neat little volume, too, and well printed.

The Abbess, a Romance, by Mrs. Trollope. 2 vols. *Harpers.*—The last miserable production of Mrs. Trollope in the way of a novel, the Refugee, led us to open the one before us with no very great expectation of interest or amusement. The Abbess, however, is by no means deficient in merit. The conception of the story is rather original, and it is managed occasionally with a good deal of skill. A brief extract will give some idea of the style and incident which characterize the book. The following scene represents the well known ceremony attending the punishment of a nun for having broken her vows:—

*

As soon as the Abbots had reached their respective stalls, and the priests their stations at the altar, Camilla was led to the front of it, by the men who had been employed to prepare her for the ceremony of degradation.

A stool was placed at the distance of a few yards from the lowest step of the altar, and on this the unhappy Camilla was seated, in the full dress of her order, and with her veil thrown completely over her. The rule she was said to have transegressed was written on parchment, and held up before her by an aged sister of the convent.

The community lined the two sides of the nave, leaving a wide space between them, in the middle of which was a bier, with a black pall thrown across it.

As soon as Camilla was seated, the two lines chanted in low and dismal cadence, the alternate verses of the Miserere, pausing long between each verse. During these pauses, the stranger monks took off the veil, hood, and robe of Camilla, leaving her unclothed, save by a long tunic of white cloth, which reached from the throat to the feet. Her religious habit was torn asunder into many fragments, and scattered on the floor.

The sentence recorded against her was then read aloud in Latin, and three times repeated. She was now commanded to rise, and the procession began. It was preceded by a priest, who carried a large cross reversed. The sisterhood followed, two and two, each bearing in her hand an extinguished torch. Then came the pale Camilla, in her white shroud-like garment, supported on each side by a sable mute. Next followed two priests, one carrying incense, the other holy water; and last, the two mitred Abbots closed the line.

The march was slow and solemn. Each nun, her head sunk in her bosom, and her veil closely drawn round her, recited in a low whisper the prayers for the dying.

In this order they passed down the side aisle, and up to the centre of the nave where stood the bier. The nuns again divided into two lines, taking their station as before. Camilla, pale, motionless, and seemingly unconscious of what was passing, was raised without a struggle in the arms of the mutes, and placed upon the bier, where she lay perfectly still and unresisting while the assistant priests spread the funeral pall over her.

This ceremony completed, the solemn service for the dead was heard from the altar; and when this ended, the thrilling words, "*Requiem æternam dona ei, Domine!*" burst forth in full chorus from the nuns.

When the Requiem ceased, a silence like that of the grave ensued, and lasted till time sufficient had been allowed for each to breathe an inward prayer.

Then a signal was given to the nuns, who immediately retired with slow and noiseless steps, not one of them daring to throw a farewell glance to the poor wretch, who, warm in life and youth, was now to be interred within her horrid tomb. All the assistants followed, except the mutes, the stranger priests, whose unpitying services were still required, and the two judges, who were bound to see the final execution of their sentence.

As soon as the doors of the chapel were closed, Isidore gave a signal to the men. The bier was lifted on their shoulders, and borne through the iron door into the vaults.

It was, as Geraldine had supposed, within the massive depth of the wall which guarded the building from the sea, that the living tomb was fabricated, and the dark aperture now yawned before them; its horrors rendered visible by the pale light of a wax taper that burned within it, near which was placed a pitcher of water, and a small loaf of bread.

The bier was placed on the earth—the pall was removed: but the assistants started back as they withdrew it, exclaiming—

"She is already dead!"

"Then bury her," said Isidore, with horrid calmness.

Camilla was again raised in the arms of her executioners, who bore her forward to the dark recess: the cool air revived her strength, and the friendly faintness forsook her; she opened her eyes upon the scene, and all its terrors seized her heart at once. For a moment she looked wildly on them all, and then uttered a shriek, which left its sound within the ears that heard it as long as life remained. Yet it did but hasten the deed. Startled, but not softened, by that dismal cry, the men threw her from their arms, and instantly began the frightful work that was to shut out the air of life for ever.

The wretched woman sprang upon her feet—the stones were rolled against her—she raised her helpless arms, and madly strove to impede the savage work—in vain. A few short moments hid her from their sight, and a few more restored the treacherous wall to the same look of harmlessness as its neighbors.

The Martyrs' Triumphs, the Buried Valley, and other Poems, by Grenville Mellen. Boston: *Lilly, Wait, Colman & Holden.* 1 vol. 12mo. pp. 300.—We have looked over this elegantly printed volume with a great deal of pleasure. If elevated and chastened imagination, glowing language, and melodious versification constitute true poetry, the collection which Mr. Mellen puts forth with so modest a preface is well entitled to the name. We remember but few happier verses on the same subject in the range of English poetry, than the following from a fine lyric, in the book before us, entitled "The Host of Night":

Look at the host of night—
These silent stars!
What have they known of blight,
Or heard of wars!
Were they not marshall'd there,
These fires sublime,
Gemming the midnight air
Ere earth knew time!
Shine they for aught but earth,
These silent stars!
And when they sprung to birth,
Who broke the bars,
And let their radiance out,
To kindle space?
When rang God's morning shout
O'er the glad race!
Are they imbedded there,
These silent stars!
Or do they circle air
On brilliant cars!
Range they in frightful mirth
Without a law—
Or stand they above earth,
In changeless awe!
Are they all desolate,
These silent stars—
Hung in their spheres by fate
Which nothing mars!
Or are they guards of God—
Shining in prayer!
On the same path they've trod
Since light was there!

The following extract from a piece entiled "A Dream of the Sea," displays poetical powers of no common order. The dreamer is supposed to be traversing the bed of ocean, where, while he scans the garnered treasures of that lifeless world, he can hear the everlasting waves above him "go bellowing to their bounds;" and thus he tells his fearful visions:—

Beneath the cloudy waters I could see
Palace and city crumbled—and the ships
Sunk in the engorging whirlpool, while the laugh
Of revel swept the ringing decks—and ere
The oath was strangled in men's swollen throats.
For there they lay—just hurried to one grave,
With horrible contortions and fixed eyes,
Waving among the cannon, as the surge
Did slowly lift them, and their streaming hair
Twining around the blades that were their pride.
And there were two, lock'd in each other's arms;
And they were lovers!—
O God! how beautiful!—laid cheek to cheek,
And heart to heart, upon that splendid deep,
A bridal bed of pearls!—a burial,
Worthy of two so young and innocent!
And they did seem to lie there, like two gems—
The fairest in the halls of ocean—both
Sepulchred in love—a tearless death—one look,
One wish—one smile—one mantle for their shroud—
One hope—one kiss—and that not yet quite cold!
How beautiful to die in such fidelity!
Ere yet the curse has ripen'd—or the heart
Begins to hope for death as for a joy,
And feels its streams grow thicker, till they cloy
With wishes that have sicken'd and grown old!
I saw their cheeks were pure and passionless,
And all their love had past into a smile,
And in that smile they died!—
Sudden a battle roll'd above my head,
And there came down a flash into the deep,
Illuming its dim chambers—and it pass'd.

The waters shudder'd, and a thousand sounds
Sung hellish echoes through the cavern'd waste.
The blast was screaming on the upper wave;
And as I look'd above me, I could see
The ships go booming thro' the murky storm—
Sails rent—mast staggering—and a spectre crew:
Blood mingled with the foam, bathing their bows;
And I could hear their shrieks as they went on,
Crying of murder to their bloody foes!

These two contrasted pictures are certainly very fine, and we are only sorry that our limits prevent our extracting the whole piece, which is equally well sustained throughout. But to do a volume of original poems like that before us justice, we must return to it more than once. And trusting that the few specimens we have shown of Mr. Mellen's powers are still sufficient to stimulate the curiosity of our readers to examine this interesting collection for themselves, we take leave of it for the present, with many thanks to the author for the heartfelt pleasure its perusal has afforded. *

The New Gil Blas, or Pedro of Penaflor, by Henry D. Inglis, author of "Spain in 1830;" 2 vols. Philad., Carey & Son.—This though a very readable book, has, like the previous work by the same author, been much overpraised. It is written in an easy and rather agreeable style, and the *costume* of the country where the scene is laid is, so far as we can judge, well preserved, but the incidents are in the highest degree improbable, and the principal characters too extravagant altogether. The work, as may be gathered from the first part of the title, is a collection of tales strung together like threaded beads upon one main story. In the invention of some of these tales no little ingenuity and cleverness is manifested, but to the most of them taken separately, the remarks we have made above are perfectly applicable, while when they come to be considered together, so defective are they in that natural adhesion and truth to nature which renders the model upon which the book is written one of the most delightful in the world, that comparisons almost fatal to the copy cannot fail to suggest themselves. We had marked one well written sketch to follow here, but are under the necessity of postponing it until another day. *

Wild Sports of the West, by the Author of Stories of Waterloo. *Harpers.* 2 vols.—This is one of the most agreeable light reading books that has been for some time reprinted here. It abounds in vivid sketches of scenery and manners in the west of Ireland, and amid the most animated accounts of every variety of field sports, introduces a melange of ludicrous anecdotes and striking legendary tales. The materiel is good, and it is well put together.—The great charm of the work, after all, however, consists perhaps in the freshness of the subjects which the writer, (who we believe is a clergyman of the Church of England,) deals with. The west of Ireland has only lately become a field trodden by the novellist; and those remote districts, rich in beautiful scenery and abounding in legendary lore, are almost as virgin ground to the tourist and sportsman as when described by Spenser two hundred years ago. "And sure," says the poet, "it is yet a most beautifull and sweet countrey as any is under heaven, being stored throughout with many goodly rivers, replenished with all sorts of fish most abundantly, sprinkled with many very sweet islands and goodly lakes, like little inland seas, that will even carry shippes upon their waters." Such as it appeared to the author of the Faery Queen, before his castle was burnt over his head, and the body of his murdered infant consumed in the blazing ruins, is this beautiful but ill-fated country described in the book before us. Nature there, as elsewhere, has kept her never-failing promise, in the yearly renewal of all her charms; while man, bowed but not broken by centuries of misgovernment and oppression—smarting under a sense of entailed poverty, and stung to vindictiveness by accumulated injury—exhibits too often the same savage character, the same horrid acts, that drove one of England's sweetest poets, himself the gentlest of beings, from his happy home, to mourn in exile over his murdered offspring, and hearth made desolate for ever. Not few are the scenes of violence and bloodshed described in the volumes before us; but among them it is gratifying to find instances like the following, which show the effect of cool and steady courage in repelling a band of midnight ruffians:

"Several years ago, when the south of Ireland was, as it has ever has been within my memory, in a disturbed state, a gentleman advanced in years lived in a retired country house. He was a bachelor, and whether trusting to his supposed popularity, or imagining that the general alarm among the gentry was groundless, he continued in his lonely mansion long after their neighbors had quitted theirs for a safer residence in town. He had been indisposed for several days, and on the night he was attacked, had taken supper in his bedroom, which was on the ground floor, and inside a parlor, with which it communicated. The servants went to bed; the house was shut up for the night; and the supper-tray, with its appurtenances, by a providential oversight, were forgotten in the old man's chamber.

"Some hours after he had retired to bed, he was alarmed at hearing a window lifted in the outer apartment; his chamber-door was ajar, and the moon shone brilliantly through the open casement, rendering objects in the parlor distinct and perceptible to any person in the inner room. Presently a man leaped through the window, and three others followed him in quick succession. The old gentleman sprang from his bed, but unfortunately there were no arms in the apartment; recollecting, however, the forgotten supper-tray, he provided himself with a case-knife, and resolutely took his stand behind the open door. He had one advantage over the murderers, they were in full moonlight, and he shrouded in impenetrable darkness.

"A momentary hesitation took place among the party who seemed undecided as to which of them should first enter the dark room; for, acquainted with the localities of the house, they knew well that there the devoted victim slept. At last one of the villains cautiously approached, stood for a moment in the doorway, hesitated, advanced a step—not a whisper was heard, a breathless silence reigned around, and the apartment before him was dark as the grave itself.—'Go on, blast ye! What the devil are ye *afeerd* of? said the rough voice of an associate behind; he took a second step, and the old man's knife was buried in his heart! No second thrust was requisite, for with a deep groan the robber sunk upon the floor.

"The obscurity of the chamber, the sudden destruction caused by that deadly thrust, prevented the ruffians in the outer room from knowing the fate of their companion. A second presented himself,—crossed the threshold, stumbled against his dead associate, and received the old man's knife in his bosom. The wound, though mortal, was not so fatal as the other, and the ruffian had strength to ejaculate that he was 'a dead man!'

"Instantly, several shots were fired, but the old gentleman's position sheltered him from the bullets. A third assassin advanced, levelled a long fowling-piece through the door-way, and actually rested the barrel against the old man's body. The direction, however, was a slanting one, and with admirable self-possession, he remained steady until the murderer drew the trigger, and the ball passed him without injury; but the flash from the gun unfortunately disclosed the place of his ambush. Then commenced a desperate struggle, the robber, a powerful and athletic ruffian, closed and seized his victim around the body—there was no equality between the combatants with regard to strength; and although the old man struck often and furiously with his knife, the blows were ineffectual, and he was thrown heavily on the floor with the murderer above him. Even then, at that awful moment, his presence of mind saved this heroic gentleman. He found that the blade of the knife had turned, and he contrived to strengthen it upon the floor. The ruffian's hands were already upon his throat—the pressure became suffocating—a few moments more and the contest must have ended; but an accidental movement of his body exposed the murderer's side—the old man struck with his remaining strength a deadly blow—the robber's grasp relaxed—and with a yell of mortal agony, he fell dead across his exhausted opponent!

"Horror-struck by the death-shriek of their comrades, the banditti wanted courage to enter that gloomy chamber which had been already fatal to so many. They poured an irregular volley in, and leaping through the open window, ran off, leaving their lifeless companions behind.

"Lights and assistance came presently, the chamber was a pool of gore, and the old man, nearly in a state of insensibility, was covered with the blood, and encompassed by the breathless bodies of his intended murderers. He recovered, however, to enjoy for years his well-won reputation, and to receive from the Irish viceroy the honor of knighthood, which never was conferred before upon a braver man."

The following is a pitiable contrast to the above gallant story:

"In 181–," said my kinsman, "a gentleman with his family left Dublin, and removed to an extensive farm he had taken in the wild and troublesome barony of ———. There was no dwelling-house procurable for some time, and the strangers took up their residence in a large cabin upon the road-side, about a mile distant from the little town of ——ford.

"It was naturally supposed that, coming to settle in a strange country, this gentleman had brought money and valuables along with him: a gang of robbers infested that lawless neighborhood under the command of the notorious Captain Gallagher, and they marked out the stranger for a prey.

"This new settler had been married but a few months, and his wife was a young and lovely woman. On the third night after their arrival they retired at their customary hour to rest—he slept upon the ground-floor, and the lady and her female attendants occupied some upper chambers.

"It was past midnight; the unsuspecting family buried in deep repose, when Mr. ——— was fearfully awakened by a stone shattering the window and breaking the looking-glass upon the table. He was, unhappily, a nervous, timid man; he was aware that the house was being attacked; a loaded carbine lay within his reach, but he appears to have abandoned all hope or thought of defending himself;—he heard the crashing of the cabin-windows—he heard the appalling sound of women's shrieks—but, trembling and agitated, he had not power to leave his bed.

"Never did a more dastardly gang attack a house than Gallagher's. After every window was driven in, more than half an hour elapsed before one of them would attempt to enter, although no show of resistance had been offered by the inmates of the house. The cowardly villains would occasionally peep through the shattered casement, and instantly withdraw.

"A single blow struck with good effect, one shot from the loaded carbine, would have scattered the scoundrels, and saved the family from plunder and a dreadful insult. But the unhappy man, paralyzed with terror, lay in helpless imbecility upon his bed, and the banditti, satisfied that no resistence would be offered, at last made good an entrance.

"They lighted candles, bound the unfortunate gentleman, left him half dead with terror, and proceeded to ransack the premises. Soon after shrieks from the lady's chamber announced their being there. They drank wine, and broke every place and thing in the expectation of plunder.

"But, unfortunately, they were disappointed; I say *unfortunately*, as, had they found money, it is possible the lady would have been preserved from insult. Maddened by liquor, and disappointed in their expected booty, the helpless women were subjected to savage insult.

"What must have been that wretched man's sufferings, as he listened to the supplications of his beautiful wife for pity?

"After a dreadful visit of three hours, the ruffians left the house. Their apprehension was almost immediate. I was present at the trial, and the testimony of that beautiful woman, who sat on the bench beside the judge, with the evidence of the wretched husband, was melancholy.

"Conviction followed, and I attended at the place of execution."

The Western Lakes of Ireland:

Of the greater western lakes, Conn and Carra belong to Mayo; Corrib to Galway; and Mask lies between both counties. The most northerly, Lough Conn, is about nine miles long by two or three in breadth. Part of its shores are beautifully wooded; and where the lower and upper lakes unite, the channel is crossed by a bridge of one arch, called the Ponton; there the scenery is indeed magnificent.

Lough Carra is smaller than Conn: as a sheet of water nothing can be more beautiful—every thing that the painter delights to fancy may here be realized. Islands and peninsulas, with rich over-hanging

woods, a boundless range of mountain masses in the distance, ruins in excellent keeping—all form a splendid study for the artist's pencil.

Mask communicates with Carra, and their united waters discharge themselves into Lough Corrib by a very curious subterraneous channel at Cong. Lough Corrib is largest of all; it stretches twenty miles to its southern extremity al Galway, when, through a bold rocky river, it discharges its waters into the Atlantic. Its breadth is very variable, ranging from two to twelve miles. Besides its singlar connexions with the Mayo lakes by the underground channel at Cong, Lough Corrib produces a rare species of muscle, in which pearls are frequently discovered. Many of them are said to afford beautiful specimens of that valuable gem.

The smaller lakes, which are so profusely scattered over the surface of this county, vary in the species of fish which they respectively produce, as much as they do in their own natural size and character.—Sbme of them afford trout, others pike only, and many are stocked with both. That this union cannot long subsist, I should be inclined to infer from one remarkable circumstance, and it is a convincing proof of the rapid destruction which the introduction of pike into a trout-lake will occasion. Within a short distance of Castlebar there is a small bog-lake, called Derreens; ten years ago it was celebrated for its numerous and well-sized trouts. Accidentally pike effected a passage into the lough from the Minola River, and now the trouts are extinct, or, at least, none of them are caught or seen. Previous to the intrusion of the pikes, half a dozen trouts would be killed in an evening in Derreens, whose collective weight often amounted to twenty pounds.

Indeed, few of the Mayo waters are secure from the encroachments of the pike. The lakes of Castlebar, I believe, still retain their ancient character; but I understand that pikes have been latterly taken in the Turlough River, and of course they will soon appear in a lake which directly communicates with this stream.

Irish Litigation:

It is asserted, with what truth I cannot pretend to state, that the inhabitants of Inniskea are prone to litigation, and a curious legend of a law-suit is told upon the main, illustrative of this their quarrelsome disposition. A century ago two persons were remarkable here for superior opulence, and had become the envy and wonder of their poorer neighbors. Their wealth consisted of a flock of sheep, when, unfortunately, some trifling dispute occurring between them, a dissolution of partnership was resolved upon. To divide the flock, one would suppose, was not difficult, and they proceeded to partition the property accordingly. They possessed one hundred and one sheep; fifty fell to each proprietor, but the odd one—how was it to be disposed of? Neither would part with his moiety to the other, and after a long and angry negotiation, the sheep was left in common property between them. Although the season had not come round when sheep are usually shorn, one of the proprietors, requiring wool for a pair of stockings, proposed that the fleece should be taken off. This was resisted by his co-partner, and the point was finally settled by shearing one side of the animal. Only a few days after, the sheep was found dead in a deep ditch—one party ascribed the accident to the cold feelings of the animal having urged him to seek a shelter in the fatal trench; while the other contended, that the wool remaining upon one side had caused the wether to lose its equilibrium, and that thus the melancholy catastrophe was occasioned. The parties went to law directly, and the expenses of the suit actually devoured the produce of the entire flock, and reduced both to a state of utter beggary. Their descendants are pointed out to this day as the poorest of the community, and litigants are frequently warned to avoid the fate of "*Malley and Malone.*"

The above extracts, though characteristic of the work, and therefore selected here, give but little idea of the variety of lively anecdote and interesting local sketches to be found in "Wild Sports of the West." Many quotations have long since been made in our columns from the English edition; but to those who wish to study a state of society the most unique in the world, and who have not time to peruse the whole book, we recommend especially the chapter in vol. 2, entitled "Moral condition of the West, Past and Present."

Contents of the forthcoming No. of the American Quarterly Review.—Art 1. The Life and Writings of Governor Livingston. 2. Windham's life and Speeches. 3. Slavery in the District of Columbia. 4. Poor Laws. 5. Imprisonments of Silvio Pellico. 6. Goodrich's Geography. 7. Felton's Homer. 8. Works of Joanna Baillie. 9. Roscoe's Life and Writings. 10. The Penitentiary System of the U. States.

SUMMARY.

The amount of cash duties the week before last, received at the New York Custom House, on Wool lens, was over $180,000. There were received at our Post Office on Friday, after 3 o'clock, P. M., 5595 ship letters, all of which were mailed in less than 4 hours.

The Washington Globe of Saturday states that the President of the United States returned on the previous day from the Rip Raps—his health and strength much recruited.

Interesting and Painful News.—The editors of the Gazette have before them a letter from a friend, dated

Eastport, Aug. 19.—It states, "I have seen Capt. Tucker, of schooner Leader, just returned from the Magdalene Islands, who informs that Mr. Audubon, a week previous to the 22d of June, had been at an adjoining harbor, where he remained two days.

Capt. Tucker also informs, that this has been a most disastrous season among the fishermen belonging to Newfoundland, about 300 of them having been lost, with their vessels, (about 35,) in fishing for seal among the floating ice in the spring. It is supposed they were all lost in a violent gale in the spring, which destroyed the vessels among the ice."

The Philadelphia United States Gazette of yesterday, gives a noble instance of courage and devotion in a female, under circumstances the most appalling.

Two men were suffocated in a kiln on Monday morning, about half way between Burlington and Moorestown. They were engaged in preparing a kiln for burning lime, in which stone coal and charcoal are used in alternate layers. In the course of the operation, and after the under layers had become ignited, one of the men descended for the purpose of leveling the coal, and was immediately overcome by the suffocating effects of the charcoal. His companion went down to his assistance, and was similarly affected, and both were so completely prostrated, as to be incapable of getting out. In this condition, they were discovered by the wife of one of the men. She immediately descended the kiln, and attempted to secure a rope about her husband, in hopes of being able to pull him out, but soon found herself gasping for breath. She succeeded in reaching the mouth of the kiln, and after recovering herself, descended a second time, but was again compelled to leave her husband, whom she beheld in the agonies of death beneath her. Unable to witness his expiring struggles without endeavoring to save him, the heroic woman made a third descent, and after every exertion, was forced to relinquish her desperate task, and the smothering effects of the charcoal were so distressing, that she was just able to reach the top of the kiln, when she fell from excessive exhaustion and faintness. The two men are dead

Strange Animal.—An animal of strange cognomen has repeatedly been seen in and about the woods at Hadley, (Upper Mills,) exciting no little curiosity in that vicinity. He is represented as larger than a fox, of a brindled colour, long hind legs and short front ones, and belongs to no species known about here. He is rather ferocious, and when seen in the road by two men between the Upper Mills and Sunderland, he growled angrily, and seemed disposed to act on the offensive. No hunters have been able to get a shot at him, but dogs have been vanquished and they refuse to renew the attack again. He is thought to be a species of the Kangaroo, going upon his long hind legs, by skipping and jumping. A general hunt is to be attempted in a few days. If successful, we may learn something more minute about him.—[Northampton Courier.]

Jacksonville, (Ill.) Aug. 10.—On Thursday last a company of Indians passed through Jacksonville. There were seventy, including men, women and children. They belonged to the Shawnee tribe—had sold out their lands in Ohio, and were on their way to Jackson county, Missouri. They looked cheerful and happy, and were all well mounted. The men had their rifles with them, and it was remarked by some, more timid than the rest, that perhaps the Indians had heard that the Cholera was among us, and on account of the few inhabitants in our town, had come, expecting to make of us an easy prey!—[Illinois Patriot.]

A gentleman in South Russel Street, Boston, on examining his well of water on the 12th instant, discovered a box containing several pounds of butter, which had laid in the well eleven years; it was found to be in a good state of preservation.

102 black fish were driven ashore at Provincetown on Saturday morning by the crews of eight boats, and over 100 pounds of oil obtained from them.

[*From the Albany Daily Advertiser of Aug.* 21.]

The Seneca Indians.—The annexed proceedings of a Council of this Nation, residing in the Western part of this State, have been furnished us for publication by the Interpreter:

The chiefs of the Seneca Nation of Indians, have, in Council, determined not to send a deligation to Green Bay, as was proposed to them; and have also determined to have nothing to do with the Green Bay lands. They wish their great father the President, and all the white people to know that Young King, Capt. Pollard, James Stevenson, Seneca White, Henry Two Guns, Capt. Strong, Destroy Town, Job Pierce, and William Patterson, are no longer Chiefs of the Seneca Nation, because they have acted contrary to the customs and practises of our people. The rule of the white people is, that a majority of their Chiefs, pass a law, and our rule is the same. It was for us to determine the question relative to the Green Bay lands; and we did determine to let them alone, and live on the seats we now own. These Chiefs, who are well known to the white people, have tried to make us act contrary to what the Council determined to do, and to violate the act of the Chiefs; and for this we put them down. We are on good terms with the State of New York, and no compulsion or persecution shall drive us from the lands we are seated upon.

Done at the Council on the Buffalo Reservation, this 31st day of July, 1833. Signed

Big Kettle,	Gov. Blacksnake,
Jimmy Johnson,	James Robinson,
Little Johnson,	Samuel Gordon,
White Seneca,	George Red Eye,
John Snow,	Long John,
Green Blanket,	Blue Eyes,
Tall Peter,	Capt. Jones,
Doxtator,	Black Chief,
Tommy Jimmy,	Black Smith,
Daniel Two Guns,	Blue Sky,
Jack Berry,	Geo. Washington,
Mark Charles,	Samuel Parker,
Sky Carrier,	John Look,
John Hudson,	Jesse Stickney,
Two Guns,	John Na John,
George Kenjaktadeh,	Isaac Davis,
Jo Hemlock,	Levi Halftown,
Israel Jimeson,	George Deer,
JohnSnow of Cattaraugus,	Jack Snow,
Capt. Snow,	John Cook,
George Bennett,	John Big Fire,
Young Chief,	John Beaver,
Tunis Halftown,	John S. Rey,
John Pierce,	John General.

Maris B. Pierce, Interpreter.

Aquatics.—The Regatta at Quebec, this season, appears to have excited universal interest, both among Canadians and strangers. The Governor General of Canada himself presided over the sports, and the display, both in rowing and yachting, was very fine, the British officers proving themselves, as usual, capital oarsmen. We should almost despair, in our plodding city, of getting up an affair half so splendid and dashing as that which has lately animated the St. Lawrence; but if the Quebec victors are in earnest in the generous threat held forth in the following paragraph from the Montreal Daily Advertiser, we do not despair of its being yet met in a decent way here. If "The Battery Boat Club" or "The Greenwich Rowing Club" cannot furnish oarsmen, Whitehall can at least supply that deficiency, should one or both of these Clubs get up the Regatta; and as for a boat, the builder of "the American Eagle" can launch as swift a craft as was ever pulled in any water;—so that if Major Jack Downing—(who, our Canadian friends may be aware, is at this moment one of the most distinguished characters in the country)—can only be prevailed upon to preside at the fête, old Hudson may shake his sides with glee at the gallant capers to be cut on his lordly bosom.

The Regatta.—The *Thames* boat, imported by the officers of the 32d Regiment, has maintained the character of its class. It has beaten the Greenock built boat hollow, though the latter was rowed by an excellent crew. It is understood the officers of the 32d Regiment intend to go to New York to try the Whitehall men; and as they have beaten a boat which beat the *American Eagle*, it is very doubtful whether New York can furnish a boat and crew to equal the *Thames* and its rowers.

BLACK HAWK AND HIS PARTY AT HOME.

We have been favored with the following letter from an intelligent correspondent, dated

FORT ARMSTRONG, Upper Mississippi, August 5th, 1833.

The whole suite arrived here a few days since, loaded with assumed dignity and costly presents.

Keokuck's band speedily followed to welcome their brothers; a grand council assembled, among whom was myself, to witness the deliverance of the Hawk to his nation. The council opened with the address of the President to Black Hawk, in which he is informed that in future he was to yield supremacy to his inferior, Keokuck, the white man's friend.

The old chief rose, in violent agitation, denied that the President had told him so, and said that he would not be advised by any body; that he wanted what he said to be told to the President, and that he in person would have said so in Washington, but that his interpreter could not sufficiently make known his views. The colonel made to him a speech, stating that by his own treaty neither he nor his people could for the future head a band; and that by that treaty Keokuck was placed head of the Sac nation, &c.—Keokuck spoke awhile to the Hawk, then addressed the council, begged nothing might be remembered of what the Hawk said; that he was too old to say any thing good, and that he was answerable for his good behaviour. The poor old chief recalled his words, and I do not know that my sympathies were ever more excited than in witnessing his expiring struggle for freedom. Nothing but his advanced age, and want of military power will prevent him from making another effort. In the sequel, Keokuck's band gave us a splendid dance; but the Hawk's party were either too dejected or too sullen to participate in the festivities.

You may tell the good citizens of New York, these Indians would willingly get up another war in order to make another visit to the East and return loaded with presents and almost satiated with attention.—[Dai. Adv.]

FOREIGN INTELLIGENCE.

LATER FROM FRANCE DIRECT.—By the Charlemagne, which sailed from Havre on the 2d instant, we have Paris papers to and of the 1st. The only material intelligence is, that the anniversary of the Three Days passed off without troubles. The decision officially announced in the *Moniteur*, that the forts around Paris should not be proceeded with, without the sanction of the Chamber of Deputies, was struck off in a separate shape, and assiduously distributed among the National Guards, so as to check the cry they were expected to indulge in at the review, of "Down with the forts!"

As for the prospect of a war in Europe, it has been stated by Lord Palmerston in the House of Commons, that it is the manifest necessity of England to remain in a state of peace at every cost, except that of national honor, and that there is no prospect of war so long as France and England shall continue in alliance.

BRUSSELS, JULY 29.—Letters from the Hague confirm the reports that Holland demands an augmentation of our portion of the debt, and that it shall be carried to the amount of 12,000,000 francs of the interest; also that the capital should be invested; and finally an increase of the Intus for passing the Scheldt. It appears that the Treaty of Peace is to be negotiated first between Holland and the Five Powers, who will afterwards submit the terms to the approbation of Belgium.

The Jewish civil disabilities bill was passed by the House of Commons on the 22d July, by a vote of 189 to 52. In the course of the discussion, and in answer to an objection, that the Jews looked to Palestine as their country, and acknowledged no other, considering themselves always as a separate and distinct people—

Mr. Buckingham said, that having heard the argument repeatedly urged, that the Jews never became attached to any country, because they always expected to be restored to Jerusalem, he was anxious to inform the House of the result of his own observations on this point. He had been in Jerusalem, but he never heard of an English Jew having visited Palestine, even for the purpose of recreation; and the Jews residing there were subjected to so much ill-treatment, that it was their practice, as soon as they realized some little means, to escape from the country as fast as they could. (Hear, and laughter.)

Mr. Wilberforce, the friend of the black man, died on the 28th July.

LONDON, July 23d.—It was confidently stated in the City this morning that a treaty of alliance has been entered into between Lord Palmerston and the Duke de Broglie to recognize Queen Donna Maria immediately the constitutional troops take possession of Lisbon, and that the Ambassadors of her Majesty will be received officially by both Governments.

Donna Maria is expected in London from Paris in the course of this week on her way to Portugal.

Two opulent bankers of Paris and London have contracted a loan to a considerable amount, part of which will be directly forwarded to Oporto to pay up the arrears of pay due to the troops and sailors.

Marshal Bourmont had made an attack upon Oporto, and had been repulsed.

CONSTANTINOPLE, AUG. 10.—The Egyptian army having effected its retreat behind the Taurus, the Russian auxiliary forces have this morning left the roadstead of Bujukdere, to return to the Black Sea. The English squadron under Admiral Malcolm, which had appeared near the Dardanelles, left that station on the 2d inst. and sailed in the direction of Samos.

Dr. Schulz, who had been condemned to 16 years imprisonment by the Tribunal of the Isar, in Bavaria, for having distributed seditious writings, tending to the overthrow of the Government, has been acquitted by the Supreme Tribunal of Appeal, and set at liberty.

In the Federal Diet of Switzerland, July 8th, a resolution was passed, giving full powers to the Vorort, to continue his negotiations with the French Government for a return of the Poles into France.

The official journal of St. Petersburgh contains the creation of a Russian Consulate at Havre, for that and the neighboring ports, and the appointment of M. Charles Stoffregen as Consul.

A Dutch Envoy was in Paris, for the purpose of demanding prior to a renewal of the negociations at London, the restoration of the arms delivered by the prisoners of the citadel of Antwerp, in virtue of the capitulation. Government continued to hold out up to the latest dates, but it was supposed the arms would eventually be surrendered.

Turkey.—The Augsburgh Gazette contains the following, dated frontiers of Servia, June 10th:—"The 6th of June was a happy day for Servia. On that day Prince Milosh announced to his people the resolution of the Porte to cede to the Servians the six districts which were taken from them in 1813. This news was communicated officially to all the Servian authorities, and excited the greatest demonstrations of joy among the inhabitants. Now there remains nothing for the Servians to wish for, but that the Turks who are still residing in Servia may evacuate the country. Prince Milosh is negotiating to effect this, and it is expected that his efforts will soon have the desired result."

The product of indirect taxes in France for the first half-year of 1833, was 278,905,000 francs, being an increase of 10,975,000 upon the products of the same taxes in the first half of 1832.

It appears from the official accounts, that in the first six months of the present year, 630 vessels (French and foreign) entered, and 409 French vessels left the ports of France. Vessels merely sailing to or from ports in Europe are not included in these numbers.

PARIS, JULY 15th.—A few days ago a fire broke out at Corbie, near Amiens, which raged with such violence that, in an almost incredibly short period of time, no less than 55 habitations were consumed. Forty families are reduced to positive beggary.

All the arrangements for a daily mail between Paris and London had been completed, but they would not go into operation till the first of January 1834.

It is said that the King of Prussia, notwithstanding his promises, will not send a Charge d'Affaires to the King of Belgium.

Bill for the Abolition of Negro Slavery.—This bill provides, that from the first of November the slaves shall work ten hours a-day for six days in the week, and shall not be flogged or suffer corporeal punishment unless upon conviction before a Court of Justice, or a Magistrate:—That from the 1st of August, 1834, the system of apprenticeship shall commence; it shall be compulsory upon the slaves to be registered apprentices; the previous obligation of the master to maintain slaves in old age and illness to continue:—That at the expiration of eleven years from the 1st of Aug. 1834, all the slaves shall be entirely emancipated:—That the artisan and domestic slaves are to be entirely emancipated from their apprenticeship at the end of six years, whilst the sugar plantation slaves will have to continue their servitude to the end of the eleven years. The daily labour required from all, during their apprenticeships, will be the same—seven and a half hours each day:—That no portion of the Compensation fund shall be paid to the owners of slaves until satisfactory provision has been made to each colony for giving effect to the Act:—That the fund shall be apportioned into 16 shares, which are to be respectively assigned to the 16 different slave colonies, having regard to the number and sale price of slaves in each. The number of slaves in each is to be multiplied by the pounds sterling of their value, and the funds to be divided accordingly.

The workmen at Lyons had struck for higher wages, but their employers were firm in resisting their demands. Several large assemblages of operatives had taken place, but the public peace had not been disturbed.

A letter from Naples, dated the 30th ult., says: "The Count Hector de Lucchesi Palli has just arrived here, and is about to join the Duchess of Berry at Palermo. He has not yet obtained an audience of the King."

A conflict took place on the 12th, at Coote-hill, Ireland, between a party of Orangemen, and their opponents, in which four of the latter were killed, and a number on both sides wounded.

BRUSSELS, Wednesday Afternoon, July 24.

Long after the despatch of yesterday's courier the answer given at Laecken, and at the Palace of Brussels, to inquiries after the health of the Queen, was such as to make the announcement of this morning, however welcome and agreeable, a matter of surprise. The first intimation to the inhabitants of Brussels generally of her Majesty's accouchement was communicated at 6 o'clock by the guns on the Boulevards, with such an emphasis as to awaken the attention of the drowsiest inhabitant of the capital. So sudden and unexpected was the event, that the public functionaries who had been summoned to be present on the occasion, arrived one by one after all was over. Even the King was asleep at 4 o'clock, and at half-past 4 he was assured of his Queen's safety, and of the birth of a son,—a Prince, and heir to his honours and his throne. It had previously been arranged that a salvo of 21 guns should indicate the birth of a Princess, and 101 if a son and heir should be born. The gunners entrusted with firing the salute were observed to make a considerable pause after the 21st gun, for the purpose, no doubt, of piquing the curiosity of many an attentive listener, and making what was to follow more expressive; thus imparting to those mouths of fire, as they are called by the French, a figure of oratory which seems to have all the merit of originality.

The Queen of the French and the two Princesses, her daughters, are to remain here until after the baptism, which is to take place in Brussels on the 1st or 2d of Aug. The King of the French, as godfather, is to be represented by his second son, the Duke de Nemours; and in deference to the religious feelings of the people, if not to the rules of the Catholic Church, the Queen of the French is to officiate in person as godmother, instead of a proxy of her Royal Highness the Duchess of Kent, as had previously been announced.

The names to be bestowed on the infant Prince are Leopold Louis-Philippe Victor Ernest, after his father and grandfather, his cousin, the princess Royal of England, and his uncle, the reigning Duke of Saxe Cobourg.

The church bells of Brussels have been diligently proclaiming the event ever since six o'clock in the morning; preperations are every where making for a general illumination in the evening; and from the whole aspect of the town it appears that the entire population young and old, had resolved on a holiday extraordinary.

The Prince is to be created Duke of Brabant, and will be christened in the Catholic faith by the Archbishop of Malines.

[*From the London Court Journal.*]

MEMOIRS OF A DIPLOMATIST.

A Fragment from an Unpublished Work.

Madame De Stael.—On entering the theatre on the following evening and on casting around me a glance of curiosity on the rows of boxes graced by all the beauty and fashion of Stockholm, I perceived a lady whose costume, physiognomy, and whole external appearance struck me as very extraordinary. Picture to yourself a clumsy figure—broad shoulders—nothing delicate or graceful—bold features, cheeks inflamed with rouge—a dress of the most glaring color—eyes sparkling with wit and vivacity—but every look of which might be taken for a provocation—black hair, regularly *frisés* by force of art, and loaded with jewels. An enormous garland of variegated flowers encircled her head, surmounted by a plume of drooping feathers. Represent to yourself, by the side of this person, a young creature, tall and graceful, with a mild expression of countenance, dressed entirely in white, and whose golden hair fell in natural curls down her back, her only ornament her native simplicity and innocence, and you will form a perfect idea of the striking contrast between mother and daughter. We Swedes are so accustomed to the modesty of our own women, that the attitude of Madame de Staël appeared to us most singular. She had taken off her gloves—her body, half out of the box—animated by the most exalted enthusiasm, she gave with her hands, which were of the most dazzling whiteness and the most perfect shape, the signal of applause, at every marked passage. I observed her attentively, and her enthusiasm was not assumed; still her eyes were not irradiated with that pure exaltation which, under similar circumstances, I have seen in the intuitive looks of a German woman, whose aspect alone electrified me and elevated my mind.

At a subsequent period, I repeatedly heard Madame de Staël read, speak, and declaim; but in all that she said and did, I felt that she never forgot herself, and that she calculated beforehand the effect she was to produce. I was introduced to her the next day, and from that period I was in the habit of seeing her almost daily. Her deportment did not correspond with our Swedish ideas of propriety: she had a very pretty foot, but she was not satisfied with shewing it alone, but exhibited, likewise a well proportioned leg, with an '*abandon*' that elicited many a joke at her expense.

Accustomed in France to warm herself at the chimney fire, she did not relinquish this favorite habit before our stoves, the doors of which are not very low, and it appeared to us to form an occasion for showing her foot. I was several times invited to meet her at dinner at the Prince Royal's. The play of her hands and arms seemed to me to be quite studied. She would sometimes lean both her elbows on the table, and declaim and gesticulate with so much fire, that her neighbors were obliged to be upon their guard. Her conversation sparkled with wit, but nevertheless became monotonous, because the greater part of the time she would speak alone, and the most frivolous topic became the subject of a profound dissertation. There was but one opinion throughout our *salons*, on the vast powers of her mind; but, at the same time, there was not one of us who would have wished to have such a mother, wife, or sister, as she. We looked upon her with astonishment; we admired her as a wonder, as a rare and unequalled phenomenon in the female world. Her vanity, however, received several severe checks at Stockholm. Our friend L——, for instance, obstinately refused to call on her, in spite of her reiterated and pressing invitations. 'I do not speak French well enough to maintain an argument in that language,' he replied; 'Madame de Staël is not content with a simple conversation.' Baron de Bejerstrole acted much in the same manner. 'This woman,' said he, 'has probably come here to write a Swedish Maia, as a *pendant* to her Italian Corinna; and I have no idea of going to sit for my picture.'

Madame de Staël read, at several of the Queen's *soirées*, some fragments of her then unpublished work on Germany. On one occasion she interrupted herself in the middle of a passage, and said to the Queen, '*Madame, veut elle bien me dire ce que c'est qu'une tragedie?*' You may imagine her Majesty's embarrassment, on being called on for the first time in her life, to give such a definition. Madame de Staël maliciously enjoyed for some minutes the perplexity of the good old Queen; and then turning towards us, she discoursed so eloquently and profoundly on the nature and power of tragedy, and declaimed to us several celebrated scenes from the French tragic poets, with such impassioned energy, that I could have gone down on my knees before her. Still, had she at that moment have put to me the question she formerly did to M. de Talleyrand, I should have answered her like that great diplomatist, '*Ah, Madame on m'a assuré que vous sabiez nager.*'

What especially pleased me in Madame de Stael was her sound practical sense, and all the auxiliary means she brought into play to ensure the success of her plans. She solicited the rank of Major, for her youngest son, and was extremely offended because the Prince Royal gave him only a Lieutenant's commission. He was killed, a year afterwards, in a duel with a Russian officer. The parties quarrelled at the Baths of Doberan, while playing at faro.—Young de Stael's death was preceded by a singular incident, and which may be cited as another example by those who believe in presentiments. The English Admiral, Moore, who had cast anchor in a neighboring port, came up to Doberan to pay his respects to the Grand Duke of Mecklenburg Schwerin. De Stael called upon him. The Admiral, who was intimately acquainted with Madame de Stael, advanced to receive him with warmth. Several persons present, however, observed that he started back with affright when De Stael held out his hand to him, and that he remained silent and melancholy while the interview lasted. One of my friends asked him the cause of his reserve:—'The sight of that young man,' said the Admiral, 'deeply affected me: he will meet a violent death, and that, too, very soon!' Eight days afterwards, young de Stael was no longer in existence!

Madame de Staël's eldest son wished to be attached to the Swedish Legation proceeding to the United States. There were some difficulties in the way, and the King, to whom his mother directly applied, flatly refused her: but she, nevertheless, succeeded, with an address that astonished our oldest courtiers. Augustus William Schlégel also obtained an appointment in the Swedish service. Rocca, who passed generally for Madame de Staël's lover, was the only one for whom she solicited nothing. He was beautiful as a Grecian statue, but in other respects insignificant. He, however, appeared passionately fond of this celebrated woman; and her soul of fire, perhaps, experienced an indescribable felicity at feeling herself beloved in the autumn of her days with all the passion of youth.

In spite of these slight shades, Madame de Staël was one of the most grandiose and wonderful apparitions of her age. She gave, at Stockholm, multiplied proofs of her liberality, and of the nobleness of her mind; and relieved the poor relations of her deceased husband with a delicacy that enhanced the price of her favors.

The Black Death.—This book, with such a fearful title, is translated from the German of the celebrated Hecker, by Dr. Babington, and gives an account of the ravages of that fearful pestilence which raged in Italy and throughout Europe, in the time of Boccacio. A more interesting work we have never met with.

In many places, it was rumored that plague patients were buried alive, as may sometimes happen through senseless alarm and indecent haste; and thus the horror of the distressed people was every where increased. In Erfurt, after the church-yards were filled, 12,000 corpses were thrown into eleven great pits; and the like might, more or less exactly, be stated with respect to all the larger cities. Funeral ceremonies, the last consolation of the survivors, were every where impracticable.

In all Germany, according to a probable calculation, there seem to have died only 1,244,434 inhabitants; this country, however, was more spared than others: Italy, on the contrary, was most severely visited. It is said to have lost half its inhabitants; and this account is rendered credible from the immense losses of individual cities and provinces: for in Sardinia and Corsica according to the account of the distinguished Florentine, John Villani, who was himself caried off by the black Plague, scarcely a third part of the population remained alive; and it is related of the Venetians, that they engaged ships at a high rate to retreat to the islands; so that after the plague had carried off three fourths of her inhabitants, that proud city was left forlorn and desolate.—In Padua, after the cessation of the plague, two thirds of the inhabitants were wanting; and in Florence it was prohibited to publish the numbers of the dead, and to toll the bells at their funerals, in order that the living might no abandon themselves to despair.

We have more exact accounts of England; most of the great cities suffered incredible losses; above all, Yarmouth, in which 7052 died: Bristol, Oxford, Norwich, Leicester, York, and London, where, in one burial ground alone, there were interred upwards of 50,000 corpses, arranged in layers, in large pits. It is said, that in the whole country, scarcely a tenth part remained alive; but this estimate is evidently too high. Smaller losses were sufficient to cause those convulsions, whose consequences were felt for some centuries, in a false impulse given to civil life, and whose indirect influence, unknown to the English, has, perhaps, extended even to modern times.

The changes which occurred about this period in the north of Europe, are sufficiently memorable to claim a few moments attention. In Sweden, two princes died—Haken and Kaut, half brothers of King Magnus; and in Westgothland alone, 466 priests.—The inhabitants of Iceland and Greenland found in the coldness of their inhospitable climate, no protection against the southern enemy who had penetrated to them from happier countries. The plague caused great havoc among them. Nature made no allowance for their constant warfare with the elements, and the parsimony with which she had meted out to them the enjoyments of life. In Denmark and Norway, however, people were so occupied with their own misery, that the accustomed voyages to Greenland ceased. Towering ice-bergs formed at the same time on the coast of Greenland, in consequence of the general concussion of the earth's organism; and no mortal, from that time forward, has ever seen that shore or its inhabitants.

It may be observed, that in Russia, the Black Plague did not break out until the year 1361, after it had already passed through the south and north of Europe. In this country also, the mortality was extraordinarily great; and the same scenes of affliction and despair were exhibited as had occurred in those nations which had already passed the ordeal. The same mode of burial—the same horrible certainty of death—the same torpor and depression of spirits. The wealthy abandoned their treasures, and gave their villages and estates to the churches and monasteries; this being, according to the notions of the age, the surest way of sucuring the favor of Heaven, and the forgiveness of past sins. In Russia, too, the voice of nature was silenced by fear and horror. In the hour of danger, fathers, and mothers deserted their children, and children their parents.

Of all the estimates of the number of lives lost in Europe, the most probable is, that altogether, a fourth-part of the inhabitants were carried off.—Now, if Europe, at present contain 210,000,000 inhabitants, the population, not to take a higher estimate, which might easily be justified, amounted to at least 105,000,000 in the sixth century.

It may, therefore, be assumed, without exaggeration, that Europe lost during the Black Death—25,000,000 of inhabitants.

Marriage of Catholic Priests.—The question of the right of Catholic priests to contract matrimonial engagements in France is about to be tried in a way which will probably set it to rest. M. Leloup, a priest of the newly established "French Catholic Church," has made application to the Mayor of his arrondissement that his bans of marriage may be published in the usual way. The Mayor has required time to consider the application, and take legal advice. As it has been already settled in France that the marriage of a priest is valid, because there is no law in the civil code that forbids it, the Mayor will probably do as he has been requested by M. Leloup, and the marriage may take place. But should the Mayor refuse to publish the bans, M. Leloup intends in that case to bring the matter before a court of law. It is to be remarked, however, that M. Leloup, though a Roman Catholic priest, originally ordained in the usual way, now belongs to the new sect which do not acknowledge the laws of the Romish Church. But the effect, in the course of a few years, will be to convert the greater part of the Catholic priests and Catholic Christians in France to the faith adopted by the new sect, whose followers have been greatly increasing in numbers for some time past. This "French Catholic" religion will become the religion of the country, and the small remnant of the Pope's authority which exists at present, will be made to disappear as completely as the progress of the reformation has made it disappear in Great Britain. Religion has suffered in France on account of its close connexion with the Church of Rome and with the Jesuits, and because the rulers of the country had always contrived to make it an instrument for the better subjection of the people; but now that they see a church established among them for no other object than the promotion of religion itself, and entirely free from political connexion, the French people appear disposed to rally round that church and make it prosper.—[Letter from Paris.]

Progress of Civilization in Algiers.—The influence of the Turks has long been declining in Algiers. But there are few Moorish families not connected in marriage with the public functionaries sent thither from time to time from Constantinople. Their descendants are denominated Coulouglis, and have always enjoyed particular priveleges. The families connected with them have been enriched, but the source of wealth, which consisted in piracies upon the coast of Spain and Italy, has been stopped during many years; and Lord Exmouth put an end to Christian slavery in 1816. while various treaties with Europe decidedly checked the former irregular warfare and weakened the Turks. In this state of things we found the Moors ready to receive us as liberators. Our manners and refined habits were more pleasing to them than those of the Turkish soldiery. They have not forgotten Spain and its enchantments. Their countenances and gestures, and their whole demeanour, are strikingly Spanish. One of them, Sidi Bou Dharba, told me one day, that by his mother's side he was descended from the Moors of Granada. I have often played at whist, or écarté, with these pretended barbarians, and found myself in enlightened discussion upon the comparative merits of European and Moslem manners. Their dwellings are fitted up with great luxury. At the country house of Sidi Hamedan, whose eldest son was educated at Paris, are to be seen all the resources of a man of taste, a library, and a garden laid out in the English style.—Polygamy is almost unknown at Algiers. The women have much more freedom than in other Mohammedan countries. They have the exclusive management of the house, and pay much attention to the education of their children. The Algerines are fond of music, and offered to conttribute towards the expense of a theatre. Many of them speak French, Italian, Spanish, and English. And what seems decisive as to the civilization of the Moors, they possess a great number of schools conducted upon the Lancaster and Bell systems of mutual instruction; and primary instruction is more general than in France. It is a great error to suppose them hostile to our more enlightened views.—[Westminister Review.]

Italian Fig-Tree.—Among the time-worn ruins of the ancient castle at Reculver, in the island of Thanet, which forms part of the county of Kent, an ancient fig-tree stretches forth its venerable arms to the breeze, and attracts the attention of the visiter, not more by the venerable aspect it presents, than by the historical records with which it is connected.—This tree, according to the traditions of the neighborhood, claims Italy for the soil of its nativity, and Roman hands for those of its first planters; its age, consequently, cannot be less than from 1345 to 1888 years, the Romans having first landed at Deal in the summer of the 55th year before the birth of our Saviour, 1888 years ago, and finally quitted Britain in the year of our Lord 488, 1345 years ago. Could this patriarchal tree but relate the various changes it has seen, and the political, as well as physical, convulsions it has experienced, what an eventful history it could furnish!

Parisian Manufactures.—One of the most positive signs of the present improving state of France is the amount of the duties of manufactured articles in gold and silver. This manufacture is almost exclusively confined to Paris, and of all articles of luxury these are always the first to feel the effect of any political or commercial crisis, and the last to revive with the return of peace and prosperity. The following is a statement of the produce of those duties during the last three years:—1830—First six months, 529,040f; second six months, 304,935f. 1831—First six months, 258,439f.; second six months, 368,798f.—1832—First six months, 330,721f; second six months, 454,980f. The first six months of the present year have produced 490,854f. Thus it appears that the manufacture was less in the first half year of 1831 than immediately after the days of July; and, on account of the repeated disturbances, did not begin to revive until the measures of the Government had restored the country to security and confidence. Relaxed again by the Cholera and the events of June in last year, it resumed fresh vigor in the second half of the year, and during the last six months has reached a point almost equal to the maximum for many years. Such facts as these are the best answer to those who deny that industry and commerce have improved.—[Journal de Paris.]

Turkish Soldiers.—The first sound that now strikes a stranger on entering the city is that of a fine military band, and the first sight is a regular regiment marching through the streets. If he goes in the morning or evening to a public parade, he will see soldiers drawn out in line, regularly exercised and hear excellent music, to which groups of well dressed people are listening while they walk up and down. 'Tis true there are many things in this approximation to European usage which still remind him that he is not at the Horse Guards or the Castle-yard. The soldiers appear to have no shirts; they are not yet reconciled to the restraint of a stiff black stock, and the shoes which they have taken in exchange for slippers are not in the neatest order; the greatest number are down at the heels as if they were still slippers, and they are all dirty as if they had never been cleaned. Every man gets brushes for the purpose, but they have not yet been reconciled to them. Some orthodox on-bachi suggested that they were made of *hog's bristles*, and they thought the hair of this unclean animal would only defile them still more.—[Dublin University Magazine.]

Manner of naming Countries.—The origin of the word Canada is curious enough. The Spaniards visited that Country previous to the French, and made particular searches for gold and silver, and, finding none, they often said among themselves, "aca nada" (there is nothing here). The Indians, who watched them closely, learnt this sentence and its meaning. After the departure of the Spaniards the French arrived, and the Indians, who wanted none of their company, and supposed they also were Spaniards, come on the same errand, were anxious to inform them that their labour was lost by tarrying in that country, and incessantly repeated to them the Spanish sentence "aca nada." The French, who knew as little of the Spanish as the Indians, supposed this incessantly-recurring sound was the name of the country, and gave it the name of Canada, which it has borne ever since.

Drum Ecclesiastic.—"Ah, Sir!" exclaimed an elder, in a tone of pathetic recollection, "our late ministet was the man! He was a *powerful* preasher, for i' the short time he delivered the word amang us, he knocked three pulpits to pieces, and dung the inside out o' five bibles!"

POETRY.

[*For the American Railroad Journal.*]

TO THE GOVERNESS OF ————

When lowing herds have reached their home,
And clarion ceased to crow,
And faintly doth the silver moon
Her wonted light bestow,—
Then, fairest, rove with me.

When clearly doth the evening star
Delight each wandering eye,
And here, and on the waters far,
Smiles peace and jollity,—
Then, loviest, rove with me.

When even the watch-dog, honest like,
Breathes loudly his distress,
And only some small fly disturbs
The universal rest,—
Then, dearest, rove with me.

When all the lights of earth are dark,
The lights of heaven all gay,
And thy soft whisper may be heard,
More than thy voice by day,—
Then, sweetest, rove with me.

I'll tell thee—O! that I could tell
What my heart prompts me to!
But thou wilt read it in my look—
How plain, and ah! how true.
O, thou wilt rove with me!

S.

New-London, 19th August, 1833.

SUMMER'S GONE.—*By Mrs. Norton.*

Hark, through the dim woods dying,
With a moan,
Faintly the winds are sighing—
Summer's gone!
There when my bruised heart feeleth,
And the pale moon her face revealeth,
Darkly my footstep stealeth
To weep alone.
Hour after hour I wander,
By men unseen—
And sadly my wrung thoughts ponder,
On what *hath* been,
Summer's gone!

There in our own green bowers
Long ago,
Our path through the tangled flowers
Threading slow;
Oft hand in hand entwining—
Oft side by side reclining—
We've watched in its crimson shining
The sunset glow.
Dimly the sun now burneth
For me alone—
Spring after spring returneth,
Thou art gone,
Summer's gone!

Still on my warm cheek playeth
The restless breeze:
Still in its freshness strayeth
Between the trees.
Still the blue streamlet gusheth—
Still the broad river rusheth—
Still the calm silence husheth
The heart's disease:
But who shall bring our meetings
Back again!
What shall recall *thy* greetings—
Loved in vain!
Summer's gone!

MARRIAGES.

On Thursday evening, 22d inst. by the Rev. Mr. Griffin, Mr. John Walker, to Miss Amelia Oldershaw, daughter of J. H. Oldershaw, all of this city.

On Monday, 5th inst. by the Rev. Dr. Phillips, Geo. H. Kelsey, of Charleston, S. C., to Charlotte H., youngest daughter of the late Genl. Nathaniel Coles, of Desoris, L. I.

At Jamaica, L. I. on Thursday, Aug. 22, by the Rev. *Wm. L. Johnson*, Henry Van Rensselaer, of Albany, to Elizabeth Ray, daughter of Joun A. King, Esq.

At Montgomery, Orange Co., on Saturday evening, 10th inst., by the Rev. Mr. Blain, Mr. William D. Hart, to Miss Sarah Ann Bull, both of that village.

At Delhi, on the 15th inst. by the Rev. Orange Clark, Henry L. Robinson, son of the Hon. Tracy Robinson, of Broome co., to Elizabeth, daugher of General Erastus Root.

At New-Haven, on Wednesday the 14th inst. by Silas Mix. Esq. Col. George Ward, of the city of New-York, to Mrs. Charlotte Tuttle, of the former place.

At Elizabethtown, N. J. on Friday evening last, by the Rev. Wm. A. Wilmer, John W. Hoyt, to Olivia Griffith.

DEATHS.

On Thursday morning, the 22d instant, Mr. John Aikman, in the 75th year of his age.

Tuesday, 27th inst., Mrs. Elizabeth, wife of Mr. A. H. Kimmel, and daughter of Mr. Henry Valentine.

On the morning of the 20th instant, Mary Mooney, wife of Walter Mooney, in the 33d year of her age.

At Jamaica, L. I. on Saturday evening, Egbert Benson, aged 87 years.

At his residence, Staten Island, on Sunday, August 25th, Daniel Crocheron, Esq. after a lingering illness.

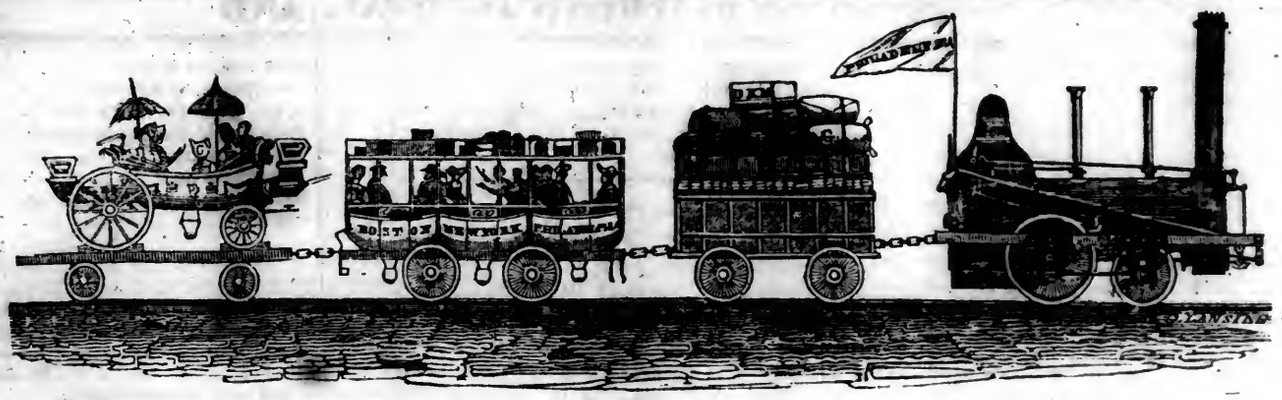
At Pompton, N. J. on Tuesday, 20th instant, Sarah Catherine, daughter of James Wheeler, Esq. of Warwick, Orange county, N. Y.

At Bridgeport, Ct. on the 17th inst. Mr. Asa Benjamin, in the 70th year of his age. He was one of the remaining few, who, during our revolutionary struggle, stepped forth in defence of our country and the great cause of liberty. Since that period he has resided in his native state, where the excellence of his heart, his strict integrity, his blandness and affability of manners, and his kindness to his fellow men, gained their universal respect and esteem. He will long be affectionately remembered by his relatives and numerous friends.

On the 30th July, Mrs. Maria Elizabeth Pierce, consort of Jeremiah L. Pierce, of Cincinnati.

At Nashville, Tenn. on the morning of Tuesday, 13th August, William Gibbs Hunt, Esq. Editor of the National Banner, a native of Boston, aged 42 years and 6 months.

At Jacksonville, Illinois, the 9th instant, Dr. Aldis S. Allen, of Bridgeport, (Conn.) he with his wife on their return home, from a tour through the Wstern States, where he was taken sick and died of bilious fever.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, SEPTEMBER 7, 1833. [VOLUME II.—No. 36.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 7, 1833.

Tonnewanda Railroad.—We refered in a previous number to the above road, by way of showing the avidity with which the stock of judiciously located Railroads will be taken by those who know and appreciate their importance to the country. The Tonnewanda Railroad, commencing at Rochester, will pass through one of the most fertile sections of western New-York, and also through several flourishing villages terminating for the present at Attica, but eventually at Buffalo: it cannot fail of becoming a great thorough-fare for travel between those places, as well as for transportation of produce, raised along its line, to the canal. The travel alone, we have not a doubt, will produce an income sufficient to pay the interest upon the capital, whilst the transportation will pay the expense of the carrying establishment. It will not only be a convenience to those residing in its immediate vicinity, but will be to them in reality the means of greatly enhancing the value of their property. They would indeed be the gainers if their property was taxed to build the road, and they were to receive nothing back in the shape of dividends. Every improvement of the kind actually increases the wealth of the country through which it passes more than the cost of the improvement—of this fact none are better satisfied than those residing in the vicinity of the Erie Canal. The expenditure of fifteen millions of dollars, within ten years, in the state of New-York, for the construction of Railroads and Canals, would not only increase the value of property to that amount over its present value, but it would also enhance the value of property to at least that amount, beyond what it would be otherwise increased if the improvements were not made. Thus the owners of real estate will be greatly benefitted, the inhabitants residing on the route will be highly accommodated, the travelling community will find their convenience greatly promoted, and those who have money to spare will find a safe and profitable investment for it. We cannot therefore doubt but that this road will be commenced at an early day, and prosecuted with spirit to its completion.

Richmond and Potomac Creek Railroad.—We were somewhat surprised to find the editor of the Richmond Whig opposed to this contemplated railroad. His uniform devotion to the cause of internal improvements in Virginia, led us to anticipate a ready support of the measure from him. He, however, in referring to the following communication from Virginia's able engineer, has explained the reason of his objection to the measure, (a desire to see the James and Kanawha improvement undertaken,) and it is one, we admit, which in many cases would be satisfactory—but not in the present, for we believe that the only way to do any thingin Virginia, towards improving her internal communication, at an early period, is to project works in the different parts of the state, that the whole population may become interested in them. There must be a general, a pervading desire for them, before much can be done.

There can be no doubt, we think, of the far greater importance to Virginia, but more especially to Richmond, of the *James* and *Kanawha* improvement—yet we are not sure but that this contemplated railroad would rather facilitate than retard that work, as it would serve to familiarise the inhabitants to such improvements; and they would of course see and feel, if they travelled much, the vast importance of such works to individuals, as well as to the public.

We should be much gratified to see this road in progress, as it is another and an important link in the "grand Atlantic chain." We give the annexed letter of Moncure Robinson, Esq. who, as the editor of the Whig well says, is "high authority," and we certainly agree with him that Mr. Robinson ought to be employed to survey the route.

Broad Mountain, Schuylkill Co. Pa.
July 31st, 1833.

My Dear Sir—I had intended to have had the pleasure of seeing you, when I was last in Richmond, but I understood, at the time that you were occasioned some annoyance by a subpœna of the United States Court in the case of Randolph, and deemed it as well not to trouble you with other matters.

I wished to have said a word to you, and to have asked your aid in behalf of the Richmond and Potomac Creek Railroad. Next to the James and Kanawha Improvement, nothing which has been proposed in Virginia, seems to me to promise such benefits to the city of Richmond, and to the State at large, and as the amount required for its execution would be comparatively small, there seems to be only requisite some little concert among those who can appreciate the importance of the Improvement, to induce its being taken up and effected. If a survey could be had, and a report and estimate be made by the next session of the Legislature, and a charter and pledge of aid to some limited extent from the State be then obtained, I should entertain no doubt that the necessary remaining stock could be made up by subscription. You can better judge than myself, how the first step in the matter (the survey) may be effected. If the necessary sums for the purpose could be made up in Richmond and Fredericksburg, I would suggest an application by some of the citizens, to the War Department, for an immediate survey of the Route, by some of the members of the Topographical Corps.

I have taken the liberty of writing you on this subject, from a belief that you will, with pleasure, co-operate in favor of a measure, which I feel assured will, if executed, be fraught with most important results to our Ancient Dominion. The limits of a letter would not admit of my presenting to you the many views in favor of it; and I should feel it unnecessary to do so, as your own reflections will, I have no doubt, readily suggest them. Allow me to ask your attention to it, and the co-operation of your press in its behalf, if you should, on examination, entertain as favorable impressions of the scheme as I think you will.

I remain, dear sir, yours, very truly,
M. Robinson.

J. H. Pleasants, Esq.

Chemung Canal.—The navigation on this canal has commenced, and several boats passed on the 26th ult. between Havana and the summit level at Horse Head.

GEORGIA RAILROADS.—As we anticipated, *Georgia* will continue the Railroad from Augusta to the interior of the State, if not to the Alabama line. Meetings have been held at Sparta Powelton, and Mount Zion, on the 13th and 14th ult., at which over 100,000 dollars were subscribed to the stock of the Augusta and Eatonton Railroad. Further efforts are also making in North Carolina—than which, no State *needs* them more, or would be more benefitted by Railroads; one or two principal lines from *tide water to the mountains*, with branches, and one main line from north to south, connecting the Petersburg road with another in South Carolina, at Cheraw, would soon give to North Carolina a new aspect. Thus it is that the true interests of the country are to be promoted—and he who aids in the extension of works designed to facilitate the intercourse of the different States, or even of remote parts of the same State, is far more entitled to the gratitude of his countrymen than he who spends a whole life fattening upon the spoils of the enemy, or "feeding at the public crib."

DANSVILLE AND ROCHESTER RAILROAD.—By the following extract from the Dansville (N. Y.) Chronicle, we learn that strong hopes are entertained of the success of their Railroad. Of its importance to those flourishing villages—or rather city, one of them—no one can entertain a doubt, and of its construction, at an early period, *we* have not a doubt.

With the friends of this important project, it has been, until recently, a matter of doubt whether the stock would be taken up, were the books for subscription opened, because of the general *pressure* in the money market; but late occurrences have given a new impulse to the spirit of enterprize, and removed all doubts that existed upon the subject, affording the greatest assurance that no difficulty whatever will now be experienced in disposing of the stock. In Rochester, and all the places interested, the greatest anxiety to have the books opened and the necessary measures adopted for the speedy consummation of the matter, is manifested. The Commissioners appointed under the act to incorporate this Company are to meet in Geneseo to-morrow, to determine upon the time most expedient to open the books for subscriptions, and we are informed that the time contemplated is the early part of next month. *We think the sooner the better.*

By letters received in this village from influential and intelligent gentlemen of Rochester, and from other sources, we learn that capitalists *there* are anxious for an opportunity to take the stock; that they consider the prospect of a profitable investment of money in the stock of this company far more certain than in that of the Tonnewanda Route, the capital stock of which ($500,000) was all taken up in Rochester on the 14th inst. *before the books had been open three hours;* a fact which proves conclusively that the stock of the Dansville Railroad would be eagerly sought after.

The route of the road to this village is one of the most delightful in the world—the country level, rich, and fertile—a portion of it in a high state of cultivation and rapidly advancing in wealth—and the village of Dansville, at its termination, is one of the most flourishing and pleasantly situated villages in Western New-York. Its hydraulic privileges are presumed to be equal, if not superior, to those of Rochester, as they are more *extensive*, and afford better opportunity for erecting the various kinds of manufacturing establishments. It is already quite a manufacturing town, yet not one hundredth part of the Mill Sites are occupied—and the moment it is ascertained that we are to have a Railroad, capital will find its way here, our water privileges be occupied, and Manufacturing Establishments spring up all around us; the result of all which will be—*heavy dividends upon the Capital Stock of the Dansville and Rochester Railroad.*

MAD RIVER RAILROAD.—We think the following Report of the United States Engineer, upon his surveys, cannot fail to afford satisfaction to the friends of this road. It is with real pleasure that we lay it before our readers, although we recently devoted a large space to the same subject. The *importance* of the work to the great west will warrant us in referring often to it.

Report of the United States Engineer, in relation to the Mad River and Lake Erie Railroad, submitted to the Commissioners, at their meeting at Springfield, Ohio, on the 31st ult.:

SPRINGFIELD, July 31, 1833.

SIR,—I herewith submit an estimate of the probable expense of constructing the Mad River and Lake Erie Railroad, as determined from the experimental survey made under my direction, during the past and present seasons.

A more full and minute report will be made upon the return of the party to Washington, accompanied by maps and profiles of the whole route. The limited time we have been engaged, and the necessity of attending to other duties, have rendered the completion of these drawings at this time impracticable.

The excavation and embankment have been estimated at 10 cents the cubic yard; the masonry at $2 the perch; and the grubbing at $2 the rod—prices amply sufficient to cover these respective items. No doubt is entertained that the work can in many instances be done at much lower rates. It was thought best, however, that the estimate should, if any thing, exceed the actual cost, rather than fall below it.

The grading upon the road will be easier than was at first anticipated, and can in many instances be much improved upon its final location, when more time and labor will be necessarily expended than could reasonably be expected upon an experimental survey. But even upon the line as at present traced, they are such as to do away entirely with the necessity of any stationary power whatever, rendering it peculiarly adapted for the employment of locomotive engines exclusively, in transportation upon the road. The advantages of the locomotive system over any other, especially in the transportation of passengers, is too evident to need any remark.

TABLE OF GRADES.

Under 10 feet per mile,	63 miles,	1090 feet.
Between 10 and 20	40	3200
" 20 and 30	22	4240
" 30 and 40	12	4640
" 40 and 45	7	4640
" 45 and 50	5	2000

The whole length of curvation upon the road is 12 69 miles, of which 9.81 miles will have a radius of from one to four miles; of the remainder, the radius need not, in any case, fall short of three thousand feet. The line is capable of equal improvement as respects the length and location of the curves, as in case of the gradation.

The estimate has been proposed separately, with a view to the employment of either steam or horse power. Should the former be determined upon, the necessity of a horse path will be dispensed with, and of course this amount will be saved in the cost of construction.

Estimate of the cost of the Mad River and Lake Erie Railroad, *double track:*

From Sandusky City to Dayton, 153 miles.

Gradation and masonry, average per mile, $2,877 31,	$440,228 40

Superstructure of one mile.

480 perches of broken stone, at $1,	$480 00
2,640 sleepers at 20 cents,	528 00
66,582 feet scantling, 6 inches by 6, at $22 per thousand,	1463 50
46 tons iron, at $50,	2300 00
1,936 lbs spikes, at 9 cents,	174 24
1,400 splicing plates, at 3 cents,	42 30
320 rods workmanship, at $4 50,	1440 00
1 road crossing,	20 00
2 farm crossings,	16 00
Removing earth and grading,	100 00
1 sliding,	354 06
	$6918 20
Multiplied by 153,	$1,058,484 60
Grading and masonry, as above,	440,228 40
	$1,498,713 00
Add 10 per cent. for contingencies, salaries of engineers, superintendants, &c.	149,873 30
	$1,648,584 30

or $10,775 06 per mile, for locomotive power.

This estimate is based upon the presumption that locomotive engines alone will be used, and that there will be no necessity for a horse-path. Should this, however, not be the case, the cost of the horse-path must be added. The following will then be the cost of the road:

Graduation and masonry,	$440,228 40
Superstructure, as above,	1,058,484 60
1280 perches broken stone, at $1, $1280 00	
Making horse-path, 200 00	
For one mile, $1480 00, by 153,	226,440 00
	$1,725,153 00
Add for contingencies, &c. as above, 10 per cent.	172,515 30
Making the whole cost, including horse-path,	$1,897,668 30

or $12,403 06 per mile.

I am, sir, very respectfully, your obedient servant,

HOWARD STANSBURY,
U. S. Assist. Civ. Engineer.

To Horatio G. Phillips, Esq. President of the Mad River and Lake Erie Railroad Company.

Estimated Cost of Grading and Masonry.

FIRST DIVISION.—From Sandusky City to Tiffin, on the east bank of Sandusky river, 35 miles, $73,711; or an average of 2,106 03 per m.

SECOND DIVISION.—From Tiffin to the north branch of Sciota river, 39 miles, $108,239 40; or an average per mile, $2,775 39.

THIRD DIVISION.—From north ridge of Sciota river, to the east branch of Mad River, near West Liberty, 32 miles, $119,149 70; or an average of per mile, 3,723 39.

FOURTH DIVISION.—From Mad River to Dayton, 47 miles, $139,127 30; or an average of per mile, 2,060 17.

Whole cost of grading and masonry from Sandusky City to Dayton, 153 miles, $440,228 31; or an average of per mile, $2,877 31.

Report of the Engineer in Chief to the Stockholders of the Ithaca and Owego Railroad Company.

The President and Directors of the Ithaca and Owego Railroad Company have the pleasure of submitting to the stockholders the subjoined report of the Engineer in Chief.

We deem it unnecessary to enter into a detail of the location and progress of the work, as that will appear in the full and ample developement of the Engineer in his report herewith submitted, in which we have entire confidence; but will confine ourselves to a few observations on the present and future prospects of the road, to which the stockholders look for a remuneration of their investments in the stock of the company. On this subject we have full confidence in the assurance, that if the calculations for the future can be regulated by the experience of the past, they are flattering.

The importance of a communication by canal or railroad by this route, from the waters and country of the north and west, with the

Susquehanna on the south, has been a subject of much calculation and speculation for several years past, and efforts for its completion have engaged the attention of the commercial portion of our community.

This communication will be effected in the completion of your railroad, and defies all competition by any other route, it being the most direct, least expensive, and shortest portage between the navigable waters of New-York and Pennsylvania.

The head of the inclined planes is 517 feet above the Cayuga Lake; thence running to Owego with an undulation of 21·12 feet per mile, considered equivalent to a level, through the Beaver Meadow, where the waters divide and flow north to the Gulf of St. Lawrence, and south to the Chesapeake Bay. On the streams thus formed along the line are 33 mills, and the immediate vicinity furnishes an abundant supply of timber.

From accurate calculations by the best informed merchants and carriers in the villages of Ithaca and Owego, we have derived the following statement:

The transportation from Ithaca for the year 1828 was, in exports, 10,678 tons; imports, 7,929 do.; total, 18,607 tons. For the year 1831, exports, 31,631 tons; imports, 11,525 do.; total, 43,156 tons.

Should we take the ratio of those years for the year 1834, when your road will be completed and in full operation, we could safely calculate the amount at 76,800 tons, equal to 320 tons a day. We have, however, after a moderate and careful review, concluded to present the following as a fair estimate of the amount of tonnage that will pass the railroad in the year 1834: Merchandise, 2,000 tons; wheat and flour, 5,000; pork, butter, and whiskey, 2,000; ashes, 1,000; plaster, 10,000; salt, 5,000; lime and stone, 1,000; lumber, 7,500; miscellaneous; 1,000; total, 34,500 tons.

In this estimate of tonnage, the article of coal has not been included. The rapid extirpation of wood in the improvement of the country, particularly along the line of the canal, has already enhanced its price, and could coal be obtained at a fair and reasonable rate, it would supercede the use of wood altogether, and enable the farmer to turn his reserved wood-land into arable, and thus increase his crops for market. The salt works alone would consume an immense amount; wood is now sold there for $2 per cord; and coal could be afforded there for $5 per ton, one ton of coal being equal to four cords of wood; thus making a saving of $3 in every four cords of wood. We might, therefore, rate the tonnage of coal higher, but shall estimate it at 8,000 tons.

When the Chenango Canal shall have been finished, we must expect a competition in the article of anthracite coal; but in the bituminous, from Towanda, a few miles below Tioga Point, there can be none. The distance from Carbondale, in the region of the anthracite coal beds, by the way of the Chenango canal, through Utica, to the salt works at Syracuse, will be 214 miles, with the canal duty from Chenango Point, heavy lockage and slow progress: the summit near Oriskany or Utica being 730 feet above the canal, and 320 above the Susquehannah at Chenango Point, giving 950 of lockage, and will require 119 locks of 8 feet lift, which at ten minutes' time (including delay) in passage, will be 1190 minutes. This being converted into distance at the rate of three miles per hour, or 20 minutes per mile, will, so far as time and wages are concerned, be equivalent to an extension of the canal a distance of 59½ miles.

From the same point, (Carbondale,) by the way of the Ithaca and Owego Railroad, Cayuga Lake and Canal, to Syracuse, it is 193 miles; the passage made from Owego to the Cayuga Bridge in eight hours.

Bituminous coal will always be in great demand: for cupola furnaces, however, anthracite is chosen; but for reverberatory furnaces, forges, smithies, family use, and the boiling of salt, the bituminous will be preferred, as it makes a more brilliant fire, the flame spreading its heat more readily around.

The Towanda iron ore and coal beds are 36 miles south of Owego, thence to Ithaca 29½ miles, from Ithaca to Cayuga Bridge 36 miles, (lake navigation free of toll,) thence to Syracuse, canal navigation by Montezuma, 42 miles; in the whole 143 miles.

The transportation from Towanda to Owego will be on the navigable waters of the Susquehanna. Steamboats of a light draught of water, such as are at present navigating the Connecticut river, can be successfully used, and some gentlemen at Owego have made the necessary investigations, and contemplate putting on one or more boats in the coal trade. This would immediately give us a direct, easy, and cheap communication between those coal beds and the Erie Canal. The coal beds are inexhaustible, extending for miles westerly.

The bituminous coal beds lie south-west of Newtown, at Peter's Camp, at the head of the Tioga river, probably part of the same vein existing at Towanda, and are 40 miles from the head of the feeder of the Chemung canal, and about the same distance westwardly from Towanda, accessible through a broken and mountainous country. The route from the head of the feeder of the Chemung Canal to the head of the Seneca Lake is 36 miles long, thence including the length of the lake 40 miles, thence on the Seneca and Erie Canals to Syracuse, 57 miles, making in the whole 173 miles, and passing 61 locks. This lockage being converted into distance, as on the Chenango Canal, will give an extension equal to 30½ miles. The time required on our railroad to ascend the whole elevation will take but twenty minutes, equal to an extension of one mile.

Thus it will be perceived that, as far east as Syracuse, we can transport anthracite coal cheaper than they can by the way of the Chenango Canal; and bituminous, than can be done by the way of the Chemung, as much cheaper as we gain in time and distance. About 80 tons of Carbondale and Towanda coal have been sold in this village during a few days' sleighing, at the price of from $8 to $12 per ton, and ground plaster carried back as the return load. By railroad and steamboats it could be afforded at $4 per ton.

The three furnaces at this place, although not on a large scale, would consume 244 tons annually. We have confidence, therefore, in making the following statement of revenue for the year 1834: Merchandise, 34,500 tons; coal, 8,000 do.; total, 42,500 tons.

Admitting we transport half of this amount, at the rate of $2 per ton, which is from one to two dollars less than the usual price, $42,500; the other half by carriers paying toll only, $21,250; passengers that will concentrate and pass our road from north and south, 50 a day, at $1, 365 days, $18,250; country travel along the line of the road, 50 per day, at 50 cents, 365 days, $9,125.

Amount of revenue as per preceding statement - - - - - -	$91,125
The annual expenses of the road, at a liberal calculation - - - -	20,000
Leaving a revenue of - - - -	$71,125

The cost of the road will not exceed its capital, $300,000.

Although the above result is great, yet we must have confidence in its reasonableness, from our knowledge of facts and facilities upon which it is founded.

The salt manufactured at the Montezuma works can be reduced in price for the southern market, to the difference in the cost of distance of transportation between Syracuse and Montezuma, being 35 miles.

The plaster beds on the east bank of the Cayuga Lake, but thirty miles from Ithaca, are abundant.

Limestone, making the first quality of white lime, is inexhaustible on both sides of the lake, and there is a market for it south as far as Wilkesbarre, on the Susquehanna, 150 miles; none of good quality being found in the intermediate region. There are also at Springport, on the east bank of the Cayuga Lake, inexhaustible beds of water limestone of the best quality, the lime from which we are now using in the construction of our culverts.

Lime, therefore, will be an important source of revenue, as well as coal, salt, and plaster. The sum of $71,125, which is a fraction over 23 per cent. on the capital, would therefore be the immediate amount of revenue on the completion of the road: and it is an important consideration, that the amount of revenue which the company may receive is not limited by the charter. But in extending our views to the future business of the road, we must calculate upon its increase from Lake Ontario, 70 miles north of Ithaca, by a channel or route crossing the canal at Montezuma, which is 18 miles from Sodus Bay, through a country abounding with iron ore. Besides, our road must be considered as an important link in the great connexion between Buffalo, the mart of the western states, and Philadelphia, Baltimore, and New-York. This presents its value in a most interesting light.

We found the above calculation also on the fact that simultaneously, and without concert, a line of communication with New-York is in preparation. A charter has been granted for a railroad from the termination of our road on the north to Geneva, and one from Geneva to Canandaigua, leaving but 90 miles to connect us with Buffalo, and thus unite the navigable waters of the Susquehanna with Lake Erie.

The distance from the Erie Canal at Montezuma to Sodus Bay is 18 miles, which bay on Lake Ontario is 90 miles nearer the city of New-York by this route than any other. It has long been contemplated, and actual movements and reconnaisances are making, to connect Lake Ontario with the Erie Canal at Montezuma by a canal, which it is believed also will drain the Cayuga marshes (the fall from those marshes to that lake being 138 feet) more effectually than any other mode, which ought to be a great inducement with the state to contribute liberally towards its completion.

The distance from the city of New-York to Ithaca is 210 miles, 17 of which, through a part of New-Jersey, is already traversed by the Paterson Railroad, which would, without doubt, be carried up to the state line, leaving from the southern termination of our road about 150 miles to be completed by the great New-York and Erie Railroad Company, (our road now embracing one-seventh of the whole distance) to connect New-York with the Erie Canal navigation by the Cayuga Lake.

The distance from Owego, the southern termination of our railroad, to the northern termination of the contemplated Lackawanna and Susquehanna Railroad, is 35 miles; and if the Hudson and Delaware Company would construct the road through Pennsylvania, the distance above stated would soon be passed by a connected road, the stock for which would readily be subscribed, and the company would then have a greater market to the north by our railroad and the Chenango Canal, than they now possess by the Hudson.

In the present state of things, without reference to future improvements, the Ithaca and Owego Railroad must of necessity take a large portion of the trade along our lake and the Erie Canal, when repeated experiments shall show its advantages by the diminished expense of transportation.

The navigation of the Susquehanna is at least four weeks earlier in the spring than the eastern sections, and two weeks earlier than the western section of the Erie Canal. Advantage has been taken of this knowledge by some of our merchants, in getting to an early market, and produce has been sent from this village to Baltimore, there sold, goods have been purchased in New-York with the avails, shipped to Albany, and have been forwarded by the first boats on the opening of the canal.

	Plaster, per ton.	Salt, per bbl.
The total cost and transportation of Cayuga plaster and salt, from Ithaca to Harrisburgh, on the Susquehanna and our railroad, will be - - -	$5,94	$1,94
The cost of foreign plaster and salt at Philadelphia, and transportation to Harrisburgh - - -	7,75	2,25
Difference	1,81	31

	Flour, per bbl.	Whiskey, or Pork pr bbl.
The total expense of transportation of flour, pork, and whiskey, from Ithaca, passing Baltimore to New-York or Boston, by our railroad and the Susquehanna river - - -	70	1,23
Do. by way of Erie Canal from Ithaca to New-York	81	1,50
Difference in favor of Railroad	11	27

So far as we have progressed in the construction of the road, we have been influenced by the limitation of our capital, and economical considerations, and have left the question as to the use of stone or wood to depend upon the convenience and cost of obtaining those materials, considering a durable and imperishable road at ten per cent. increase of cost the cheapest. In all works of this kind great prices are demanded and paid at the commencement, produced by the conviction that the work must progress, and that the article wanted is the only one that at the moment can be procured. Some purchases of timber were made from 12 to 14 dollars a thousand feet, board measure, which we can now obtain at 10 or 11 dollars.

Stone rails, which it was supposed we could only procure from the limestone ledges along the shore of the Cayuga Lake, at $3 per perch, (16½ cubic feet,) we can now procure along the line of road at 75 cents, in some of the quarries opened for the building of culverts and viaducts.

Some embarrassments occurred last summer in the financial concerns of the company, arising from misrepresentations and misconceptions, upon which a few stockholders in New-York were induced to refuse payment upon the calls of the company. The President, Treasurer, Secretary, and Engineer, repaired to New-York with the books, maps, and vouchers, and made a full and ample exposition of the concerns and affairs of the company, with which those stockholders were satisfied. The report of a committee expressing that satisfaction, and calculating large profits upon a basis of expense much greater than is now ascertained to be necessary to make the road, is herewith annexed. The work has not, however, stopped, and for the advance of that portion of stock due, we have been sustained by our Treasurer and friends in Albany.

At the last election of Directors held in February, those gentlemen in New-York, who held 542 shares of stock, were represented by their proxy, who also represented 411 shares held in Owego; and those gentlemen holding 1807 shares, residing in Albany, Utica, and Ithaca, were there in person or by proxy. All united in the election of the present Directors, thereby evincing a unity of action favorable to the advancement and prosperity of the work.

All of which is respectfully submitted. By order of the Board of Directors.

Francis A. Bloodgood, President.

Ithaca, March 14, 1833.

Railroads.—The railroad, the working of which has just commenced between Stonington, Conn. and Providence, R. I. forms an important part of the route between Boston and New-York. The distance of the entire line of railroad, when connected at Providence with the present line, will be about 80 miles. The public generally are not aware that a Long-Island railroad of *less than one hundred miles* might reduce the time of travelling between Boston and New-York to about twelve hours, thereby obviating the hazard of passing Long-Island Sound, and of the lines of steamboats.

It is less than one hundred miles from Brooklyn ferry to Greenport, formerly called Sterling, in the town of Southold. Greenport has a fine harbor, situated between Shelter Island and the main Island, and has good depth of water—easy of access—never troubled with ice. There is already a considerable village, where two whaling ships are annually fitted out, and many smaller vessels are owned and employed.

It is probable the railroad between Brooklyn and Jamaica will be made the next season, embracing 12 miles of the proposed route. The remaining distance to Greenport is over a level country, having many facilities for constructing a cheap railroad. A steamboat could pass between Greenport and Stonington in 2 hours, during the whole year.

We have no doubt that many persons who have occasion to travel between New-York and Boston, would at this time take the route through Long-Island, were they aware of the fact that lines of stages pass *three times a week* between Brooklyn and Sag-Harbor, and that three fine packets are passing *every day* between Sag-Harbor and New-London.—[L. Island Star.]

Excavation for the Railway.—The excavation which is now about being made in a hill in Lowell, for the bed of the contemplated railway, may be considered, next to the various manufacturing establishments, the most wonderful "Lion" of the place. This hill is near the *terminus* of the railway, in the neighborhood of the Brewery, but not in a populous part of the town. It consists of a *ledge* of rock, which is about three hundred yards in length, and the average depth of the excavation is about forty feet. It is thirty feet wide at the bottom, and sixty at the top, and the masses of stone which have already been riven from the ledge by blasting, seem to be immense.

A contract was originally made with a person to effect a sufficient passage through this hill for the sum of seventy-two thousand dollars. He commenced the undertaking, employed sixty workmen for about four months, *and failed*. Another person then undertook to finish the work for the same amount—but after a few months, he also abandoned the undertaking. Those individuals are said to have both been acquainted with the nature of the business which they undertook—but they were deceived by the quality of the rock, which consists principally of gneiss and mica, through which, although much lighter and softer than limestone or granite, it was found much more difficult and expensive to effect a passage, than if it was composed of those more solid materials. The *drilling* may not be so difficult, but the rocks lying in numerous horizontal strata almost defy the power of gunpowder, and heavy, blasts which would shiver an immense mass of granite, are frequently found here to produce but little effect. In addition to this, the ledge is found to be full of springs of water, which sometimes render it necessary for the workmen to expend much time, and exercise no inconsiderable ingenuity, in counteracting its effects. There are also found in the lower part of the ledge, huge masses of quartz, and a species of rock composed almost entirely of hornblende, which is of course almost impenetrable to the drill.

The "Locks and Canal Company" have now undertaken to complete this work, at the expense of the Railroad Company. About seventy men are constantly employed, and the work advances as rapidly as the attending circumstances will allow. Seven hundred kegs of powder have been used in blasting since the latter part of April, when the work was recommenced. About fifty kegs are used every week. This powder is manufactured at Mr. Oliver M. Whipple's mills, situated about a mile from the centre of the town. About one-third of the work is already executed, and it is expected that in the course of the next season this stupendous undertaking will be completed.—[Lowell Journal.]

Allegheny Portage Railroad.—A late Ebensburg Spy contains the following encouraging notice of a portion of the railroad over the Allegheny:

"We have lately viewed that part of the Allegheny Portage Railroad which lies between Croyle's Mills and the borough of Conemaugh, and were much pleased with its appearance. It would be worth a three days' ride to see the manner in which skill, industry and science, aided by money, have overcome the difficulties which presented themselves, and broke through the obstructions which nature had thrown in the way, in that rough and rugged section of the country.

"A few miles below Croyle's Mills the Conemaugh river bends to the South, and after traversing a sinuous course of more than three miles, is again seen across a narrow hill at the distance of about three hundred feet from its place of departure. At this point the road is cut through the hill and carried over the river on a viaduct supported on a strong and neatly built semicircle stone arch of eighty feet span, rising from abutments at the height of 20 feet above the river. The whole distance from the water to the arch being sixty feet. The arch is now complete and the centres removed. It presents a grand and bold appearance, and seems capable of resisting any thing short of the concussions of an earthquake. This work does credit to the Engineer who planned it, and to the worthy contractors, Snodgrass and Dunro, who constructed it.

"The viaduct is connected with a hill at the west end by an immense embankment, some parts of which are seventy feet in height.

"The vicinity of this viaduct will be ere long the site of extensive water-works. The whole stream, which is considerable, can be conveyed through the Hog-back hill, by a deep cut or a short tunnel, and thus gain a fall of more than forty feet.

"A few miles below the viaduct the road passes through a tunnel, nine hundred feet in length, the greater part of which has been excavated out of a solid rock. Abut one hundred feet at each end of the tunnel is handsomely arched with cut stone, and the entrances will be ornamented with columns of the same.

"Many of the rails are laid upon this section of the road which we visited, and preparations for laying the residue are in rapid progress. This is the case, we are informed, on the whole line of the Portage, and the prospect of traversing the whole course from Hollidaysburg Conemaugh, during the present season, is now very certain."

Liverpool and Manchester Railway.—The half yearly meeting of the proprietors of this company was held on Wednesday, the 24th of July; Richard Harrison in the chair. A report of the proceedings of the company, from the 1st of January to the 30th of June, was read by the treasurer, Mr. Booth, which appeared to give satisfaction to those assembled.

The quantity of merchandize conveyed between Liverpool and Manchester, during that period, was 68,285 tons—to different parts of the road, 8,712 tons—quantity between Liverpool, Bolton, and Manchester, 19,461 tons. Total quantity moved along the line, 94,458 tons.

Total quantity of coal from various parts of the line, 42,721 tons—total number of passengers booked in the company's office, 171,421.

The number of trips of 30 miles performed by the locomotive engines, with passengers, 3,262—with goods, 2,244. Total, 5,506.

Half Year's Receipts.—Coaching department, £44,130 17 2—General merchandize, £39,301 17 3—Coal department, £2,638 15 9. Total receipts, £86,071 10 2—Total expenses, £52,900 9 1. Profit, £33,171 1 1. Which allows a dividend of four guineas per shar

leaving a few hundred pounds in bank. In the expenses of the half year the sum paid for the purchase of two new engines is included. A considerable saving is expected to take place by the recent application of brass tubes in the engines, in lieu of copper tubes previously used, that were almost continually bursting. Mr. Dixon (a gentleman in service of the company) has the merit of this important suggestion. The new tunnel is in rapid progress, about one-fifth of it being already completed.--[Balt. paper.]

Sea-Serpent Harpoon. By MECHANICUS.

To the Editor of the Mechanics' Magazine.

SIR,—In these days of inventions and of sea-serpents, I deem it meritorious to contrive something for the destruction of such ugly looking monsters as have lately furnished such wonderment to the good people *down east.* Now, sir, if any of your readers should ever take a *notion* to go either whaling or *sea-serpenting*, I would advise them to be provided with some half dozen of the *machines* of which I send you the drawings.

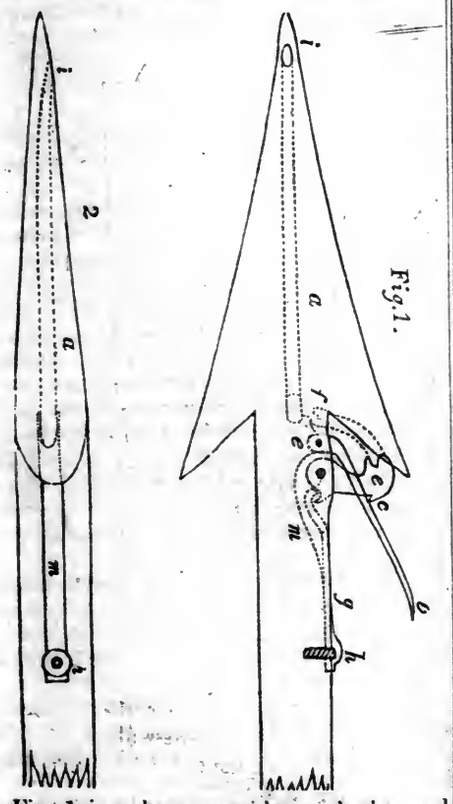


Fig. 1.

Fig. 1 is a harpoon with two barbs, and may be of any convenient size and length; *a* is a cavity drilled in from *i*, (which may be done with the point bent,) a little beyond the root of the barbs at *f*; a groove is cut in the shank under one of the barbs as shown at *m*, Figs. 1 and 2; in this groove is fitted the cock *e*, the main spring *g*, fastened by its screw *h*, and under the barb, at *f*, a percussion pin, or head, which communicates with the cavity *a*. A trigger with two prongs, between which the cock works, is set into two sockets at *o*, one on each side of the groove *m*, and fastened by a screw-pin, as shown in the figure; the trigger has a small hole in it, just above the space for the cock, for the point *c* to slip into to hold the cock back.

Now for the operation. A small charge of powder is put into the cavity, and over this a proper quantity of some poisonous substance, the effects of which shall be powerful and rapid; a percussion cap is put on the head, and the instrument is then cocked, as shown at Fig. 1. The consequence of plunging such an instrument into a soft or fleshy substance must be obvious to any one, for as the flesh closes over the barb it strikes the end of the trigger at *b*, and throws the point of it down behind the head of the screw *h*, and by the consequent explosion of the powder the poison is forced into the body from the orifice *i*, and produces death at the same time that it fastens the object.

Now, sir, as I am the inventor, all I can say in praise of the invention is, that I should not like to be harpooned with such a machine. MECHANICUS.

THE PROGRESS OF INVENTION EXEMPLIFIED.—Many volumes have been written on the gradual refinements of language, and learned men have pointed out the immense stride in improvement which has arisen from an unimportant innovation, yet millions had spoken the imperfect language without dreaming of the simple means by which the finishing touches could be given to it. The effects also which have flowed from apparently the most simple contrivances are almost incredible; and should those who are familiar with their most perfect forms be but casual observers, they may be startled at the exaggerated terms in which their value may be estimated—or disgusted with the claims of some mechanic, who, by merely adding a wheel or pulley, or giving a trifling difference to their proportions, may, by these means, have been the first to make the machine efficient. The simple process of drawing a cork will furnish the necessary illustrations.

The inventor of bottles is unknown; but these were in use for centuries before corks were thought of, and these again were employed for generations before a convenient method was hit upon for their extraction. The exhilarating contents could then only be tasted by what is now technically called "beheading the bottle." More expert practitioners had many opportunities of shewing their skill in removing the impediment by a dexterous twist of the fingers;

or, if that were impracticable, teeth were called in as their natural auxiliaries; here, however, in many cases, it was doubtful whether the cork would follow the teeth, or the teeth remain *in* the cork; and if an obstinate remnant would remain, a *nail* was a ready means of dislodging the stubborn plug, particle by particle,—when at any time, through an impatience of the nibbling labor, or a despair of accomplishing a clean extraction at all, it was resolved at once to send the obstacle the wrong way: this was then, indeed, an invaluable instrument. A pair of skewers, or forks, inserted "witch-wise," would sometimes accomplish those difficult cases which had baffled the exertions of all the naturals. Twisting the lower extremity of the "bare bodkin" into a spiral form, and adding a handle to it, was the thought of a master genius; and, in this shape, mankind, for ages, were contented to avail themselves of its services—and even at the present hour, some barbarous, uncouth countries and districts may be named where it is still the extractor in most general use. In our civilized land, it must be yet in the recollection of many, that this was, in numerous cases, a very inefficient machine; and the pleasure of beholding the generous beverage beaming through a crust of many years, was cruelly damped by the experience, that in proportion to the pains taken in fixing the cork, was the mental agony which must be endured during all attempts to remove it. Jovial fellows, who forget those days, in their moments of inspiration, may talk indeed of their Phillises, their Ianthes, their Delias, their Saccharissas, their Chloes, and their what-nots,—let them henceforth mingle a little gratitude with their admiration, and glorify a nymph greater than them all. Miss O'Rourke, like her own exquisite potteen punch, was a delightful compound from ingredients, both mental and corporeal, of the most opposite nature. The friend of Kosciusko, and the authoress of the Rhapsody, which afterwards rung so often throughout the country to the favorite tune (Gramachree) of the patriot Pole,—such another hostess was not in England wide, and no other of her order ever conferred so great a benefit on bottle-suckers as she did, by her superlative invention of placing a *button* at the end of the screw-worm. Henceforth the decantering process was a mere matter of routine. When, in her green old age, Death laid his hand on the inventress, a piratical screw-maker took to himself the credit and profit of the button addendum. Yet Miss O'Rourke shall never be forgotten, even although her master-piece, some few years later, was eclipsed, and may be yet superceded by the *King's Screw*, which can receive no addition either to its beauty or convenience, except it be probably some little steam appendage to make it self-acting.—[Stuart.]

CINNAMON STONE.—M. Laugier has found the massive cinnamon stone of Ceylon to be composed of silex 38, lime 33, alumine 19, ox. iron 7. He regards it as a silicate of lime and alumihe, with an accidental portion of iron.—[Bull. Univ.]

ALBURNUM.—Mr. Knight has asserted, in the Philosophical Transactions that having partially detached strips of bark of the walnut tree, of several inches' length, from the alburnum, in the spring, he introduced beneath such bark two folds of paper, each of which was coated on both sides with bees' wax; so that such strips of bark were placed wholly out of contact with the alburnum, or other bark of the tree, except at their upper ends. Air and light were excluded by a covering of clay till autumn, when as much alburnum was deposited upon the paper, along the whole extent of the bark, as was deposited by a similar extent of bark, which retained its natural place and state.—[Loudon's Magazine.]

Office of the Delaware and Hudson Canal Company.

Honesdale, Wednesday, August 28, 1833.

Received at Honesdale, from Carbondale, by Rail Road, during one week, ending this day, 1712 R. R. wagons, containing 4,280 tons coal.

Total amount of coal received since 13th April, 68,077¼ tons.

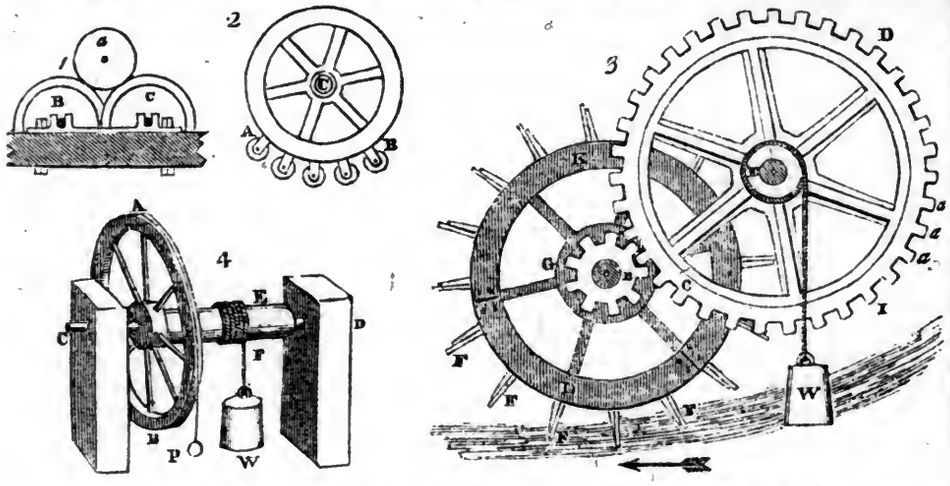
Also received during the week, 117 Rail Road wagons, containing 171,87 feet lumber.

Total amount of lumber received since 13 April, 3,091,261 ft.

Arrived at Honesdale from Rondout during the week, 176 boats, containing general freight.

Cleared at Honesdale for Rondout, during the week, 168 boats, containing 4,040 tons coal.

Total amount of coal cleared at Honesdale for Rondout since 25th April, 60,270 tons. J. B. WALTON, Collector.



To contrive a Proper Machine that shall move a Given Weight with a Given Power, or, with a Given Quantity of Force, shall overcome any other Given Resistance. [From Emerson's Principles of Mechanics.]

If the given power is not able to overcome the given resistance, when directly applied, that is, when the power applied is less than the weight or resistance given, then the thing is to be performed by the help of a machine made with *levers, wheels, pullies, screws*, &c., so adjusted, that when the weight and power are put in motion on the machine, the velocity of the power may be at least so much greater than that of the weight, as the weight and friction of the machine, taken together, is greater than the power. For on this principle depends the mechanism or contrivance of mechanical engines, used to draw or raise heavy bodies, or overcome any other force. The whole design of these being to give such a velocity to the power in respect of the weight, as that the momentum of the power may exceed the momentum of the weight. For, if machines are so contrived that the velocities of the agent and resistant are reciprocally as their forces, the agent will just sustain the resistant; but, with a greater degree of velocity, will overcome it. So that, if the excess of velocity in the power is so great as to overcome all that resistance which commonly arises from the friction or attrition of contiguous bodies, as they slide by one another, or from the cohesion of bodies that are to be separated, or from the weights of bodies to be raised, the excess of the force remaining, after all these resistances are overcome, will produce an acceleration of motion proportional thereto, as well in the parts of the machine, as in the resisting body. Now, how a machine may be contrived to perform this to the best advantage will appear from the following rules:

1. Having assigned the proportion of your power and the weight to be raised, the next thing is to consider how to combine levers, wheels, pullies, &c., so that, working together, they may be able to give a velocity to the power, which shall be, to that of the weight, something greater than in the proportion of the weight to the power. This done, you must estimate your quantity of friction, by the last prop.; and if the velocity of the power be to that of the weight still in a greater proportion than the weight and friction taken together is to the power, then your machine will be able to raise the weight. And note, this proportion must be so much greater, as you would have your engine work faster.

2. But the proportion of the velocity of the power and weight must not be made too great neither. For it is a fault to give a machine too much power, as well as too little; for if the power can raise the weight, and overcome the resistance, and the engine perform its proper effect in a convenient time, and works well, it is sufficient for the end proposed. And it is in vain to make more additions to the engine, to increase the power any further; for that would not only be a needless expense, but the engine would lose time in working.

3. As to the power applied to work the engine, it may be either a living power, as men, horses, &c., or an artificial power, as a spring, &c., or a natural power, as wind, water, fire, weights, &c.

When the quantity of the power is known, it matters not, as to the effect, what kind of power it is. For the same quantity of any sort will produce the same effect; and different sorts of powers may be applied, in an equal quantity, a great variety of ways.

The most easy power applied to a machine is weight, if it be capable of effecting the thing designed. If not, then wind, water, &c., if that can conveniently be had, and without much expense.

A spring is also a convenient moving power for several machines; but it never acts equally, as a weight does; but is stronger, when much bent, than when but a little bent, and that in proportion to the degree of bending, or the distance it is forced to. But springs grow weaker by often bending, or remaining long bent; yet they recover part of their strength by lying unbent.

The natural powers, wind and water, may be applied with vast advantage to the working of great engines, when managed with skill and judgment. The due application of these has much abridged the labors of men; for there is scarce any labor to be performed, but an ingenious artificer can tell how to apply these powers to execute his design, and answer his purpose. For any constant motion being given, it may, by a due application, be made to produce any other motions we desire. Therefore, these powers are the most easy and useful, and of the greatest benefit to mankind. Besides, they cost nothing, nor require any repetition or renewing, like a weight or a spring, which require to be wound up. When these cannot be had, or cannot serve our end, we have recourse to some living power, as men, horses, &c.

4. Men may apply their strength several ways, in working a machine. A man of ordinary strength, turning a roller by the handle, can act for a whole day against a resistance equal to 30 lbs. weight; and, if he works ten hours in a day, he will raise a weight of 30 lbs. 3½ feet in a second; or, if the weight be greater, he will raise it so much less in proportion. But a man may act, for a small time, against a resistance of 50 lbs., or more.

If two men work at a windlass, or roller, they can more easily draw up 70 lbs. than one man can 30 lbs., provided the elbow of one of the handles be at right angles to that of the other. And, with a fly or heavy wheel applied to it, a man may do one-third part more work, and, for a little while, act with a force, or overcome a continual resistance, of 80 lbs., and work a whole day when the resistance is but 40 lbs.

Men used to carrying, such as porters, will carry, some 150 lbs., others 200 or 250 lbs., according to their strength.

A man can draw about 70 or 80 lbs. horizontally; for he can but apply about half his weight.

If the weight of a man be 140 lbs. he can act with no greater a force in thrusting horizontally, at the height of his shoulders, than 27 lbs.

As to horses: A horse is, generally speaking, as strong as five men. A horse will carry 240 or 270 lbs.

A horse draws to greatest advantage when the line of direction is a little elevated above the horizon, and the power acts against his breast; and can draw 200 lbs. for eight hours in a day, at two miles and a half in an hour. If he draw 240 lbs. he can work but six hours, and not go quite so fast. And, in both cases, if he carries some weight, he will draw better than if he carried none. And this is the weight a horse is supposed to be able to draw over a pulley, out of a well. In a cart, a horse may draw 1000 lbs.

The most force a horse can exert is when he draws something above a horizontal position.

The worst way of applying the strength of a horse is to make him carry or draw up hill. And three men, in a steep hill, carrying each 100 lbs., will climb up faster than a horse with 300 lbs.

Though a horse may draw in a round walk of 18 feet diameter, yet such a walk should not be less than 25 or 30 feet diameter.

5. Every machine ought to be made of as few parts, and those as simple as possible, to answer its purpose; not only because the expense of making and repairing will be less, but it will also be less liable to any disorder. And it is needless to do a thing with many, which may be done with fewer parts.

6. If a weight is to be raised but a very little way, the lever is the most simple, easy, and ready machine. Or if the weight be very great, the common screw is most proper. But if the weight is to be raised a great way, the wheel and axle is a proper power, and blocks and pullies are easier still; and the same may be done by the help of the perpetual screw.

Great wheels, to be wrought by men or cattle, are of most use and convenience when their axles are perpendicular to the horizon; but if by water, &c., then it is best to have their axles horizontal.

7. As to the combination of simple machines together, to make a compound one: though the lever, when simple, cannot raise

a weight to any great height, and, in this case, is of little service, yet it is of great use when compounded with others. Thus, the spokes of a great wheel are all levers, perpetually acting; and a beam fixed to the axis to draw the wheel about by men or horses, is a lever. The lever, also, may be combined with the screw, but not conveniently with pullies, or with the wedge. The wheel and axle is combined with great advantage with pullies. The screw is not well combined with pullies; but the perpetual screw, combined with the wheel, is very serviceable. The wedge cannot be combined with any other mechanical power, and it only performs its effect by percussion; but this force of percussion may be increased by engines.

Pullies may be combined with pullies, and wheels with wheels; therefore, if any single wheel would be too large, and take up too much room, it may be divided into two or three more wheels and trundles, or wheels and pinions, as in clock-work, so as to have the same power, and perform the same effect.

In wheels with teeth, the number of teeth that play together in two wheels ought to be prime to each other, that the same teeth may not meet at every revolution. For, when different teeth meet, they by degrees wear themselves into a proper figure; therefore they should be contrived that the same teeth meet as seldom as possible.

8. The strength of every part of the machine ought to be made proportional to the stress it is to bear; and, therefore, let every lever be made so much stronger, as its length and the weight it is to support is greater. And let its strength diminish proportionally from the fulcrum, or point, where the greatest stress is, to each end. The axles of wheels and pullies must be so much stronger, as they are to bear greater weight. The teeth of wheels, and the wheels themselves, which act with greater force, must be proportionally stronger; and in any combination of wheels and axles, make their strength diminish gradually from the weight to the power, so that the strength of every part be reciprocally as the velocity it has. The strength of ropes must be according to their tension, and that is as the squares of their diameters. And, in general, whatever parts a machine is composed of, the strength of every particular part of it must be adjusted to the stress upon it. Therefore, in square beams, the cubes of the diameters must be made proportional to the stress they bear. And let no part be stronger or bigger than is necessary for the stress upon it; not only for the ease and well-going of the machine, but for the diminishing the friction. For all superfluous matter, in any part of it, is nothing but a dead weight upon the machine, and serves for nothing but to clog its motion. And he is by no means a perfect mechanic, that does not only adjust the strength to the stress, but also contrive all the parts to last equally well, that the whole machine may fail together.

9. To avoid friction as much as possible, the machine ought not to have any unnecessary motions, or useless parts; for a multiplicity of parts, by their weight and motion, increase the friction. The diameter of the wheels and pullies ought to be large, and the diameters of the arbors or spindles they run on as small as can be consistent with their strength. All ropes and cords must be as pliable as possible, and for that end are rubbed with tar or grease; the teeth of wheels must be made to fit and fill up the openings, and cut in the form of epicycloids. All the axles, where the motion is, and all teeth where they work, and all parts that, in working, rub upon one another, must be made smooth; and, when the machine goes, must be oiled or greased. If a joint is to go pretty stiff and steady, rub a little grease upon it.

The axis *a* (fig. 1) of a wheel may have its friction diminished, by causing it to run on two rollers, B C, turning round with it, upon two centres.

Likewise, instead of the teeth of wheels, one may place little wheels, as A B, (fig. 2,) running upon an axis in its centre. And this will take away almost all the friction of the teeth. And, in lanterns or trundles, the rounds may be made to turn about, instead of being fixed.

In all machines with wheels, the axles or spindles ought not to shake, which they will do if they be too short; and their ends ought just to fill their holes.

When the teeth of a wheel are much worn away, it makes that wheel move irregularly about, increases the friction, and requires more force, and may cause the teeth of two wheels to run foul upon one another, and to stop their motion, and endanger breaking the teeth. To prevent this, proper care should be taken to dress the teeth, and keep them to their proper figure.

10. When any motion is to be long continued, contrive the power to move or act always one way, if it can be done. For this is better and easier performed than when the motion is interrupted, and the power is forced to move, first one way and then another, because every new change of motion requires a new additional force to effect it. Besides, a body in motion cannot suddenly receive a contrary motion, without great violence; and the moving any part of the machine contrary ways by turns, with sudden jerks, tends only to shake the machine to pieces.

11. In a machine that moves always one way, endeavor to have the motion uniform.

12. But when the nature of the thing requires that a motion is to be suddenly communicated to a body, or suddenly stopped, to prevent any damage or violence to the engine by a sudden jolt, let the force act against some spring, or beam of wood, which may supply the place of a spring.

13. In regard to the size of the machine, let it be made as large as it can conveniently. The greater the machine, the exacter it will work, and perform all its motions the better. For there will always be some errors in the making, as well as in the materials, and, consequently, in the working of the machine. The resistance of the medium in some machines has a sensible effect. But all these mechanical errors bear a less proportion to the motion of the machine in great machines than in little ones, being nearly reciprocally as their diameters, supposing they are made of the same matter, and with the same accuracy, and are equally well finished. Therefore, in a small machine, they are more sensible, but in a great one almost vanish. Therefore, great machines will answer better than smaller, in all respects except in strength; for the greater the machine the weaker it is, and less able to resist any violence.

14. For engines that go by water, it is necessary to measure the velocity and force of the water. To get the velocity, drop in pieces of sticks, &c., and observe how far they are carried in a second, or any given time.

But if it flow through a hole in a reservoir, or standing receptacle of water, the velocity will be found from the depth of the hole below the surface.

Thus, let $s = 16\frac{1}{12} fe\ t$, $v =$ velocity of the fluid per second. B = the area of the hole. H = height of the water; all in feet. Then the velocity $v = \sqrt{2sH}$; and its force = the weight of the quantity $\frac{vv}{2s}$ B or HB of water, or $= \frac{62\frac{1}{2}}{112}$ HB hundred weight; because a cubic foot is = $62\frac{1}{2}$ lbs. avoirdupois. Also, a hogshead is about $8\frac{1}{2}$ feet, or 531 lbs. and a tun is four hogsheads.

When you have but a small quantity of water, you must contrive it to fall as high as you can, to have the greater velocity, and, consequently, more force upon the engine.

15. If water is to be conveyed through pipes to a great distance, and the descent be but small, so much larger pipes must be used, because the water will come slow. And these pipes ought not to be made straighter in some places than others; for the quantity of water conveyed through them depends upon the bigness of the bore at the straightest place.

Pipes of conduct coming directly from an engine, should be made of iron, with flanches at the ends to screw them together, with lead between, or else of wood; for lead pipes will bulge out at every stroke of the engine, and burst; but pipes next a jet must be lead. Pipes should not turn off at an angle, but gradually in a curve; pipes of elm will last twenty or thirty years in the ground; but they must be laid so deep that the frost may not reach them, or else the water must be let out, otherwise the frost will split them.

The thickness of any pipe must be as the diameter of the bore, and also as the depth from the spring. For a lead pipe of 6 inches bore, and 60 or 70 feet high, the thickness must be half an inch; and in wooden pipes, 2 inches.

Water should not be driven through pipes faster than four feet per second, by reason of the friction of the tubes. Nor should it be much wire-drawn, that is, squeezed through smaller pipes; for that creates a resistance, as the water-way is less in narrow pipes.

And in pump work, where water is conveyed through pipes to higher places, the bores of the pipes should not be made too straight upwards, for the straighter they are near the top, the less water will be discharged; nor should the pipe that brings the water into the pump be too straight, for the same reason. The wider these are, the easier the pump works.

When pipes are wind bound, that is, when air is lodged in them that the water can hardly pass, it must be discharged thus: Going from the spring till you come to the first rising of the ground, dig it open till the pipe be laid bare; then, with a nail driven into it at the highest part, or rather a little beyond, make a hole in the top, and all the air will blow out at the hole, and when the water comes, batter up the hole again. Do the same at every eminence, and all the air will be discharged. If the water runs fast through the pipes, the air will be beyond the eminence; but stopping the water, the air will ascend to the highest part. If air be driven in, at first, along with the water, the nail-hole must be left open, or a cock placed there to

open occasionally. Sometimes a small leaden pipe is placed over the other, communicating with it in several places, in which is a cock at top, to open upon occasion.

16. When any work is to be performed by a water-wheel moved by the water running under it, and striking the paddles or laddle boards, (fig. 3,) the channel it moves in ought to be something wider than the hole of the adjutage, and so close to the floats on every side, as to let little or no water pass; and when past the wheel, to open a little, that the water may spread. It is of no advantage to have a great number of floats or paddles, for those past the perpendicular are resisted by the back water, and those before it are struck obliquely. The greatest effect that such a wheel can perform, in communicating any motion, is when the paddles of the wheel move with $\frac{1}{2}$ the velocity of the water; in which case, the force upon the paddles is $\frac{1}{6}$ only, supposing the absolute force of the water against the paddles, when the wheel stands still, to be 1. So that the utmost motion which the wheel can generate, is but $\frac{1}{27}$ of that which the force of the water against the paddles at rest would produce. This is when the wheel is at the best; but, oftentimes, far less is done.

Machines to raise water, when well made, seldom lose less than $\frac{1}{3}$ the computed quantity of water to be raised. The best contrived engine is scarce $\frac{1}{3}$ part better than the worst contrived engine, when they are equally well executed.

A man with the best water engine cannot raise above one hogshead of water in a minute, 10 feet high, to work all day.

17. When a weight is to be raised with a given corporeal power, by means of the wheel and axle, so that the weight may receive the greatest motion possible in a given time, the radius of the wheel and axle, and the weight to be raised, ought to be so adjusted, that the radius of the axle (EF): (fig. 4) may be to the radius of the wheel (AB): : as $\frac{2}{3}$ the power (P): to the weight to be raised (W): or, which comes to the same thing, the velocity gained by the power in descending must be $\frac{2}{3}$ of the velocity which would be gained by gravity in the same time.

This only holds good when the power is a heavy body, as well as the weight; but does not take place when the power is some immaterial active force, such as that of an elastic medium, the strength of a spring, &c., whose weight is inconsiderable.

18. *These principles, also, are very useful and necessary to be known, where water-works are concerned.*

The pressure of the atmosphere upon a square inch is 14.7 lbs. *avoird.* at a medium.

The weight of a column of water, equal to the weight of the atmosphere, is $11\frac{1}{4}$ *yards.*

A cubic foot of water weighs $62\frac{1}{2}$ lbs. *avoir.* and contains 6.128 *ale gallons.*

An ale gallon of water contains 282 *inches*, and weighs 10.2 lbs. *avoird.*

A tun of water, ale measure, weighs 1.1 *tun avoird.*, at 63 gallons the hogshead.

A cylinder of water a yard high, and *d* inches in diameter, contains $\frac{1}{176}$ *dd ale gallons*, and weighs $\frac{1}{443}$ *dd pounds avoird.*

Statistics of Connecticut.—The following article, from the Hartford Times, shows that the people of Connecticut must have pretty easy times. This freedom from taxation does not however always increase that patriotism which leads the people to take a deep interest in the affairs of their government.

Through the attention of the comptroller of public accounts, we have been furnished with the following highly interesting statistics. It would be both gratifying and useful, would some one or more individuals in each state furnish similar tables. There certainly can be no great difficulty in obtaining them, and the labor that they might cost would be more than compensated by the information they would afford.

Statistics of Connecticut for the year 1832.

The following is a brief abstract of the various subjects of taxation, as returned by the assessors, for March, 1832:

45,852	dwelling houses, valued	$21,948,740
2,622,676	acres of land	50,782,455
1,572	mills	843,511
1,826	stores	146,784
283	distilleries	54,052
1,521	manufactories	1,637,149
25	quarries	38,350
183	fisheries	98,625
1	ferry	200
34,250	horses, &c.	1,290,694
237,989	neat cattle	3,347,667
271,625	sheep	333,657
	Silver plate	10,614
5,196	riding carriages	238,797
22,893	clocks and watches	174,843
	Bank stocks, state banks	3,143,736
	Do. United States Bank	17,880
	Insurance stock	53,642
	Turnpike do.	157,362
	Money at interest	2,087,976
	Three folds	17,679
	Assessments	147,683
	Polls	689,315
		$88,592,388

Of receipts and disbursements.

There was received at the treasury during the year ending the 31st of March, 1833—

Viz. From interest on U. S. three per cents.	$1,382	
Tax on non-resident owners of bank stock	2,817	
Avails of State Prison	5,000	
Dividend of bank stock owned by the state	25,670	
Fines and miscellaneous receipts	7,448	
State tax	37,984	
		80,302

The disbursements were—

Viz. For ordinary expenses of government	60,852	
For public buildings and institutions	10,774	
		71,626

Of the expenses of government.

The population of the state by the last census was 297,711, and the ordinary expense of the government was $60,852; being a proportionate expense of twenty cents and a half for each inhabitant. But the state, during this time, received $28,053 interest on her three per cent. stock and dividends on bank stock; $12,446 from the state prison, forfeitures, fines, &c. and $2,817 for taxes on bank stock owned by non-residents; all amounting to $42,316; which being deducted from the ordinary expenses of government, left the sum of $18,536 to be paid from direct taxes.

This balance of $18,536 would require a contribution by each inhabitant of the state of less than six cents and three mills, and a tax less than three tenths of a mill on each dollar of valuation and assessment returned by the assessor.

Of the School Fund.

The whole capital of this fund, productive and unproductive, was reported by the commissioner in 1832, to be $1,902,957 87. The interest arising from it is irrevocably dedicated by the constitution to the support of primary schools, and by law is apportioned to them, according to the ratio of persons between four and sixteen years of age belonging to the respective school societies. The whole number of those persons in 1832 was 86,252; and the amount of interest distributed for that year was $81,939 40, being ninety-five cents for each of those persons, and equal to 28 cents for every inhabitant. Thus, while the state was distributing for the benefit of schools a sum equal to 28 cents for each person in it, the ordinary expenses of the government required of them only a ratio of contribution less than 6 cents and 3 mills.

Lime necessary for Wheat.—It is an opinion very generally acquiesced in, that wheat will not succeed on lands that are entirely destitute of this earth. In most agricultural districts that are not calcareous, a small quantity of lime is in various ways carried upon the soil by bones, shells, emptyings of white-wash tubs, &c. Those farmers who use leached ashes, lime their soil with the lime in the ashes. We give the following from "*Anderson's Recreations*," a work highly esteemed in Europe:

"I had a field of good arable land, a mellow loam in Aberdeenshire, which had been long in culture, often dressed with animal and vegetable manures, and was of course endowed with a considerable degree of fertility; but being full of weeds, it was subjected to a thorough summer fallow in order to get rid of these, and bring it to a proper tilth in other respects; and as lime is found to be an active manure in that district, it had a moderate dressing of lime put upon it, and some dung at the same time. The whole field was sown with wheat at the proper season, which sprang up equally thick on every part of it. For some time no difference was perceivable in the appearance of the crop over the whole; by and by it was observed that the wheat on a small portion of the field, which by accident had no lime put upon it, became pale and sickly. While the crop in other parts of the field advanced luxuriantly, it dwindled in this particular patch more and more, till towards the beginning of May the whole had died quite out, and not one stalk of wheat was to be found upon it, though the weeds in consequence of the richness of the soil at that time grew there with extreme luxuriance. Perhaps the proportion of calcareous matter did not in this case amount to more than one-thousandth part of the whole, yet the qualities of this soil were thereby totally altered, inasmuch that though before the application of that dressing the soil was incapable of producing wheat at all, it was found at all times after that period well adapted for the raising of that crop. Nature had formed many soils with a similar proportion of calcareous matter, blended imperceptibly in them over large districts of land.

Notes on Mildew, from a Lecture on that Subject, by Professor Lindley, delivered at the Horticultural Society's Meeting Room, on the 24th of April. By J. W. L. [From Loudon's Gardener's Magazine.]

Dr. Lindley began by stating that he did not intend, on the present occasion, to give a regular series of lectures, as that plan required his hearers to attend the whole course, which very few individuals had leisure to do. He, therefore, now proposed to take a different subject for every lecture, and to make each complete in itself. His first subject was mildew.

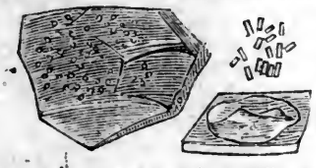
Every horticulturist has heard of mildew; and, though it is often confounded with blight, honey-dew, &c., the destructive fungi which constitute the real mildew, and the ravages they occasion, are unfortunately but too familiar to every one accustomed to either a garden or a field. Notwithstanding this, even the most eminent horticulturists know comparatively little either of the nature of this pest, or of its cure. One most important error exists respecting it, and this is the belief, common among gardeners and agricul-

turists, that one kind of mildew will infect several kinds of plants: but this can never be the case; each tribe of plants has a mildew peculiar to itself, which cannot, under any circumstances, affect plants of a different kind.

Mildew generally appears on the leaves or stems of plants in the form of red, white, or black spots, as a number of minute projections, as a frosty incrustation, or as a brownish powder; in every case spreading, more or less rapidly, according to its kind, and in its progress withering the leaves, destroying the fruit, and, finally, killing the plant. The popular reasons assigned for this pest are various; it has been ascribed to insects, fog, and even, in one agricultural report, to the inflammation of the oxygen gas in the air towards the end of summer, which scorched the leaves. These opinions have, however, been all proved to be erroneous. Mildew is nothing more than different kinds of fungi, or parasites, attacking different kinds of plants, and varying in appearance and species according to the nature of the plants which they attack. It is the greatest enemy to the agriculturist, but the gardener also suffers from it severely.

The fungi, commonly called mildew, are divided into three classes: 1. Those which grow, or rather lie, on the surface of leaves, and which, perhaps, do not derive any nutriment from the plant; 2. Those which are formed in the interior of the stem or leaf, and protrude themselves from it when ripe; and, 3. Those which only attack the roots. All are extremely simple in their organization, and very minute in their forms; they seldom appear but in autumn, except in forcing-houses.

The first class, or mildew composed of those fungi that live on the surface of leaves, injure a plant by preventing its respiration, but do not appear to draw any nourishment from it. One of the most common of the fungi which attack the common cabbage is



Cylindrosporium concentricum *Grev.* These very destructive fungi have the appearance of small white patches, or specks, of frosty incrustation, which, when magnified, are found to consist of a number of small cylinders, lying end to end, or across each other. These cylinders are all filled with seed, and burst when it is ripe, scattering it in every direction; wherever it falls upon the leaf it takes root, and thus the fungus spreads rapidly. The superficial mildew which attacks rose trees and many other flowering shrubs is a kind of Uredo. This name, derived from *uro*, Lat., to burn or scorch, is applied to those occasional discolorations of the surfaces of plants which were formerly attributed to blights, or injuries from the atmosphere, and which have the appearance of a brown powder. Uredo effusa *Grev.* generally shows

itself on the under sides of the leaves of the Rosaceæ, and spreads rapidly. Uredo Rosæ *Pers.* is another kind, which also attacks rose trees. The fungus called Acrosporium monilioides consists of a number of globules,

attached to each other, which, when magnified, appear like the beads of a necklace, and in many cases are found standing upright. When ripe, these globules fall, and, taking root, form fresh strings, or necklaces, like the first. Sometimes little tufts of these globules appear fixed to stalks; and, from some fancied resemblance to the brushes used for sprinkling holy water, are called

Aspergillus. The superficial mildew which infects the onion, and is very fatal to that plant, is called Botrytis. Its name signifies a bunch of grapes; and it is thus called from a fancied resemblance between that fruit and its clusters of little globular seeds and seed-vessels. The bean and pea have a superficial mildew, (Uredo Fabæ *Pers.*) which

spreads along their leaves, like white roots curiously interlaced. From these roots spring a number of branch-like shoots, each bearing a ball-like head, or brown berry, which, when ripe, bursts, and discharges seed.

The second class of fungi, viz. those which spring from the interior of leaves, and stems, are by far the most fatal. These fungi generally appear in a sort of bag, or case, which is supposed to be formed of the cuticle of the affected leaf. The oak is attacked by a species of fungus, Æcidium, different varieties of which are found on many kinds of forest trees. The Æcidium Pini, found on pine trees, has, when magnified, the appearance of a number of nine-pins. When ripe, the cuticle which covers the fungus bursts, and emits a powder of a bright orange color, which is the seed. A mildew of this kind, which infects corn, is highly injurious to the farmer. It is vulgarly called the pepper brand; and, when corn is attacked by it, it gradually consumes the substance of the grain, leaving in its stead only a dark powder, which has a very offensive smell. This fungus is found only on barley, and in this respect differs from the Uredo Segetum, or smut, which is destructive not only of barley, but also of wheat and oats. The Uredo Segetum, or smut, has been the subject of many interesting experiments by Mr. Bauer, of Kew, whose discoveries will, no doubt, throw very considerable light upon the subject. It not only destroys the grain, which it converts into a kind of jelly, but it attacks the leaves and stems, always forming in the interior of the plant, and bursting forth when ripe. Corn is also attacked by a species of Puccinia, a very fatal kind of fungus, which always appears divided into cells. Puccinia Graminis, which attacks corn, forms in the

interior of the stalk, and, when ripe, bursts forth in clusters, like bunches of grapes, of a dark brown color. Puccinia Rosæ *Grev.*

appears on the leaves of rose trees, in little brown tufts, which, when opened and magnified, are found divided into extremely minute cells. A correspondent of this magazine mentions that his celery was infected with ferruginous spots, occasioned, no doubt, by the Puccinia Heraclei Grev.; and another correspondent, Mr. Robert Errington, gives a detailed account of the manner in which his celery was attacked by the same disease, and of the means which he adopted for its cure. He describes his celery as having the appearance of having been scorched by fire. He says he dug up the infected plants, and buried them, but this only seemed to increase the evil; and he tried several other remedies, but without any permanent success.

[*To be continued.*]

CANAL TOLLS.—It is very gratifying to find our flourishing state making such handsome monthly summings up, as the following, from the Albany Argus.

The canal tolls received in the month of July amount to the sum of $147,899—exceeding, by $42,282 02, the sum collected in the corresponding month last year. The following is a comparison of the tolls for July on all the canals of the state, for 1832 and 1833, to wit:

Canal.	1833.	1832.	Increase since 1832.
Erie,.....	$125,488 04	$91,747 57	$33,740 47
Champlain,.....	17,293 94	11,112 23	6,181 71
Cayuga & Seneca,	2,084 63	1,890 03	194 60
Oswego,.....	3,032 72	1,867 48	2,165 24
	$147,899 33	$106,617 31	$42,282 02

The receipts for tolls to the close of July are greater, by *one hundred thousand five hundred and twenty-two dollars and ninety-eight cents*, than they were for the same period last year. Some estimate of the great increase of business upon the canals may be formed from the fact, that the diminution in the rates of toll, operating upon the articles which were transported upon the canals in 1832, would probably diminish the aggregate amount of tolls $150,000, for the whole season. At the diminished rates of toll, such has been the increase of articles transported, that in three months and eight days the aggregate amount exceeds that of the corresponding months of last year, by the sum of more than *one hundred thousand dollars*.

NEW-YORK AMERICAN.

AUGUST 31, SEPTEMBER 2, 3, 4, 5, 6—1833.

LITERARY NOTICES.

ON THE IMPROVEMENT OF SOCIETY BY THE DIFFUSION OF USEFUL KNOWLEDGE, &c. &c., by THOMAS DICK, LL. D.—forming Vol. LIX. of *Harpers' Family Library*, New-York.—In the preface to this book we learn that it was prepared for the press nearly twenty years ago, but that other literary undertakings of the author prevented its appearance then. If it had been published at that time—anterior, as it was in a great degree, to the various admirable works which, in every department of knowledge, and adapted to all understandings, are now daily put forth under the impulse of an enlightened and generous zeal for the diffusion of knowledge—it would have been pronounced, we do not hesitate to say, one of the most original as well as valuable and attractive volumes ever written. As it is, losing only in part the claim of originality, it retains its value and usefulness undiminished. All the improvements and discoveries in modern science, which could serve as illustrations of the main design, have been embodied in the work as it now appears, and we cordially recommend it to all readers. It is written in so good a style, the topics, even when bordering on abstruse science, are treated so clearly, and in such popular language—avoiding always the use of merely technical terms—as to be quite intelligible to every one of ordinary understanding.

Knowledge in this country—we cannot help repeating it again and again—is not only important for the immediate advantages it confers upon its possessor—but for the indirect but omnipotent influence which it must exercise upon our free institutions.—These repose, and must, in the nature of things, repose, for their stability and purity, upon the knowledge and virtue, (which, as a general proposition, may be said always to go hand in hand). of the people. An educated people cannot be enslaved. But not only does knowledge tend to preserve freedom, but to embellish it. It strips it at once of the connection, which its enemies so willingly impute to it, with vulgar license, jacobinism, sans-culotteism. It compels those who would obtain influence among the people to respect themselves. It cuts short the ascendancy of demagogues, who, with the praises of the people always on their lips, insult them on all agitating questions. by one sided appeals to their passions, and partial and distorted statements of the truth. Hence, we say again, that in free America, more even than elsewhere, is the universal diffusion of knowledge to be aimed at by all lovers of their country. Would that the means and mode of effecting this great object, were as obvious as its importance. But these will be found—it cannot be doubted—whenever the public mind shall be resolutely turned to the subject. Meanwhile we observe with pleasure that *Dr. Dick* promises a volume upon this very topic—*the means of diffusing useful knowledge among all classes.* We shall look eagerly for it.

We present some extracts. First, we have this picture of a man living in the world without seeking to understand aught that is passing around him:

His views are chiefly confined to the objects immediately around him, and to the daily avocations in which he is employed. His knowledge of society is circumscribed within the limits of his parish, and his views of the world in which he dwells are confined within the range of the country in which he resides, or of the blue hills which skirt his horizon. Of the aspects of the globe in other countries—of the various tribes with which they are peopled—of the seas and rivers, continents and islands which diversify the landscape of the earth—of the numerous orders of animated beings which people the ocean, the atmosphere, and the land,—of the revolutions of nations, and the events which have taken place in the history of the world, he has almost as little conception as the animals that range the forest, or bound through the lawns. In regard to the boundless regions that lie beyond him in the firmament, and the bodies that roll there in magnificent grandeur, he has the most confused and inaccurate ideas; and he seldom troubles himself with inquiries in relation to such subjects. Whether the stars be great or small, whether they be near us or at a distance, or whether they move or stand still, is to him a matter of trivial importance. If the sun give him light by day, and the moon by night, and the clouds distil their watery treasuses upon his parched fields, he is contented, and leaves all such inquiries and investigations to those who have little else to engage their attention. He views the canopy of heaven as merely a ceiling to our earthly habitation, and the starry orbs as only so many luminous studs or tapers to diversify its aspect, and to afford a glimmering light to the benighted traveller. Of the discoveries which have been made in the physical sciences in ages past, of the wonders of creation which they have unfolded to view, of the instruments which have been invented for exploring the universe, and of the improvements which are now going forward in every department of science and art, and the prospects they are opening to our view, he is almost as entirely ignorant as if he had been fixed under the frozen pole, or chained to the surface of a distant planet. He considers learning as consisting chiefly in the knowledge of grammar, Greek and Latin; and philosophy and astronomy as the arts of telling fortunes and predicting the state of the weather; and experimental chymistry, as allied to the arts of magic and necromancy. He has no idea of the manner in which the understanding may be enlightened and expanded, he has no relish for intellectual pursuits, and no conception of the pleasures they afford; and he sets no value on knowledge but in so far as it may tend to increase his riches and his sensual gratifications. He has no desire for making improvements in his trade or domestic arrangements, and gives no countenance to those useful inventions and public improvements which are devised by others. He sets himself against every innovation, whether religious, political, mechanical, or agricultural, and is determined to abide by the "good old customs" of his forefathers, however irrational or absurd. Were it dependent upon him, the moral world would stand still, as the material world was supposed to do in former times; all useful inventions and improvements would cease, existing evils would never be remedied, ignorance and superstition would universally prevail, the human mind would be arrested in its progress to perfection, and man would never arrive at the true dignity of his intellectual nature.

Contrasted with this is the following fine description of the resources and employments of that mind which seeks to fulfil its high destinies by questioning the Universe.

Sitting at his fireside, during the blasts of winter, he can survey the numerous tribes of mankind scattered over the various climates of the earth, and entertain himself with views of their manners, customs, religion, laws, trade, manufactures, marriage ceremonies, civil and ecclesiastical governments, arts, sciences, cities, towns, and villages, and the animals peculiar to every region. In his rural walks he can not only appreciate the beneficence of Nature, and the beauties and harmonies of the vegetable kingdom, in their exterior aspect, but can also penetrate in the hidden processes which are going on in the roots, trunks, and leaves of plants and flowers, and contemplate the numerous vessels through which the sap is flowing from their roots through the trunks and branches, the millions of pores through which their odoriferous effluvia exhale, their fine and delicate texture, their microscopical beauties, their orders, genera, and species, and their uses in the economy of nature.

With the help of his microscope, he can enter into a world unknown to the ignorant, and altogether invisible to the unassisted eye. In every plant and flower which adorn thes field, in every leaf of the forest, in the seeds, prickles, and down of all vegetables, he perceives beauties and harmonies, and exquisite contrivances, of which, without this instrument, he could have formed no conception. In every scale of a haddock he perceives a beautiful piece of net-work, admirably contrived and arranged, and in the scale of a sole a still more diversified structure, which no art could imitate, terminated with pointed spikes, and formed with admirable regularity. Where nothing but a speck of *mouldiness* appears to the naked eye, he beholds *a forest of mushrooms* with long stalks, and with leaves and blossoms distinctly visible. In the eyes of a common fly, where others can see only too small protuberances, he perceives several thousands of beautiful transparent globes, excellently rounded, and polished, placed with the utmost regularity in rows, crossing each other like a kind of lattice-work, and forming the most admirable piece of mechanism which the eye can contemplate. The small dust that covers the wings of moths and butterflies he perceives to consist of an infinite multitude of feathers of various forms, not much unlike the feathers of birds, and adorned with the most bright and vivid colors. In an animal so small that the naked eye can scarcely distinguish it as a visible point, he perceives a head, mouth, eyes, legs, joints, bristles, hair, and other animal parts and functions, as nicely formed and adjusted, and endowed with as much vivacity, agility, and intelligence, as the larger animals. In the tail of a small fish, or the foot of a frog, he can perceive the variegated branchings of the veins and arteries, and the blood circulating through them with amazing velocity. In a drop of stagnant water he perceives thousands of living beings, of various shapes and sizes, beautifully formed, and swimming with wanton vivacity like fishes in the midst of the ocean. In short, by this instrument he perceives that the whole earth is full of animation, and that there is not a single tree, plant, or flower, and scarcely a drop of water, that is not teeming with life, and peopled with its peculiar inhabitants. He thus enters, as it were, into a new world, invisible to other eyes, where every object in the animal, vegetable, and mineral kingdoms presents a new and interesting aspect, and unfolds beauties, harmonies, contrasts, and exquisite contrivances, altogether inconceivable by the ignorant and unreflecting mind.

In the invisible atmosphere which surrounds him, where other minds discern nothing but an immense blank, he beholds an assemblage of wonders, and a striking scene of Divine Wisdom and Omnipotence. He views this invisible agent not only as a *material* but as a *compound* substance—compounded of two opposite principles, the one the source of flame and animal life, and the other destructive to both, and producing by their different combinations, the most diversified and beneficent effects. He perceives the atmosphere, as the agent under the Almighty, which produces the germination and growth of plants, and all the beauties of the vegetable creation—which preserves water in a liquid state—supports fire and flame, and produces animal heat, which sustains the clouds, and gives buoyancy to the feathered tribes—which is the cause of winds—the vehicle of smells—the medium of sounds—the source of all the pleasures we derive from the harmonies of music—the cause of that universal light and splendour which is diffused around us, and of the advantages we derive from the morning and evening twilight. In short, he contemplates it as the prime mover in a variety of machines,—as impelling ships across the ocean, blowing our furnaces, grinding our corn, raising water from the deepest pits, extinguishing fires, setting power-looms in motion, propelling steamboats along rivers and canals, raising balloons to the region of the clouds, and performing a thousand other benificent agencies without which our globe would cease to be a habitable world. All which views and contemplations have an evident tendency to enlarge the capacity of the mind, to stimulate its faculties, and to produce rational enjoyment.

Again,—the man of knowledge, even when shrouded in darkness, and in solitude, where other minds could find no enjoyment, can entertain himself with the most sublime contemplations. He can trace the huge globe on which we stand flying through the depths of space, carrying along with its vast population, at the rate of sixty thousand miles every hour, and, by the inclination of its axis, bringing about the alternate succession of summer and winter, spring and harvest. By the aid of his telescope he can transport himself towards the moon, and survey the circular plains, the deep caverns, the conical hills, the lofty peaks, the shadows of the hills and vales, and the rugged and romantic mountain scenery which diversify the surface of this orb of night. By the help of the same instrument he can range through the planetary system, wing his way through the regions of space along with the swiftest orbs, and trace many of the physical aspects and revolutions which have a relation to distant worlds. He can transport himself to the planet Saturn, and behold a stupendous ring, 600,000 miles in circumference, revolving in majestic grandeur every ten hours around a globe nine hundred times larger than the earth, while seven moons, larger than ours, along with an innumerable host of stars, display their radiance, to adorn the firmament of that magnificent world. He can wing his flight to the still more distant regions of the universe, leaving the sun and all his planets behind him, till they appear like a scarcely discernible speck in creation, and contemplate thousands and millions of stars and starry systems,

beyond the range of the unassisted eye, and wander among suns and worlds dispersed throughout the boundless dimensions of space. He can fill up, in his imagination, those blanks which astronomy has never directly explored, and conceive thousands of systems and ten thousands of worlds, beyond all that is visible by the optic tube, stretching out to infinity on every hand,—new creations incessantly starting into existence—peopled with intelligences of various orders, and all under the superintendence and government of the "King Eternal, Immortal, and Invisible," whose power is omnipotent, and the limits of his dominions past finding out.

It is evident that a mind capable of such excursions and contemplations as I have now supposed, must experience enjoyments infinitely superior to those of the individual whose soul is enveloped in intellectual darkness.

THE AMERICAN COAST PILOT, *12th Edition*, by EDMUND M. BLUNT.—For nearly forty years a single individual, unaided, if not indeed repulsed and checked by that department of the general government most interested in the success of his labors, has carried on with constant improvements in each successive edition, the useful, elaborate, and expensive publication, named at the head of this notice. At the end of this period, with a constitution broken by exposure and fatigue, and with a fortune, as he himself expresses it, "literally cast upon the waters," Mr. Edmund M. Blunt retires from the superintendence of the work. In doing so, he expresses his warm acknowledgments to our shipmasters and others, whose "march is on the mountain wave," for their encouragement of him. He enumerates also officers in the British, French, Spanish, Danish and Dutch service, from whom he has received valuable and important information, most handsomely furnished; but from the Navy Department of the United States, to which, of all others, he had a right to look for aid and countenance, he received neither. This Mr. Blunt does not state; but surprised to find no allusion to that department in the course of his general acknowledgments in so many quarters, we asked an explanation, and it was as we state.—The publication will be continued as heretofore by the very capable sons of Mr. Blunt, who are emulating their father's skill and accuracy as Hydrographers.

MEMOIR OF ZERAH COLBURN, written by himself. *Springfield:* G. & C. MERRIAM.—This is the dull memoir of one, who, beginning as a prodigy, leaves off as a person of very ordinary understanding. We well remember the wonderful boy, and our own incredulity almost, even after witnessing the results of his instinctive calculations, of the possibility of such things. But infant *Rosciuses*, and boy calculators, seem reserved for the same mediocrity in middle life. It is however remarkable, we think, that the pains taken in London and Paris, with Zerah Colburn's education, by persons who hoped to mature a wonderful gift into some useful development, and the varied intercourse he had with the world, should have left so little trace as this memoir indicates.—The calculating boy is now, we believe, a worthy minister, and settled in Vermont, his native State.

THE AMERICAN MONTHLY MAGAZINE, Vol. II, No. 1, for September.—We have observed this periodical from its commencement, and marked with increasing gratification the ability, taste, and excellent tone of its articles. Its aim obviously is to shine and not to glitter; to impress its readers by the solidity and sterling value of its contents, more than by superficial brilliancy. There is a vein of true classical literature running through its pages, which we confess recommends it very much to us; while it is sufficiently diversified with lighter reading to make it generally acceptable.

TALES OF ROMANCE, first series, by Tho's Moore, Mrs. S. C. Hall, Crofton Croker, C. Lamb, Miss Mitford, and others. *Philadelphia:* KEY & BIDDLE.—This is a club book under a new title, wherein various talents are to display their differing attractions. Some of the tales in this volume, which is prettily printed, have before appeared in print, and are of thrilling interest. "The Spanish Headsman" was republished in this paper. It is quite a readable collection.

THE EDINBURGH REVIEW, No. CXVI, from which we extracted, some days ago, the article on Mr. Rush's book, has several very good papers. At present we only notice that on the narrative of *Silvio Pellico*, a young Italian of genius and letters, imprisoned for ten years by order of the Emperor of Austria, for some political offence, in Lombardy—in order to introduce the character drawn of that Emperor—who is nevertheless called by his Austrian subjects "the good Franz"—and the eloquent and glowing description of the influence upon a generous mind of such a narrative as Pellico's.

The minds of kings are often kept by those about them in a thraldom more degrading even than the fetters of Spielberg. We spoil them, and then blame them for being spoiled. It is the curse of greatness to be attended by slaves, who not only take their humor for a warrant, but who studiously fence them in from the discipline and emotions, in which every one else obtains his best security for virtue. When Pellico and Maroncelli were released, they passed through Vienna on their way to Italy. They were taken by the commissary of Police, who had them in charge, to the gardens at Schonbrunn. The Emperor accidentally appeared. The loyal servant made them stand aside, lest his Imperial master should be saddened at the sight of their wasted persons! Have Metternich and the Aulic Chamber allowed him to be enlightened as well as saddened by the sight of these high minded and deeply affecting Memoirs? Does he know the merit, the goodness, the piety, of which he has been made the gaoler? Has he been enabled to measure the full extent of the barbarous injuries of which God will one day make himself the avenger? Are his dreams never haunted by the vision of the scholars and gentlemen of Italy, working in prison clothes in their Moravian dungeon,—bent down by chains under whose weight they are unable to walk, and the pressure of which will not let them sleep—sickening at the smell of food so uneatable that the famished cannot taste it—fainting under the indirect assassination of a sunless atmosphere, and a slow starvation—perishing from the heart's longings after friends to whom they may never write, after parents from whom and of whom they must never hear—supporting each other by manly and religious hopes against desperate temptations to self-destruction—the objects of silent and tremulous compassion to even the lowest ministers of abused justice,—to all, but to him, who alone had the power of relieving them?

The Emperor is one of those amiable sort of persons who pats children on the head when he meets them out a-walking, and who has established among his Austrian subjects a reputation for good-nature, which the ordinary kingcraft of generalized political ambition has not been thought sufficiently personal to belie. There is a stupid constitutional good-nature which is no more meritorious than the good-nature of a drunken man. The individual horrors of Spielberg are a different, and we fear a personal affair. The women of Vienna, who came round the carriages of Pellico and Maroncelli, told them to be of good cheer. 'Our Emperor is so good—he will 'never leave you long at Spielberg; we are sure 'our *Franz* will remember you.' If *Franz* did remember them at all, so much the worse for *Franz*. Politics are of course excluded from so ticklish a subject as the present volume, printed at the Turin press. There can be, however, only one impression left upon its readers; that is, that the Emperor does not want to read it to become acquainted with the worst part of its contents. The positiveness of the regulations by which the officers on the spot were frightened from the commonest acts of humanity, the constant reference to Vienna for the slightest mitigations which might be required by the necessities of a dying man,—such as permission to hear mass, or to have a leg cut off—special commissioners sent down to report upon the condition of the prison—occasional direct messages from the Emperor himself—all countenance the general belief that Spielberg was kept as a kind of State Menagerie which the Emperor personally superintended. If the Emperor has a heart, this is a book to break it. If he has a conscience, the best penance and reparation he now can make, is to throw open the prison doors of 'the Leads' of Venice (*di tanti che giaceamo!*) to set free as many of the hundred, as are still alive, whom Pellico left at San Michele; and to return the noble Confalonieri, Zucchi, and other Italian patriots, even now incarcerated at Spielberg, to their Italian home. It would redeem his character with the present and future ages, were he to consider further, how great is the presumption which disinterested martyrs raise in favor of their persecuted cause. Is there none to teach him that a government which once puts itself at issue with the rising intelligence and virtue of a nation stakes its temporary safety on a collision where victory is disgrace? Is there nobody who can elevate him high enough to feel that a land which is the mother of such spirits, must be worthy of a better fate?

It is so easy to be generous at the charge of others, that we all are patriots for former ages and in distant lands. While traversing the crisis of our Stuart-struggle, none is now so base, but that he finds himself in a jail with Hampden, pines away with Elliott in his prison chamber, and bows his neck upon the scaffold with Russell and with Sydney?—Had the sins of our fathers doomed us to be born in Italy, we often think what would have been our courage and our fate. Here, also, at least in imagination and feeling, we range ourselves, side by side, with her virtuous citizens, Steadfast to the cause of good government and of truth, we follow the men, who, looking forwards to the independence of their country, and to the happiness of future generations, dared boldly to put to hazard all on earth belonging to themselves. They failed! In the wanderings of their exile, in the living sepulchre of their dungeons, what can we do but feel as if we were reading our own story in the persons of better men? Instead of this beautiful world which God has given us—instead of useful duties, interchanged affections, an enlarging sphere of brightening prospects—all the love, the promise, and the poetry of life—to what a crisis have they been called! Every thing lost in one fatal moment. Were we to live a thousand years, we should enter a prison walls with very altered feelings from those of a mere spectator, since we have kept company with Pellico. We have mounted with him on his chair and table, to peer down from the lattice-bars on the dome of St. Mark, the glittering cupolas, and the Lagune. We have clung with him to the grated windows for a glimpse of nature, and for something to look like the smile of God, while dawn was breaking over the Valley of Brunn upon his silent prayers. We have brooded with him through ten long years of a solitude so intense, that the step of the turnkey was a pleasure, the whisper of a neighboring prisoner a blessing, and the sound of an Italian air from a distant dungeon, an event. We have shared in all the fluctuations of the hopes and fears—in the spectral terrors of his nights, in the day dreams of his family affections: we thrilled with him at his glimpse of Gioja, at his chance embrace of Oroboni, and above all, at his overflowing testimony to the nobleness with which human nature, when cold and forsaken in the hearts of kings and sycophants, yet vindicated its rights, in a thousand other bosoms, to our confidence and love Streams of moral lustre and heavenly charity broke in, and lightened the darkness most, where the monotony of selfishness, and the servile drudgery of a long acquaintance with, and ministry on the wretched, were most likely to have trodden out the germ of every tender feeling. The characters of the dumb boy, and of Maddalene at Malta, of Angiola at Venice, and of Schiller in Spielberg, belong to scenes, which, in honor of childhood, and of women, of the virtue which makes sentinels and turnkeys a thousand times nobler than the sovereigns whom they have the misfortune to represent, we pray never to forget.

SUMMARY.

Another packet ship bound to Natchez, (the Newark, Captain Brewer,) went to sea from this port on Thursday, with a cargo of merchandize valued at from 3 to 400.000 dollars. The St, Louis, which sailed on the 7th inst. for the same port, had a cargo of still greater value for that flourishing market.

[*From the Columbia Republican.*]

LIEUTENANT ALLEN'S MONUMENT.—This Monument, which is now completed, was erected by the citizens of Hudson to the memory of their late fellow citizen, Lt. Wm. H. Allen. It stands upon a commanding site at the northern extremity of the city cemetery. It is composed of a column of the Grecian Doric order elevated upon a pedestal and surmounted

by a sepulchral urn. The pedestal is a square in its plan, placed upon an elevation of three steps and slightly tapering in a pyrimidal form as it rises, and terminates with a beautiful and bold capital—supporting a plinth from which rises the fluted column in all the beauty and grace of the classic architecture of ancient Greece. The whole is surmounted with a chaste and beautiful urn, and presents at once an object of simplicity and chastened elegance, alike honorable to the city and those engaged in its execution. It is built of the purest white marble, in a masterly style, by Mr. Cyrus Darling of this city, after a design by Mr. J. H. Dakin of New York. Its whole height is 20 feet. Upon the pannels of the pedestal the following words are inscribed:

To the memory of
WILLIAM HOWARD ALLEN,
Lieutenant in the United States Navy,
who was killed in the act of boarding
a piratical vessel on the coast of
Cuba near Matanzas, on the
9th of November, 1822,
ÆT. 32.

WILLIAM HOWARD ALLEN,
His remains, first buried at Matanzas,
were removed to this city by the U. States
Government, and interred under the direction
of the Common Council of this city, beneath
this marble, erected to his honor by the
citizens of his native place.
1833.

WILLIAM HOWARD ALLEN,
was born in the city of Hudson, July 8th, 1790,
appointed Midshipman in 1801,
and a Lieutenant in 1811;
Took a conspicuous part in the engagement
between the Argus and Pelican in 1813,
and was killed while in command of the
United States Schooner Alligator.
Pride of his country's banded chivalry,
His fame the hope, his name their battle cry;
He lived as Mothers wish their sons to live,
He died as Fathers wish their sons to die.

The President of the United States has recognized Paul Pierre Thomasson de Lamassee as Vice Consul of France at Savannah, Georgia, and Charles Knorre, Esq. as Vice Consul of the free city of Hamburgh, for the City of Boston, and the State of Massachusetts.

A public dinner, without distinction of party, was given to *Governor Marcy*, on Monday last, at *Buffalo*.

MACON, GEORGIA, AUGUST 23d.—The first bale of New Cotton received in this place this season, came in yesterday from the plantation of Mr John Harvey, in Houston County, and was purchased at auction by Messers. T. L. & J. P. Smith, at 20 1-2 cents.

This bale was on its way to Savannah, by Capt. Blair's Boat, in a few hours after the purchase.

We do not give the above as a fair quotation of the market price. But we can say to the planter, that if his cotton was now in market, the prices paid for it in Charleston would warrant from 14 to 15 cents here, at which price it is probable the market will open.

Rum and Razors.—A countryman sent to his friend in the city for a barrel of rum, for family use—and received, in addition to the rum, a case of razors—with this significant remark in a letter—"*One is slow and sure—the other quick and certain.*"—[Gazette.]

Shipwreck.—The brig Pearl, Davis, hence for Franklin, La. with a full cargo of merchandize, was driven ashore on Body's Island, North Carolina, in a violent gale, on the night of the 24th inst. We are informed by Mr. Birdsall, one of the passengers, who had returned to this city, that the vessel will probably be lost. A small part of the cargo will be saved in a damaged state. The cargo was principally insured in this city. Vessel owned in New Haven. Passengers and crew safe.—[Jour. Com.]

HARTFORD CON. AUG. 31.—The splendid new Steamboat, New England, Capt. Waterman, arrived at the wharf last evening, at about half past six o'clock, having performed this, her first trip from New York to this city in twelve hours and a half.—The New England is superior to any Boat that has ever appeared on the river, in size, convenience, elegance and speed.

Cincinnati, Aug. 22.—We learn by a gentleman who left Louisville on Tuesday, that the steamboats *Reindeer*, and *Volant*, were burnt, or had been burning for five hours, when he left there. We understand they were laying at Shippingport or Portland. How they took fire we have not learned.

Destructive Fire at Troy.—At 5 o'clock on Saturday evening, a fire broke out in South-street, in the sash and blind factory of Prescot & Smith, originating from the furnace of the engine, which, with the buildings occupied by Smith & Gilbert, were laid in ashes. The loss of P. & S. is estimated at 5000 dollars, on which the Troy Insurance Company had 1600. The loss of E. & G. 10,000 dollars, and 10,000 was insured, 5000 in the Rensselaer and Saratoga Company, and 5000 in the Albany Insurance Company.

About 11 o'clock on Sunday evening, another fire broke out in Franklin-square, in the stables in the rear of Dorlon's Washington Hall; and by 2 o'clock the four noble brick tenements on River-street, were laid in ruins. The wind at the time was a gale from the N. W. but by great exertions, the flames were arrested at Mr. E. A. Sherman's building, which, however, was considerably damaged. Dorlon's loss is estimated at about 5000 dollars—insurance 2500. The three other buildings owned by Townsend M'Coun, were insured. The occupants, Silliman, Grant & Co. grocers and lumber merchants, lost considerable property, but were partly insured. E. & W. Carpenter, dry goods merchants, were insured 10,000 dollars, which probably covers their loss. The fourth tenement was occupied by Jared G. Bacon, draper and tailor, on the first floor—and the upper part by Kelly, as a boarding house. The amount of Mr. Bacon's loss is nearly 3000 dollars, insurance 2000. Mr Kelly's furniture mostly destroyed, no insurance. The owners of property in the building where the fire was stayed, were Mr E. A. Sherman, Mr. W. P. Haskin, and Messrs. T. & R. Mann, all of whom were insured. The amount of property destroyed by this conflagration is estimated at 25,000. The fire is supposed to have been communicated by incendiaries.

WASHINGTON, DEPARTMENT OF STATE,
31st Aug. 1833.

Notice is hereby given, that the Board of Commissioners appointed by the President to carry into effect the Convention between the United States and his Majesty, the King of the two Sicilies, concluded at Naples on the fourteenth day of October, one thousand eight hundred and thirty-two, will meet in this city on Wednesday, the eighteenth day of September next, agreeably to the provision of the 3d Section of the Act of Congress of the 2d of March, 1833, entitled "An Act to carry into effect the Convention between the United States and his Majesty, the King of the two Sicilies, concluded at Naples on the fourteenth day of October, one thousand eight hundred and thirty-two."

By the President of the United States of America.
A PROCLAMATION.

Whereas, a Convention between the Government of the United States of America, and his Majesty, the King of the Kingdom of the two Sicilies, to terminate the reclamations of said government for the depredations inflicted upon American Commerce, by Murat, during the years 1809, 1810, 1811, and 1812, was concluded and signed at Naples, on the fourteenth day of October, in the year of our Lord one thousand eight hundred and thirty-two; which Convention is word for word as follows:

Convention between the Government of the United States of America and his Majesty the King of the Kingdom of the two Sicilies, to terminate the reclamations of said government, for the depredations inflicted upon American Commerce by Murat, during the years 1809, 1810, 1811, and 1812—

The Government of the United States of America, and His Majesty the King of the Kingdom of the two Sicilies, desiring to terminate the reclamations advanced by said Government against his said Majesty, in order that the merchants of the United States may be indemnified for the losses inflicted upon them by Murat, by the depredations, seizures, confiscations and destruction of their vessels and cargoes, during the years 1809, 1810, 1811 and 1812, and his Sicilian Majesty desiring thereby to strengthen with the said government of the United States and his aforesaid Majesty the King of the Kingdom of the two Sicilies, have, with one accord, resolved to come to an adjustment; to effectuate which they have respectively named and furnished with the necessary powers, viz. the said Government of the United States. John Nelson, Esquire, a citizen of the said States, and their Charg' d'Affaires near His Majesty the King of the Kingdom of the two Sicilies; and His Majesty His Excellency D. Antonio Maria Statello Prince of Cassaro Marquis of Spaccaforno Count Statello, &c. &c. &c., His said Majesty's Minister Secretary of State for Foreign Affairs, &c. &c. who after the exchange of their respective full powers found in good and due form, have agreed to the following articles:—

Article 1st.—His Majesty the King of the Kingdom of the two Sicilies, with a view to satisfy the aforesaid reclamations for the depredations, sequestrations, confiscations, and destruction of the vessels and cargoes of the merchants of the United States, (and for every expense of every kind whatsoever incident to or growing out of the same) inflicted by Murat during the year 1809, 1810, 1811, and 1812, obliges himself to pay the sum of two millions one hundred and fifteen thousand Neapolitan ducats to the government of the United States; seven thousand six hundred and seventy-nine ducats, part thereof, to be applied to re-imburse the said Government for the expense incurred by it, in the transportation of American seamen from the Kingdom of Naples, during the year 1810, and the residue to be distributed amongst the claimants by the said Government of the United States in such manner, and according to such rules as it may prescribe.

Article 2d.—The sum of two millions one hundred and fifteen thousand Neapolitan ducats agreed on in article the 1st, shall be paid in Naples, in nine equal instalments of two hundred and thirty-five thousand ducats and with interest thereon, at the rate of four per centum per annum, to be calculated from the date of the interchange of the ratification of the Convention, until the whole sum shall be paid. The first instalment shall be payable twelve months after the exchange of the said ratifications, and the remaining instalments, with the interest, successively, one year after another. The said payments shall be made in Naples into the hands of such person as shall be duly authorized by the Government of the United States to receive the same.

Article 3d.—The present Convention shall be ratified, and the ratifications thereof shall be exchanged in this capital, in the space of eight months from this date, or sooner if possible.

In faith whereof the parties above named have respectively subscribed these articles, and thereunto affixed their seals.

Done at Naples on the fourteenth day of October, one thousand eight hundred and thirty two.

JOHN NELSON. [L.S.]

And whereas the said Convention has been duly ratified on both parts, and the respective ratifications of the same were exchanged at Naples, on the eighth day of June, one thousand eight hundred and thirty-three, by Auguste Davezac, on the part of the United States, and the Prince of Cassaro on the part of the King of the kingdom of the two Sicilies.

Now therefore be it known, that I, Andrew Jackson, President of the United States, have caused the said Convention to be made public, to the end that the same and every clause and article thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In witness whereof I have hereunto set my hand, and caused the seal of the United States to be affixed.

Done at the City of Washington, this twenty-seventh day of August, in the year of our Lord, one thousand eight hundred and thirty-three, and of the Independence of the United States, the fifty-eighth.

L.S.

ANDREW JACKSON.

By the President:
LOUIS MCLANE, Secretary of State.

IMPORTANT LAW.—We republish the following law. Its importance, however absurd it may be deemed—and we certainly so deem it ourselves—requires that as much publicity as possible should be given to it, as it goes into effect on the 29th of October next.

An act to prevent persons from transacting business under fictitious names—passed April 29, 1833.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. No person shall hereafter transact business in the name of a partner not interested in his firm, and where the designation "and Company" or "& Co." is used, it shall represent an actual partner or partners.

§ 2. Any person offending against the provisions of this act, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and be punished by a fine not exceeding one thousand dollars.

§ 3. This act shall be published by the Secretary of State immediately, and shall not take effect until six months after its passage.

State of New York, Secretary's Office.

This bill having been approved and signed by the Governor of this State on the 29th of Aprit, 1833, I do hereby certify that the same became a law on that date. JOHN A. DIX, Secretary.

FOREIGN INTELLIGENCE.

The packet ship *United States*, from Liverpool, brings us London papers to and of the 7th ult. Lisbon fell into the hands of Donna Maria's troops on the 24th July, after a battle on the preceding day on the opposite side of the Tagus, between the troops of Don Miguel and those of Donna Maria, in which the former were worsted. The next day the *Duke de Cadoval* and the rest of Don Miguel's ministers having abandoned Lisbon, the populace rose and proclaimed Donna Maria. *Villa Flor's* troops crossed over the same afternoon. Admiral Napier and his fleet arrived on the 25th, and all was tranquil under the new rule. Oporto had resisted a fierce attack of Marshal Bourmont; and the question, if left to Portuguese decision alone, may be considered as settled in favor of *Donna Maria*. We see nothing but rumor as to any interference by Spain—and nothing authentic respecting the transporting of troops from England to Portugal, though the London Exchange was all in agitation on the 6th because the Admiralty had advertised for *two transports of* 300 *tons each!*

The Spanish Ambassador at Lisbon, *Cordova*, was taken fighting with the Miguelites, and released unconditionally by the victors.

Miguel, it was surmised, would endeavour to escape to England. Other accounts are that he was off for Spain. At any rate he was non-apparent.

We give the following very characteristic extract of a letter from Mr. George Fitch, Lieutenant of the late schooner Eugenie, dated River Tagus, July 25:

"I write this on board what was formerly Don Miguel's yacht. I took her yesterday with this single arm and a musket and bayonet.

"A mob of 30 people released me from the infernal prison where I have been confined, with little food, for the last month. When I got into the street the people carried me on their shoulders, and wanted me to head them, which I did; their numbers were small, but I soon increased them by releasing all the prisoners. I then armed with broomsticks those who could get nothing better. I had myself a beautiful weapon, a crow-bar. We flew like fire, shouting 'Vive Donna Maria,' through the streets to Fort St. John, mounting 12 large guns. I killed the sentinel, and we forced the gates and took possession of the battery. I then felt like a god. I had 500 men at my command ready to shed the blood of tyranny. We loaded the guns, forced the arsenal and found 3,000 stand of arms, all new. There were many soldiers in the mob. I ordered them to form, and get into marching order, which they did, and I served out ball cartridge. We gave the command of the fort to an old officer, and telling him to keep a good look out, I marched through Lisbon with my army, and a band of music playing the Constitutional Hymn. The English Admiral fired a grand salute to our flag. The troops from the Algarves arrived on the opposite side of the river the day before the revolution, and had a very smart action. The Duke of Terceira came over yesterday at 2 o'clock, with 1,000 troops, and took possession of the city; he knew me the moment he saw me, and shook hands with me."

London, August 6.—City, half past four, the city never was in such a state of excitement, as at present. Government has just issued a notice for vessels to act as tenders for three months certain. An order has just been posted at Lloyd's, for two transports to be got ready immediately, to convey troops (it is said 3000) to Portugal, as it is supposed. It is said that Spain has sent forces to assist the Miguelite cause.

In England, the bill removing the civil disabilities of the Jews was thrown out in the House of Lords—though supported by Lord Bexley and the Lord Chancellor—by a vote of 104 against 54 for the bill. The Archbishop of Canterbury, the Bishop of London, and the Clergy generally, (the Archbishop o Dublin voted for it)—the Duke of Wellington and the whole Tory party opposed it—Lord Grey was absent, and was understood as not wishing the bill to be considered a government measure.

A dreadful account is given in the papers, which we have not room to publish, of the destruction by fire of the *Hibernia*, bound to Van Dieman's Land, with 232 passengers, of whom only 63 were saved.

Paris, Aug. 3.—The following appears in the *Journal de Frankfort*, which we received to-day by express:—

It is with deep indignation that we learn, by letters from the Russian frontiers, that another attempt at assassination has been made on the person of the Emperor Nicholas, which happily was discovered a short time before the day appointed for its execution.

We received at the same time a letter from Wisbaden, of the date of the 30th of July, which contains the following particulars:—

Some strangers, who have recently arrived at Frankfort from the North, are uncertain whether the Emperor Nicholas will go to Germany. According to their account the Russian Government is far from having got hold of all the accomplices of the conspiracy which was formed against the life of the monarch. It is said that, in consequence of the search caused by the projected attempt, it was discovered that great quantities of powder had been purchased at Riga, with which the conspirators intended to charge a mine, situated in the great road between Petersburgh and Wilna, and to set fire to it at the very moment the carriage of the Emperor should pass.

Later from New Grenada.—By the brig Elizabeth, Capt. Briggs, arrived last night from Carthagena, we received on official account signed by the Governor of that place, stating that he had received information of the discovery by the President of a conspiracy at Bogota on the night of the 23d July. Measures were immediately taken by him to arrest those concerned in it. Colonel Jose Manuel Montoya, military chief of the provinoe, was ordered to apprehend an individual named Arjona, whose previous conduct had given cause to suspect him. While conducting Arjona to prison, Montoya was assassinated by him in the street.—His accompliees, sixty in number, thinking their plans discovered, that night fled from the capital on the road to Tunja. They were, however, all made prisoners by the Governor of that place, with the exception of five individuals, on the 26th. Among the number was the above named Arjona. And order was again restored.

Capt. Briggs states that a misunderstanding had arisen between one of the authorities of Carthagena and the French Consul, M. Barrot, who was in consequence confined in prison, but his liberation was momentarily expected. A French schooner of war was in the harbor on the point of sailing for Martinique, with the ratification of a treaty of commerce which had been concluded between New Grenada and France.—[Journal of Commerce.]

MISCELLANY.

The Duchess of Abrantes, in her Memoirs, speaking of the attachment of Napoleon to the young and promising son of his brother *Louis*, introduces upon one occasion the Emperor as telling the young prince his nephew the following story. It is a new version of an affecting catastrophe, familiar to all our readers through the beautiful lines of Mrs. Hemans, on the death of young *Casabianca*, and is translated for our columns by literally one of our "most youthful readers."

[For the New-York American.]

Mr. Editor—If the enclosed, translated by one of your most youthful readers, be deemed worthy of a place in your valuable journal, it will gratify

E. S. K.

CASABIANCA.

One day they were at St. Cloud, and the Emperor was telling a very interesting story, which he related with that power of voice and looks, which I have never seen, excepting in him. The young prince was at first seated on the knees of the Empress, but at length he slipped gently off, and came and placed himself before the Emperor, looking full in his face with his large blue eyes, animated with an expression truly admirable—they were sparkling sapphires. His little bosom heaved, and it was evident that he suffered with his emotion. The Emperor was relating a tale fitted to touch the heart of a child happily endowed. I have before noticed, I think, the talent he had for story-telling, and the taste he displayed in it. He often, for example, altered a little the truth, to increase the interest and effect. But on that evening, it was noticed that nothing was added: it was so judged by his own emotion. He related a naval battle, and, like Homer, he raised his voice above the waves: he made the cannon roar, and the dying groan. He placed you upon the deck of a vessel, the planks of which, stained with blood, and covered with bodies, began to complain under the action of the fire, of which a thousand tongues, of all colors, pierced through the hatches, and ascended encircling along the masts and yards. That vessel which a few hours before, lorded it royally in the harbor of Aboukir, and presented more than five hundred human beings, full of life and strength, on its deck, was deserted, and all those that had not been wounded by the bullets of the enemy, hastened to escape from certain death, by throwing themselves in the sea, and gained the shore by swimming. A single man yet stood there, his arms crossed on his broad chest. His features soiled with blood, black with powder and smoke, he looked with saddened eyes on another man still breathing, lying at his feet, having both his legs carried away, and losing both his blood and his life, without uttering a complaint. He thanked God, on the contrary, for having taken him from this world. His dying eyes were raised to look on the flag of republican France. A few steps distant from the dying man, was a young boy of about fourteen, dressed in blue, and without any mark of distinction. A small sword was by his side, and in his sailor belt were two pistols. He looked at the dying man with an expression of profound despair, but at the same time with a resignation which indicated that he too had done with life. That vessel was L'Orient—the dying man was Casabianca, commanding the Admiral vessel on the expedition to Egypt, and the young boy was the son of the veteran chief.

'Save that child!' said the Captain to the Quarter-Master—'save yourselves, both of you. There is yet time. Leave the old sailor to die by himself. He is now no more than a damaged old cartridge.'

'Advance not!' said the Midshipman, waving his hand towards him; save yourself. For me, my place is here; I will *not* leave my father.'

'My son,' said the dying father, casting a look on that noble child—a look, filled with all the joy that can animate the heart of a father—'my son, I command you to go!'

At that moment a fearful crash was heard among the planks of the vessel. The flames gained the mastery—a horrible explosion announced the fate of the victim of that dreadful day, that of the L'Orient. Already the planks were burning under their feet. The Quarter-Master for one moment felt an emotion of fear. His eyes glanced towards the shore, scarcely two hundred fathoms off, for, (said the Emperor) Admiral Brueys, the wretched man fought where he was embayed—that emotion, so natural to every man anxious to preserve life, was but transient. He resumed his indifferent attitude, only his eye twinkled as he looked at the young boy; and upon a sign from the dying father, he again attempted to force him away; but the youth presenting one of his pistols, threatened to lay him dead at his feet if he persisted.

'I should, and will remain,' he exclaimed. 'Save yourself, and may Heaven preserve you—you have no time to lose.'

Another crash, which burst from the bottom of the hold like a profound groan, made the sailor shudder. His eye turned to the magazine: the flames were on the point of reaching it. A few minutes more, and it would be too late. The youth felt all that that look implied, and throwing himself down by the side of his father, he encircled him in his arms—'*Go*,' he cried to the Quarter-Master. 'Father, bless me,'

These were the last words the sailor heard. He sprang into the sea, and stretched for the shore; but he had not made many strokes before the L'Orient blew up with a fearful explosion. He was still so near that he was covered by the nails and fragments torn from the ship in her last agony. He was taken up by the people on shore, was conveyed to headquarters, and, added the Emperor, it was he that told us of the sublime devotedness of the young Casabianca. 'What should I do in the world,' said he, 'when his father again pressed him to go. 'You are dying—the navy is dishonored.'

It was a noble boy, pursued the Emperor. His death is the more to be regretted, as possibly he might have surpassed the Duguay Thouins, and the Duquesnes. I always remember with pride that he was of my family.

But it was a curious spectacle to remark the countenance of the young Napoleon—his large blue eyes fixed on the Emperor with an avidity which it is impossible to describe. And when his uncle had finished, he approached him, and getting on his knee, he said to him—Is it true, what you have been saying? What do you wish to know for? Because I will pray to God for that young boy and his father, answered the young Prince.

The Emperor was touched. He raised his nephew and embraced him. And you, too, said he, you will be a brave and a good boy.

The Troy Press is publishing a series of letters from Mr. Ball, a gentleman who formed one of the party that crossed the continent a year or two since, for the purpose of settling on the shores of the Pacific. We make a few extracts:

Face of the Country West of the Rocky Mountains.—One immense priarie extends from the mountains, with the exception of scattering trees, of the pinus genus, (mostly of the mountains,) to the Falls of the Columbia. Along the streams are willows, and oft n rank grass, but as you recede from them, a thin crop of rank grass and shrubbery succeeds, and the soil generally becomes barren. At the Falls commences a growth of oak, and at tide water, a thick growth of lofty trees of different kinds; still the prevailing character of the country is prairie until you get nigh the coast, where the growth of vegetables of all kinds is enormous.

The Climate of Oregon.—Here the farmer has not to labor half the summer and all the winter to provide for his animals—he is not compelled to fence and plough and sow his seed in *one* or *two* short months—he ploughs, and his cattle *graze* the whole year. The settlers in this valley have already raised one crop; which succeeded well. They have a few cattle, horses, and hogs, all of which are in good order, without any feeding through the winter. Although we are in the latitude of Montreal, the farmers have been ploughing since January, the vegetables in the garden have remained uninjured through the winter. In favorable situations the grass is already springing up. On the Wallameth, I saw two weeks ago, alders and willows in bloom, and leaving out. Strawberries and brier bushes had continued green through the winter. Crops that are put in the ground as late as July, yield a plentiful harvest. There is a vast difference in the temperature on the two sides of the Continent. Here the summers are long and fine, and everything can be raised, that can be raised with you, or even in Virginia. I have already spoken of the vine and the peach: tobacco has also been tried, and with success.

During November, Fahrenheit ranged at from 49° to 56°. One half of that month was as bright weather as any I ever saw; during that time there was usually a white frost every night. I am informed there fell that month 4 1-2 inches rain. In December 9 inches; frost but two or three times; thermometer in the morning at 40° at noon from 40 to 50°; rain from the S. and S. E. East and north winds always bring fair weather. Half of the month of January the weather was as cold as has been known in this region, there being a constant frost. At one time the thermometer ranged as low as 17°; at noon from 30 to 40°. The Columbia river froze over, but the Wallameth did not. During the rest of January, the weather was as usual; there fell but one inch of rain. This month (February) has been cloudy part of the time. There have been what you would call April showers, but the amount of rain that has fallen is not great. We have had frost a few times, though in the morning the thermometer has usually stood at 40°, and at noon at 50°. Nigh the ocean, it is said, it never freezes.

Valley of the Multnomah.—This week I have returned from an excursion up the River Multnomah or Wallameth. It is far from the stream laid down on your maps, for its most distant source is not probably more than 200 miles in a direct course from its mouth. Its general course is South and is fed by a number of branches from the Snow Mountains already spoken of, and a ridge running not far from the coast on the West. The river at one point approaches within fifty or sixty miles of the sea.

The valley of the Multnomah may be two hundred miles in length and fifty in breadth, and a beautiful valley it appears from what I have seen of it. Extensive plains well clothed with grass, interspersed throughout with oaks crowned with missletoe and lofty firs and pines, altogether presenting great facilities for settlers. The soil is generally fertile, though perhaps not equal to some on the Mississippi and Ohio. Its quality however, I should think, through the whole of it, will average with respect to fertility and the aspect of its surface, the lands of New England.

Wherein then, do you ask, consists its advantages—I answer *in climate.*

White Residents.—Fort Van Couver is the general depot of the Hudson's Bay Company, West of the mountains. An express arrives and departs from this place once a year, for Hudson's Bay, and a so for Montreal. A ship arrives annually from England. Besides, they have three smaller vessels employed in trading along the coast, and in carrying supplies to the posts. To the north, along the coast, and also far inland, they have several posts. In short, their operations—trapping and trading for furs, are extended from California to the Pole. You are doubtless aware of the long standing of this company—its great wealth and extended operations over a region of country but little known to any but themselves.

The gentlemen of the campany appear generally intelligent, especially Mr. McLaugh'in, who is the acting Governor. Governor Simpson himself is at present t Hudson's Bay. There is also residing here a Mr. Douglass, a naturalist; but apprehending they might be a little jealous of impar ing their hard earned intelligence about this region of country, I have not felt myself free to make many inquiries.

It is seven years since they commenced an establishment here, and having found it very expensive to furnish the number of persons they employ with provisions from England, or elsewhere, they have been induced to go quite extensively into agricultural pursuits. Mr. McLaughlin, having obtained a few cattle from California, has increased them to about 400. He raised the last year about 1200 bushels of wheat, barley, peas, Indian corn, potatoes, and garden vegetables. This year he is extending his operations. Fruit trees have been planted; among the rest the vine and the peach. They have sheep and hogs. Their horses they obtain from the Indians. The pursuit of agriculture seems to prosper well in their hands, though begun with difficulty. Mr. McLaughlin encouraged a few men (some of whom came out here with Mr. Astor'e concern) to settle on the Multnomah, where, as I said, I intend also to settle. He has liberally engaged to lend me a plough, an axe, oxen, cow, &c.

Probable Diffusion of Original Population.—Every system of heathen mythology had its origin in the corruption of patriarchial worship before the dispersion at Babel. There the whole family of man was collected in the descendants of Noah's three sons, Shem, Ham, and Japhet; and thence, at that time, they were scattered abroad by the hand of God, over the world. Japhet colonized the whole of Europe; all those northern regions called Tartary and Siberia; and, in process of time, by the easy passage of Behring's Straits, the entire continent of America. His son Gomer seems clearly to have been the father of those who were originally called Gomerians; and by slight variations, were afterwards termed Comarians, Cimmerians, Cymbri, Cumbri, Cambri, and Umbri; and, in later years, Celts, Gauls, and Gaels. These extended themselves over the regions north of Armenia and Bactriana; thence over nearly all Europe, and first planted Britain and Ireland. Magog, Tubal, and Mesech, as we learn from Ezekiel, dwelt far to the north of Judea, and became the ancestors of the Sclavonic or Sarmatian families; the name of Magog still existing under the appellations of Mogli, Mongols, and Mongolians; those of Tubal and Mesech, in Tobolski, Moschici, and Moscow and Moscovites: Madai was father of the Medes, and Javan of the original inhabitants of Greece, where we may trace the names of his sons Elishah, Tarshish, Kittim, and Dodanim, in Ellis, Tursus, Cittium, and Dodona. The posterity of Shem were confined to Southern Asia; founding by his sons Elam, or Persia, Ashur, or Assyria, a province of Iran, or Great Assyrian empire of Nimrod, whose son Cush appears to have subdued these descendants of Shem. Arphaxad became the father of the Hebrews and other kindred nations; his descendant Peleg founded Babylonia; and Joktan, stretching far towards the east, probably became the father of the Hindoos. Ophir, one of the sons of Joktan, is often mentioned in the Scripture as dwelling in a land of gold, to which voyages were made by ships issuing from the Red Sea, and sailing eastward; but Elam and Cush occupied the whole sea coast of Persia, as far as the Indus. This, therefore, brings us to the great peninsula of Hindostan for the seat of Ophir. Lud, the fourth son of Shem, is presumed to be the founder of Lydia; and Aram, the fifth, the father of Mesopotamia and Syria. Ham was at first mixed with Shem throughout Southern Asia, and became the sole occupant of Africa. Of his sons, Cush became the founder of Iran, or Central Asia, the great Assyrian empire, and the progenitor of all those called Cushim, Cushas, Cuths, Goths, Scythe, Scots, or Gauls. Mizraim peopled Egypt; Phut, the western frontier of Egypt, and thence passing west and south, spread over the greater part of Africa; and Canaan, it is well known, peopled the tract afterwards inhabited by the Israelites.—Thus, it is said, was the world peopled; and that it was thus peopled, we learn not only from Moses, but from profane writers; and find both accounts confirmed by abundant evidence in the manners, traditions, language, and occupance of the different races at the present day. Sir William Jones found only three great original languages to exist—Arabic, Sclavonic, and Sanscrit; and these three all issue from one point, Central Asia, whence, by consent of the most ancient records and traditions of the great primeval nations, their original ancestors spread.—[Howi t's History of Priestcraft.]

Man's Body a Machine.—Now grant that man's body is a machine, where are the points of resistance? are they not in the ground he stands upon? This leads us to inquire by what property we stand. Is it by the weight of the body, or, in other words, is it by the attraction of the earth? The terms attraction, or gravitation, lead at once to the philosophy of the question. We stand because the body has weight, and a resistance, in proportion to the matter of the animal frame, and the magnitude of the globe itself. We wait not at present to observe the adjustment of the strength of the frame, the resistance of the bones, the elasticity of the joints, and the power of the muscles to the weight of the whole. Our attention is directed to the relations which the frame has to the earth we are placed upon. * * * By such considerations we are led to contemplate the human body in its different relations. The magnitude of the earth determines the strength of our bones, and the power of our muscles; so must the depth of the atmosphere determine the conduct of our fluids, and the resistance of our blood vessels; the common act of breathing, the transpiration from the surfaces, must bear relation to the weight, moisture, and temperature of the medium which surrounds us.

A moment's reflection on these facts proves to us, that our body is formed with a just correspondence to all these external influences.—[Sir C. Bell's Bridgewater Treatise on the Hand.]

Love of Life.—There is an indescribable something that ties us to life, For this purpose it is not necessary that we should be happy. Though our life be almost without enjoyment, we do not consent to part with it. Without going to the extreme of Mæcenas, who said, 'though my hand, my foot, my hip, should refuse to do their functions, though I should have a mountain on my back, and my teeth be loosed in their sockets, nay, nail me, if you will, upon a cross, still I desire to live:" without this, there is nevertheless a sentiment that stirs within us, that produces an undefinable aversion to the thought of ceasing to be, "to lie in cold oblivion and to rot." It was this that inspired Robinson Crusoe, or whoever was his actual prototype, and every shipwrecked mariner, when he has found himself thrown on a coast without human inhabitants. It is a dreary thing to be cut off from the society of fellows and the accommodations of civilized life. We should almost expect an individual so circumstanced, to climb a neighboring promontory, and cast himself back into the element from which he had been rescued. But it is not so. He looks round, and begins to collect the fragments and broken planks of the vessel in which he had been embarked. He is like the wretch who watches a dying flame. He gathers together every combustible material that offers itself to his view, that he may detain the celestial visiter. He casts about and considers how he may supply himself with nourishment and shelter. He meditates perseveringly, and counts up all his resources. He shrinks from no labor. He is appalled by no privations. Life, life is the inexplicable thing we cling to; and however we may pretend to hold it cheap and to brave death when at a distance, we all of us, with very few exceptions, and those arising from a preternatural tension, verify the apophthegm of the Scripture, "Skin for skin, yea, all that a man hath will he give for his life." The mind of man bends itself after a short struggle to the yoke of necessity. "Things without all remedy." are found to be "without regard." We shut ourselves up within the compass of possibilities, and become reconciled to what cannot be avoided. There are indulgences without which a man thinks he cannot live; there are benefits that seem to constitute the core and soul of our existence; but, when these can no longer be had, we make the best of what is still within our reach.—[Godwin's Delorain.]

Sensibility of the Skin.—The fuller the consideration which we give to this subject, the more convincing are the proofs that the painful sensibility of the skin is a benevolent provision, making us alive to these injuries which, but for this quality of the nervous system, would bruise and destroy the internal and vital parts. In pursuing the inquiry, we learn with much interest that when the bones, joints, and

all the membranes and ligaments which cover them are exposed—they may be cut, pricked, or even burned, without the patient or the animal suffering the slightest pain. These facts must appear to be conclusive; for who, witnessing these instances of insensibility, would not conclude that the parts were devoid of sensation? But when we take the true philosophical, and I may say the religious, view of the subject, and consider that pain is not an evil, but given for benevolent purposes and for some important object, we should be unwilling to terminate the investigation here. In the first place, we must perceive that if a sensibility similar to that of the skin had been given to these internal parts, it must have remained unexercised. Had they been made sensible to pricking and burning, they would have possessed a quality which would never have been useful, since no such injuries can reach them; or never without warning being received through the sensibility of the skin. But, further, if we find that sensibility to pain is a benevolent provision, and is bestowed for the purpose of warning us to avoid such violence as would affect the functions or use of the parts, we may yet inquire whether any injury can reach these internal parts without the sensibility of the skin being excited. Now, of this there can be no doubt, for they are subject to sprain and rupture, and shocks, without the skin being implicated in the accident. If we have been correct in our inference, there should be a provision to guide us in the safe exercise of the limbs; and notwithstanding what has been apparently demonstrated of the insensibility of these internal parts, they must possess an appropriate sensibility, or it would imply an imperfection.—How consistant, then, and beautiful is the distribution of the quality of life! The sensibility to pain varies with the function of the part. The skin is endowed with sensibility to every possible injurious impression which may be made upon it. But had this kind and degree of sensibility been made universal, we should have been racked with pain in the common motions of the body; the mere weight of one part on another, or the motion of the joint, would have been attended with that degree of suffering which we experience in using or walking with an inflamed limb. But on the other hand, had the deeper parts possessed no sensibility, we should have had no guide in our exertions. They have a sensibility limited to the kind of injury which it is possible may reach them, and which teaches us what we can do with impunity. If we leap from too great a height, or carry too great a burthen, or attempt to interrupt a body whose impetus is to great for us, we are warned of the danger as effectually by this internal sensibility, as we are of the approach of a sharp point or a hot iron to the skin.—[Sir C. Bell's Bridgewater Treatise on the Hand.]

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 20th to the 26th day of August, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
August 20..	6 a. m.	65	30.15	N	fresh	NNW	fair
	10	70	30.17	NNE	..	..	..
	2 p. m.	78	30.19	S	..	..	..
	6	73	30.19	SE	..	..	..
	10	69	30.19	..	..	..	..
" 21..	6 a. m.	65	30.19	NNE	moderate	S	..
	10	70	30.19	..	..	..	..
	2 p. m.	75	30.15	SE	..	SE	..
	6	69	30.13	..	..	..	cloudy
	10	65	30.10	..	fresh	..	..
" 22..	6 a. m.	63	30.05	..	moderate	S	..
	10	70	30.01	NNE	light	..	..
	2 p. m.	81	30.00	S	..	..	—hazy
	6	78	29.98	..	..	SW	..
	10	72	29.97	NE	..	..	.. at s
" 23..	6 a. m.	70	29.90	..	fresh	SW / ENE	—foggy
	10	72	29.95	..	..	..	..
	2 p. m.	74	29.98	..	..	..	..
	6	68	30.00	..	..	..	..
	10	67	30.03	..	..	..	fair
24..	6 a. m.	61	30.15	..	moderate		clear
	10	68	30.17	NNE	..		..
	2 p. m.	73	30.18	NE—E	light		..
	6	68	30.18	SE]	..		..
	10	65	30.18		..		..
" 25..	6 a. m.	66	30.18	SW	..		..
	10	74	30.18	..	moderate		..
	2 p. m.	78	30.10	SW to W	..	WSW	fair
	6	74	30.08	..	light	..	..
	10	70	30.08	..	..	..	..
" 26..	6 a. m.	66	30.03	WSW	..	..	..
	10	74	30.04	SW by W	..	..	..
	2 p. m.	81	29.98	SW	..	..	..
	6	79	29.96	..	..	..	..
	10	74	29.90	..	..	..	..

Average temperature of the week, 71°.

POETRY.

AUGUST.

Sweet sabbath of the year!
While evening-lights decay,
Thy parting steps methinks I hear
Steal from the world away!

Amid thy silent bowers
'Tis sad but sweet to dwell;
Where falling leaves and drooping flowers
Around me breathe farewell.

Along thy sunset skies
Their glories melt in shade;
And, like the things we fondly prize,
Seem lovelier as they fade.

A deep and crimson streak
Thy dying leaves disclose;
As on consumption's waning cheek,
'Mid ruin, blooms the rose.

Thy scene each vision brings
Of beauty in decay;
Of fair and early faded things,
Too exquisite to stay;

Of joys that come no more;
Of flowers whose bloom is fled;
Of farewells wept upon the shore;
Of friends estranged or dead;

Of all that now may seem
To Memory's tearful eye
The vanished beauty of a dream,
O'er which we gaze and sigh.

[*From the London Court Journal.*]

SHE IS NO MORE!

The rose upon her cheek was red,
And, on its faithless tint relying,
Though languor came and vigor fled,
We could not think that she was dying!

We bore her to yon distant shore,
Where Arno rolls, a stream of gladness!
But Alps and ocean, traversed o'er,
But added sorrow to our sadness!

Devoted beauty! on thy cheek,
Though deep Decay has placed her finger,
Still health imparts a glowing streak,
And there, unblanched, her roses linger!

There is no sorrow in thy sigh—
Like Hope, reposing on her anchor—
Thine eye is bright—thy cheek is dry,
But 'neath its vermeil tint, the canker!

So, when autumnal suns arise
And Nature's radiant form is brightest,
The groves display their richest dies,
But wither while their leaves are brightest.

MARRIAGES.

On Tuesday morning, the 3d instant, at Trinity Church, by the Rev. Dr. Anthon, Mr. C. B. MILLER, to SARAH A., daughter of the late Philip Verplanck, Esq., of Verplanck's Point.

This morning, by the Rev. Dr. Anthon, GEORGE A. JARVIS, to CATHARINE AMELIA, daughter of Samuel Jarvis, Esq. all of this city.

Last evening, by the Rev. Dr. Brownlee, GEORGE H. KISSAM, A. B., to Miss MARY ANN CORDRAY; all of this city. a31*

On Tursday morning, by the Rev. Dr. M'Elroy, Mr. ALBERT A. DOWNING, to Miss NANCY ST. JOHN, both of this city.

At Williamsburgh, L. I., on Tuesday evening the 3d instant, by the Rev. Dr. Johnson, R. J. WYCKOFF, merchant of N. York, to ELIZA ANN, daughter of Jordon Coles, Esq., of the former place.

DEATHS.

On Thursday morning, after a short illness, WM. C. BACHE, in the 22d year of his age.

On Thursday morning, Anna Lydia, infant daughter of Rev. H. P. Tappan.

On Friday, the 23d inst. Elizabeth Gertrude, only daughter of Seldon Huntington, of Haddam, Conn., aged 8 months and 15 days.

This morning, SARAH, wife of A. WOODHULL.

Yesterday, after an illness of six weeks, at the residence of his brother, No. 86 White street, Mr. HENRY BROOKS, aged 26 years, son of the Hon. P. C. Brooks, of Boston.

On Sunday, MATHEW WILLIAM, eldest son of Wm. Stodart, aged 10 years.

Last evening, of lingering consumption, at the Hotel of Stephen Holt, Esq. Mrs. JERUSHA S. HOLT, consort of Mr. Stephe B. Holt, and daughter of Mr. Cornelius Schuyler.

On Sunday afternoon, at 4 o'clock, after a lingering illness, Mrs. ANN B. MARSH, wife of William Marsh, aged 31 years.

On Tuesday morning, after a lingering illness, in the 38th year of her age, Mrs. CATHARINE CLANCEY, wife of William Clancey.

On Monday evening, (after a lingering illness, which was borne with Christian patience, and terminated with Christian hope,) Mrs. CATHARINE CLAYTON, wife of Mr. Joel T. Clayton, in the 46th year of her age.

Drowned on Friday last, 30th ult. Mr. SEWALL H. BARTON, aged 28.

This morning, in the 22d year of his age, DANIEL D., son of the Rev. Benj. Mortimer.

On Tuesday evening, the 2d instant, ELEANOR BURGER, the infant daughter of Thomas B. Whitlock, aged 18 months.

In this city, on Saturday, the 21st of August, Mrs. SARAH BRADY, consort of Gen. H. Brady of the U. S. Army, aged 55 years. The sympathies of the whole community, the united testimony of that same community to the high moral qualities and rare virtues of the deceased, must furnish a rich consolation to her venerable and afflicted husband, her children and immediate relations. As wife, mother, or friend, she had few equals, no superiors. The church, of which she was a bright ornament, can fix upon her life and the moment of her death, as among the most perfect illustrations of the power, the influence and value of the Christian religion.—[Communicated.]

Another of the few Revolutionists gone.—This morning, Mr. JOHN JOHNSON, aged 75 years and 4 months. His illness was long, and severe. He entered the service of his country before he was 18 years old, and continued during the whole period of the Revolutionary struggle, evincing the most earnest desire for the cause of freedom. One of the oldest merchants of the city, he has sustained until death, an unreproachable character, and left to his friends and society a valuable example of perseverance and industry.

In Brooklyn, September 3d, Mr. THOMAS H. BICKNELL, aged 30 years.

On Sunday morning, at Red Hook, after a short illness, EMILY CAROLINE, the wife of Robert Tillotson, Esq. and daughter of the late Nicholas Gouverneur, of this city.

In Westfield, Massachusetts, on Sunday last, ELI B. HAMILTON, Esq. councellor at law.

In Springfield, Massachusetts, on Sunday last, Lol. ROSWELL LEE, aged 56. Col. L. has been for the last 18 years, the Superintendent of the National Armory.

At Philadelphia, 1st inst. James Robinson, Printer, aged 34 years, of the firm of Sleight & Robinson, printers, of this city.

At Newburyport, Mass. 29th ult. Daniel Foster, Esq. Naval Officer of the port, aged 71 years.

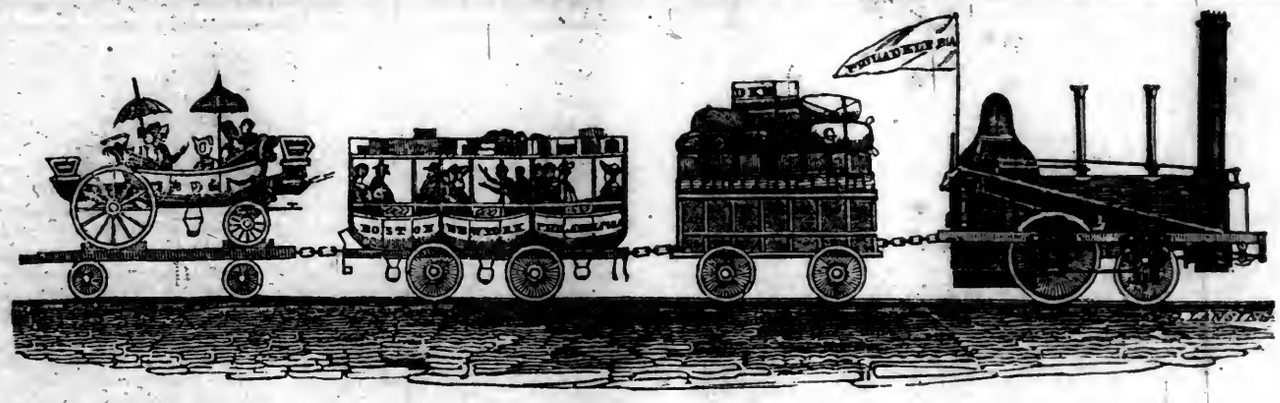
Also, on Thursday morning last, JOHN, infant son of Colonle John Anderson, U. S. A., aged three years and eight months.—[Detroit Jour. and Adv.]

At New Orleans, August 13th, Dr. USELMA CLARK, formerly of Philadelphia.

At Havana, August 3d, of a fever, ANDREW EWELL, mate of the schooner Wanderer, and SAMUEL TARBELL, seaman of do both belonged to Camden, Maine.

At Texas, on the 29th July last, MARY, eldest daughter of Capt. Henry Austin, late of this city, in the 17th year of her age

In Liverpool, on the 31st July, after an illness of six hours, Mr. JOHN M'DOWALL, a partner of the house of Andrew M'Dowall & Co. of Charleston, S. C. Mrs M'Dowall had taken passage to sail next day in the line ship South America, for New York. He was accompanied to Liverpool by his cousin, Dr. Porter. It is thought that they had partaken too freely of fruit the day previous. Mr. M'Dowall was taken sick at 3 o'clock in the morning, and died at 9. Dr. Porter was taken ill the same day, and died the following morning.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, SEPTEMBER 14, 1833. [VOLUME II.—No. 37.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 14, 1833.

Ithaca and Owego Railroad.—We continue in this number the Report of the Engineer of the Ithaca and Owego Railroad. It is very lengthy, entering minutely into detail of the preliminary and locating surveys, which, to many of our readers, will probably be interesting. It will be continued in our next. We also give a letter of recent date from John Randl, Esq., the Chief Engineer, which shows its affairs to be in a very favorable condition, and the road in rapid progress towards completion; and we take this occasion to say that, sanguine as are the anticipations of the friends of this road, they will be *more* than realized. It will be a great thoroughfare.

We are gratified to learn that the New-York and Erie Railroad Company is organized by an election of Directors and Officers, a list of whom is annexed. No period, surely, could be more fitting than the present for bringing forward this long contemplated and noble undertaking. The public mind throughout the country is alive on the subject of Railroads.

The Erie Canal is, even at *this* time, insufficient for the immense interior trade of our rapidly increasing population, and, therefore, the proposed Railway is loudly called for, as well for the interests of this city, as for those of the southern range of counties, and the *great and fertile west.*

It is a work which promises important advantages, and great increase of value of property to those in whose immediate vicinity it shall pass. It therefore becomes those owning property in the *southern tier* of counties in this state, to deal liberally with those who may be authorised to receive subscriptions of land or property on the proposed route. They should not forget that great efforts are now making to complete a line of railroad from Albany to Lake Erie, as well as through the northern part of Pennsylvania and New Jersey, to New York; and that, if both should be constructed before that now under consideration, there will be but small prospect of their ever having one through the southern tier *east* of Broome county. There should be *unity* and *liberality* of action: no effort should be omitted, either by the inhabitants of this city, or by those living on the route, which may tend to its success.

Directors of the New-York and Erie Railroad Company, elected August 9, 1833: Stephen Whitney, Peter Harmony, John Duer, Goold Hoyt, James Boorman, William G. Bucknor, Elihu Townsend, Michael Burnham, Eleazar Lord, S. B. Ruggles, Benjamin Wright, D. N. Lord, *of New-York*; Jeremiah H. Pierson, and Cornelius J. Blauvelt, *of Rockland county*; George D. Wickham, *of Orange*; Joshua Whitney, *of Broome*; Jas. Pumpelly, *of Tioga.*

Elenzar Lord was elected President; Goold Hoyt, Vice-President; William G. Bucknor, Treasurer; John Duer, Esq., Counsel.

Office in the Rooms of the Treasurer, No. 42 Wall street, where all communications for the Company are to be directed.

Winchester and Potomac Railroad.—Mr. Robinson, the Engineer, has given public notice that proposals will be received by him in Winchester, till the 7th of November next, for the grading and masonry of the whole line of the road, being twenty-seven miles in extent—commencing near the town of Winchester, Va., and ending at the Shenandoah river. The line will be divided into sections, of convenient length, so as in that respect to accommodate contractors.—[Nat. Intel.]

We are enabled to state, from a highly respectable source, that the statement made on Monday, respecting the accident on the Newcastle Railroad, was incorrect in several particulars, and that the assertion that two cars overturned was entirely erroneous; no car having been overturned, but the flanges of the wheels merely slipped over the rails by the pressure of the rear cars on the sudden checking of the steam. The Directors of the Railroad Line are now making a critical examination of the affair, and will immediately adopt such remedies as will effectually prevent the recurrence of any accident in future. There was no one injured, except one gentleman, who jumped from the car and was slightly hurt in his descent.—[Baltimore Gazette.]

New Engine.—The Earl of Dundonald has made a most successful trial of his newly invented rotary steam engine. A boat was propelled with great rapidity, and turned backwards and forwards through Westminster bridge several times. The engines are not larger than two Cheshire cheeses, and the whole apparatus so compact that a frigate's launch could be fitted with it. His lordship was accompanied by Mr. Ogle, Captain Brown, Mr. G. J. Mangary, &c. Some slight alteration, in a very minor detail, will be made, when their great improvement will be deemed complete, and applicable to our navy.—[London Herald.]

Dredging Machine.—We yesterday had the pleasure of witnessing the operation of a newly invented and highly improved Dredging Machine, employed upon the canal to remove deposits of mud under water. It is the invention of our townsman, Capt. O. Teall, who has been 4 or 5 years in bringing it to its present state of perfection. The Machine is attached to a common scow, and is worked by one span of horses. Its merits have been fully tested, we understand, by the Superintendants of Repairs upon the whole line of the canal, and is confidently recommended by them all to the use of the State. It is peculiarly adapted to the purpose of clearing the bed of the canal, subject to the consequences of sudden freshets on the Mohawk, where heretofore it has been necessary to draw off the water to remove impediments.—Where we saw it in operation, as much mud was removed by it in an hour and an half, with the water at full height, as would have cost $25 by the ordinary method. We understand that the inventor is confident that it is adapted to the removal of the obstructions in the Hudson river, below Albany, where he intends to make a trial with it. We should judge that it must eventually come into use on canals generally.—[Onondaga Standard.]

Air in Water.—Fresh water generally is calculated to contain one fiftieth of its weight of air. Water has an affinity for oxygen, which it absorbs. Chemists say its good or bad qualities depend on the quantity of oxygen which is produced or absorbed too much by salts, mud, &c.

VIRGINIA, August 9, 1833.

To the Editor of the American Railroad Journal:

SIR,—Permit me through the medium of your valuable journal, to communicate the project of an improvement in transportation peculiarly adapted to the kind of road and carriage which I have suggested, and to the transportation of cotton, or tobacco, or flour, or any dry article, in this southern and in the great western part of the country. It is nothing new in principle, for I am told it is an old custom in some parts of this country for the small planters to roll their hogsheads of tobacco to market. The proposition is to extend and improve this principle. You will now comprehend the whole at a glance.

It is simply to construct in a very strong manner, bound with iron, a large cylinder or cask, or roller, say 7 to 20 feet high, and sufficiently long or thick to receive the longest bales of cotton—say 5 to 12 feet; it would then only be necessary in practice to pack this tumbler perfectly full and tight, securing it so that no part of the lading could possibly shift.

It is manifest that a power equal to that of one horse, on such a smooth and level road of common earth, as I have suggested, would draw or roll more than one of these machines any required speed. They would scarcely offer any resistance, attached to a steam carriage? Nay, I doubt not the power of one man on a tread-wheel would propel two of them with ease and rapidity, after being once in motion.

C. O.

Report of the Engineer in Chief of the Ithaca and Owego Railroad Company.

ENGINEER DEPARTMENT, Feb. 26, 1833.

To the President and Directors, &c.:

GENTLEMEN,—I have the honor respectfully to submit the following Report, on the Reconnoissance, Preliminary Surveys, Experimental Lines, and Final Location of your Road from Ithaca to Owego, with Plans and Profiles thereof; together with the present state of the work upon the road, and the estimated cost and time to complete the same.

It will, no doubt, be readily admitted by all who examine the subject, that this road, (in addition to the immediate advantages to be afforded by it to the villages at each end thereof, and persons living in the vicinity,) is destined to become one of the most important links in the chain of internal improvement that has yet been projected in this section of country, to connect the cities of New-York, Philadelphia, and Baltimore, with the Erie Canal and Lake Ontario, and the numerous towns and villages bordering their shores.

The village of Ithaca, at the northerly termination of this railroad, is situated on the inlet of the Cayuga Lake, about one mile and a half south of it; from which place there now is, and for some years has been, a water communication with the *Erie Canal*, at Montezuma—with *Lake Erie*, at the villages of Buffalo and Black Rock—with *Lake Ontario*, at the village of Oswego—and with the *Hudson River*, at the city of Albany.

When the Ithaca and Owego Railroad is completed, this connection will be extended southerly to the Susquehanna River, at the village of Owego; from which place that river is navigable to the head of tide water at Port Deposit, for arks and rafts, at the spring and fall freshets, from about four to five weeks each spring *before* the Erie Canal can be used from Utica to Albany.

From the village of Owego a short route may be obtained to the city of New-York, by the way of the New-York and Erie Railroad, which is to pass through this village. A charter for this road was obtained from the Legislature of this State last winter; its friends confidently expect that it will be commenced and completed thus far at an early day. Until that is done, a large portion of the produce of this section of country must be taken through the accustomed channel to a southern market.

Lumber, grain, provisions, and other productions of this section of country, are taken every season from Owego to the city of Philadelphia, by the Susquehanna River, and Pennsylvania and Union Canals: or, passing by the Union Canal at Middletown, continue down the Susquehanna River to tide water at Port Deposit, or Havre de Grace; and from thence proceed down the Chesapeake Bay to the city of Baltimore: or, leaving the Susquehanna River, at Havre de Grace, proceed to Turkey Point, and thence passing up the Elk River to Back Creek, and through the Chesapeake and Delaware Canal to the Delaware River, ascend that river to Philadelphia: or, passing by the mouth of Back Creek, ascend the Elk five miles further, to Frenchtown; and from thence pass over the Newcastle and Frenchtown Railroad to the Delaware River at Newcastle, and ascend that river to Philadelphia.

A considerable amount of the lumber used by me in the construction of part of the Chesapeake and Delaware Canal, was brought down the Susquehanna River, from the neighborhood of Owego. This lumber, even with the addition of a heavy charge for land transportation across the Delaware peninsula, (fifteen miles,) cost *less money at that time* (1824) than lumber of equal quality brought down the *Delaware River*.

It is a circumstance worthy of observation in relation to the location of this railroad, that *its summit* (a marsh about 8¼ miles south 40° 35' east from the village of Ithaca) is *also* the summit which divides the waters running *northerly* into the *Atlantic Ocean*, by the way of the Beaver Meadow Brook, the Six Mile Creek, the Cayuga Lake, the Seneca and Oswego Rivers, Lake Ontario, and the River St. Lawrence; from those which descend *southerly* to the same ocean, through the Cattatunk and Owego Creeks, the Susquehanna River, and the Chesapeake Bay.

This summit swamp is three feet *below* the level of the railroad at that place, and *above* the level of the

	Summer height.	Above the level of the Atlantic.
Susquehanna River at Owego,	189 ft.	777 ft.
Ohio River at the mouth of the Muskingum,	400	566
Lake Erie,	402	564
Genesee River at the Erie Canal,	467	499
Seneca Lake,	547	419
Rome summit, (old Canal,)	547	419
Erie Canal at Utica,	553	413
Erie Canal at Syracuse and Salina,	576	390
Cayuga Lake at Ithaca	596	370
Seneca River at the Erie Canal,	596	370
Oneida Lake,	604	362
Onondaga Lake,	615	351
Lake Ontario,	734	232
Atlantic Ocean,	966	—

The waters of the Cattatunk Creek and Beaver Meadow Brook approach within 300 yards of each other, in this swampy piece of ground, which for 300 yards in length, and 150 yards in breadth, varies less than three feet in elevation.

This swamp is situated in a remarkable pass between two ranges of hills or mountains of rock, from 400 to 500 feet in height, which stretch along the valleys of the Six Mile and Cattatunk Creeks, nearly the whole length of the road; being, nevertheless, frequently broken and interrupted by deep ravines, formed by tributaries to the Cattatunk and Six Mile Creeks. The valley formed by the Beaver Meadow Brook and Six Mile Creek, and their tributaries, between the summit and Ithaca, varies in breadth from about 90 to from 1600 to 1700 yards, except at the falls about two miles southeast of Ithaca, where the water rushes through a chasm in the rock several hundred feet in length, and from forty to sixty feet in height and breadth. This valley consists of side-lying ground and rock, with sinuous and undulating surfaces of great acclivity, varying laterally from 10 to 100 feet in elevation, and is indented by deep and broad ravines, extending in most places from the foot of the mountain on either side, to near the bed of the Beaver Meadow and Six Mile Creeeks: and taken together, present formidable obstacles to the location of a railroad at a reasonable cost, with either *moderate slopes* or *gentle curves*.

The valley formed by the Cattatunk Creek and its tributaties, between the summit and Owego, is of a different character from that north of the summit; here the breadth of the valley increases as you proceed southerly as far as the village of Candor, at which place it has a breadth of from 4,000 to 5,000 feet; from this village southerly to within about two miles of Owego, the valley again decreases to a breadth of only 2,000 feet, and then opens into the valleys of the Owego Creek and Susquehanna River.

From the summit to Owego, a narrow slip of flat, or bottom land, may generally be found along the sides of the Cattatunk; it, however, is not always to be found on the *same side* of that creek. This creek has a tortuous course as it meanders through those flats—sometimes washing the foot of the rock on one side of the valley, and then again (almost immediately) deflecting abruptly across to the foot of the rocks upon the opposite side.

In addition to the obstacles thus presented to the location of this part of the road, in the vicinity of, or upon *any one side* of the Cattatunk, (without destroying its utility, by abrupt curves, or sacrificing the prospects of the stockholders by heavy cuttings, and high embankments, or grades of great acclivity,) it was found that this portion of the bed of the valley consisted in places of a succession of shelves, or tables of land, from ten to twenty and thirty feet above the flat or bottom land; these shelves in many places approach the creek, and in some instances form spurs of land; in other instances steep side-lying hills; and in many instances, the shelves or table land upon opposite sides of the Cattatunk nearly interlock, or pass by each other at abrupt turns of that creek, and thus present very formidable obstacles to straight lines, gentle curves, and grades.

In addition to the preceding obstacles to a good location at a moderate cost, a considerable part of the valley was in a high state of cultivation, covered with numerous buildings, which it was desirable should be saved if practicable.

After having made these reconnoissances, the small capital of the company to make this *great extent of road, over such a section of country*, admonished me that the utmost circumspection and care in the location, as well as in the choice of materials for the road, were indispensably necessary in order to insure a profitable investment of the stockholders' money.

Having stated the preceding facts to the Directors, (some of whom accompanied me along the whole route selected for this railroad,) and the difficulties connected therewith, they unhesitatingly concurred with me in opinion, as to the measures to be taken to obtain a good location, and thus enable me to make their road at a moderate cost: to obtain this object, they approved of the plan I recommended, viz.: not to make a final location of the road until every part of the valley had been thoroughly examined by surveys, and levels of sections run across it, at short distances apart; together with measurements of all the buildings, and other improvements, that might be in the way of a good location.

In accordance with this plan, a base line was surveyed and levelled from Ithaca to Owego, through the whole extent of the valleys of the Six Mile, Beaver Meadow, Cattatunk, and Owego Creeks; beginning at an iron bolt placed by myself in the wharf at the Inlet of the Cayuga Lake, at the ordinary level of that lake during the summer months. Lines were then surveyed and levelled, across the whole bed of the valley, at stations generally about five hundred

feet apart on this base line, and at right angles thereto; and in cases where it was judged needful for the purpose of obtaining a better location for the road, these surveys were farther extended to the foot of each hill.

In addition to the surveys and levels of these cross lines, every road, building, creek, and other object worthy of note, (and which, if practicable, were to be avoided in the final location of the road,) were measured, and the whole of the information thus obtained was laid down upon maps on a large scale; and all the elevations that had been taken of stations upon the base and cross lines, and of such other points as presented obstacles to the attainment of the best location, were written in figures at their proper places upon the same map.

Upon this map experimental lines and curves were projected with great facility during the winter season, and with as much certainty as could have been acquired by many surveys, levels, and examinations, made in the field: and in the spring these experimental lines and curves, from the summit of the road southerly to the Susquehanna River, (the lines and curves north of the summit having been previously laid out, and that part of the road put under contract,) being transited and levelled, fully tested the great advantage of the preliminary surveys and maps.

Although a good location for part of the road was thus obtained, yet in consideration of the small capital to be expended it was considered good economy to expend some time in making further examinations, in order to save expense where it was practicable to be done, in crossing and re-crossing the Cattatunk Creek, passing around spurs of hills, and ascending or descending from the shelves or table land found upon both sides of that creek.

The point of land projecting from the west hill, from the county line, 11 miles south-easterly from Ithaca, extends so far easterly as to leave only a valley 200 yards in width between it and the east hill, for the passage of the waters of the Cattatunk. As this point of land (the top of which is level for a considerable distance) lays directly across the track selected as the most eligible for the ground lying to the north and to the south of that place; and the table land upon its top was found so high above the low ground on each side of it, as to have required too great an expenditure of money in deep cutting and heavy embankments, to be adopted, it was therefore avoided by passing in the valley around the foot of that spur, with a curve of 7,000 feet radius, the valley not admitting of a longer curve.

The bend in the line at this place made it necessary to encounter deep cutting and heavy embankments through a low point of the east hill, near Mr. Lane's tavern, which projected into the swamp, north of the county line: or to apply one or more reverse curves to avoid it, in doing which, the line was again thrown upon upland requiring deep cutting and heavy embankments to the north of that place.

Various lines were run to avoid the deep cutting at Lane's hill, and after a careful examination of all of them, and of the infirm ground in the swamp north of that hill, it was found, that to make the best road, it would be the best economy to encounter that deep cut; the straight line crossing that hill has, therefore, been adopted.

This cut consists principally of gravel, and is 2,300 feet in length, with an average height of 14 feet, the greatest height being 21 feet.

By the aid of an economical plan of constructing dry walls to save the excavation of large slopes on the sides of the deep cut, the cost of this cut, including the great length of embankment to be made with this excavation at each end of the hill, will not much exceed the same length of road grade north of the summit.

Important savings to the company were also made by these re-examinations, aided by the maps before spoken of, by reducing the curves at the eastern and western spurs of hills near the village of Candor, the most northerly of which passed around the eastern point of the hill, at Booth's mill pond, near the junction of the northern and western branches of the Cattatunk Creek. This curve was reduced to 7,000 feet radius, to avoid crossing and re-crossing the northerly branch of that creek; but it became necessary, by such removal of the line, to cross the more rapid Shanandagan Creek near its junction with the Cattatunk, about one mile north of the mill pond.

To have avoided the crossing of the Cattatunk Creek, at Booth's mill pond, by passing around the foot of the high land at that place, and crossing the creek at the village of Candor, would have required too small a curve to be safe for cars passing that place under high velocities; in addition to which, a small curve at this place would have made it necessary to make another small curve at the village of Candor, attended with more cost in excavation and embankment, or in removing buildings, than the re-crossing of the creek at that village. A due regard to economy, and safety, recommended the adoption of the line that crossed the Cattatunk at the head of Booth's mill pond, upon a curve having a radius of 7,000 feet, and re-crossing that creek at Candor.

The next crossing and re-crossing places for the road over the Cattatunk, are at Chidsey's mill pond, eight miles north of Owego, which lies in crescent form, at the foot of a steep sideling hill of the same form, upon the *east* side of the Cattatunk, which is composed of hard pan, clay, and quick-sand, well known to be very expensive to excavate, and bad materials for a road. To have constructed the road along the *east* side of this pond, to avoid crossing and re-crossing it near this place, would not only have required a small curve along the pond, but another small return curve would have been necessary to get the road upon favorable ground for its continuance southerly. Such line would have been very expensive, even if no regard were had to the injury to be done to Mr. Chidsey, by passing through his mill yard, and thus damaging his property.

After crossing to the west side of the Cattatunk Creek at the head of Chidsey's mill pond, it was found impracticable to continue upon that side of the creek, with due regard to cost and to curves, on account of the ledges of rock, deep cuttings and heavy embankments, that must have been encountered at Robinson's mill pond, and Williams' hill.

These were avoided, by crossing to the east side of the Cattatunk below Chidsey's mill, re-crossing it to the west at Anderson's Island and Williams' hill, and again re-crossing the Cattatunk Creek, for the last time at Mr. Woodbridge's lane and bridge. The road embankment will, nevertheless, be slightly washed by this creek at three places to the south of this bridge.

The crossing at Anderson's Island, and re-crossing at Mr. Woodbridge's, were made necessary by the easterly course of the creek, from that island to a steep and crescent form of the east hill, composed of clay and quick-sand, or hard pan; and by the westerly course of the creek, on and near Mr. Woodbridge's land, until it again washes the foot of a steep west hill; along which it runs nearly to its junction with a rapid flood brook, from a valley of the westerly range of hills.

The line of road generally crosses the Cattatunk Creek with considerable obliquity, and some extra expense must be incurred, to pass the streams under the road, as nearly at right angles as practicable. It, however, crosses the Owego Creek, (about two miles from the village of Owego,) nearly at right angles.

This is considered the most difficult stream upon the line to pass in safety, and will require a heavy expenditure of money, as may be seen by the accompanying estimate of masonry, &c. The Cattatunk Creek, from Candor to Owego, being in times of freshets navigable for arks, the viaducts to be built across that stream must, of course, be elevated to such a height as to admit of their passing under them.

The road bridges, built across that creek by the inhabitants of the country, are from 9 to 12 feet above the level of low water, at those places. Several of them have been built for many years, and all of them have been found sufficiently elevated to admit of the passage of arks descending that stream.

When the prices of lumber and fuel, in the valley of the Cattatunk, are so much increased as to make it the interest of the inhabitants to clear off the hills, or mountains, bounding the valley of that creek; the rain and melted snow descending from those mountains without being checked in their passage by any vegetable growth, may be expected to increase the height of the floods in that creek; and of course to give that water an uninterrupted passage under the railroad, the height and length of the viaducts to be built across the creeks, must be increased beyond what might now be considered ample dimensions for them.

These increased dimensions for the viaducts, (of which there must be in number 8 small and 8 large ones, and together amount to from 900 to 1030 feet in length,) will considerably increase this item of expense in the construction of the road—not probably chargeable to *grading*.

The great abundance of building stone to be found in the neighborhood of the Cattatunk and Owego Creeks, will enable me, with good economy, to substitute abutments and piers of solid masonry, for wooden trussels, in building the viaducts across those creeks.

The superstructure of wood to be laid upon those abutments and piers, if made after the model exhibited, and recommended to your Honorable Board, will, it is believed, be sufficiently firm to admit the spaces between them to be increased to *forty feet*.

When these superstructures of wood decay, instead of replacing them with wood, they may be substituted by arches of solid masonry, by buiding an additional pier between each of those now to be erected.

From these reconnoissances, surveys, and examinations, it became manifest that the maps before mentioned (which comprised the elevations and improvements of the whole district of country deemed at all eligible for the location of your railroad) had enabled me, at a *very small cost*, to select for this road the *most gentle grades*, (the maximum rise being reduced to $21\frac{13}{100}$ feet per mile,) *curves of the greatest radii*, (being from 7,000 to 100,000 feet, except at the villages at the northerly and southerly terminations of the road,) *straight lines of the greatest length*, and a *route the most eligible* and *least costly* that the country would afford; and that, too, with *more certainty* of being the *best*, and at *much less cost* than it could have been done *without* these preliminary surveys and maps.

I now have the satisfaction of assuring your Honorable Board, that the whole road is located, (except about one mile at the village of Owego, which has been omitted at the request of some of the Directors,) and that it is my firm and honest conviction, that by the above mentioned mode of proceeding in making the preliminary surveys and maps, I have obtained the *most eligible routes*, *grades* and *curves* the most *gentle*, with straight lines connecting them of the *greatest length* that the country would afford; and that the cost of constructing the road (taking into consideration the natural obstacles to be overcome) will be found unusually small, and *much less* than could have been reasonably anticipated, by any person having only the slightest claim to experience in works of this kind; and further, that the plan and location which has been adopted, will save to the stockholders in the construction of their road, a sum of money amounting to *at least one third* of the whole cost of grading it; and that the amount of work to be done upon it is so reduced, as also to save one year in the time required for its construction, when compared with the best location that could have been obtained *without* the aid of these preliminary surveys and maps.

It affords me much pleasure, gentlemen, to be assured that your Honorable Board appreciate the savings thus made by me; and to know that you have done me the kindness, as well as the justice, to award me your unanimous approbation.

Preliminary Surveys and Experimental Lines, preparatory to the final location of the Inclined Planes at the Ithaca Hill.

One of the most formidable obstacles that has presented itself in the location of this railroad, is the great elevation of the ground at the summit between Ithaca and Owego, over which the railroad had to be taken; and the unfavorable situation of the land and rocks between that summit and the Ithaca flats.

This summit, as before mentioned, lies 8½ miles south-easterly from the village of Ithaca, and is 596 feet above the level of the Cayuga Lake at its summer height.

The Ithaca flat is about one mile in breadth between the Inlet-bridge and the foot of the hill bounding it to the south; the greatest elevation that could be obtained (at a moderate cost) for the road at the foot of that hill, by building it upon embankment from the Inlet to that place, did not exceed 12 feet above the level of the lake; which being taken from the elevation of the swamp at the summit, (596 feet,) left an elevation of 584 feet between the Ithaca flats and the summit swamp, to be overcome in a distance of 7½ miles, by locomotive or stationary power; and amounts to an average rise of 78 feet per mile for this whole distance; which is a greater ascent than has yet been overcome by locomotive engines, constructed upon the most improved plan.

The valley of the Beaver Meadow and Six Mile Creeks was, upon examination, found to present insurmountable obstacles to the attainment of this grade, for this part of the road, within the means of the company's funds; it, therefore, became needful to resort to stationary power to overcome so much of this elevation as could not be attained, by applying to the ground between the inclined plane and the summit, an uniform or undulating grade, within the *maximum* ascent fixed upon for the whole of the road, (except the inclined plane,) viz.: $\frac{1}{18}$ of a foot rise to 100 feet of base, or $21\frac{12}{100}$ feet per mile.

An experimental line was run from the summit with a grade descending *uniformly*, at the rate of $\frac{1}{18}$ of a foot base, to 100 feet of perpendicular rise, or $26\frac{4}{9}$ feet per mile, as far as it could be done with any prospect of success; this line and grade was found to be *ineligible.*

Numerous other lines and grades along both sides of the valley of the Six Mile Creek, as well as along the Cattatunk, were also examined; from all of which it was found to be impracticable, at a reasonable cost, to obtain a good location upon a *level line*, or upon one of *uniform descent*, either from the summit, any considerable distance southerly towards Owego, or northerly to the head of the inclined plane at Ithaca; and that an *undulating line must, of necessity*, be adopted for a considerable part of the whole route; it was, therefore, deemed most expedient to adopt an *undulating line of gentle grade*, (the *maximum* grade to be $21\frac{12}{100}$ feet per mile, or $\frac{1}{18}$ of a foot rise to 100 feet of base,) in all cases where it would insure a saving to the company.

A good location for the road, over a considerable portion of the section of country lying between the summit swamp and the Ithaca hill, could have been obtained upon the *east* side of the Six Mile Creek, by encountering heavy cuttings and embankments near the mills upon that stream, and by applying to it an inclined plane and stationary power to overcome about 110 feet of elevation near the junction of the Beaver Meadow Brook with the Six Mile Creek, (about five miles south-easterly from Ithaca,) in addition to the inclined planes that must of necessity have been made in the neighborhood of Ithaca, to overcome so much of the remaining elevation between the foot of that plane (five miles from Ithaca) and the Ithaca flats, as could not be overcome by grading the road to its *maximum* ascent.

The great cost of making a road upon *this side* of the valley of the Six Mile Creek, together with the liability of increased inconvenience and damage, both to the merchant and to the company, from accidents and detention at an inclined plane such a distance (five miles) from the nearest market or village; when compared with a route that could be obtained at a *less cost* upon the west side of the valley, without being compelled to resort to stationary power at any place, except at the Ithaca hill; where all the stationary power required for the whole road could be located at one place, and that, too, within less than half a mile of the village of Ithaca, and only about one mile from the navigable waters of the Cayuga Lake, gave advantages for the line on the *west* side of the valley of the Six Mile Creek, which could not be obtained for any line on the *east* side or in the *bed* of the valley of that creek: the *west* side of the valley of the Six Mile Creek was, therefore, selected as *the most* eligible for the location of the road.

After having, by means of the preliminary surveys before mentioned, found that the *west side* of the valley of the Six Mile Creek was the *most eligible* for the location of the railroad, further examinations of the ground upon that side of the valley were thereupon made, and the *most eligible line and grade* for the road, between the summit swamp and the head of the proposed inclined plane at Ithaca, was found to be between the elevations of 450 and 600 feet above the level of Cayuga Lake.

The most eligible route for 6½ miles of the road north of the summit, (and extending to the table land, near the top of the Ithaca hill, and within one mile of the Ithaca flats,) being thus brought to within such narrow limits, the next point to be attended to was the definitive location of this part of the route, and of the inclined plane to connect it with the road to be located upon the Ithaca flats.

The elevation of the summit swamp being, as before stated, 596 feet above the level of the Cayuga Lake, and the *maximum* grade for the road being fixed at $21\frac{12}{100}$ feet descent per mile: it follows, of course, that if the ground would have admitted of the application of this maximum grade for the whole distance of 6½ miles, from the summit northerly to the head of the inclined plane, near Ithaca; that then the above elevation would have been thereby reduced $137\frac{28}{100}$ feet, and left the head of the plane only $458\frac{72}{100}$ feet above the level of the Cayuga Lake: if from this, the height of embankment (12 feet) made for the road bed at the foot of the inclined plane be taken, there would have still been left an elevation of $446\frac{72}{100}$ feet to be overcome by stationary power, which is $64\frac{28}{100}$ *less* than that of the line adopted.

But the ground between the head of the plane and the summit, along the line traced by this grade, was, upon examination, found to be *ineligible for a good location*, and it of course was rejected. Various other experimental lines and grades were applied to the ground lying between the summit and the head of the inclined planes, of which the one hereinafter described, being found the *most eligible route*, both as to *line* and to *grade*, that this section of the country would afford, it was adopted.

[*To be continued.*]

We have already informed our readers, says the Petersburg Intelligencer, of September 2d, of the completion of the Railroad between this place and Blakely, on the Roanoke. The arrangements for carrying the main Southern mail and passengers are now in full operation. As this road has become a very important link in the chain of communication between the North and the South, we have obtained from a friend, for the information of travellers, the following statement of the advantages:

"The mail and passengers are now transported, by aid of the Railroad, between Petersburg and Fayetteville, in 36 hours—distance 219 miles—from this town to Baltimore, by the way of Norfolk, by steamboats, in 28 hours; by the way of Washington, in 32 hours; from Baltimore to Philadelphia, in 9 hours; making the whole time taken in travelling from Fayetteville, N.C., through Petersburg to Philadelphia, but 73 hours—and such is the arrangement of the line, that the passengers are not disturbed of their rest but *one night*. The road from Blakely to Fayetteville is known to be one of the best in the Southern States, and the horses and coaches first rate. We are not aware that any route of communication from the South to the North presents as many comforts and convenience to the traveller as the above."

Brooklyn and Jamaica Railroad Company.—At a late meeting of the Directors of this Company, the following gentlemen, viz., John A. King and Nathan Shelton, of this village, Charles Hoit and Samuel Smith, of Brooklyn, and Abner Chichester, of New-York, in conjunction with Mr. Douglass, the Engineer, were appointed a Committee to determine upon and locate the route of the Railroad, and to make the preliminary arrangements for carrying into operation the plans of the Company. The committee are to enter upon their duties next week, and no doubt will soon make such arrangements as will justify the immediate construction of the proposed road.—[Long Island Farmer.]

Railroads and Locomotive Engines—*Rapid and Easy Mode of Travelling.*—We are indebted to an esteemed friend for the following communication. The writer is a gentleman of much experience and observation upon the subject under consideration, having visited Europe for the purpose of becoming familiar with the Railroads, and other works of internal improvement, in use and in progress there, and, since his return, successfully engaged in the construction of Locomotive Engines.

He need not fear of extending his communication upon the subject beyond our limits, or desire for publication, nor of being too minute in his detail, for he will please recollect that the object of this Journal is to give such information as will make the subject *better understood*—by the great mass of this community—and in no way can this object be so well attained as by giving minute descriptions, with engravings of every part and mode of construction of Railroads and Railroad machinery. We, therefore, make him, and others similarly engaged, who will furnish us with descriptions and drawings of *whole* or *parts* of machines now in use, or of *improvements* upon them, or of *new inventions* for rails or machinery, which may tend to this object, a place in the Journal, and the engravings to be made at our expense.

New-York, September 9, 1833.

Dear Sir,—Agreeably to your request I herewith send you a few extracts from memoranda taken during a late visit which I made to several of the most important railroads in the country, with a view of examining the different locomotive steam engines, in order to ascertain their practical effects on the several roads, and to collect and compare such facts connected with the subject as might fall under my observation. Hoping the few general extracts which I have made may interest some portion of your readers, I am, very respectfully, yours,

E. L. Miller.

The first road I visited was the Mohawk and Hudson, extending from Albany to Schenectady, a distance of 16 miles. Of this distance their locomotive engines work 12 miles.

The John Bull, an English engine, has been at work upon this road with perfect success since October, 1831. From the great weight upon her driving wheels, she was found to injure the road, and during the last winter she was put upon six wheels, after the plan adopted by J. B. Jervis, Esq. in the locomotive "Experiment," which had been fully tested the past year on the same road. They still do a part of the work on this road, with horses, and in order to compare more accurately the expense of horse and steam power, Mr. Whitney, their intelligent superintendant, informed me that he had the last spring opened an account with each, and found the result to be as 3 to 5, in favor of steam, and this where wood is worth from four to five dollars per cord.

The Saratoga road connects this road with the village of Saratoga, and is 22 miles in length. This road was opened for travel in July, 1832. The first locomotive engine commenced her regular trips in June last, and has since continued to work in the most satisfactory manner. She is called the Saratoga, burns coke, is a six wheel engine, and taking into view the ease with which she works upon, and the little injury she does the road, I consider her the best engine I have seen.

The next road in course was the Camden and Amboy, which has one track laid to Bordentown, 36 miles. It is constructed after the English plan, with Mr. R. Stevens's improved iron rails and that part of the track which has been recently laid, has a better surface than any railroad I have ever seen, either in this country or in England. Passengers are still carried on this road by horses, 180 of which, I am informed, are required to perform the business 36 miles. Arrangements are making to convey passengers by steam, which will be completed in a short time. Three or four engines are already on the road, and as many more nearly in readiness. I saw one of these conveying materials for construction, and was much pleased with the power she exhibited to overcome ascents with her load.

I next visited the Philadelphia and Germantown road, 6½ miles of which are completed and traversed by two locomotive engines, both of which were constructed in this country. The one constructed by Mr. M. W. Baldwin, of Philadelphia, has performed for five or six months in the most satisfactory manner. Mr. B. has introduced some simplification of the usual plan, of working the valve, gear, and reverse, by hand, which gives that part of his engine a decided preference over most of the English engines.

The grade of the road is very unfavorable for this kind of power, having an average ascent of 35 feet per mile, on which are several very abrupt curves. And here I cannot but observe how important it is in constructing a railroad, where the locomotive engine is designed to be used, that no *reasonable pains or expense should be spared* to bring both the *grade* and *line* of the road within the *effective power* of that useful machine. To illustrate this, the engine constructed by Mr. Baldwin would lead seven or eight cars, on a level and straight road, with as great ease as she carries three cars up this road.

The Newcastle and Frenchtown road was next in my way. This road is 16 miles in length, and has been completed and worked with the locomotive engine for the last eighteen months. They have at present four engines on the road, all constructed by R. Stephenson, Newcastle, England; and, with the exception of one, they have worked very satisfactorily. Mr. Young, a very intelligent and practical engineer, who has charge of the engines, informed me that they had lost but two or three trips since they commenced running them. I was much pleased with the organization and police of this road. I passed in company with about a hundred passengers, and the whole time of transshipping them with their baggage, from the steamboat to the cars, to the time we were under-way on the road, did not exceed five minutes, and an equally short period in again transshipping to the boat at the other end of the road. The engine had eight cars in train, and occupied 63 minutes in crossing. The grade of this road is very favorable for this kind of power, the whole being within 16 feet per mile, with the exception of a few yards at each end.

The Baltimore and Susquehanna Railroad is completed, and worked by an engine, 16 miles from Baltimore, passing in almost its whole extent through a very broken and undulating country. The greater part of this road ascends at the rate of 10 feet per mile, and is a continued series of curves, ranging from 400 to 1000 feet radius. and many of these occurring in the ascents. It is consequently a very unfavorable road for the locomotive engine. They have an engine on this road, which burns coke, and was originally on four wheels, by which arrangement it was found impossible to pass the curves, when she was put upon six wheels, similar to the Saratoga, except that her furnace is outside the driving shaft. She is an engine of great capacity, and her weight on the driving wheels has injured both the wooden rail and the iron, very materially. Yet notwithstanding the very bad order of the road, she carried a train of seven cars, round the most abrupt curves, at a speed of eight or ten miles per hour.

The Baltimore and Ohio road has been so frequently described that I shall only refer to the motive power used upon it, which, for the most part, is animal. They have an engine which they work upon the road part of the time. This is a geared engine, communicating her power to the main shaft by a spur wheel. The principal merit of this engine is her success in generating steam with anthracite coal, which is certainly more satisfactory than any thing I have heretofore seen, and fully confirmed my previous opinion, that this fuel will eventually be used for the transportation of passengers, in all cases where it can be obtained at fair rates. The Baltimore Company feel confident of success with this kind of fuel, and have contracted for two or three engines adapted to its use.

The last object of my tour was the Petersburg and Roanoke Railroad, in Virginia. This road is now completed from Petersburg to the Roanoke, a distance of about 60 miles. The grade of the road, with the exception of two or three planes, with an ascent of 27 to 30 feet per mile, is very favorable to the use of the locomotive engine; and their success with this kind of power has not been surpassed in the country. They have now three engines upon the road, a part of which have been at work upwards of nine months, and made their trips with as much regularity as could have been expected from horse power. One of these, the "Liverpool," is probably, for her weight, the most effective engine in the country. This, and one of the other engines on this road, were constructed by Mr. Burry, of Liverpool, who has also furnished two engines for one of the Schuylkill railroads, which I am informed work equally well. The proprietors of this road consider it as part of the great line of communication from north to south, and look to its ultimate connection with the Charleston Railroad, by similar works, through North Carolina.

The opening of the Charleston Railroad to Augusta, which is advertised for the first of October next, in connection with the two lines of steamboats now being established between New-York and Charleston, and between Norfolk and that city, will, with the exception of the short distance from Augusta to Montgomery, complete the facilities of the great line of communication from Boston to New-Orleans, and I venture to [illegible] that, before the expiration of [illegible] the mail will be transported from this city New-Orleans in the short space of eight or nine days; and that to avoid the rigors of a northern winter, a trip to the sunny regions of the south will soon become as common as the visits from that quarter to the north are in the summer.

Fearing I have already extended my remarks to a tiresome length, I will not trouble you with a detail of the measurement and proportions of boilers, engines, &c. but cannot refrain from assuring you, that although I was one of the earliest and most strenuous advocates* in this country for the introduction of railroads, and the use of steam as a motive power, the result of all my observations during my journey has more than confirmed the most sanguine hopes I ever entertained of their success.

But the most gratifying part of the details—and that which, as an American citizen and a member of this great republic, most flatters my vanity—is the proud recollection that the whole of this trip, from the city of New-York to Saratoga, from Saratoga to the interior of Virginia, near the North Carolina line, and thence again to this city, making the distance travelled more than 1500 miles, was performed by railroad and the splendid steamboats which ply on the noble waters of the Hudson, Delaware, Chesapeake Bay, and James river, without any *fatigue* or *sacrifice* of *personal comfort, in the short space of nine days*, including a detention of 96 hours, or four days, at the different places I visited, making the travelling time but *five days* for the *whole distance*.

Yes, Mr. Editor, I think every American citizen may justly feel proud, when he reflects on the rapid progress of these facilities of internal communication, which are so rapidly springing up on every side, and intersecting our country from north to south, and from east to west, forming the great avenues of intercourse with every part of our extended confederation, and which alike strengthen the bonds of our happy union, and give an additional guarantee for the stability and permanency of our government and institutions.

* I never believed in the practicability of a railroad to the moon—never thought railroads could be worked and kept in repair without great expense; or that, if constructed where there was no business, they would pay large dividends.

Lime.—This is a simple mineral, or a letter in the geological alphabet, and a rock scattered very extensively and in vast deposits over the face of the globe.

Lime appears under a greater variety of color, texture and form, than any other rock. There are probably two hundred varieties of marble, all, or nearly all of which, are lime. Chalk, with the endless and boundless deposits of the more common limestone, is composed of the same elements. It crystalizes into numerous forms. Calcareous spar, with rhombic sides, is one form; a six sided prism is another; and several others might be named.

Lime exists in exhaustless abundance in almost every country. In many places it is the most common and almost the only rock.

No rock perhaps differs so much in its age, or in the periods in which the different deposits were formed. The oldest limestone was formed before the most recent granite. The most recent deposits are at this time accumulating; so that the formation of limestone has been constantly going on for nearly six thousand years at least, consequently some specimens are about six thousand years old, and perhaps much more, while others have not completed their first year.

The uses of lime are very numerous and very important. In many places it is the common and only material for the walls of houses, the enclosures of farms, &c., and in every place is esteemed for the finest architectural work. It is the most common material for statuary work, and carving of various kinds.

For the interior walls of houses, or for plastering rooms, &c., it is nearly indispensable. Some specimens are of great value for water cements, as they cement the masses of stone in a wall so as to be water tight, and even grow hard under water. This is called hydraulic, or water lime.

Lime when burned has something of an alkaline property, like potash or soda, and is used as a substitute for them. It is used as a flux, or an aid in melting, in the manufacture of the coarser kinds of glass, and in the smelting of iron. It is also used as a medicine.

Upon soils which do not contain a portion of lime, it is a valuable manure. It may be burnt and slacked, or pulverized otherwise, and applied to the land. Marl, which is lime commonly mixed with clay and sand, owes its value as a manure to the lime it contains.

The simple elements of lime are fewer in number than those of the rocks before named. The only elements which compose pure limestone, are oxygen, calcium, carbon, and usually a little hydrogen. Burnt lime is little else than oxygen and calcium; lime in the quarry has oxygen and carbon, or carbonic acid with a little water, or oxygen and hydrogen are added. In the process of burning lime, the carbonic acid and water are driven off, so as to reduce it from a carbonate and hydrate to pure lime, which is oxygen and a metal called calcium.

Inflammable Spring.—In the township of Wales, 15 miles from Buffalo, near the bank of a small stream, there issues from a ledge of slate rock a stream of air, which, on the application of a torch, takes fire, and continues to burn till it is extinguished by the rising of the water of the rivulet. The flame is about 6 inches in length, and 2½ in diameter.

First Application of the Power of Steam to a Useful Practical Purpose.—The first person in modern times who applied the expansive power of steam on any scale to a useful practical purpose, was Giovanni Branca, an eminent Italian mathematician, who resided at Rome in the beginning of the seventeenth century. His contrivance was an œlipile, from which steam issued upon a wheel formed with float-boards or vanes, like a water-wheel or wind-mill, and thus produced a rotatory movement. This wheel, by some intermediate mechanism, gave motion to the stampers of a mill for pounding drugs. The above figure is copied from that given by Branca to explain his invention; but it must be considered only as an ornamental and picturesque illustration of the principle by which he produced the moving power in his stamping-mill; not as a view of any part of the machinery which was actually constructed. *a* is a boiler in the shape of a negro's head. *b*, a pipe proceeding from it, which conducts the steam upon the vanes or boards of a wheel, *x*. Other wheels, *e*, *f*, are attached in the usual manner to communicate the motion in the required direction.*

It is on account of this contrivance that Branca is considered by his countrymen to be the inventor of the steam engine; and even in a recent English work† on this subject, he is allowed the merit of a *first idea*. To this he certainly has no claim; neither can his engine be compared with Hero's for its ingenuity, nor to De Caus's for its efficiency. Besides, long before this period, the same mechanism was described by Cardan, as moved by the "vapor from fire." And the mere substitution of steam by the Italian philosopher is not so original or important, as to give to the transition the rank of an invention. Branca was, however, a man of much ingenuity, and many of his machines are highly creditable to his abilities as a scientific mechanic.

The elasticity of the vapor of water, which had long been known to philosophers, but to them only, had now become familiar to water-work artists; and in their hands it was applied in a variety of ways to their favorite problem of raising water above its level in jets and fountains. Without vouching for the great effects said to be produced by these machines, we will describe two, as necessary to give a clear notion of the value of these conceits, and as specimens of the ingenious absurdities, which, under the name of *Air Engines*, were recommended even by experienced engineers about this period. The machines themselves, under another form, are to be found in the *Spiritalia*. The book from which they are extracted in their present shape was one of some reputation in its day, and many years after its publication it was thought worthy of being translated into English. The translation went through two editions.*—[Stuart.]

The engraving in the preceding page is one descriptive of the first *useful* application of steam. We shall now introduce to the notice of our readers a description of the first recorded observation of its application to produce motion, and although it must be considered as a mere toy, its introduction in our pages will, we hope, not be considered out of place.

First Application of Steam Power.—Although the elastic power of the vapor of water must have been familiar to man from the earliest period of his history, the first

* Branca's account of his contrivance is contained in a folio volume of machines, which he dedicated in 1628 to a M. Canci, Governor of Loretto. It was published at Rome in 1629, under the title of "Le Machine Diverse del Signior Giovanni Branca." Our engraving is contained in Plate XXV of that collection.

† Partington's Historical Account of the Steam Engine. London, 1822.

* "New and Useful Inventions for Water Works: a work both useful and delightful for all sorts of people; translated into English by John Leak." The plates appear to have been those used in the French edition.

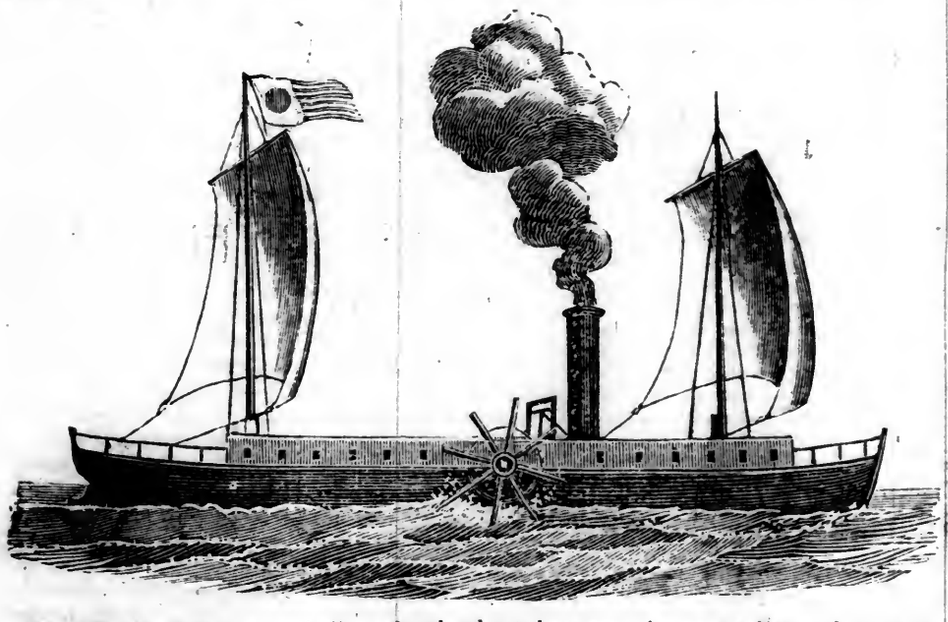
recorded observation of the fact, and the application of steam to generate motion, appear to have been made by a Greek mechahic, about one hundred and thirty years before the Christian era.

Hero the Elder, who flourished at Alexandria in the reign of Ptolemy Philadelphus, was eminently distinguished in that age and region of refinement, not only for the extent of his attainments in the learning of the time, but also for the number and ingenuity of his mechanical inventions. In one of his books, he deduced all the laws of what are called the mechanical powers from the properties of the lever. His *Spiritalia*, or Pneumatica, contains the first account of the forcing pump: of a fountain, still known by his name, in which water is elevated in a jet by the elasticity of condensed air. Among other contrivances in the same treatise, he describes two machines of his invention; in one of which a rotatory motion is produced by the emission of heated air; and a similar movement is imparted to the other by the reaction of vapor rising from boiling water.

A pipe, *a*, is directed by Hero to be inserted under the hearth of an altar, on which a fire is burning. This pipe, placed in a vertical position, is moveable on a pivot, *b*, resting on the base of the altar. Two other pipes, *c*, *d*, of smaller diameter, proceed from the vertical one in a horizontal direction, having their extremities, *e*, *f*, open and turned upwards. A base or drum, *g*, is attached to the pipes, on which are placed small figures in various attitudes. The air at the upper extremity of the vertical pipe being heated by contact with the under side of the altar hearth, is expanded, and descends into the pipe, and proceeding along the horizontal arms is expanded, at their orifices, *e*, *f*. This causes them to revolve round the pivot *b*, so that the figures which are placed on the base *g*, are carried around with and appear "to lead the dance, as if they were animated beings."

It is scarcely necessary to notice the identity of this elegant apparatus with that of Barker's mill; and that the rotatory motion would be produced, as stated by Hero, though not by the *emission* of *warm*, but through the *admission of cold* air at the orifices in the horizontal arms, in consequence of the rarefaction at the upper end of the vertical pipe under the hearth of the altar. —[Stuart.]

In addition to the foregoing descriptions of the "First Application of Steam," and the "First Useful Application of it," we now insert a cut of Mr. Fulton's first boat, (the *North River, or Clermont,*) which we copy from a drawing made by himself, and which may be considered as descriptive of the *first successful application of steam in navigation.*



The following boats were built under the superintendance of Fulton, or according to his plan, during his life-time:

	Names.	*Tonnage.*	*Where employed.*
1806	North River, or Clermont	160	Hudson river
1807	Rariton	120	Rariton river
1807	Car of Neptune	295	Hudson river
1811	Paragon	331	Hudson river
1812	Fire-Fly	118	From New-York to Newburgh
1812	Jersey Ferry Boat	—	Ferry Company
1813	Richmond	370	Hudson river
1813	Washington	275	Potomac river
1813	York Ferry Boat	—	Ferry Company
1813	Nassau Ferry Boat	—	Brooklyn Company
1813	Fulton	327	Long Island Sound
1814	Fulton the First	2475	Navy Yard
1816	Olive Branch	—	Between New York & New Brunswick
1816	Emperor of Russia	330	Undetermined
1816	Chancellor Livingston	526	Hudson river.

For a description of Mr. Fulton's first trip, see Vol. II. page 291, of the Railroad Journal.

Since the above was in type, Captain Davis Hunt, who was the commander of the boat, has seen the engraving, and pronounces it correct in every particular.

Babbage on the Economy of Manufactures.

[Continued from page 553.]

214. Another event which has arisen, in one trade at least, from the employment of large capital, is, that a class of middle-men, who were formerly interposed between the maker and the merchant, now no longer exist. Formerly, when calico was woven in the cottages of the workmen, there existed a class of persons who travelled about and purchased the pieces so made, in large numbers, for the purpose of selling them to the exporting merchant. But the middle-man was obliged to examine each piece, in order to know that it was perfect, and of full measure. Now, although the greater part of the workmen might be depended upon, yet the fraud of the few would render this examination indispensable: for the value of character, though great in all circumstances of life, can never be so fully experienced by persons possessed of small capital, as by those employing much larger sums. Any single cottager, if he were detected by one purchaser, might hope that the fact would not become known to all the rest; whilst the larger the sums of money for which any merchant deals, the more is his character for punctuality studied and known by others. Thus it happens that high character supplies the place of an additional portion of capital; and the merchant, in dealing with the great manufacturer, is saved from the expense of verification, by knowing that the loss, or even the impeachment, of the manufacturer's character, would be attended with greater pecuniary detriment to himself than any profit upon any single transaction could compensate.

215. To such an extent is this confidence in character carried, that, at one of our largest towns, sales and purchases on a very extensive scale are made daily in the course of business without any of the parties ever exchanging a written document. The amount of well-grounded confidence, which such a practice indicates, is one of the many advantages an old manufacturing country always possesses over its rivals.

216. A breach of confidence of this kind, which might have been attended with very serious embarrassment, occurred in the recent expedition to the mouth of the Niger.

"We brought with us from England," Mr. Lander states, "nearly a hundred thousand needles of various sizes, and amongst them was a great quantity of '*Whitechapel Sharps*,' warranted '*superfine, and not to cut in the eye.*' Thus highly recommended, we imagined that these needles must have been excellent indeed; but what was our surprise, some time ago, when a number of them which we had disposed of were returned to us, with a complaint that they were all eyeless, thus redeeming with a vengeance the pledge of the manufacturer, 'that they would not cut in the eye.' On an examination afterwards, we found the same fault with the remainder of the 'Whitechapel Sharps,' so that to save our credit we have been obliged to throw them away."*

217. The influence of established character in producing confidence operated in a very remarkable manner at the time of the exclusion of British manufactures from the Continent during the last war. One of our largest establishments had been in the habit of doing extensive business with a house in the centre of Germany; but, on the closing of the continental ports against our manufactures, heavy penalties were inflicted on all those who contravened the Berlin and Milan decrees. The English manufacturer continued, nevertheless, to receive orders, with directions how to consign them, and appointments for the time and mode of payment, in letters, the handwriting of which was known to him, but which were never signed, except by the Christian name of one of the firm, and even in some instances they were without any signature at all. These orders were executed; and in no instance was there the least irregularity in the payments.

218. Another circumstance may be noticed, which to a small extent is more advantageous to large than small factories. In the export of several articles of manufacture, a drawback is allowed by government, of a portion of the duty paid on the importation of the raw material. In such circumstances, certain forms must be gone through in order to protect the revenue from fraud; and a clerk, or one of the partners, must attend at the custom-house. If the quantity exported is inconsiderable, the small manufacturer frequently does not find the drawback will repay him for his loss of time; whilst the agent of the large establishment occupies nearly the same time in receiving a drawback of several thousands, as the smaller exporter does of a few shillings.

219. In many of the large establishments of our manufacturing districts, substances are employed which are the produce of remote countries, and which are, in several instances,

* Lander's Journal of an Expedition to the Mouth of the Niger, vol. ii. p. 42.

almost peculiar to a few situations. The discovery of any new locality, where such articles exist in abundance, is a matter of great importance to any establishment consuming them largely; and it has been found, in some instances, that the expense of sending persons to great distances, purposely to discover and to collect such produce, has been amply repaid. Thus it has happened that the snowy mountains of Sweden and Norway, as well as the warmer hills of Corsica, have been almost stripped of one of their vegetable productions, by agents sent expressly from one of our largest establishments, for the dying of calicoes. It is owing to the same command of capital, and to the scale on which the operations of a large factory are carried, that their returns will admit of the expense of sending out agents to examine into the wants and tastes of distant countries, as well as of trying experiments, which, although profitable to them, would be ruinous to smaller establishments possessing more limited resources.

These opinions have been so fully expressed in the Report of the Committee of the House of Commons on the Woollen Trade, in 1806, that we shall close this chapter with an extract, in which the advantages of great factories are summed up.

"Your Committee have the satisfaction of seeing that the apprehensions entertained of factories are not only vicious in principle, but they are practically erroneous; to such a degree, that even the very opposite principles might be reasonably entertained. Nor would it be difficult to prove that the factories, to a certain extent at least, and in the present day, seem absolutely necessary to the well-being of the domestic system; supplying those very particulars wherein the domestic system must be acknowledged to be inherently defective; for it is obvious, that the little master manufacturers cannot afford, like the man who possesses considerable capital, to try the experiments which are requisite, and incur the risks, and even losses, which almost always occur, in inventing and perfecting new articles of manufacture, or in carrying to a state of greater perfection articles already established. He cannot learn, by personal inspection, the wants and habits, the arts, manufactures, and improvements, of foreign countries; diligence, economy, and prudence, are the requisites of his character, not invention, taste, and enterprize; nor would he be warranted in hazarding the loss of any part of his small capital. He walks in a sure road as long as he treads in the beaten track; but he must not deviate into the paths of speculation. The owner of a factory, on the contrary, being commonly possessed of a large capital, and having all his workmen employed under his own immediate superintendance, may make experiments, hazard speculation, invent shorter or better modes of performing old processes, may introduce new articles, and improve and perfect old ones, thus giving the range to his taste and fancy, and thereby alone enabling our manufacturers to stand the competition with their commercial rivals in other countries. Meanwhile, as well worthy of remark, (and experience abundantly warrants the assertion,) many of these new fabrics and inventions, when their success is once established, become general among the whole body of manufacturers; the domestic manufacturers themselves thus benefitting, in the end, from those very factories which had been at first the objects of their jealousy. The history of almost all our other manufactures, in which great improvements have been made of late years, in some cases at an immense expense, and after numbers of unsuccessful experiments, strikingly illustrates and enforces the above remarks. It is besides an acknowledged fact, that the owners of factories are often amongst the most extensive purchasers at the halls, where they buy from the domestic clothier the established articles of manufacture, or are able at once to answer a great and sudden order; while, at home, and under their own superintendance, they make their fancy goods, and any articles of a newer, more costly, or more delicate quality, to which they are enabled by the domestic system to apply a much larger proportion of their capital. Thus, the two systems, instead of rivalling, are mutual aids to each other; each supplying the other's defects, and promoting the other's prosperity."

ITHACA AND OWEGO RAILROAD.—We are indebted to Richard Varick De Witt, Esq., for the following letter from the Engineer in Chief, showing a most satisfactory state of things as regards this important work:

ITHACA, September 5, 1833.

DEAR SIR,—The work upon the Ithaca and Owego Railroad is rapidly advancing to completion. The grading of upwards of half the length of the road is prepared for laying the railway, and the grading of the remaining 28¾ miles in length of road is expected to be completed in the month of November, except some deep cuttings, &c. amounting together to about a mile and a half, which is not expected to be completed till January. Nothing has yet transpired to change the opinion I gave you some time ago, viz.: that we expected to have the railway ready for use, the whole distance from Ithaca to Owego, by the beginning of March next—and what must be equally interesting information, that the 28¾ miles of single track, and 5 miles of sidelings and turn-outs, will be completed for use for the $300,000 capital of the company.

We are now laying down nearly a mile of railway per week. All the railroad iron for our road (750 tons) is purchased, and a large portion of it has arrived at this place. It has cost us only $54 62½ per ton, delivered here, viz.:

$45 per ton delivered by A. & G. Ralston at Philadelphia—$2 12½ transportation from Philadelphia to Albany—$7 50 toll and transportation from Albany to Ithaca, on the Erie Canal, Cayuga Lake—Total $54 62½.

By this purchase I have reduced the cost of this item upwards of $2,500.

We have now 20 railroad cars employed upon this road—30 more have contracted to be delivered by Messrs. Bonney & Co., of Wilmington, Delaware. Part of them were shipped, and are daily expected to arrive; the whole are expected to arrive within three weeks.

Both furnaces at this place, (Messrs. Conrad & Co. and Dennis Vail & Co.) and Mr. Seymour, at Utica, have made us some very good railroad cars, and both furnaces at this place are actively employed completing their contract to supply us with *three* cars *each* per week. We will probably have from 70 to 80 cars in use upon the road in less than two months. Eight cars are now employed upon the inclined plane removing the rock excavation.

The stone building for the engine house at the head of the first plane has been commenced. The walls of this building (120 feet in length, 60 feet in breadth, and 30 feet in height) are to be completed by the last of November. The stone delivered at the building will cost us only from 50 to 62½ cents per perch. Upwards of one-third of the whole quantity wanted for the building has been obtained from the road excavations.

The country is perfectly healthy—there is no sickness among the workmen. Board is cheap.

The present force upon the road, including laborers, carpenters, masons, and other mechanics, amounts to upwards of one thousand, and is daily increasing.

The present wages for laborers is from 13 to $14 per month and found. Carpenters from $1,25 to $1,50 per day. Masons from $1,25 to $1,75 per day. Two-horse wagons $2,00. And one-horse carts $1,50 per day.

We expect to transport next spring, across our railroad, a large amount of articles to the Philadelphia and Baltimore market by the way of the Susquehanna river, before the Erie canal is free from ice.

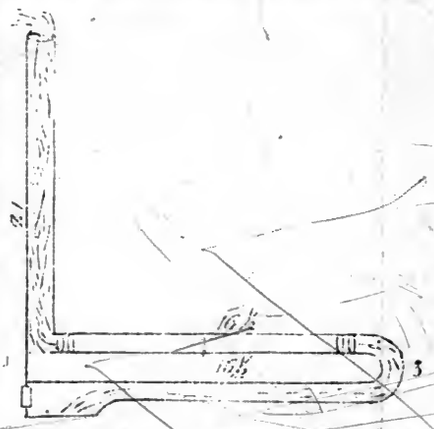
Very encouraging offers have already been made to us, by forwarding agents, to transport plaster, timber, &c. across our road next winter and spring, for Southern markets.

There can be no doubt but that a large portion of the production of the West will be taken to the Baltimore and Philadelphia markets, by way of the Susquehanna river, as soon as this railroad is completed, and until the New-York and Erie railroad is made, which will connect with this railroad at Owego.

I am, dear sir, very respectfully your obedient servant, JOHN RANDL, Jr.

Richard Varick Dewitt, Esq. Treasurer of the Ithaca & Owego Railroad Company.

STEAMBOAT ON THE SUSQUEHANNA.—We have at length succeeded in obtaining the following description of the above boat:



Length, 95 feet; beam, 18 do.; draft, 15 inches; power, 35 horse. Length of boiler and height of chimney, see diagram above.

The flame from an open burning bituminous coal, after enveloping the boilers 35 feet, we are informed is easily brought out from the top of the chimney, a distance of 56½ feet. Since the introduction of coal, two tons supply the place of eight cords of pine wood. It has been for some time known to the public, that a steamboat has been navigating some of the most rapid waters of the west branch of the Susquehanna during the present season, with entire success. The result of this enterprize is justly considered of great importance to the State of Pennsylvania. It now appears that there are many hundred miles above the public improvements, which may be navigated by steamboats, calculated to draw an up-river trade into the State canals.

There is another circumstance connected with this business, which is highly important to Pennsylvania, and to the Atlantic frontier generally. After a full trial, it is ascertained that a very small quantity in bulk of an open burning bituminous coal will answer every purpose for generating steam to propel boats, locomotive, and other steam engines. All the trials of bituminous coal for the above purpose, in New-York and elsewhere in the United States, have heretofore been unsuccessful, in consequence of confining the heat and flame, thereby melting the grates, and preventing the flame from reaching and acting on the surface of the boilers. The error was in selecting the materials. All these difficulties are removed by the introduction of the above species of coal, which is almost free from bituminous smell. We believe we shall shortly see our locomotive engines propelled by a small quantity of this material, bringing from Columbia thousands of tons for our manufac-

turers. This is a new product of Pennsylvania. Let our neighbors of New-York and other states, who are now complaining of the price of wood, consider for a moment from where a substitute is to come, to propel their steamboats and other machinery: they will find it in the open burning bituminous coal of Pennsylvania.—[Phil. C. Her.]

Large Holly Tree.—Taking a walk with some friends a few days since in Stafford county, Virginia, we came across a large and elegant green tree, which we were told was a holly. It seemed almost incredible from its size, as the holly, though a native of America, rarely attains to more than a foot diameter, through the trunk. Upon approaching we found it to be the true American holly, or *Ilex Opaca*, which, measured at two feet from the surface of the ground, was seven feet six inches in circumference, or more than two feet in diameter. This tree is situated immediately on the new mail road from Potomac Creek to Fredericksburg, and but a few yards from the present road, about half a mile from the landing, and is well worthy of notice, as I have never heard of a holly growing to such a size in this country.—[National Intelligencer.]

Noise of the Anvil—*A Simple and Useful Invention.*—An Italian blacksmith has successfully practised a very simple contrivance to diminish considerably the loud noise occasioned by the percussion of the anvil. It is merely to attach a piece of iron chain to one of the horns of the anvil, which carries off a portion of the usual acute sound. But Sig. G. Visini Asso, in the province of Coma, has introduced an improvement to this by adding a spring to the basis of the anvil, which, (keeping the chain stretched,) diminishes the sound in a much greater degree; and it is equally easy to remove the ring of the chain from the horn of the anvil by a mere blow of the hammer.—[N. Y. Daily Advertiser.]

Notes on Mildew, from a Lecture on that Subject, by Professor Lindley, delivered at the Horticultural Society's Meeting Room, on the 24th of April. By J. W. L. [From Loudon's Gardener's Magazine.]

[Continued from page 569.]

It is a vulgar error to suppose that a berberry tree (*Berberis* vulgaris *L.*), if planted in a corn field, will, if infected with mildew, communicate the disease to the corn. This cannot be the case, as the mildew which attacks the berberry is quite different from any of the fungi which are found on corn. The berberry mildew, when magnified, is found to consist of a number of small orange cups,

with white films over each. When ripe, these lids burst, and the top of the cup assumes a ragged uneven appearance, like white fungi. Each cup has within it a number of little boxes containing seeds. The mildew on the pear tree is called Æcidium cancellatum. It first appears like mucus, but consists of a number of hairy substances. These hairs, when magnified, appear like a collection of granules of a bulbous shape, each containing a number of balls connected by strings. These balls, though so minute as to be scarcely perceptible by the eye, are yet only receptacles for seed. This is a most destructive fungus: it always seizes on the veins of the leaves, which afterwards turn yellow and fall off; the branches next wither, and in two or three years a whole orchard is destroyed. Mr. Knight, in 1832, suffered severely from this fungus, and has tried many experiments respecting its cure. Hawthorn trees are attacked by a fungus which at first appears merely a point made by an insect, but afterwards looks like fungi (Æcidium laceratum *Dec.*) The sycamore fungus is a black spot, consisting of oblong purplish bodies, yellow inside, and containing tubes filled with seeds. Æcidium Grossulariæ *Dec.* attacks gooseberry bushes, and Æcidium cornutum the mountain ash: both spread rapidly, and are very difficult to cure. The ergot on the rye is a well known and very destructive species of mildew. It partakes of the nature of the truffle, and grows out of a spike of corn like a prolonged kernel. It is long, horny, and cartilaginous; and it consists of fibres closely interlaced. This disease evidently originates in the centre of the stem. It affects maize, various species of grass, and is often found in plants of yellow gentian, &c.

The principal fungi of the third class, or those which attack the roots of plants, are two; and both closely resemble truffles. One of these (Rhizoctonia Crocorum), which is

of a brownish yellow, attacks crocuses; and in those countries where the crocus is cultivated for its saffron, as an article of commerce, it makes great ravages. It is called by the French *la mort du safran*, and soon destroys a whole crop. The other fungus, Periola tomentosa, is found on the potato, lucerne, &c. It turns the roots, which are naturally white, of a purplish hue. Its ravages are often attributed to grubs. Both these fungi appear to be propagated by spawn, or fibres which spread through the earth, and cling round the roots which they find in their way.

Having given a rapid sketch of some of the principal kinds of fungi which produce mildew, Dr. Lindley proceeded to speak of the causes which produce them, and of their cure. All are very easily propagated, from the rapidity with which they arrive at maturity, and the immense number of seeds which they produce. Most of the mildew fungi require only twenty-four hours from the first springing of the plant to the ripening of its seed; and the number produced by each may be guessed from the circumstance of one mushroom being sufficient to propagate 250,000,000. The extreme minuteness of the mildew fungi renders them still more numerous. The first class, or the superficial mildew, appears to be communicated by the air, the seeds when ripe being carried by it from one plant to another, and establishing themselves wherever they touch. They destroy a plant by covering the surface of its leaves, and thus preventing respiration. Plants are generally most affected by superficial fungi after a long drought, when the fibres of their roots are unable to imbibe sufficient moisture from the soil, and the plant thus becomes debilitated, and affords an easy prey to the parasite which attacks it: as a proof, Dr. Lindley mentioned that in Scotland, where there are heavy night dews, this fungus is unknown. The cure seems to be abundant watering. Dr. Lindley mentioned a case of some onions, in the gardens of the Society at Chiswick, which were attacked by this fungus. These onions had been transplanted, and their roots were consequently so much weakened as to be unable to imbibe a sufficient quantity of moisture. Dr. Lindley had the plants abundantly watered, which, though it did not cure the infected plants, appeared completely to arrest the progress of the disease. Other onions, not transplanted, were not attacked. A correspondent of this magazine, Mr. Haycroft, recommends a mode of curing this mildew, which appears to be effectual, by cutting off the infected branches, washing the walls with a composition, and removing the infected nails, &c. Sulphur has also been recommended, but is not found to answer.

The internal mildew evidently cannot be communicated by the air, since it always appears to spring from the interior of the plant, and to be at first covered with a thin skin, from which it does not burst till it is ripe. It is impossible, therefore, that this kind of mildew can be communicated externally, and yet the fact that it is contagious is so clear as not to admit a doubt. The only manner in which it appears probable that it can reach the interior is through the roots. The seeds, when ripe, fall upon the earth, which becomes contaminated by them, and they are sucked up by the spongioles of the roots. Mr. Dovaston has also held this opinion. The correctness of this hypothesis is proved by sowing clean seeds in infected soil; and the young plants from these seeds springing up with the disease upon them. The circumstance of its always attacking the most vigorous plants is thus also explained, as it is evident that the more rapid the circulation the greater is the probability of extraneous substances being drawn up with the moisture imbibed by the roots. It is also clear that, in this case, water must aggravate the disease; as, by exciting the plant to suck it up, it would increase the danger of the seeds of the fungi being drawn in with it. This was also the reason that Mr. Errington found that burying his celery roots only made the mildew spread more rapidly. The only cure for this fungus seems to be that adopted by Mr. Knight with his pear trees, viz., taking them up, washing the roots quite clean, from every particle of soil, and then replanting them in quite a different part of his grounds.

Red plants are said to be more liable to mildew than any other. Red is, indeed, supposed by some always to indicate a morbid action, as it shows that the plant is unable to absorb carbonic acid gas from the atmosphere, which is necessary to its perfect health; at all events, it is a proof of disease when leaves, or any other parts of a plant, not naturally red, assume that color. Other experiments have been made for curing, or at least preventing the spread of, the internal mildew; and Mr. Bauer has found that steeping grains of corn in lime-water will produce the desired effect. There appears no cure for mildew in the roots, but by cutting a deep trench round the infected plants, and cutting off all communication between them and the rest of the field.

NEW-YORK AMERICAN.

SEPTEMBER 7, 9, 10, 11, 12, 13—1833.

LITERARY NOTICES.

JOURNAL OF TWO VOYAGES ALONG THE COAST OF CHINA, IN 1831 and 1832, &c. &c. by CHARLES GUTZLAFF. 1 vol. New York: JOHN P. HAVEN.—This is, in many particulars, a remarkable book. It is written by a Prussian, educated as a physician, but whose attention being turned to the mission cause, "left his home and the most inviting prospects of even royal patronage, to commence the labors of a missionary in Eastern Asia." To discharge these with the more effect, he studied diligently, and acquired, the Chinese language,—at least one of its many dialects,—adopted the Chinese dress, queue and all, and adapted himself to their manners, as far as it could be done without sanctioning, or ever seeming to sanction, the licentiousness with which they are too much blended. So completely was he enabled by these means, and the currency which his skill as a physician gave him, to pass among this strange people as one of them, that he only did not reach Pekin in his first voyage (having approached within two days' journey of it) because the dialect spoken in the province through which he had to pass was different from that he had previously acquired, and he had not then the time nor opportunity to learn it. Perhaps no better insight can be given, into the character of this interesting traveller, than by the following extract from his journal, describing his longing and his motives for visiting Peking:

My anxiety was greatly increased by our approach to Peking. A visit to the capital of the Chinese Empire—an object of no little solicitude, after many perils, and much loss of time,—was now near in prospect. How this visit would be viewed by the Chinese government, I knew not; hitherto they had taken no notice of me; but a crisis had now come; as a missionary anxious to promote the welfare of my fellow creatures, and more willing to be sacrificed in a great cause, than to remain an idle spectator of the misery entailed on China by idolatry, I could not remain concealed at a place where there are so many mandarins,—it was expected that the local authorities would interfere. Almost friendless, with small pecuniary resources, without any personal knowledge of the country and its inhabitants, I was forced to prepare for the worst. Considerations of this kind, accompanied by the most reasonable conjecture, that I could do nothing for the accomplishment of the great enterprise, would have intimidated and dispirited me, if a power from on High had not continually and graciously upheld and strengthened me. Naturally timid, and without talent and resources in myself, yet by divine aid—and by *that* alone,—I was foremost in times of danger, and to such a degree, that the Chinese sailors would often call me a bravado.

The enthusiasm in a great cause here evinced, was nevertheless tempered by that sagacity and knowledge of human nature, which seeks to accomplish its ends by a skilful use of the ordinary means within its power; and which, though acting in obedience to the will of God, looks not for aid to any miraculous interposition.

From these pages of Mr. Gutzlaff more information is to be derived of the true character of the Chinese, we think, than from any other that we know; and they will be perused with interest, we are sure, by the Christian, who desires to see the light of the gospel spread to the remotest corners of the earth—by the man of letters—and not least by the merchant, seeking information as to new fields for his operations. The whole book inculcates throughout, the practicability of establishing intercourse with the Chinese, and enlarges upon the advantages in every sense that would result from it.

The first of these voyages was made in a Chinese junk; the second in a British East India ship, the Lord Amherst. We shall have occasion to return to this book in some future observations on the commercial importance of the regions it describes. We will now only add some extracts from it.

The Chineses are idolators, and of course superstitious. The propitiations of the "Queen of Heaven," related in the annexed account of the rites observed on the sailing of a junk, and in stress of weather, show how little human reason alone avails to make men wise:

The most distinguishing thing on board a junk is idolatry, the rites of which are performed with the greatest punctuallity. The goddess of the sea is Ma-tsoo-po, called also Teen-how, "queen of heaven." She is said to have been a virgin, who lived some centuries ago in Fuhkeen, near the district of Fuhchow. On account of having with great fortitude, and by a kind of miracle, saved her brother who was on the point of drowning, she was deified, and loaded with titles, not dissimilar to those bestowed on the Virgin Mary. Every vessel is furnished with an image of the goddess, before which a lamp is kept burning. Some satellites, in hideous shape, stand round the queen, who is always represented in a sitting posture. Cups of tea are placed before her, and some tinsel adorns her shrine.

When a vessel is about to proceed on a voyage, she is taken in procession to a temple, where many offerings are displayed before her. The priest recites some prayers, the mate makes several prostrations, and the captain usually honors her by appearing in full dress before her image. Then an entertainment is given, and the food presented to the idol is greedily devoured. Afterwards the good mother, who does not partake of the gross earthly substance, is carried in front of a stage, to behold the minstrels, and to admire the dexterity of the actors; thence she is brought back, with music, to the junk, where the merry peels of the gong receive the venerable old inmate, and the jolly sailors anxiously strive to seize whatever may happen to remain of her banquet.

The care of the goddess is intrusted to the priest, who never dares to appear before her with his face unwashed. Every morning he puts sticks of burning incense into the censer, and repeats his ceremonies in every part of the ship, not excepting even the cook's room. When the junk reaches any promontory, or when contrary winds prevail, the priest makes on offering to the spirit of the mountains, or of the air. On such occasions, (and only on such,) pigs and fowls are killed. When the offering is duly arranged, the priest adds to it some spirits and fruits, burns gilt paper, makes several prostrations, and then cries out to the sailors, "follow the spirits," who suddenly rise and devour most of the sacrifice. When sailing out of the river, offerings of paper are constantly thrown out near the rudder. But to no part of the junk are so many offerings made as to the compass. Some red cloth, which is also tied to the rudder and cable, is put over it; incense sticks in great quantities are kindled; and gilt paper, made into the shape of a junk, is burnt before it. Near the compass, some tobacco, a pipe, and a burning lamp are placed, the joint property of all; and hither they all crowd to enjoy themselves.—When there is a calm, the sailors generally contribute a certain quantity of gilt paper, which, pasted into the form of a junk, is set adrift. If no wind follows, the goddess is thought to be out of humor, and recourse is had to the demons of the air. When all endeavors prove unsuccessful, the offerings cease, and the sailors wait with indifference.

Such are the idolatrous principles of the Chinese, hat they never spread a sail without having conciliated the favor of the demons, nor return from a voyage without showing their gratitude to their tutelar deity. Christians are the servants of the living God; who has created the heavens and the earth; at whose command the winds and the waves rise or are still; in whose mercy is salvation, and in whose wrath is destruction; how much more, then, should they endeavor to conciliate the favor of the Almighhty, and to be grateful to the Author of all good! If idolators feel dependant on superior beings; if they look up to them for protection and success; if they are punctual in paying their vows; what should be the conduct of nations, who acknowledge Christ to be their Saviour? Reverence before the name of the Most High; reliance on his gracious protection; submission to his just dispensations; and devout prayers, humble thanksgiving, glorious praise of the Lord of the earth and of the sea, ought to be habitual on board our vessels; and if this is not the case, the heathen will rise up against us in judgment, for having paid more attention to their dumb idols, than we have to the worship of the living and true God.

The self-denial, courage and perseverance of the traveller himself, may be judged, in some degree, by his consenting to embark in one of these junks, with such accommodations and such companions as are enumerated below:

When I got on board, my cabin in the steerage, was pointed out to me; it was a hole only large enough for a person to lie down in, and to receive a small box. I had six fellow-passengers. One of them, a captain sixty years of age, was obliged to become a passenger, because his own junk was unseaworthy, having sprung a leak whilst moored in Meinam. He was my declared enemy; a master in opium-smoking; (using the drug to the amount of about one dollar per day;) a man thoroughly versed in all sorts of villainy; and averse to the instruction of his countrymen; though, at the same time, he was well aware of the superiority of Europeans, and knew the value of their arts. His son was an insolent youth, well trained for mercantile transactions; and anxious to amass wealth; he became my friend and neighbor. My mercantile friend, already mentioned, had a cabin beneath mine. He was remarkable for deceitfulness, loquacity, childish pride, and unnatural crime. His companion in trade was wealthy, self-sufficient, and debauched, but polite. In the practice of wickedness and deceit, no one was superior to captain Fo, another of my fellow passengers. This man had formerly been in command of a Siamese junk, bearing tribute to China, and was shipwrecked on the coast of Pulo Way. On his release from the island, he returned to Bankok. Being skilful in various sorts of workmanship, especially in painting and mechanics, he at length gained so much property, that he was able, this year, to put some hundred peculs of goods on board a junk, and to proceed to China, where he had two wives still living. He was devoted to opium, and prone to lying, but, according to his own declaration, my best friend.

Our captain, Sin-shun, was a friendly man, well versed in the art of Chinese navigation; but, unhappily, long habituated to opium-smoking. His younger brother showed himself to be a man of truth; he was my private friend and associate in every sort of trouble. One of the captain's brothers-in-law was the clerk; he denominated himself (from the moment I stepped on board,) my younger brother; paid attention to the instructions of the Gospel; and abstained from every sort of idolatry. The pilot claimed cousinship with me, being (as he said) of the same clan. He was little versed in the art of navigation, but had never been so unlucky as to sail his junk on shore. He was a man of a peaceful temper, a yielding disposition, and a constant object of raillery to the sailors. To all his good qualities, he added that of opium-smoking, in which art he had made considerable proficiency. His assistant was quarrelsome, but more attentive to the navigation than any other individual on board: and he also, as is the case with almost all the pilots, was trained up to the use of the drug; after having inspired the delicious fumes, he would often, against his inclination, sleep at his watch. All the principal persons, on whom depended the management of the vessel, partook freely of this intoxicating luxury; by which they were alternately, and sometimes simultaneously, rendered unfit for service.

When I embarked, though in a very feeble state of body, I cherished the hope, that God, in his mercy, would restore me again to health, if it were his good pleasure to employ in his service a being so unworthy as myself—the least, doubtless, of all my fellow-laborers in the Chinese mission. I took with me a large quantity of Chinese books, and a small stock of medicines,—the remnant of a large remittance made, not long before, by some kind English friends. I was also provided with some charts, a quadrant and other instruments to be used in case of emergency. Long before leaving Siam, I became a naturalized subject of the Celestial Empire, by adoption into the clan or family of Kwo, from the Tung-in district in Fuhkeen. I took, also, the name Shih-lee,—wore, occasionally, the Chinese dress, and was recognized (by those among whom I lived,) as a member of the great nation. *Now*, I had to conform entirely to the customs of the Chinese, and even to dispense with the use of European books.

We conclude for the present with the following description of *Teen-tsin*, a thriving commercial city far up the river *Pee-ho*, and within two days' journey of Peking:

The trade of Teen-tsin is quite extensive. More than five hundred junks arrive annually from the southern ports of China, and from Cochin-China, and Siam. The river is so thronged with junks, and the mercantile transactions give such life and motion to the scene, as strongly to remind one of Liver-

pool. As the land in this vicinity yields few productions, and the capital swallows up immense stores, the importations required to supply the wants of the people, must be very great. Though the market was well furnished, the different articles commanded a good price. In no other port of China is trade so lucrative as in this; but no where else are so many dangers to be encounted. A great many junks were wrecked this year; and this is the case every season;* and hence the profits realized on the whole amount of shipping, are comparatively small. Teen-tsin would open a fine field for foreign enterprise; there is a great demand for European woollens, but the high prices which they bear, prevent the inhabitants from making extensive purchases. I was quite surprised to see so much sycee silver in circulation. The quantity of it was so great, that there seemed to be no difficulty in collecting thousands of taels, at the shortest notice.—A regular trade with silver is carried on by a great many individuals. The value of the tuel, here, varies from thirteen to fourteen hundred cash. Some of the firms issue bills, which are as current as bank-notes in England. Teen-tsin, possessing so many advantages for commerce, my very safely be recommended to the attention of European merchants.

By inquiries, I found, that the people cared very little about their imperial government. They were only aaxious to gain a livelihood and accumulate riches. They seemed to know the emperor only by name, and were quite unacquainted with his character. Even the military operations in western Tartary were almost unknown to them. Nothing had spread such a consternation amongst them as the late death of the heir of the crown, which was occasioned by opium-smoking. The emperor felt this loss very keenly. The belief that there will be a change in the present dynasty is very general. But in case of such an event, the people of Teen-tsin would hear of it with almost as much indifference, as they would the news of a change in the French government. The local officers were generally much dreaded, but also much imposed upon. They are less tyrannical here, in the neighbourhood of the emperor, judging from what the people told me, than they are in the distant provinces. When they appear abroad it is with much pageantry, but with little real dignity. Indeed, I saw nothing remarkable in their deportment. No war junks, nor soldiers were to be met with,—though the latter were said to exist. To possess fire-arms is a high crime, and the per son found guilty of so doing, is severely punished. Bows and arrows are in common use. There are no military stores; but stores of grain. The grain junks were, at this season, on their return home.

The features of the inhabitants of this district more resemble the European, than those of any Asiatics I have hitherto seen. The eye had less of the depressed curve in the interior angle, than what is common, and so characteristic, in a Chinese countenance. And, as the countenance is often the index of the heart, so the character of these people is more congenial to the European, than is that of the inhabitants of the southern provinces. They are not void of courage; though they are too grovelling to undertake any thing arduous or noble. and too narrow-minded to extend their views beyond their own province and the opposite kingdom of Corea. They are neat in their dress; the furs which they wear are costly: their food is simple; and they are polite in their manners. The females are fair, and tidy in their appearance,—enjoy perfect liberty, and walk abroad as they please.

* The Canton Gazette, of March 1832, states, that more than one half of the Chinese junks, bound to Teen-tsin in the year previous, were wrecked.—*Pub.*

Texas—Observations historical, geographical and descriptive, in a series of letters, by Mrs. Mary Austin Holley. *Baltimore:* Armstrong & Plaskitt.—In a series of letters, written in a very smooth and agreeable style, this lady, the widow of the late President of Transylvania College, (Ken.) has here presented the result of her own observations and impressions on a visit made in 1831, to Austin's colony. In climate and natural products, this region would seem to be little less than a Paradise; though there, as in all earthly paradises, man must eat his bread by the sweat of his brow—that is to say, as Mrs. Holley fairly states to all who may be disposed to migrate thither, that "a soil that yields the fruit of nearly every latitude almost spontaneously, with a climate of perpetual summer, must, like that of other countries, have a seed time and harvest. Though the land be literally flowing with milk and honey, yet the cows must be milked and the honey must be gathered. Houses must be built and enclosures made, the deer must be hunted and the fish caught. From the primeval curse, that in the sweat of his brow man shall eat bread, though its severity be mollified, there is no exemption even here. The emigrant should bear in mind, that in a new community *labor* is the most valuable commodity." This is both fair and just; and such seems to us the general character of this pretty little volume.

The history and success of Col. Austin's settlement, which individual enterprize and perseverance alone have founded, without any aid from government, or associations of any kind, and which, in the course of about eight years, has swelled from its first feeble commencement, until now it numbers *six thousand persons*, are full of interest and encouragement to others, and reflect great honor on the character, abilities and courage of Col. Austin himself. We are glad to find throughout these pages the expression strongly stated that *Texas* desires nothing better than to remain a portion of the Mexican nation, one of the free States of that confederacy. We feared that so great an ingress of Americans might have led to the hope and wish of being incorporated with the United States: on the contrary, however, the inhabitants of Texas are in interest and feeling Mexicans; and we certainly trust our present southern boundary will never recede.

England and the English; by E. L. Bulwer. 2 vols. New-York, J. & J. Harper.—The copious extracts which, on several previous occasions, we have made from this work, evince our opinion of its merit. It strikes us as a useful, original, and truly philosophical series of dissertations upon the Government and institutions of England, and upon the character and habits of the English. There is throughout, that vein of satire almost running into bitterness, which so particularly distinguishes Mr. Bulwer's manner of viewing things, and which certainly—such is the constitution of human nature—does not render his writings less attractive. Those, however, who expect to find in these volumes what some of the booksellers advertise them to be, "a new novel, by the author of Pelham," will be disappointed.

We shall make to-day but a single extract, which relates to popular education. It presents a better view of that in England, than we were prepared for; that is, as to the mere number of scholars; for in England, as with us, the books and the system of instruction seem alike imperfect—and is of interest, moreover, for its remarks on the class-books used in that most enlightened little duchy of Germany—*Saxe Weimar:*

A far greater proportion of the English population are now sent to school than is usually supposed, and currently stated. I see before me at this moment a statistical work, which declares the proportion to be only one in seventeen for England, one in twenty for Wales. What is the fact? Why, that our population for England and Wales amounts nearly to fourteen millions, and that the number of children receiving elementary education in 1828 are, by the returns, 1,500,000; an additional 500,000 being supposed, not without reason, to be educated at independent schools, not calculated in the return. Thus, out of a population of fourteen millions, we have no less than two millions of children receiving elementary education at schools.

In the number of schools and of pupils, our account, on the whole, is extremely satisfactory. Where do we fail? Not in the schools, but in the instruction that is given there: a great proportion of the poorer children attend only the Sunday-schools, and the education of once a week is not very valuable; but generally throughout the primary schools, nothing is taught but a little spelling, a very little reading, still less writing, the Catechism, the Lord's Prayer, and an unexplained, unelucidated chapter or two in the Bible; add to these the nasal mastery of a hymn, and an undecided conquest over the rule of Addition, and you behold a very finished education for the poor. The schoolmaster and the schoolmistress, in these academies, know little themselves beyond the bald and meager knowledge that they teach; and are much more fit to go to school than to give instructions. Now the object of education is to make a reflective, moral, prudent, loyal, and healthy people. A little reading and writing of themselves contribute very doubtfully to that end. Look to Ireland: does not the Archbishop of Cashel tell us, that a greater proportion of the peasantry in Ireland, yes, even in Tipperary, can read and write, than can be found amid a similar amount of population in England. I have been favored with some unpublished portions of the recent evidence on the Poor-laws. Just hear what Mr. Hickson, a most intelligent witness, says on this head:

Query. "Are you of opinion that an efficient system of National Education would materially improve the condition of the laboring classes?"

Answer. "Undoubtedly; but I must beg leave to observe, that something more than the mere teaching to read and write is necessary for the poorer classes. Where books and newspapers are inaccessible, the knowledge of the art of reading avails nothing; I have met with adults, who after having been taught to read and write when young, have almost entirely forgotten those arts for want of opportunities to exercise them."

"At the Sunday-schools," observes Mr. Hickson, afterward, "of most Dissenters, nothing is taught generally—I except rare instances—but reading the Bible and repeating hymns."

While we have so many schools organized, and while so little is taught there, just let me lead your attention to the four common class-books taught at all the popular schools of Saxe Weimar.

The first class-book is destined for the youngest children; it contains, in regular gradations, the alphabet, the composition of syllables, punctuation, elementary formation of language, slight stories, sentences or proverbs of one verse upwards, divers selelections, sketches, &c. "The sentences," says Mr. Cousin, "struck me particularly; they contain, in the most agreeable shapes, the most valuable lessons, which the author classes under systematic titles,—such as our duties to ourselves, our duties to men, our duties to God; and the knowledge of His divine attributes,—so that in the germ of Literature, the infant receives also the germ of Morals, and of Religion!"

The second book, for the use of children from eight to ten, is not only composed of amusing sketches,—the author touches upon matters of general utility. He proceeds on the just idea that the knowledge of the faculties of the soul ought a little to precede the more profound explanations of religion: under the head of dialogue between a father and his children, the book treats, first, of man and his physical qualities; secondly, of the nature of he soul and of its faculties, with some notions of our powers of progressive improvement and our heritage of immortality; and, thirdly, it contains the earliest and simplest elements of natural history, botany, mineralogy, &c.

The third work contains two parts, each divided into two chapters: the first part is an examination of man as a rational animal,—it resolves these questions: what am I? What am I able to do? What *ought* I to do? It teaches the distinction between men and brutes; instinct and reason; it endeavors to render the great moral foundations of truth clear and simple by familiar images and the most intelligible terms.

As the first chapter of this portion exercises the more reflective faculties, so the the second does not neglect the more acute, and comprises songs, enigmas, fables, aphorisms, &c.

The second part of the third work contains, first, the elements of natural history in all its subdivisions; notions of geography; of the natural rights of man; of his civil rights; with some lessons of general history. An Appendix comprises the geography and especial history of Saxe Weimar. The fourth book, not adapted solely for Saxe Weimar, is in great request throughout all Germany; it addresses itself to the more advanced pupils; it resembles a little the work last described, but is more extensive on some points; it is equally various, but it treats in especial more minutely on the rights and duties of subjects; it proceeds to conduct the boy, already made rational as a being, to his duties as a citizen. Such are the four class-books in the popular schools of Saxe Weimar; such are the foundation of that united, intellectual, and lofty spirit which marks the subjects of that principality.*

* I know nothing we more want in this country

A Subaltern's Furlough; descriptive of Scenes in various Parts of the United States, the Canadas, &c. during the Summer and Autumn of 1832; by E. T. Coke, of the 45th Regiment. 2 vols. New-York, J. & J. Harper.—This is rather a good-natured, prejudiced, slip-slop journal of a flying tour through the United States, during the prevalence of the Cholera in our principal cities last year, by a young lieutenant, tired of the *ennui* of home and a garrison, and bent upon judging the Americans with his own eyes. He lost no time on his route, and gained, we infer from his pages, not much substantial information; at least, he imparts little such. The judgment passed in the paragraph we annex upon the corps of Cadets, as a military body, and the scenery of the Highlands, may serve as evidence of his taste and accuracy:

I twice saw the cadets at drill, but their long hair, dirty grey uniform, and want of erect military carriage, were sufficient to mar the appearance of the finest body of men in the world under arms. The words of command, too, were issued in such a drawling, careless tone of voice, that the movements were necessarily performed in a similar manner,—devoid of all smartness and precision. The interior economy of the establishment, however, is said to be well conducted, and strict discipline is enforced by Colonel Thayer, the present gentlemanly and able commandant. Though the soldierlike appearance of the cadets might not have exacly come up to my expectations, yet, if ever the two nations are so unfortunate as to meet again in hostile array, the good effects of this institution will be appearent in the polished manners and information acquired there by American officers. In former campaigns, generals have been called from the rear of their counters to assume the command of armies, and men who could not even sign their name from the plough to head divisions. Owing to the scattered state of the forces, it was my fortune to become acquainted with only few military and naval officers; but the uniform attention and kindness I experienced from all was such, that I should feel proud in being enabled to render similar courtesies to any one bearing a commission from the United States.

We embarked in the afternoon of the 28th of October in the gigantic steamer, the "North America," which shot through the Highlands at the rate of sixteen miles an hour. I should have had all the New-Yorkers up in arms, and inveighing against me in no measured terms, had I ventured to express any thing like disappointment at the scenery of the Hudson. But so it was, and my expectations were not realized; because, as at the Falls of the Mohawk, its beauties had been much overrated. I had generally heard the Hudson compared to the Rhine, and many, indeed, professed to think it superior; but my want of taste (I should imagine) would no more admit of such a comparison than it would that New-York and London should be mentioned in the same breath. The scenery between Albany and West-Point is not in any ways remarkable; the Highlands, when taken separately, have nothing interesting, and no single reach of the river possesses any particular beauty. The rocky hills, covered with a thin and low growth of trees, approach to the water's edge, without any signs of cultivation or habitations to give the scenery life. The *tout ensemble* is all that is pleasing, and the numerous craggy precipices towering one above another alone possess any claims to the picturesque. I had kept the Hudson in reserve, as a kind of *bonne bouche*, previous to my immediate departure for England, expecting that I might see it to the greatest advantage at a late season in the year.

Select Works of Tobias Smollet, *in two volumes. Philadelphia*, Carey, Lea & Blanchard.—Who that recollects the delight with which in school boy days he devoured the adventures of Roderick Random and faithful Strap, or rejoiced in all the fun of which Peregrine Pickle, and Hatchway, and Pipes, and the immortal Trunnion are the authors or the objects, but will think these volumes a famous offering to the amusement of the present generation, who, in the multiplicity of modern publications, might but for them have gone through life with brows unrelaxed by the irresistible humor of Smollett. There is prefixed to these volumes a memoir of the author, by Sir Walter Scott.

The Parson's Daughter, by the author of Sayings and Doings, 2 vols. Philadelphia, Cary, Lea & Blanchard.

The Contrast, by Earl Mulgrave, two vols.—*Philadelphia*, Carey & Hart.

These two works are as different in merit, as in the rank of their authors. The first, by Theodore Hook, is an exceedingly well wrought and affecting story, probable, or at least not improbable in its incidents, and very skilfully conducted to its fortunate close. The other, by the present Governor of Jamaica, is inferior, in all respects, to the former work, *Matilda*, of the same noble author—is improbable, cold and dull. In the Parson's Daughter there are at least three characters admirably drawn, that of Mrs. Harbottle, Emma, and the naval surgeon, McGopus. In the Contrast there is not one that leaves any strong impression.

Conner & Cook have just issued three additional numbers of their cheap edition of the Works of Walter Scott, viz. *The Fortunes of Nigel. Peveril of the Peak*, and *Quentin Durward*.

Bibliotheque Choisie de Literature Francaise, No. 5. Philad. *Carey, Lea, & Blanchard.* New-York, *Charles de Behr.*—This number completes the interesting story of *Cinq Mars*, which was commenced in No. 2. It gives also the answer of Lamartine to the Adieux of Walter Scott, and a very pretty little poem by M. Chateaubriand, addressed to Madame *Recamier*, entitled 'Le Naufrage.' We commend this periodical to the patronage of all who make a study of the French language, or take pleasure in French literature.

[*From the National Gazette.*]

The 27th number of the *American Quarterly Review* has been issued. It is announced in an advertisement prefixed, that the publication of the work will be continued by Messrs. Key & Biddle, of Minor street, to whom it has been transferred by Messrs. Carey, Lea & Blanchard. These gentlemen found it inconvenient, owing to the extent and nature of their general business as publishers. Messrs. Key & Biddle have likewise intelligence, capital, zeal, and wide connexions in their profession. The editorship of the Review remains in the hands in which it has been from the beginning. Every effort will be made by the editor and the new publishers to sustain the work in every respect. The savans, men of letters, and members of the learned professions who have hitherto furnished the greater part of its contents, rank with the first of the country. Abundant contributions from the same or like sources are confidently expected.

FOREIGN INTELLIGENCE.

From Smyrna.—We have received by the brig Ottoman, Capt. Carey, Smyrna papers to the 23d June, but they contain nothing important in addition to what had been received by way of England.

King Otho arrived at Smyrna on the 17th June in an English frigate. As soon as his arrival was known, great numbers of Greeks crowded to the quays to get a sight of their sovereign. On his landing, the crowd was so great that it was impossible to make his way through it, and he was obliged to return on board again, and land at a remote place.

Smyrna Market, June 23.—The return of peace has already had a happy influence upon our market, and although in a dull season of the year, yet considerable activity is observed. The arrival of the caravans, which had been delayed by a variety of circumstances, has contributed to revive commerce in some degree.

Coffee.—The quantity in depot is considerable at this time, in consequence of some important speculations which have just been made by European houses. The present rates are 700 a 760 p., but holders are expecting an advance, and demand 750 a 800.

Sugar.—The depot is very limited. Most of the Havana white is held at 180 p. per qtl. which is expected to be obtained, notwithstanding sales have been made at 165 a 170. The article is becoming more scarce every day.

Wool.—Prices vary according to quality, from 150 to 180 p. per qtl.

The crops in general this year promise well, particularly raisins and oil.—[Boston D. Adv.]

[*From the Boston Gazette.*]

Trade with St. Croix.—A mercantile friend has favored us with a St. Croix paper of the 5th inst. containing an Ordinance in relation to commerce and shipping in that Island, from which we make the following extracts:

With regard to Shipping.

§ 1. All vessels, without distinction, Danish or foreign, either from Danish or foreign parts, shall in virtue of this ordinance have free admittance at St. Croix, and may discharge or load cargoes in the port of Christiansted or the road of Frederiksted.

§ 2. The former charges on vessels under denomination of anchorage, fees, stamp duties, &c. are revoked: anchorage, however, to be paid on the whole tonnage of vessel.

Free admission or free duty.

Corn, Meal, Indian Corn, RumPuncheons, Staves, Heading and Hoops for Sugar Hhds, and RumPuncheons, Cooper Nails, Hoes, Bills, Utensils for Boiling Sugar, Distilling Rum and for Sugar Mills, Fire bricks, Mules and Asses.

Vessels arriving,

Discharging goods amounting to one-half of the full cargo of the vessel or upwards, pay 48 sk: for each Commercelast,

When 1-4 to 1-2 of a full cargo is discharged 32 sk: for each commercelast,

If less than 1-4 of the full cargo is discharged 16 sk: for each Commercelast.

Vessels departing.

Anchorage to be paid in the same proportion according to the cargo taken on board. All vessels neither loading or discharging cargo to be free from charges of anchorage, as well as all our Island vessels trading between St. Croix and the other Danish Islands.

If anchorage has been paid at one of the Island Custom Houses, no additional charge can be demanded during the same voyage, except the vessel should again discharge or load more goods, and which in conjunction with the former discharging or loading—should reach such amount as subjects her to pay a higher rate of anchorage money.

SUMMARY.

Mr. Audubon, of whose recent tour, a sketch will be given in our next number, taken from the Boston Daily Advertiser, reached this city well, and well satisfied. After a short sojourn among us, and a tour to some of the neighboring States, which will, we do not doubt, have the effect of adding some names to the list of subscribers for his magnificent work, Mr. Audubon, will, as we learn from him, depart for Tampico, on a bird tour through Mexico. His indefatigable labors will leave no field connected with the subject of his great publication unsearched; the public will take care, we are sure, that these labors shall not be without their reward.

The following are the remarks found in the last received number of the London Christian Remembrancer on the Rev. Thomas S. Britain's book, called by him "An Apology for conforming to the Protestant Episcopal Church, contained in a series of letters addressed to the Right Rev. Benjamin T. Onderdonk, D. D., Bishop of the Diocese of New York"—1833.

"Almost every arrival brings us some new proof of the growing importance of the American Church. We have a little volume of singular merit, which which we wish to see widely circulated, with the necessary mutatis mutandis, among Churchmen and dissenters at home. It is an admirable defence of Episcopacy, and derives additional value from the circumstance that the writer is a convert from conviction to the principles which he advocates, having been originally a dissenting member. The American Episcopalians may well be proud of gaining so fair a proselyte, and of ranking so zealous an advocate in the number of their brethren."

$603,300 were passed to the credit of the U. States Treasury on Monday by the Collector of this port.—It was the amount of duties collected during the previous week, after deducting debentures, return duties,

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than good class-books for the use of popular schools; books that shall exercise the judgment and teach children to *reflect*. Such works should be written by a person of philosophical mind, practised in education, and linked to no *exclusive system*,—the curse of knowledge in this country.

light house bills and all other sums paid by the Collector. It is, we understand, the largest sum which ever accrued in a single week. This does not look much like a *reduction* of revenue.—[Jour. Com.]

The Washington, which sailed on Wedensday, for Canton, has on board ten young men, of respectable families, who have gone out for the first time, with the intention of becoming ship-masters. They are all amply provided with instruments and books to learn navigation. May success attend them.

It is hardly necessary to add, that the Washington is a Temperance ship, as *all* the shipping articles of our East Indiamen are now headed—"No Grog;" the appalling word which has cost our underwriters so many millions.—[Journal of Commerce.]

[*From the Baltimore American.*]

The steamboat *Watchman*, Lieut. GEDNEY, of the U. S. Navy, commander, sailed yesterday at one o'clock for Mobile, intending to stop at Charleston to take in fuel. This boat was built at Washington, D. C. and is to transport the U. S. mail on Lake Pontchartrain between New Orleans and Mobile.—The Watchman is a staunch boat of 246 tons, with elegant accommodations for passengers, and a low pressure engine, constructed by Messrs. Watchman and Bratt of this city. It is expected that the efforts which the contractors on that route are now making, will enable them to convey the New Orleans mail with regularity. On the arrival of the Watchman at Mobile, Capt. Edmondson will assume command.

The weather continues disagreeably warm. The city is healthy for the season; some cases of yellow fever have appeared, but that sickness does not prevail as an epidemic. Absentees however, should be in no hurry to return for a while yet.

Business is very dull. People have now little more to do than to anticipate the activity of the approaching season when our birds of passage return among us to take up their winter quarters.—[N. O. Bee, Aug. 21.]

Extract of a Letter dated Oaks Corners, Ontario Co. (N. Y.) Sept. 4.

DESTRUCTIVE STORM.—"We have met with great losses since your last letter. My wheat being cut, and most of it remaining in the fields, there was, on the 15th ult. a severe hail-storm, with high wind, which overturned the shocks, blew down fences, trees, &c. whilst the hail shelled out much of the wheat. My corn is nearly cut off, and five acres of buckwheat, as fine as ever grew, entirely swept off in five minutes. Dr. Steward, who lives about a mile from me, had a barn, in which were several tons of hay and a horse, removed about *five feet* from its foundation; but the frame being strong, it is still standing. One other barn in the neighborhood was blown over. The storm extended from 1 1-2 to 2 miles in width, passing from N.W. to S.E. but how far I have not yet learned. I have yet heard of no loss of life by it, although the hail was so large that I picked up one the next morning, two hours after sunrise, which was 4 inches in circumference."

The *Anniversary Dinner of the Horticultural Society*, was given yesterday at Niblo's, the President, Mr. J. Lorillard, presiding, supported by Messrs. P. Hone and C. Oakley, Vice-Presidents, and honored by the presence of many members of the Court of Errors as guests.

The display of fruit was very handsome; and some among them, particularly a *bon Chretien* pear, raised in Springfield, N. J. were rare and excellent. The peaches and nectarines were abundant. Of figs, there were some very good. The grapes and melons were not remarkable. The table was ornamented with natural flowers, among which the gorgeous Dahlias predominated. A box of flowers, very prettily arranged, was sent by Madame Parmentier, and excited general admiration.

It was altogether an agreeable entertainment, enlivened with mirth and song, and good wine. The following are the regular toasts;

1. The President of the United States.
2. The Army and Navy of the United States.
3. The Governor of the State of New York.
4. The Mayor and Commonalty of the city of New York.
5. The highest Tribunal of the State, constituted to meliorate the harshness of Law, and to *prune* its *wild sprouts*.
6. The state of New York,—Powerful without ambition, wealthy without pride, and noble without vanity; while she is the first in greatness, she is the last in presumption! and is ever ready to make a sacrifice to the "Union."
7. The United States.—Unexampled in their united prosperity; may they be unequalled in their united duration.
8. Horticulture,—The first employment of man in his state of primeval innocence; it is the noblest science which can occupy his attention, having the highest sanction to recommend it.
9. Agriculture, Manufactures, and Commerce,—The three great sources of national wealth; united, they form the strongest safeguard of our national independence.
10. Horticultural Societies in every quarter of the globe; while they unite their efforts, to beautify and improve the earth, its flowers, and its fruits, may they also contribute to the moral and intellectual improvement of the whole of the human family.
11. The memory of DE WITT CLINTON—"Born to exalt the glory of his native State, his life is interwoven with her history, and his name as imperishable as her existence."
12. The memory of William Wilson, the first President of this Society, our late highly esteemed and much respected advocate.
13. The Fair sex,—The choicest flowers of our country.

VOLUNTEER TOASTS.

By the *President, Jacob Lorillard, Esq.* The Horticulturist, who unites the cultivation of the moral sense with the cultivation of the vegetable tribes.

By the 1st *Vice President, Philip Hone, Esq.* Nullification—A noxious plant, first sown by an INTRUDER in the Garden of Eden: may it be effectually eradicated from the rice fields and cotton plantations of our beloved country.

By the 2d *Vice President, Charles Oakley, Esq.* The practical Gardeners of New York—They have shown themselves worthy of public patronage: may they find their reward in a liberal public.

By Mr. Bronson, of the Senate. Horticultural Excellence—The *fruit* of intelligence, enterprize and industry.

By Mr. *Westcott*, of the Court of Errors. The City of New York—Not less distinguished for its liberal hospitality, than for its resources and enterprize.

By Mr. Macdonald, of the Senate. The practical Farmer, aided by the scientific Agriculturist.

By the *Mayor* of the City. The man who cultivates his own fields, and his own garden, with his own hands.

By C. W. Lynde, of the Senate. Agriculture and Horticulture—One the stock, the other the blossom, may they succor each other—and their fruits will be abundant, provided there is no nullifying weed suffered to flourish in their midst.

By Alexander Walsh. Horticulture—The art by which nature is taught to improve her own productions.

By John W. Wyman. The Gardener—Let him be proud of his employment—the only one designated for man, by the Almighty himself.

By Daniel E. Delevan. The memory of Linnæus—Much as we owe of pleasure to his perseverance and industry in bringing the science of Botany to its present state of perfection, to gratify the eye and the palate, let us not forget that he aimed at a still higher motive—the ennobling of the faculties, and the refinement of the heart.

By Mr. *Livingston.* The Hudson and Delaware Canal.

By Alexander Hamilton. A repeal of the duties on coal, and a reduction of canal tolls.

By Mr. *G. Davis.* Horticulture, the most rational employment of man—*our earthly paradise:* may we eye with caution the forbidden fruit.

By Mr. *Price.* The Vice President of the United States—An indigenous plant will survive the shock of transplantation.

By *D. K. Minor.* The Boston Horticultural Society—Solicitous alike for the *repose of the dead*, as for the refinement and happiness of the living: may this Society speedily imitate their example, in providing a RURAL CEMETERY.

The Bon Chretien Pear, presented by Mr. Wade, three of which weighed 2 lbs. 3 ozs., was raised by *William Stiles, Esq.* of Springfield, N. J, from a tree imported a few years since from France;—a description of which, with an engraving of one of the Pears, and other kinds of fruit, together with a more particular account of the *Anniversary* of the Society, will be given in the next number of the New York Farmer.

The annexed obituary notice from a Canada paper, will interest many yet alive in this State who knew and highly respected the late Dr. Cochran:

Died at Windsor, Nova Scotia, on Sunday, the 4th August, aged 77, the Rev. William Cochran, D. D., for many years Vice President and Professor of Languages, Logic and Rhetoric in King's College at Windsor. Dr. Cochran was a native of the neighborhood of Omagh in the North of Ireland, and received his education at Trinity College, Dublin, where he took his first degree with distinction, to which the University, many years after his removal to Nova Scotia, added the degree of D. D. by special diploma, an honor rarely conferred by that learned body. In 1784, shortly after completing his education, he came to America, and was appointed Professor of Languages in the College of New York, formerly called King's College, and then re-opened after the peace with the United States under the name of Columbia. Here he had under his care several young men who have since attained the highest reputation and distinction in the United States, and some of whom kept up a correspondence with him until a late period of his life. Among his pupils were the late Governor Dewitt Clinton, and John Randolph—Dr Hosack, one of the most eminent living physicians of the United States—the late Dr. John Mason, Chancellor Jones, and others. Although he early secured the friendship of the first persons in the community, (among others, of the distinguished and lamented Alexander Hamilton, who honored him with his particular and warm regard,) a dislike of republican institutions and habits led him to remove in 1787 to Nova Scotia, where he was appointed to the charge of the Public Academy at Halifax, and was induced, in 1789, to accept the situation of President of the Collegiate School, then established by the Provincial Legislature at Windsor, with a promise, that on the Royal Charter being granted to it, he should remain at the head of the institution.—When the charter was granted in 1802, a majority of the Governors, in violation of this promise, through the influence of one of their number, who was a member of the University of Oxford, and thought that no good thing could come out of an Irish College, obtained the appointment of an Oxford graduate, as President. Dr. Cochran, however, continued in the institution, as Vice President, and Professor; and in those capacities, by his sole exertions, sustained its character, and at different periods, its very existence, when it must otherwise have been shut up, until, in 1831, his great age, and increasing infirmities, compelled him to resign.—In the course of his labors, as an instructor of youth, in Nova Scotia, a large proportion of the members of the three learned professions, who have risen to eminence or become the instruments of good in their generation, either in that Province or in New Brunswick, (and many in the Canadas,) have owed either the foundation or the completion of their education to his instruction. A list of his pupils still alive, would be found to include many of the highest standing in the church, the law, the medical profession, and the service of government throughout the North American Colonies. The authority of the teacher was in him so tempered by winning kindness and benevolence that instruction became attractive, and while its effect was thus increased, it rarely happened that any of those who left his care, ceased to regard him in after life with affection as well as with respect; the teacher of the youth became the "agreeable companion, the fatherly adviser, the warm and steady friend," of the man of mature years; and the connection continued to the last, a source of mutual comfort, pride, and pleasure. Uniting an accurate knowledge of the ancient classics with a singular sensibility to their beauties, he added to these an extensive acquaintance with modern literature, and it was his great object to infuse a taste for both into those whose education he conducted; and to crown the whole with principles and habits of religion and moral conduct, and of practical usefulness. He had been for 43 years a Missionary of the Society for Propagating the Gospel, and it is believed was the oldest missionary in their service at the time of his death. In that service he encountered labors, hardships, and even dangers, of which those only can form an idea, who know what was the condition of the new settlements in Nova Scotia 40 years ago. His health, which had suffered for several years from severe attacks of disease, had entirely failed during the last few months, until at last, having approached the extreme boundary of human existence, "he came to the earth like a shock of corn in its season," peacefully closing a life of usefulness, simplicity, piety and virtue, in the stedfast hope, through the merits of his Redeemer, of rising to a life of blessedness hereafter.

Scientific Meeting at Cambridge.—The British Association for the Promotion of Science have held their third annual meeting at Cambridge, Professor Sedgwick in the chair. The meeting consisted of near 800 persons, comprising the most distinguished men of science from every part of the empire. The general meetings were held in the Senate-house; and the sectional meetings, under their respective Vice-Presidents, were held in the extensive range of apartments behind the Senate-house. The first day was occupied in various arrangements and preliminary discourses, describing the objects of the meeting; and the subsequent days in reading papers on various philosophical subjects. The proceedings each day commenced at 10 o'clock in the morning in the various sections under their respective Vice-Presidents, and the whole assembled together in the Senate-house at 1 o'clock, under the direction of the President: when the proceedings of the respective sections were reported, and followed by reading papers upon general subjects. The *coup d'œil* of the Senate-house during these re-unions was particularly imposing, comprehending above 1000 persons, of both sexes, distinguished for their rank, talent, and accomplishments. On the third day the Master and Fellows of Trinity College gave a splendid entertainment to 400 members of the Association, in their great hall, the Vice-Master, Dr. Brown, in the chair, supported by Dr. Buckland, Professor Sedgwick, the Marquis of Northampton, Earl Fitzwilliam, Lord Morpeth, and Sir J. V. B. Johnstone. The evening passed off in the greatest harmony and enthusiasm. It was truly a most splendid sight to behold 400 of the most learned and enlightened men of science from different parts of Europe and America, all united together for the advancement of knowledge in that hall where Newton, Bacon, Barrow, and other immortal philosophers, had so frequently met before for a similar purpose. On the fifth day, doctors' degrees were conferred on Lords Fitzwilliam and Morpeth, Mr. Davies Gilbert, Sir Thos. Brisbane, &c. In the afternoon, the Master and Fellows of St. John's College gave a grand dinner to some members of the Association. On the sixth day the whole concluded with a grand concert of vocal and instrumental music. The next meeting will take place at Edinburgh.—[New Monthly Magazine.]

RICHARD LANDER'S EXPEDITION.

To the Editor of the London Literary Gazette:

Custom House, Liverpool, 31st July, 1833.

Sir—Knowing the lively interest you take in my brother's welfare, and the success of the expedition of which he has the command, any news of him will, I am quite sure, be highly acceptable to you. Various reports of a discouraging but contradictory nature have been recently circulated here in regard to the expedition, which are pretty generally believed; but I am happy to say, many of these reports are destitute of all foundation, and others are so grossly exaggerated, that the truth can with difficulty be discovered in the maze of error and falsehood in which it is entangled. May I, therefore, be permitted to inform you of all that is known at present of the expedition to the Niger, though the accounts are so meagre as almost to require an apology on my part for presuming to trouble you with a recital of them.

You are already apprised of the decease of Captain Harris of the Quowara, and of the arrival of both steamers at the Eboe country. You are also aware that the sailing brig Columbine was to remain at the mouth of the Nun river to await their return. By a letter received from a medical gentleman at Old Calabar, dated April 19, I learn that "as a vessel called the Martha of this port was passing the Nun, on her destination to the Old Calabar river, she was hailed by a boat's crew from the Columbine. When received on board, the men stated that the captain of their vessel had died three weeks previously; that they had been reduced to great distress from the refusal of the natives to sell them provisions, from which extremity they were relieved by an American vessel which had happily just entered the river; and that they had themselves ventured over the bar to crave further assistance from the Martha. When questioned about the steamboats, they declared they had received no intelligence whatsoever, respecting them, though five months had elapsed since the period of their departure."

In allusion to this letter, I would venture to observe, that the people inhabiting the banks of the Nun river are exceedingly poor and destitute, being themselves very frequently in want of the necessaries of life. Their alleged refusal to assist the crew of the Columbine must have arisen from their utter inability to do so, rather than from any display of heartless indifference to the sufferings of their countrymen, though Heaven knows, the poor wretches are bad enough at times. In regard to the non-arrival of information from the steamers in the interior a thousand conjectures might be hazarded. For my own part, I see no great reason to wonder at this delay, chiefly because I am convinced no intercourse is, or can, under existing circumstances, be established between any part of the interior and the coast. This would be at variance with the barbarous policy of the barbarous tribes inhabiting the country in the vicinity of the sea. They would not suffer a messenger from the interior to escape their vigilance. Were any one to attempt the journey, he would infallibly be captured and sold; therefore, unless our countrymen were themselves to descend the Niger, and be bearers of their own despatches, I see no possibility of any communication being carried on between the steamers in the interior and the sailing brig on the coast.

A letter has just been received by a gentleman at this port from a young friend in the Bonny river; it is dated 17th May. Adverting to the expedition, the writer says—"When we passed the river Nun, the Columbine was lying there, but nothing had been heard of the steamers that went up the country. I was told this by the Captain of the Curlew sloop of war, who was on board the Columbine about a month ago. I gave him all the letters I had for the expedition, as he said he would return to the Bras river at the end of two or three weeks. A great many have died on board the brig."

Still more recent accounts, which I have been able to collect from individuals who have within these few days arrived from Bonny, confirm the accuracy of these statements and give a still higher coloring to the distresses of the crew of the Columbine. One of them states, that the acting master and a boy were the only survivors on board; and that these solitary individuals had sent to Bonny for assistance. However, I am disposed to doubt the truth of this report, simply because it was brought to Bonny by a native trader, whose steadiness and veracity could not be depended on. An intelligent young gentleman informed me yesterday, that about the latter end of May a rumor prevailed very generally from Accra to Badagry, that "the white men in the *walking canoes* were in good health, and were trading a long way back in the bush."

I cannot close this letter without apprising you of a fact, which will appear incredible to you. Can you believe me when I assert, on the most unquestionable authority, that there are merchants here so heartless and inhuman as to instruct the masters of their vessels who trade to the African coast, to "refuse any assistance to the expedition, of which it may stand in need; to reject all letters that may be sent from the parties connected with it; and, in fine, to hold no communication whatever with the steamers or the brig." Does it not startle you, that jealousy and selfishness can go so far? Believe me, I blush at the reflection of a crime so hideous and un-English as this. I am, &c. John Lander.

N.B. The fact of the merchants' instructions to the masters of their vessels may be depended on. Nothing can be more true. They have gone even farther than I have ventured to hint. They have taken measures to prejudice the minds of the natives against the expedition.

[*From the London Athenæum.*]

Hippopotamus Hunt.

The following account of an African hunt, may interest sportsmen. It appears to be somewhat more laborious and dangerous sport than an English *battu:*

"As all our attempts to obtain an hippopotamus had hitherto failed, and as we were not likely to meet with another opportunity, this being our last visit to Delagoa Bay, a party of officers volunteered for the chase, and were conveyed up the Dundas river in the Albatross. The evening set in before they reached that part of the river where the hippopotami were the most abundant. Three parties were however formed, who at midnight commenced their pursuit. The scene was novel and imposing; a body of men armed at all points with muskets, harpoons, and lances, walking on the shallows of the river, with nothing but the moon to light them, all hallooing and driving before them their huge game, who, blowing, snorting, and bellowing, were floundering through the mud from the numerous holes which they had made at the bottom for their retreat, but from which the hunters' lances soon expelled them, until ultimately driven upon dry ground, where a running contest commenced, the beasts sometimes being pursued, and at others pursuing.

"This lasted for some time; but still there were no signs of man's boasted pre-eminence:—not an animal had the party secured dead or alive.

* * * * * * * At low water the following morning, one party formed a line across one of the shallows, where the depth was not above two feet, while the boats were up the river and actually drove the animals down the stream, another party having lined the banks to prevent their taking to the woods and reeds. These, whenever the monstrous but timid animals attempted to pass them, set up a shout, which in most instances proved sufficient to turn them back into the water; when, having collected a vast number on one shallow bank of sand, the whole of the hunters commenced from all sides a regular cannonade upon the astonished brutes. Unwieldly as they appeared, still much activity was displayed in their efforts to escape the murderous and unceasing fire to which they were exposed. The one-pound gun occasionally furrowed the thick hide of some, while others were perpetually assailed by a shower of pewter musket-balls. One, a cub, was nearly caught uninjured in attempting to follow its mother, who, galled to desperation, was endeavoring to escape through the land party; but, as soon as the affectionate brute perceived her offspring falling into the hands of her enemies, forgetting her fears, she rushed furiously at the offenders, when they in their turn were obliged to retreat; but again they contrived to separate them, and had almost secured their prize, when the angry mother, regardless of their close and almost fatal fire, succeeded in redeeming it from their grasp and bearing it off, although herself in a state of great exhaustion. With the flood this sport ended.

"On their return to the schooner along the banks of the river, passing near a spot where an hippopotamus had been seen sporting in the water, a loud rustling was heard amongst the reeds, as if an animal had retreated thither on the discharge of their pieces. Messrs. Arlett and Barrette, with two of the seamen, immediately followed with the view of driving him out. The former gentleman was a little in advance, and eager in the pursuit, when he was heard loudly to exclaim, "here he is!" The shrill, angry scream of some large animal followed, and in a few moments Mr. Barrette rushed from the reeds with his face covered with blood and calling loudly for assistance, as Lieut. Arlett was attacked and thrown down by an elephant. The party were immediately on the alert in search of the unfortunate officer, whom they expected to find a mangled corpse. As they approached, the elephant, alarmed at their numbers, retreated, leaving his victim on the ground in a state that may more easily be imagined than described. He was stretched motionless on his back, covered with blood and dirt, and his eyes starting from the sockets, in all the expressive horror of a violent death.

"Every attention was immediately paid to him, but it was long feared that the vital spark had fled. Some water was procured, when, after his face had been washed and a little introduced into his mouth, he showed symptoms of returning life; but it was some time before he recovered his senses, and became sufficiently collected to give a connected account of the occurrence that had led to his pitiable state. It appeared that, from the thickness of the reeds, he was close to the animal before he was at all aware of his situation, but immediately on making the discovery, he uttered the exclamation heard by his companions of "here he is!" This had hardly escaped him, when he discovered that, instead of an hippopotamus, he was almost stumbling over an enormous elephant.

"The animal, which appeared highly irritated at the intrusion, waved his trunk in the air, and the moment he spoke, reared upon his hind legs, turned short round, and, with a shrill, passionate cry, rushed after him, bearing down the opposing reeds in his way, while Lieut. Arlett vainly attempted to effeht his escape. For a short time he had hopes of eluding his pursuer. The animal perceived on of the seamen mounted on the top of a tree, about twenty feet high and three circumference, menacing him by his voice and gesture, while preparing to fire. The elephant turned short round, and, shrieking with rage, made a kind of spring against the tree, as if to reach the object of his attack, when his ponderous weight bore the whole to the ground, but fortunately without hurting the man, who slipped among the reeds. The ferocious animal still followed him, foaming with rage, to the rising bank of the river; the man crying loudly, "An elephant! an elephant!" until, closely pursued by his pursuer, they both came

upon the top of the slope, where the party who had heard his cries were prepared and instantly fired a volley as the elephant appeared. This made him return with increased fury to Mr. Arlett, who, in his eagerness to escape, stumbled and fell, the huge beast running over him and severely bruising his ancle.

"As soon as he had passed, Mr. Arlett arose, and, limping with pain, attempted once more to retreat, but the animal returned to the attack; his trunk was flourished in the air, and the next moment the unfortunate officer was struck senseless to the ground.—On recovering himself his situation appeared hopeless, his huge antagonist standing over him, chaffing and screaming with rage, pounding the earth with his feet, and ploughing it with his tusks. When the party first saw them, Mr. Arlett was lying between the elephant's legs, and had it been the intention of the animal to destroy him, placing a foot upon his senseless body would in a moment have crushed him to atoms; but it is probable that his object was only to punish and alarm, not to kill—such conjectures being perfectly in accordance with the character of this noble but revengeful beast.

"Mr. Arlett was with much care instantly conveyed on board the schooner, when, on examination, it was found that his body was severely bruised, yet no bones were broken, except the fibula of the left leg, which was supposed to be slightly fractured. It appeared that the elephant, on his last return to Mr. Arlett, had filled his trunk with mud, which, having turned him on his back, and forced open his mouth, he blew down his throat, injecting a large quantity in to his stomach. It was this that produced the inflated appearance of Mr. Arlett's countenance, for he was almost in a state of suffocation, and for three days after this adventure, he occasionally vomited quantities of blue sand.

"When he encountered the elephant, he had a rifle in his hand; but he was too close to fire, knowing as he did, that in case of failure his destruction would be certain; for, when wounded, the desperation of the animal is fatal to all. Upon conveying him to the boat, this rifle was forgotten, and a party of four were despatched to recover it. They had just succeeded, and were about to return, when the elephant rushed in amongst them. The first and second men fired without effect, but the ball of the third fortunately turned him."

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the *present* contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR,
35 Wall street.

New-York, August 14, 1833.

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tf R M & F

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F8 tf

TO RAILROAD COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office Apply, post paid. S1 R J M M & F

☞ GRACIE, PRIME & CO. offer for sale, at 26 Broad street—

2 cases Gum Arabic		
20 do. Danish Smalts, EFFF		
10 do. Saxon do. do	}	Reduced Duty
100 bags Saltpetre		
2 do. Gall Nuts; 20 tons Old Lead		
100 do. Trieste Rags, FF		
6 boxes each 50 lbs. Tartaric Acid		
6 do. each 25 lbs. do. do.		
1 case 50 bottles Syrop de Vinaigre		
10 cases White Hermitage; 20 do. Cotie Rotie		
10 do. Dry St. Peray; 50 do. Bordeaux Grave		
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil		
8 bales Fine Velvet Bottle Corks		
100 do. Bourbon Cloves		
30 do. Molieres Almonds		
143 bundles Liquorice Root		
4 bales Goat Skins		
1 cask Red Copper, 1 do. Yellow do.		

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints		
40 do. 3-4 and 6-4 colored and black Merinos		
15 do. 5-8 colored and black Circassians		
2 do. Silk Bandannas, black and colored		
4 do. Italian Lustrings		
3 do White Satteens		
4 do. White Quiltings		
10 do. Borrie's Patent Thread, No. 22 and 25		
10 do Super high col'd Madras Hdkfs, ent. to debenture		
100 pieces Fine English Sheetings, for city trade		
3 cases Cantoon Cords		
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors		
25 bales low priced point Blankets.		

PAPER—

IMPERIAL AND ROYAL—From the celebrated Saugerties Mills, of the following sizes, all put up with 480 perfect sheets to each ream—

Sizes—21x35. 21½x36, 21x34½. 26x36, 26x37, 29x41, 27x38½ 21x28, 24x29. 24x28, 21x26, 21x27, 20x24, &c., &c.

Also—All the old stock of Medium will be sold at very reduced prices, to close sales, the Mill having discontinued making that description of paper.

ALSO,

Chinese Colored Paper—for Labels, Perfumery, &c.

5 cases each 1600 Sheets Colored Paper						
2	do	do	do	do	do	superfine
2	do	do	do fig.	do	do	
3	do	do	do plain Gold	do		
2	do	do	do plain Silver	do		
2	do	do	do	Silver	do	with red figures
2	do	do	do	Gold	do	do
2	do	do	do	Red	do	Gold do
2	do	do	do	White	do	Silver do. A 2

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane. J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norriat. Railroad

m1 1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,

No. 264 Elizabeth street, near Broadway, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlaem Railroad, now in operation. J25 tf

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m15

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those Instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25

CANALS.

Canal Tolls and Canal Navigation.—The aggregate amount of tolls received upon all the canals of the state for the month of August, is $147,945: exceeding the amount made during the same month last year, by the sum of $58,266. The revenue derived from tolls, from the opening of navigation, to the first of September, is greater by more than *one hundred and fifty-eight thousand dollars*, than it was during the same months of 1832: and exceeds by about $100,000 the receipts for the like period in 1831. The Cholera had a serious effect in diminishing the tolls for July and August of last year.

There is every indication of an active and extensive fall business, and it is now certain that the tolls of this year compared with last, will show an increase of a hundred and fifty thousand dollars, and it would not be surprising if the increase should come up to two hundred thousand.—[Albany Argus.]

Our Canals.—We republished yesterday from the Albany Argus a brief paragraph, stating the receipts from tolls on the Canals of this State during the month of August, with comparative statements from and up to the same period in other years, showing a constantly increasing and flourishing business. In another column will be found a circular issued by the Comptroller of the State, to the holders of Canal stocks redeemable in 1837, offering a premium for such portion of those stocks as the holders may be tempted at once to realize. Even these two publications, however, significant as they are, fail to give an adequate notion of the real and growing value to this State, to the Western States, and indirectly, but unquestionably, to the Union at large, of these great New York channels of intercommunication. We derive from the Argus some additional particulars, which will interest all readers.

It has already been stated in this paper, that the tolls on the Erie Canal, both on the ascending and descending freight, had been reduced at the commencement of the season. The reduction on the articles constituting the principal descending trade, such as flour, salted provisions, butter, cheese, wheat, &c., was equal to 29 per cent. on former rates; that on the ascending trade, chiefly composed of more valuable but less bulky merchandize, was equal to 14 1-2 per cent. Notwithstanding these reductions, the increase of the tolls exceeds $157,000—thus furnishing another instance of the swelling of revenue by the diminution of duties. The transportation on the Canals grows so rapidly, however,—and great as it is, it is yet far from the extent it must reach, unless repelled by want of accommodation and facilities,—that great inconvenience is already experienced from delays at the locks. "The constant use of the locks night and day," says the Argus, "has not been sufficient to pass all the floats, without a delay which is vexatious and expensive." There *must* be a double set of locks, and that soon; for time is money, and reduced tolls will be counteracted, and the benefit of them be lost, if what is saved in pecuniary expense be counterbalanced by long delay. It is contemplated, and very wisely we apprehend, by a simultaneous proceeding in Ohio and in this State, to reduce the rates of toll levied in each State on merchandize, 25 per cent. This will add greatly to the ascending trade of the Erie Canal, and present an additional reason for doubling the set of locks; because, such a trade can only be secured through this channel, by the greater despatch and certainty with which merchandize will thus reach its various destinations in the far West.—Delay in this instance would be fatal to transportation. How various are the points in the western and south-western States already reached through the Erie Canal, will appear from this paragraph of the Argus:

We are informed that goods, coming from New-York, have been shipped the present season from Albany to Galena, Pekin, Peoria, and Lower Alton, in the State of Illinois; to Paris, Maysville, Petersburgh, Louisville, and Lexington, Kentucky; to Chicago and Green Bay, Michigan Territory; to Fort Wayne, via the Maumee, Indiana; to Nashville and Clarksville, Tennessee; to St. Louis, Missouri; and to Florence, Alabama. This information is derived from one of the forwarding lines, (the Merchants',) and embraces only the places to which that line had shipped goods; there are several lines engaged in transporting goods to Ohio, and the other western States, whose, shipments might have been referred to, but we have given points in six States beyond Ohio, which are reached by goods transported through the Erie Canal.

It is impossible to look at the facts here hastily alluded to, and to let the imagination rove even within the most reasonable limits of the future they foreshadow, and not to feel pride in belonging to this great State;—this State, as just as patriotic, and as forbearing as it is great.

Redemption of Erie and Champlain Canal Stocks.—The following circular has been issued by the Comptroller of this state, to the holders of Erie and Champlain canal stocks, which are reimbursable in 1837.

Comptroller's Office,
Albany, August 7, 1833.

The holders of the New-York state stock issued for the construction of the Erie and Champlain canals, are informed that the commissioners of the canal fund are now ready to pay off and cancel the stock which is redeemable in 1837.

As an inducement to the holders of this stock to surrender it and receive payment therefor, four years before the period fixed for this redemption, the commissioners offer to pay a premium of five per cent. upon the five per cent stock, and a premium of eight per cent upon the six per cent stock of 1837.

These premiums will be paid upon any amount of the said stock which shall be transferred to the commissioners on the first day of October next, or on the first day of January, 1834, after the holdiers shall have received the quarter's interest due on those days respectively: Or the commissioners will pay the premiums before stated, together with the current interest upon the stock from the preceding quarter day, to the day of the purchase, for any amount which shall be transferred to them at any time before the first day of January next.

The holders of the Erie and Champlain canal stock are reminded that the surplus moneys now in the hands of the commissioners are by the constitution of the state, pledged to reimburse the principal of this stock, and cannot be diverted from that object. It is therefore morally certain, that on the first of July, 1837, the entire sum which shall remain unpaid of the stock which is redeemable in that year, will be paid off at par. And with the means of redemption in the hands of the commissioners, it is equally certain, that as the time approaches when they can legally redeem this stock at par, the premium which is now offered will gradually diminish, until it reaches that point.

The holders of this stock will perceive that if they can re-invest their money at four per cent. it will be for their interest to sell at the premiums now offered. The surplus canal funds upon which the commissioners are drawing for the redemption of this stock, are deposited in sundry banks, and yield an interest to the state of 3 1-2 and 4 1-2 per cent. It will readily be seen that the situation of the surplus canal funds enables the commissioners, in the purchase of this stock, to offer terms highly favorable to the interests of the stockholders, without any material sacrifice of the pecuniary interests of the state. The commissioners readily admit, what must be inferred from the high premium offered, that they are very anxious to apply the money in their hands to the redemption of the Erie and Champlain canal stock. In making a small apparent sacrifice to effect this object, the state gets rid of the hazard incident to the management of three or four millions of dollars; and by gradually possessing itself of the stock of 1837, the serious pressure upon all the monied operations of the state will be avoided, which might result from allowing the canal moneys to accumulate in the state banks—to be diffused by them through every department of business—and then to be drawn for on the 1st of July, 1837, to the amount of three and a half millions of dollars, for the redemption of the stock then payable.

These and other considerations have induced the commissioners of the canal fund to offer so large a premium for the redemption of the canal stock of 1837; and they have supposed that this object might be promoted by giving this explanation, and by making known to the stockholders the terms on which the stock can be redeemed.

Respectfully your obedient servant,
A. C. Flagg, *Comptroller.*

MARRIAGES.

Last evening, September 9, in St. Thomas Church, by the Rev. Dr. Hawks, William Wisne, of Albany, to Jane M. eldest daughter of Donald Malcolm, Esq. of this city.

This morning, by the Rev. Dr. Woodbridge, Frederic W. Burke, to Ann C. daughter of the late Apollo Potter, all of this city.

DEATHS.

At Brooklyn, L. I., this morning, (Sept. 9) George Henry, aged 6 months, infant son of Francis G. Fish.

On Wednesday, Lyman Clark, aged 60.

At Staten Island Sept. 4th, Mr. James Parsons, of Georgia.

On Thursday evening, Wm. Sloan, aged 37 years.

On Sunday last, Jos. Levy, in the 44th year of his age.

Yesterday, Rufus A. son of Chas. W. Davenport, aged seven years, seven months and twelve days.

Last evening, at New Town, L. I. near Halletts Cove, William, son of Thomas R. Lawrence, in the 6th year of his age.

Of Yellow Fever, at sea, on board the Condordia. from New Orleans, on the 2d inst. Charles Card, aged 21, son of William Card, Esq. of this city.

On Wednesday, of consumption, Elizabeth Harbinson, in the 47th year of her age.

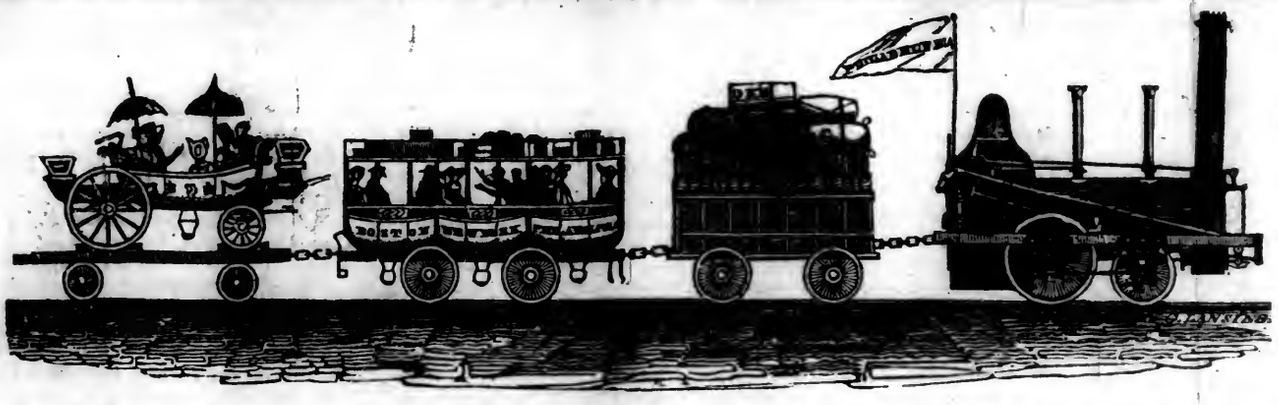
On Saturday evening, Mrs. Miriam Bunker, wife of Elihu S. Bunker, aged 58 years.

On Saturday evening, of diarrhœa, Joseph Hardcastle, aged 35 years, son of Joshua Hardcastle, ancient printer of New York.

At his residence, on the 7th instant, after a long and painful illness, John Levitt Harris, Esq., (nephew of Levitt Harris, Esq., American Chargé at Paris,) Mayor of the city of Burlington, N. J., in the 46th year of his age.

Yesterday morning, in the 66th year, Mr. George Bement, Merchant, of this city.

This morning, Elizabeth Carmer, aged 72 years.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, SEPTEMBER 21, 1833. [VOLUME II.—No. 38.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 21, 1833.

Tonnewanda Railroad.—We understand that the following gentlemen were elected Directors of this road, and that the route will be immediately surveyed. The character of the Directors guarantees the energetic and satisfactory prosecution of the work.

Attica—Gaius B. Rich.
Batavia—David E. Evans, James Brisbane, Trumbull Cary, Au gustus C. Stevens.
Le Roy—Jacob Le Roy.
Caledonia—Willard H. Smith.
Rochester—Jonathan Child, Frederick Whittlesey, Thomas Kempshall, A. M. Schermerhorn, Elihu H. S. Mumford, Henry B. Williams.

The Directors of the Utica and Schenectady Railroad Company have made choice of Mr. Wm. C. Young, the late capable engineer of the Saratoga Railroad, and Mr. Hopkins, now engaged on the Raritan and Delaware Canal, in New-Jersey, as engineers of the Company. These engineers, we understand, will commence the survey of the road the present week, and will probably complete it this fall, or in time to put the work under contract, and commence the grading as early in the spring as practicable.—[Schenectady Whig.]

We understand, says the Albany Argus, that Wm. C. Bouck, Esq., declines the appointment of Commissioner of the Utica and Schenectady Railroad Company.

Portsmouth Railroad.—The first division of this work embraces the distance from Portsmouth to Suffolk, 16 miles, which was commenced last spring at each extremity. The Directors are satisfied that the sixteen miles now under way will be completed much below the estimates of Col. Crozet. About the centre of the 16 miles the road passes over the edge of the Dismal Swamp, a distance of three miles, now entirely dry; the soil being similar to pipe clay, covered with a spongy super-stratum, about three feet thick; and consequently, with very little more labor will be made as substantial there as in any other part. The grading being nearly completed on the section next to Suffolk, the work of dressing the timber for laying the rails was commenced last Tuesday; and the iron rails and locomotive engine are shortly expected from Liverpool.—[Norfolk Herald.]

Ship Canal.—The ship canal, which has been constructed by Major G. Camp, for Messrs. W. Peacock, of Maysville, Chatauque co., Evans, of this city, and Guinn, of Batavia, was filled with water on Friday last. It is an extensive and valuable work, and presents another evidence of the enterprise of the owners of real estate in Buffalo, and of the great and growing advantages of the place.—[Buffalo Journal.]

On the Construction of Curves for Arches.

By J. S. Van De Graaff. To the Editor of the American Railroad Journal.

Sir,—An article in the 34th number of the American Railroad Journal, on the construction of curves for arches, contains a method of constructing an elliptical segment, which will not vary essentially from the true curve of equilibrium with a horizontal roadway. This subject, perhaps, requires a more full investigation; for notwithstanding the curve of equilibrium, in the case proposed, is well known to the scientific engineer, yet that curve is seldom employed in practice, even in the arches of large culverts, which support a heavy pressure of embankments, *in consequence of the difficulty of construction.* And I know of no author who has given so accurate an approximation of the true curve, as that by means of an elliptical segment, which may be easily constructed.

I am, therefore, induced, in consideration of the practical utility of this subject, to present to you the following investigation for the mathematical readers of your Journal, with a hope that it will, if possible, elicit from them a convenient and more perfect arch than the segment here proposed.

It is a fact easily demonstrated, that *no curve of the parabolic kind* is well suited for the arch of a large culvert, which is to sustain a heavy pressure with a horizontal roadway. For the general equation of such curves being $x \propto y^m$, they are equilibrated when the pressure $\propto y^{m-2}$: and, therefore, when $m < 2$, the curve is not proper for sustaining much weight near the springing points; and when $m > 2$, it will not be well adapted for supporting much pressure at the crown. And from a similar investigation, it will appear that the hyperbolic curve is also liable to the same objection; and that the segment of an ellipsis may be made to approach very nearly to the curve of equilibrium in the case proposed. It is true, as mathematicians have demonstrated, that a conic section may be made to pass through five given points; and when those points are taken in the flanks, springing points, and crown of the equilibrated curve, it is evident that either the ellipse or hyperbola may be made to meet the curve in all those points. Nevertheless, the hyperbola would be very injudiciously used in such a case, as will readily appear from the above.

Let p denote the rise, q the half span, and h the thickness at the crown, including the thickness of the ring of the arch and the matter above, reduced to a homogeneous mass. The following is then the well known equation of the curve of equilibrium with a horizontal roadway :

$$y = q \times \frac{Log.\left\{x+h+\overline{x^2+2hx}^{\frac{1}{2}}\right\} - Log.\ h}{Log.\left\{p+h+\overline{p^2+2hp}^{\frac{1}{2}}\right\} - Log.\ h}$$

Now, in producing a coincidence of curves, corresponding to any given values of the coordinates x, y, it will be found that the equilibrium will be most complete when $x = \frac{2}{5}p$ very nearly; in which case, taking A to represent the logarithmic part of the above equation, we have $y^2 = q^2 \times A^2$; and, therefore, when a denotes the semi-transverse axis of the required ellipse, we have by con. sec.,

$$a^2 - \overline{a-p}^2 : a^2 - \overline{a-\frac{2p}{5}}^2 :: q^2 : q^2 \times A^2 ;$$

which produces the following formula,

$$a = p \times \frac{25\,A^2 - 4}{50\,A^2 - 20}$$

From this formula the transverse axis of the required ellipse becomes known, and the conjugate may then be had without difficulty. It will be found that this value of the semi-transverse axis agrees with that given in the 34th number of your Journal, and which was obtained upon very different principles.

Very respectfully yours, &c.,
J. S. Van De Graaff.

Lexington, Ky., September, 1833.

UNDULATING RAILWAYS.—Our readers will probably recollect an article published in the Journal some months since, from the London Athenæum, holding forth the superiority, or at least equality, of *Undulating* Railways. We are now enabled to refer again to the subject, (which we have heretofore been prevented from doing by the non-arrival of our English Magazines,) by giving a series of communications *for* and *against* it, from the London Mechanics' Magazine, from which it will be perceived that some change of opinion, relative to the truth of Mr. BADNALL's theory, has been effected.

The Undulating Railway. By JUNIUS REDIVIVUS. [From the London Mechanics' Magazine for March.]

SIR,—I have been casually informed that there is exhibiting somewhere about town, a model of an undulating railway, whereby the inventor undertakes to convince the public that the antique notion of level surfaces being the best adapted for wheel carriages is entirely wrong; and, of course, if his position be correct, the road surveyors have wasted a 'pretty considerable quantity of money,' to make roads worse than they were before, by levelling the hills, which ought to be restored without delay.

But the inventor of the undulating railway is by no means an originator. The Russian ice-hills on the Neva, for the amusement of the sleighers in the winter season, formed of boarded scaffolds, overlaid with blocks of ice, are much more ancient, and the *Montagnes Russes* of the *Champs Elysees*, which served for summer amusement to the youths and maidens at Paris, (the King of Prussia inclusive,) some fifteen years back, were railroads of something of the same nature as that now proposed. But the proposer of the present undulating railway has stumbled upon a fallacy, which possibly may deceive himself, but which ought not to be suffered to deceive the 'barren spectators' amongst the public, because all such fallacies serve to inflict mischief upon the really useful inventors, by getting them classed under the invidious name of 'schemers,' which ought properly to be confined to the plotters of absurdities alone.

There can be no doubt that a carriage placed on the top of a hill of sufficient inclination will descend with so much momentum as to drive it partly up a second hill of the same height and inclination, or over a hill of considerably less height and inclination.

There can be no doubt, also, that a fly-wheel, put in motion, will continue to revolve for some time after the original moving power ceases to act on it; but it is a woeful error to suppose that either the fly-wheel or the carriage can generate additional power of their own. I once heard a story of an Irish schemer, who had devised a plan for increasing the power of a ten-horse engine to that of fifty, by means of an enormous fly-wheel. Finding a 'flat,' he was set to work; and when he had, after some difficulty, succeeded in casting his enormous wheel, he expended much money in fitting up an apparatus to turn and polish it all over, to prevent the loss of power by friction in the atmosphere with a rough surface! Much time being lost, the proprietor, who was at all the expense, became impatient, and then there was another delay to know how the wheel was to be stopped, with all its giant power. This having been arranged, both schemer and proprietor were much astonished to find that it would not go at all. The proposition to get additional power, or save power, by means of an undulating surface, savors much of a perpetual motion scheme. It is clear that what is called *momentum* in falling bodies, can be nothing more than *gravitation*, whereby all bodies have a tendency to get as near as they can to the centre of the earth, and the heaviest have the most success. The momentum of the carriage in going down hill is in proportion to the height which it is raised, and the diminishing of friction by the degree of inclination. In the Russian ice hills, the first, from which the sleigh starts, is of a given height; the second diminishes; the third also, and so on until the level ice is attained. Were all the hills of the same height, the sleigh would descend the first, partly ascend the second, and then oscillate for a time between both until it stopped. The reason that the sleigh moves at all, that it possesses the power of motion, is, that it is removed from a lower to a higher level, and the tendency of its gravitating power is to reach the lowest—as the case with water, which has the advantage of being of a more mobile substance. But what places the sleigh in the situation to use this power, or rather what confers the power upon it? The animal power, either of human hands or horses' shoulders which has been communicated to it, and which, doubtless, if means were taken to ascertain it, would be found to be exactly equivalent to the power put forth in surmounting the hills, with the exception of the loss by friction, *i. e.* the animal power applied in the first instance would have served to draw the sleigh on level ground as great a distance—I mean, over as many yards of surface—as it traversed on the hills. Therefore, in this case, there would be no *gain* of power, or of any thing but amusement.

The late Mr. Bentham was accustomed to say, in a jocular manner, that when he made a world, it should be all down hill. Now, such a contrivance would be admirable for diminishing friction, if there were any arrangement whereby we might always be at the top. If the new invented railway were contrived so that it might be constantly down hill, or over diminishing hills, there is no doubt that much friction might be avoided; but by what process are we to get to the top to begin again? There is but one answer—by labor got out of animals, or steam. And what would be the increase of work up hill? What was gained one way would be lost by the other. I say nothing of the mischief resulting both to cattle and engines by the irregular motion. But we will suppose the railway an average level, *i. e.* the undulations to be all alike, what possible advantages can it have over a straight and regular surface? It has been shown that to get the momentum of the high level, the power must be, so to speak, 'put into it,' *i. e.* it must be applied before hand, just as the steam of an engine is got 'up' to start with effect, or as is said of a horse who has been off work a few days, 'his go is bottled up.' When the carriage on the undulating railway has reached as far up the second ascent as the momentum will drive it, how much power must be put on to carry it up the remainder of the ascent? Probably as much as it would have taken to perform the distance of two undulations on a level road.

The *Montagnes Russes* of Paris were formed in a circle, and consisted of one descent and one ascent. The descent was steeper than the ascent, yet the impetus, or momentum, only served to carry the car one third up the ascent, when it was hooked by an endless band, worked by horse power below, and drawn to the top. Now, the power applied by the horses in drawing that car to the top, was probably equivalent to the power which would have been exerted in drawing the car the whole distance on level ground, difference of friction excepted. The fact is, that in all cases the same quantity of power must be consumed to drag a wheel carriage up to a given height. If the ascent be steep, a large amount of power is requisite for a short time. If the ascent be gradual, a small amount of power will be requisite for a longer time. The total will be equal. Increase of speed is loss of power, and *vice versa*; yet, strange to say, there are numerous unthinking people who believe that by making a simple machine complicated, as in the case of this railroad, they actually multiply their power: as if an accelerated motion down hill were not balanced by an up hill to ascend in turn.

The process is somewhat similar to that of a man who, determining to erect a water-mill, were first to erect a wind-mill or steam engine to pump up the water necessary for his water-wheel. There are, I believe, water-mills in some of the mining districts which are supplied from the pumps worked by engines, but then the power of the engines is not expended for the purpose of getting rid of a stream of water. The power got out of the water afterwards was first put into it by the engines, and the saving that power by using it for the water-mill, is analogous to the process of the soap-makers, who boil down their waste ley to recover the alkali it may contain; but they do not make waste ley for the purpose of getting the alkali out of it. The power of the water-mill is commonly but a very small proportion of that of the engines which supply it, because the descent of the fluid is much less than its ascent. Were it to fall on the wheel from a height equal to that from which it was pumped up, the power of the engine and the power of the water-wheel would be nearly equal, the friction of the pump being taken into account.

Whatever the proprietor of the undulating railway may think, 'power' cannot be self-generated. A man who is in a valley cannot get up into a mountain without labor of some kind; and whether the ascent to the mountain be a straight inclined plane, or a number of undulations, will matter very little; but what difference of labor there is will be in favor of the former. When the boy makes his marble bound on the pavement, there is no saving of labor to him, because it happens to bound three times with one exertion of his muscles. He is obliged to exert so much the more power. The proposition to gain power by making a carriage go up hill and down hill, instead of on a level, reminds me of a scheme I once saw of a self-moving carriage, which was to go on as soon as it was loaded; and the greater the load the faster it was to travel. The ingenious inventor had heard talk of a wheel within a wheel, and he literally put it into practice—small wheels being contrived to run on a rail within a periphery of large ones, both before and behind a four-wheeled vehicle, and so fixed, by means of guides, that the weight was pressing on the rim of the large wheels, at a considerable height above the ground, in expectation of making them revolve. The inventor had entirely forgotten that while the large wheel was pressed down hill, the small one had to travel up hill, and consequently that it was 'no go.' Perfectly similar is the undulating railway. If the eight-wheeled vehicle could have moved at all, it might have been running even unto this day; and if up hill and down hill *versus* level were a clear gain, it might be improved on till animal and machine power might be dispensed with, and the railway locomotive power of every man might reside in his own fingers. We have not come to that yet. We may exert a great quantity of power in various ways, it is true, but no more power can come out of a thing than we put into it. If we wind up a jack, or a clock, or a watch, the amount of power which have been rapidly given is slowly expended—that is the whole process; but a man would be laughed at who were to assert that the power we had given to the machines increased in quantity while in their progression; and thus should the man be laughed at who asserts that the power of a horse or machine is multiplied by going up and down hill.

Since writing the above I have caused inquiries to be made at the place of exhibition, and am informed that the inventor has gone to Birmingham, I think, for the purpose of setting his scheme going on an undulating railway of three miles in length, to try it on a large scale. I am, sir, yours, &c.,

JUNIUS REDIVIVUS.

The Undulating Railway. By J. W. N. BADNALL. [From the London Mechanics' Magazine for April.]

SIR,—I should not have considered it worth my while to have noticed the letter contained in your last number on the subject of '*the un-*

dulating railway,' and signed 'Junius Redivivus,' had it not been accompanied by some remarks of your own, which I feel it necessary to reply to.

As an occasional contributor to your publication, and as a constant reader of it from its commencement, I feel little doubt of your doing me the justice to publish this letter with as little delay as possible.

I am the inventor and patentee of the undulating railway, models of which have recently been exhibited at Manchester and in London, and (however extraordinary it may appear to your correspondent) have engaged the anxious attention and investigation of some of the most scientific men in this kingdom; men who, instead of adopting the ungracious and undigested conclusions of 'Junius Redivivus,' have not considered it a waste of time to endeavor, by formula, diagram, and figures, to resolve the facts which impartial experiments on a small scale have so fully developed.

To convince you, sir, that I am not an individual who, as a *'plotter of absurdities,'* wishes to impose upon public credulity, I have not hesitated to risk any mechanical reputation which I may have earned, by publishing a treatise on the subject of the railway in question, a copy of which I had requested my publishers, Messrs. Sherwood, Gilbert, & Piper, to send to you. In the short work alluded to, I have ventured upon a mathematical explanation of the cause of the advantage derivable from the adoption of *undulating* instead of *horizontal railways*. To that reasoning I beg to call your attention, and in the mean time permit me to assure you that I shall not for one instant defend a fallacy, if any of your correspondents will undertake to establish one. I cannot, however, bring myself to believe, although some *'barren spectators,'* as your correspondent terms them, may be inclined to found their faith on the empty assertions of 'Junius Redivivus,' adorned as they are by corresponding remarks on 'ice hills,' 'Russian mountains,' 'polished fly-wheels,' 'perpetual motion,' 'new fashioned water-wheels,' &c. &c., that such arguments will in any degree satisfy the inquiring minds of the great number of scientific men of declared reputation who *have witnessed* the experiments—who have considered them worthy of reflection—and who, as yet, have not made me acquainted with *the error* into which, if your opinion and your correspondent's be correct, I must (very innocently, I assure you,) have fallen.

I have recently requested the model engine to be returned to the Adelaide Rooms in London. You will, I hope, do me the honor to examine the experiments carefully, and if you find that a much greater velocity is attainable upon an undulating line with a given power than upon a horizontal line with the same power, and that greater weights can be conveyed upon one line than upon the other, I trust to your candor to make such declaration, or to show mathematically wherein the deception or fallacy consists.

'Junius Redivivus' argues as if I talked of *generating power* upon an undulating line. It is enough if I prove that *it can be economized*, or that greater loads can be carried, and a greater velocity be attained, than upon a horizontal line *with equal locomotive power*.

I should indeed be less deserving than I feel myself of the compliment paid me, in your *autographical plate*, by the enrolment of my name among the names of men with whom I never felt that I merited such an association—and as a *civil engineer*, a most unworthy member of the profession which I have recently embraced, were I to endeavor, first to palm a fallacy upon the public, and afterwards to insult science by endeavoring to establish that fallacy by false reasoning.

By way of rendering your correspondent, however, a little more instructive to your readers, I will beg him to inform them—

First, What would be the difference in friction between a carriage of any given weight, say one ton, traversing a curve 100 yards in extent, whose descending and ascending lines incline from the summit level at an average angle of 22½°, and upon a horizontal line of like surface, drawn direct from summit to summit?

Secondly, What would be the difference in the velocity, or (in other words) in the time, which the same body would require to traverse such curve and such horizontal line, supposing it to commence upon the latter at a *maximum* velocity of five yards per second, and to commence the descending line and mount the summit of the ascending line of the curve at the same velocity?

When these questions are answered satisfactorily to your scientific readers, I will enter further into the practicability of my plan, and I hope I shall not find it difficult to prove that the adoption of a succession of curves upon a railway, whose summits are of equal altitude, for the purpose of saving power by the more economical use of steam, and increasing velocity, is not the only useful object of my invention—but that it especially applies to the rising of inclined planes, and to the prevention of excavation and embankments in many instances; while by the adoption of even occasional *single curves* the carriages may proceed under or over public roads, canals, &c. which might otherwise prove serious obstacles to railway lines, and across valleys, which might also prove sources of immense expense.

The esteem with which I have always regarded your useful publication, induces me to take a trouble on this occasion which the unceremonious, and occasionally uncourteous, remarks of your correspondent 'Junius Redivivus' do not, in my opinion, merit. If he can, however, *prove* the fallacy under which I labor, he will not be doing a greater service to the public than to J. W. N. Badnall.

P. S.—The line of road upon which, through the kindness of Mr. Giles, the engineer, I hope first to try the practical effect of my principle, whether on the level or up inclined planes, is the Newcastle and Carlisle Railway. The result will, I have no doubt, prove that the Rainhill and Sutton inclined planes, which are now the leading obstacles on the Liverpool and Manchester line, may be ascended with a facility which has not hitherto been contemplated.

[We have not yet received the explanatory pamphlet to which Mr. Badnall alludes, nor have we yet had an opportunity of seeing the model of his invention in operation. We can, therefore, say nothing at present either by way of retraction or confirmation of the opinion we have expressed on the subject. When we gave that opinion, we were not aware that Mr. Badnall was the patentee of the 'undulating railway'; and we most freely confess that if any one thing could shake our incredulity respecting it more than another, it would be the circumstance of its having a gentleman of his talents, information, and experience, for its author.—Ed. M. M.]

Report of the Engineer in Chief of the Ithaca and Owego Railroad Company.

[Continued from page 580.]

Inclined Planes.—By referring to the annexed tables it will be seen that the line thus selected as the *most eligible* route that could be obtained, instead of descending the whole distance of 6½ miles on one regular grade, and that, too, the *maximum* descent, the line adopted is carried on an *undulating grade*, from the summit northerly to the head of the inclined planes, in which distance the descent of the grade northerly exceeds its ascent 77 feet; and, to that amount, reduces the elevation to be overcome; which being deducted from the elevation of the grade for the *road bed* at the summit, (600 feet,) leaves 523 feet for the elevation at the head of the inclined planes above the level of the Cayuga Lake; by taking from this as before, the elevation (12 feet) of the road bed upon the flats at the *foot* of the inclined planes there will be 511 feet of elevation left (*between* the road bed at the foot of the inclined plane and that obtained for it at the head of that plane) to be overcome by stationary power.

After having thus ascertained that the elevation for the road bed at the head of the inclined planes, could, *at most*, be only reduced to 511 feet above the Ithaca flats, the next object to be attended to was the selection of the most eligible *grades* for descending the Ithaca hill with these planes.

The Ithaca, or South hill, upon the face of which these inclined planes must of necessity be constructed, is composed of gray wacke, of the slaty variety, mostly of a loose, friable texture, with occasional veins of a compact texture, suitable for mason work, which approaches in places to within one foot of the surface of the ground.

This circumstance made it the more needful to obtain, if practicable, such a location as required only a *moderate* depth of excavation.

Much care was taken in the examination of this hill to obtain that object; and lines were run, and levels taken over it, from Mr. M'Cormick's mill, the Ithaca Hotel, and Mr. Pelton's quarry, on the east, to the deep ravine ¾ of a mile to the west of Cayuga street.

Levels of *contours* of the hill were also taken at every five or ten feet in elevation, and other lines, amounting together to many miles, were also surveyed and levelled. In this manner the elevation was obtained of the whole face of the hill, and that, too, at points on every important change of its surface.

By means of information thus obtained, various routes and grades were projected and examined, for the purpose of connecting the road upon the Ithaca flats with that at the head of both inclined planes, among which are the following:

1st. An ascending grade of 4° 18', or one foot rise in 13¼ feet of base, (365 5/10 feet per mile,) was traced along the northern acclivity of the Ithaca hill: beginning at a point in the excavation made by this company in 1830, at the foot of that hill, and near Messrs. Collins & Huntington's brewery, and running thence south-easterly to near the summit of the hill, intersected the present line of railroad 2 1/10 miles from its northerly termination.

The most eligible route that could be obtained for this grade was a *very circuitous one*, and required heavy embankments and deep cuttings through rock; its *straight lines* were short; the *radii* of its *curves* were small, and the line passed over several *streets* and *roads* and through the small settlement or place called "*Michigan*," where several valuable buildings must have been removed.

The whole length of the inclined planes required to overcome this elevation (on this grade) would have been 7,920 feet, and would have required a proportionate length and weight of rope, number of friction rollers, persons to attend and give telegraphic signals, &c.

The great cost to be incurred in the first construction and future repairs of a railway made on *this line and grade* for an inclined plane at this place, would have been an insurmountable obstacle to its adoption by this company, even if no regard were had to the injury that would have been done to property at, and in the vicinity of, Michigan; the interruption to travel by the almost inaccessible public bridges that must have been built at the numerous streets and roads crossing the track of railway on that side hill, at an elevation above, or depression below, the railroad, of from 12 to 14 feet; or the increased liability to accident from the breakage of car-ropes upon an inclined plane with *such abrupt curves*; or the cost of communicating by bell or by other signals such a distance, and over such ground; the time of connecting or disconnecting the cars from the rope at the head or foot of the plane, or the increased liability to interruption to commerce, (and consequent loss of toll,) by the breakage of ropes of such great length, taken along such a circuitous route, and over so great a number of friction rollers.

2d. A good route for a part of this inclined

plane could have been obtained on a line running from the summit in a direction towards the Ithaca Hotel, till it arrived in the neighborhood of Mr. Pelton's quarry; at which place the elevation of the grade would have been 150 feet above the level of the lake. From this point to the flats at the Ithaca Hotel, or at Mr. M'Cormick's mill, was a distance of only 1500 feet, and the elevation to be overcome 115 feet. At about 300 yards from the Hotel, the rock or hill is 100 feet above the level of the lake; of course, to have terminated the inclined plane in that part of the village of Ithaca would have required such extensive embankments over the streets, and as high as the tops of the buildings, and destroyed so much property, and interrupted the travel in that section of the village to such an extent, as it would have been unreasonable to have expected the inhabitants and proprietors would have submitted to, even if the Company had had the means to have paid them a fair equivalent for their damages. This line and grade could not, therefore, be recommended.

After the most thorough examination of the Ithaca hill, and the various experimental and other lines, run to and over it, from the north as well as from the south, the following line and grade for the inclined planes at that place have been selected as the most eligible (and I might almost venture to say the only one) which the funds of the Company authorize me to recommend to the Directors for their adoption.

The whole elevation to be overcome at the Ithaca hill by stationary power, being, as before mentioned, reduced to 511 feet; and the abrupt descent from every point of that hill to the flats making it necessary to build a high and heavy embankment to arrive at the foot of this plane if run to any point of these flats; it became necessary to select such a place for the termination of this inclined plane, as was unoccupied by buildings or other valuable improvements: this necessity determined the location of the foot of the plane to be *south-west* of the brewery before mentioned; the route *east* of that place having been examined and *rejected*.

The location of the *road* at the *head* of the inclined plane, (being controlled by the ground to the south thereof,) made it needful to have *one* or *more* curves in the plane, provided it was made to terminate *east* of Cayuga street; but if it terminated about 400 yards south-westerly of that street, then it could be taken down the hill on a *straight line* for the whole length of the plane, and this straight line be extended beyond the foot of the plane 831 yards upon the flats.

This straight line was found to be the most eligible that could be obtained for this part of the road; but passing, as it of necessity must, up a steep hill, the face of which is rock, covered in places with earth only a few feet or inches in depth, I have been under the necessity for the present to adopt for it a *grade*, which, although the most eligible that could be obtained within the means of the Company, yet is *considerably steeper* than I would have preferred it; it, however, can be reduced at a future day, when the funds of the Company will enable them to do so.

A plan has been devised, by means of which, it is believed, accidents may be prevented to the cars by the breakage of the car-ropes, ascending or descending these planes.

Location of the Road.—The general course of the road, from its northerly termination at Cascadilla street on the inlet of the Cayuga Lake in the village of Ithaca, to the northerly end of the bridge built across the Susquehanna River at the village of Owego, is S. 25° 4′ E.*

The distance between the northerly termination of the road, and the bridge across the Susquehanna River at Owego, is, on a straight line, 141,755 feet, or 26 847-1000 miles; on the line of the Railroad it is 151,934 feet, or 28 775-1000 miles; along the Ithaca and Owego turnpike road, is 159,818 feet, or 30 224-1000 miles.

Monumental stones, designating the line and grade of the road from Ithaca to Owego, are to be placed (where not already done) in the centre of the road, at the level of the road grade, at points 500 feet apart, commencing at the north end of the road; they will also be placed (where not already done) at the commencement and termination of each curve and straight line. These landmarks will serve as convenient and cheap guides to the grading, as well as to the laying of the railway: they will also serve as references in the descriptions of the several pieces of ground taken by the Company for the use of the road.

By a resolution of your Honorable Board, dated the 25th day of November, 1831, it was unanimously resolved that the *minimum* breadth of land to be taken for the railroad should be *one hundred feet*.

With this width of 100 feet, the centre and central line of the railroad commences upon lands of Simeon De Witt, Esq., on the Ithaca flats, at a point in the south side of Cascadilla street in the village of Ithaca, 126 feet west of Fulton street, and 110 feet east of the wharf now built along the east side of the basin made at the inlet of the lake.

From this beginning point, *Straight Line No.* 1 runs S. 0° 30′ E. parallel to Fulton street, 977 7-10 feet over lands also belonging to Mr. De Witt, to Station No. 9.777 at the north end of Curve No. 1.

The road bed at the beginning of Straight Line No. 1, has been graded to the level of 5 feet above the Cayuga Lake at its summer height; from thence to the north end of Curve No. 1, it ascends at the rate of 7 39-100 feet per mile, and at that place is 6 37-100 feet above the level of the Cayuga Lake.

Curve No. 1, commences at Station No. 9.777 at the south end of Straight Line No. 1, upon the lands of Simeon De Witt, Esq.; and to arrive at the foot of the inclined plane, bends to the left, with a radius of 2434 feet, for a distance of 1894 feet, to Station No. 28.72 at the north end of Straight Line No. 2, upon lands of Mr. De Witt.

The road for the whole length of this curve ascends at the rate of 7·39 feet per mile, and at its southerly termination is 9 feet above the level of the Cayuga lake. The averaged height of embankment over the flats is 4 7-10 feet.

Straight Line, No. 2, commences at Station No. 28·72, at the south end of curve No. 1, on the lands of Mr. De Witt, and runs S. 44° 30′ E. 2494 feet to Station No. 53·66, at the foot of the first inclined plane, and 6,687 feet to Station No. 95·595, at the head of the second inclined plane, which is also the north end of curve No. 2, and is upon the lands of John P. Gauntlett; crossing in this distance the lands of Francis A. Bloodgood, Simeon De Witt, John P. Gauntlett, and Luther Gere.

In passing over the Ithaca flats, from Cascadilla street to the foot of the first inclined plane, this road crosses Mill, Buffalo, Seneca, Owego, Green, and Clinton streets, as now laid out upon the ground; and Broad, Washington, and La Fayette streets, which run east and west, and Fulton and Geneva streets, which run north and south, as laid out upon the plan of this village, (all of which may, with moderate embankment, be crossed at the level of the road,) and the viaducts now building for the passage of the Six Mile Creek, and the raceway to the Ithaca flour mill; it then crosses the Spencer road, as now laid out, and arrives at the foot of the inclined plane at a point 5366 feet from the beginning of the road; ascending in this distance at the rate of 14-100 feet per 100 feet, or 7 39-100 feet per mile, for a distance of 5000 feet; and at that place is 12 feet above the level of the Cayuga lake at its summer height. The remaining 366 feet to the foot of the inclined planes is *level, except* a small depression to be made in it for the purpose of aiding the cars in ascending and checking them in descending the planes.

The foot of this inclined plane is about 400 yards southwesterly from the bridge across the Six Mile Creek at Cayuga street in the village of Ithaca, and 114 feet northwesterly of the foot of the Ithaca hill. From this point both inclined planes are, as before mentioned, located on a straight line running south 44° 30′ E. 1733 4-10 feet, to the head of the first plane, and 2460 feet further to the head of the second plane, which is also the north end of curve No. 2,

It will be perceived that there is *no bend* at or near the foot of this plane. The same straight line that passes up both planes S. 44° 30′ E. $4193\frac{4}{10}$ feet to curve No. 2, at the head of the upper plane, being also continued N. 44° 30′ W $630\frac{4}{10}$ feet over the Ithaca flats to curve No. 1, (the length of the straight line between Curve No. 1 and Curve No. 2 being $4823\frac{8}{10}$ feet.)

Although these inclined planes can be made as safe as any other equal ascent, and it is thought that a plan can be devised by means of which they can be made more so: yet, as accidents have happened at inclined planes of the best construction, and of gradual ascent, a prudent foresight suggests the expediency of making, as far as practicable, seasonable and ample provision for *preventing injury* from any accident that may from any untoward circumstance happen upon this part of the Road. With this view of the subject, the advantage of *both planes*, being thus located upon the *same straight line*, and of that straight line being continued such a distance upon the flats *beyond* the foot of the lower plane, cannot but be duly appreciated.

The whole amount of elevation to be overcome at these planes being 511 feet, in a distance of $4193\frac{4}{10}$ feet, (the foot of the first plane being 12, and the head of the second plane being 523 feet above the level of the lake,) and the natural slope of the hill making it impracticable at a reasonable cost to overcome this height by *two* inclined planes of *equal* elevation, it was deemed most to the interest of the Company to divide the whole elevation between two inclined planes, in such proportions as would give to each a grade that would pass *nearly* along the general slope of the hill or rock, and thus lessen the cost of excavation through it.

In accordance with this plan, the elevation to be overcome by both planes has been so divided that the *first* inclined plane should have a base of 1733.4 feet, and overcome an elevation of 405 feet; ascending this distance on an angle of 13° 9 6-100′ with the horizon; or at the rate of 23 36-100 feet per 100 feet base, which is equal to 1 foot rise to 4 28-100 feet base; and the *second* inclined plane should have a base of 2225.9 feet, and overcome an elevation of 106 feet; ascending this distance on an angle of 2° 43 58-100′ with the horizon; or at the rate of 4 76-100 feet per 100 feet of base, which is equal to 1 foot of perpendicular rise to 21 feet of base. The level space between the planes is 234.1 feet. Making the whole length of both planes 4193 4-10 feet. And the whole amount of elevation overcome, 511 feet, which, with the elevation at the foot of the first plane, 12 feet, gives for the elevation at the head of the second inclined plane 523 feet; and at the head of the first plane 417 feet above the level of the Cayuga Lake.

At the foot of the first and second inclined planes there will be a short descent towards those planes, for the purpose of aiding the cars in ascending, and checking their speed in descending the planes.

The engine house is to be built between the planes.

To make the inclined plane upon these grades, will require an embankment at the foot of the Ithaca Hill, 138 yards in length, with an average height of 19 3-5 feet; the greatest height being 22 3-5 feet. This will bring the road to the beginning of the rock excavation, which extends a distance of 1100 feet with an

* For the sake of brevity in describing places along the line of the road, they will, in some instances, be spoken of as if the general course of the road was due north and due south; and distances from the beginning station at the northerly termination of the road, on Cascadilla street, in the village of Ithaca, will be spoken of as distances from Ithaca.

average depth of 9½ feet, the greatest depth of cutting being 19 3-5 feet; crossing in this distance the ground of Francis A. Bloodgood, Simeon De Witt, and the Beebe Road.

This road (which is a continuation of Cayuga street) will be taken *over* the railroad, by a bridge about 15 or 16 feet in height, above the level of the railway, at that place; here the excavation is made through rock to a depth of 8 feet.

The cut through this rock is made for a double track; it is 22 feet broad at bottom, with a berm on each side, 3 feet in breadth, at 3 feet above the road bed. The side slope of this cut has a battre of one foot in five.

At the middle, or old Owego Road, the rock excavation terminates; and another heavy embankment commences, and extends to the foot of the second inclined plane, a distance of 700 feet, with an average height of 7 64-100 feet; the greatest height being 24 2-10 feet.

This embankment falls upon the ground of John P. Gauntlett, and is about 100 yards easterly of his dwelling house.

It was needful to raise the embankment to this great height, for the purpose of providing a level space of railway between the two planes, for the erection of an engine house, and also for a Depot, for the cars, goods, &c. that might be detained at the head of the first plane, and need protection from the weather, &c.

The earth required to make this embankment, with the necessary slopes and berms, if made only 84 feet broad at top, for a distance of 100 feet, and the remaining 600 feet only 42 feet broad at top, with the usual slopes, will amount to 17,274 cubic yards.

As an engine house is needed at this place, and stone suitable for building can be obtained near the spot, at a moderate cost, (50 cents per perch,) it is believed to be the best economy to build this house, in place of so much embankment as its space may occupy, and enlarge its dimensions so much as to answer for a store house, work shop, &c.

The abundance of stone at command enables me to make a further saving at this place, by carrying up two parallel walls lengthwise of the road, and on both sides of its centre; these side walls to be connected with cross string pieces, to receive and sustain the rails and the cars. The horse path may be made of plank. The space between the walls may be filled up with earth, or left open, and converted into dwellings, or work shops, &c. at the pleasure of the company.

These walls may be extended from the engine house towards the middle or old Owego road, till its diminished height shall be only equal in cost to that of an equal height and breadth of earthen embankment.

The middle road may be taken over the railroad without changing its location, by building a bridge similar to that to be built across the Beebe road; or diverging with this road to the south about 200 feet, it may be taken under the railroad, through a space to be left for that purpose in the walls last mentioned.

The Owego Turnpike Road may be taken under the railroad, without changing its location or the elevation of its surface.

From the foot of the second inclined plane, at the Owego turnpike road, to the head of that plane, the road will require moderate embankment and cutting. The embankment will average $2\frac{4}{10}$ feet in height for 1100 feet, the greatest height being $4\frac{7}{10}$ feet; and the cutting will average $3\frac{9}{10}$ feet in depth for 1100 feet, the greatest depth being 8 feet. The excavation is earth, shell rock, and solid rock.

PRUSSIAN BLUE ON WOOLLENS.—It has gone the round of our papers, several times within the last two years, that a mode of dying blue without indigo was in use on the continent of Europe. This color is merely the application of Prussian blue to yarn and cloth, and has been used very commonly on cotton and silk goods, in this country, for the last five years. The blue produced in this way for the last year, in this country, has probably been equal to that which could be obtained from two hundred chests of Bengal Indigo. Its application to cotton and silk goods has been generally known for some years; but it is only very recently that it has been successfully used on woollen fabrics, owing to the great difficulty in fixing it evenly on the goods. This difficulty has been lately overcome, and I hasten to make it known to the workmen of this country. My instructions may be incomplete, as is almost ever the case with a new discovery, but it will, no doubt, be sufficient to lead our artists to the source of successful application.

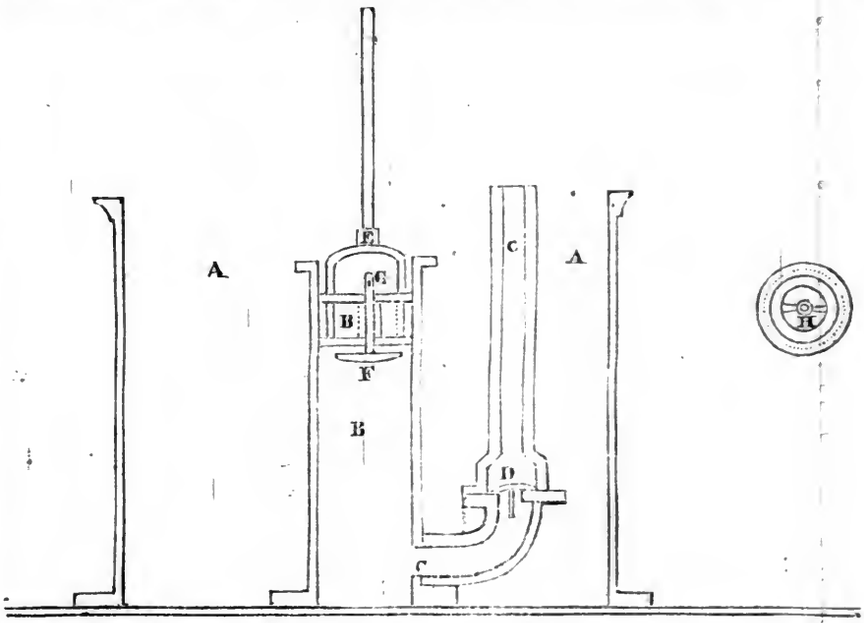
Woollen goods of all kinds have to be prepared by boiling them slowly in lime water. After cleaning them by washing, they are entered into a fresh liquor, containing one ounce of prussiate potash, to each pound of goods. In this they are boiled slowly for ten minutes. They are now to be run through another fresh liquor, containing one ounce of nitrate of iron to each pound of goods, if for a middling blue; but if for a dark blue, more nitrate of iron will have to be used. The color is now on the goods; but it is neither as bright or as even as is required. To improve the color so as to make it light and even, it has to be run through a liquor containing a small portion of sal-enixen, argol, and muriatic acid.

This color is brighter than any indigo blue, and will stand air and acids equally well; but is easily changed by the application of alkalies, on which account it is not commonly employed on such goods as require to be frequently washed with soap. For carpet yarn, horse cloths, flannels, and many other descriptions of goods, it may be used to advantage. It has been applied in England to broad-cloths, and when the color changes in fulling with soap, it is afterwards revived again by a mordant.

For further particulars apply to Wm. Patridge, 64 Cedar street, New-York.

Manganese.—It is perhaps not generally known that there has been discovered in the State of Vermont a mine or bed of Manganese, of a quality superior to the imported article. The manganese mine is in the town of Chittenden, Rutland county, 29 miles from the shore of Lake Champlain, and has been worked since 1826. The manganese is raised from the mine, cleansed from the earthy particles, ground in mills erected for that purpose, and is sent to the New York and other markets in barrels. It is understood that the New York Chemical Company are to be supplied with two hundred tons of this article the present season. The principal use of manganese is for making the chloride of lime or bleaching powders, and for glass. The price of the manganese is between 30 and $40 per ton in market.

We mention this as a single fact, tending to illustrate the influence of our canals in developing and bringing forth the resources of the country.—[Argus.]



Hot Water Pump. By G. M. [From the London Mechanics' Magazine.]

SIR,—I beg the insertion of the annexed plan of a hot water pump:

A A is a square or oblong cistern of cast iron, or any other suitable metal, to contain the pump, but must be deeper than the height of the pump, and be continually kept full of water. B is the barrel of the pump, (I shall not say any thing about the proportions of it,) truly bored, and is to be fixed to the bottom of the cistern. C C is the outlet for the water contained in the pump to the boiler. D is a valve fixed in the elbow of the pipe C C, to stop the water from coming back to the barrel again by the pressure of the steam on it from the boiler. E is a valve or bucket, such as used in other pumps, and to be packed with hemp, or any other suitable packing, in the groove H, made to receive it, with the exception of the spindle valve, F, inverted, and is kept from falling through by a pin placed in the hole G, made in the spindle to receive it. H is a section of the valve E, with a bridge across it to receive the spindle of the valve F.

The action of the pump is as follows: The cistern A A, being full of water, fills the barrel B by running over the top of it. The bucket E, and valve F, being at the top of the barrel B, and ready to be forced down the engine, the water which is between the valve F, and the bottom of the pump, is forced by the action of the bucket E, descending, and valve F closing, through the pipe C; while the valve D, immediately that the bucket has got to the end of its stroke, stops all return of water; then the bucket E is drawn up to the top of the pump, and the water, by its own gravity, fills the pump by the valve F descending as far as the pin; and so the process is repeated.

Your obedient servant, G. M.

P. S.—I am well aware that the pump has the pressure of the air to resist in its upward stroke; but considering the numerous stoppages and delays occasioned by the valves of the pumps now in use, and the uncertainty of their action, I think the pressure of the air in this but a minor consideration when compared with the other.

NEW APPLICATION OF STEAM.—We have already mentioned the invention, by Mr. Murfree, of Nashville, of a new mode of applying the power of steam directly to the periphery of a wheel, and thus dispensing with the cumbrous, expensive, and bulky apparatus required, upon the old plan, between the generator and the machinery intended to be operated upon. This invention, however, deserves a more extended and elaborate notice. It has only been tried upon a small scale, but as it has, in that form, succeeded beyond expectation, and as the principle must be the same in larger engines, there is no reason to doubt its entire success in its practical application to the business of life. We have examined the model of a saw-mill, and seen it in operation, by means of this new contrivance. The driving wheel is formed, as usual, with arms or spokes inserted in an axis or hub, and supporting the periphery or rim, upon one edge or side of which are placed a number of buckets, proportioned to the size of the wheel, and to the column of steam intended to be applied. One or more pipes, proceeding from the generator, conduct the steam to these buckets, and throw it upon them at an angle of 45°, so that it escapes continually after producing its effect, without any re-action to retard the motion it has created. The application may be made so as to drive the wheel in any direction, vertically, horizontally, or at an inclination.

The wheel in the model we have seen is two feet in diameter. The saw-mill driven by it is constructed upon a proportionate scale, and upon Overman's plan; the supply pump is of the usual construction, and the generator is 36 inches long, and 15 in diameter, furnishing a column of steam three and one-third sixteenths of an inch square, under a pressure of fifteen pounds. The saw of this little machine cuts about twenty-seven square inches of timber a minute, and it is the opinion of the inventor, that the same generator is capable of furnishing a power sufficient to cut regularly forty-eight square inches a minute.

From the experiments already made, it is believed that the generator now used may furnish, upon this plan, one and a half horse power. The wheel, when we saw it in motion, made about 560 revolutions a minute, giving to the periphery a velocity of 3360 feet. The saw made about 280 and the supply pump 140 strokes a minute, the axis of each being about 9 inches in diameter, so that the momentum of the machine may be estimated at about 4000 superficial feet a minute. The great advantage of this invention is the direct application of the power to the wheel, without the necessary intervention of any bulky machinery. So far as we can judge from the experiments made, this important object is fully attained.—[Nashville Banner.]

Babbage on the Economy of Manufactures.

[Continued from page 584.]

ON THE POSITION OF LARGE FACTORIES.

220. It is found in every country, that the situation of large manufacturing establishments is confined to particular districts. In the earlier history of a manufacturing community, before cheap modes of transport have been extensively introduced, it will almost always be found that the article will be manufactured near those spots in which nature has produced the raw material. In the heavier articles, and in those the value of which depends more upon the material than the labor expended on it, this will most frequently be the case. Most of the metallic ores being exceedingly heavy, and being mixed up with large quantities of weighty and useless materials, must be smelted at no great distance from the spot which affords them: fuel and power are the requisites for reducing them; and any considerable fall of water in the vicinity will naturally be resorted to for aid in all the coarser exertions of physical force—for pounding the ore, blowing the furnaces, or for hammering and rolling out the iron. There are indeed peculiar circumstances which will modify this. Iron, coal, and limestone, frequently occur in the same district; but the union of the fuel in the same locality with the ore does not happen with respect to other metals. In Cornwall there exist mines of copper and of tin, but none of coal. The copper ore, which requires the largest quantity of fuel for its reduction, is conveyed by ships to the coal fields of Wales, and is smelted at Swansea; whilst the vessels which convey it, take back cargoes of coal to supply the steam-engines for draining the mines and to smelt the tins, which require, for that purpose, a much less quantity of fuel than copper.

221. Rivers, passing through districts rich in coal and metals, will form the first high roads for the conveyance of weighty produce to stations in which other conveniences present themselves for the farther application of human skill. Canals will succeed, or lend their aid to these; and the yet unexhausted application of steam and gas holds out a hope of attaining almost the same advantages for countries to which nature seemed for ever to have denied them. Manufactures, commerce, and civilization, ever follow the line of new and cheap communications. Twenty years ago, the Mississippi poured the vast volume of its waters in lavish profusion through thousands of miles of countries, which scarcely supported a few wandering and uncivilized tribes of Indians. The power of the stream seemed to set at defiance the efforts of man to ascend its course; and, as if to render the task still more hopeless, large trees, torn from the surrounding forests, were planted in its bottom, forming in some places barriers, in others the nucleus of banks, and accumulating in the same spot, which but for accident would have been free from either, the difficulties and dangers of sand-banks and of rocks. Four months of incessant toil could scarcely convey a small bark with its worn-out crew two thousand miles up this stream. The same voyage is now performed by large vessels impelled by steam, carrying hundreds of passengers, enjoying all the comforts and luxuries of civilized life, in the short period of fifteen days. Instead of the hut of the Indian—and the far more unfrequent log-house of the thinly scattered settlers—villages, towns, and cities, have arisen on its banks; and the same engine, which stemmed the force of these powerful waters, will probably tear from their bottom the obstructions which have hitherto impeded and rendered dangerous their navigation.*

222. The accumulation of many large manufacturing establishments in the same district has a tendency to bring together purchasers or their agents from great distances, and thus to cause the institution of a public mart or exchange. This contributes to increase the information relative to the supply of raw material, and the state of demand for their produce, with which it is necessary manufacturers should be well acquainted. The very circumstance of collecting periodically, at one place, as large a number as possible, both of those who supply the market and those who require its produce, tends strongly to check those accidental fluctuations to which a small market is ever subject, as well as to render the average of the prices paid much more uniform in its course.

223. When capital has been invested in machinery, and in building for its accommodation, and when the inhabitants of the neighborhood have acquired a knowledge of the modes of working at it, reasons of considerable weight are required to cause its removal. Such changes of disposition do, however, occur; and they have been alluded to by the Committee on the Fluctuation of Manufacturers' Employment, as one of the sources interfering most materially with a uniform rate of wages: it is, therefore, of particular importance to the workmen to be acquainted with the real causes which have driven manufactures from their ancient seats.

"The migration or change of place of any manufacturer has sometimes arisen from improvements of machinery not applicable to the spot where such manufacture was carried on, as appears to have been the case with the woollen manufacture, which has, in great measure, migrated from Essex, Suffolk, and other southern counties, to the northern districts, where coal, for the use of the steam-engine, is much cheaper. But this change has, in some instances, been caused or accelerated by the conduct of the workmen, in refusing a reasonable deduction of wages, or opposing the introduction of some kind of improved machinery or process; so that, during the dispute, another spot has, in great measure, supplied their place in the market. *Any violence used by the workmen against the property of their masters, and any unreasonable combination on their part, is almost sure thus to be injurious to themselves.*"*

224. These removals become of serious consequence when the factories have been long established, because a population commensurate with their wants invariably grows up around them. The combinations in Nottinghamshire, of persons under the name of Luddites, drove a great number of lace-frames from that district, and caused establishments to be formed in Devonshire. We ought also to observe, that the result of driving any establishment into a new district, where similar ones have not previously existed, is not merely to place it out of the reach of such combinations, but, after a few years, the example of its success will most probably induce other capitalists in the new district to engage in the same manufacture; and thus, although only one establishment should be driven away, the workmen, through whose combination its removal was effected, will not merely suffer by the withdrawing of that portion of demand for their labor which the factory caused, but the value of that labor itself will be reduced by the competition of a new field of production.

225. Another circumstance, which has its influence on this question, is the nature of the machinery. Heavy machinery, such as stamping-mills, steam-engines, &c., cannot readily be moved, and must always be taken to pieces for that purpose; but where the machinery of a factory consists of a multitude of separate machines, each complete in itself, and all put in motion by one source of power, such as a water-wheel or a steam-engine, then the removal is much less inconvenient. Thus, stocking-frames, lace-machines, and looms, might, with but a small separation of their parts, be transported to more favorable positions.

226. It is of great importance that the more intelligent amongst the class of workmen should examine into the correctness of these views; because, without having their attention directed to them, the whole class may, in some instances, be led by designing persons to pursue a course, which, although apparently plausible, is in reality directly at variance with their own best interests. I confess I am not without a hope that this volume may fall into the hands of workmen, perhaps better qualified than my-

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* The amount of obstructions arising from the casual fixing of trees in the bottom of the river, may be estimated from the proportion of steamboats destroyed by running upon them. The subjoined statement is taken from the American Almanac for 1832: "Between the years 1811 and 1831, three hundred and forty-eight steamboats were built on the Mississippi and its tributary streams. During that period a hundred and fifty were lost or worn out. Of the hundred and fifty lost or worn out were, 63 worn out; 36 lost by snags; 14 burnt; 3 lost by collision; 34 by accidents not ascertained."—Thirty-six, or nearly one fourth, being destroyed by accidental obstructions!

* This passage is not printed in Italics in the original; but it has been thus marked in the above extract, from its importance, and from the conviction that the most extended discussion will afford additional evidence of its truth.

self to reason upon a subject which requires only plain common sense, and whose powers are sharpened by its importance to their personal happiness. In asking their attention to the preceding remarks, and to those which I shall offer respecting combinations, I can claim only one advantage over them, namely: that I never have had, and in all human probability never shall have, the slightest pecuniary interest, to influence even remotely, or by anticipation, the judgments I have formed on the facts which have come before me.

ON OVER-MANUFACTURING.

227. One of the natural and almost inevitable consequences of competition is the production of a supply far larger than the demand requires. This usually arises periodically; and it is equally important, both to the masters and to the workmen, to prevent its occurrence, or to foresee its arrival. In situations where a great number of very small capitalists exists—where each master himself works and is assisted by his own family, or by a few journeymen—and where a variety of different articles are produced—a curious system of compensation has arisen, which, in some measure, diminishes the extent to which fluctuations of wages would otherwise reach. This is accomplished by a species of middle-men or factors, persons possessing greater or less capital, who, whenever the price of any of the articles in which they deal is greatly reduced, purchase it at a low price on their own account, in the hopes of selling it at a profit when the market for it is better. These persons, in ordinary times, act as salesmen or agents, and make up assortments of goods at the market price, for the use of the home or foreign dealer. They possess large warehouses, in which to make up their orders, or keep in store articles purchased during periods of depression: thus acting as a kind of fly-wheel in equalizing the market price.

228. In the greater establishments, the effect of over-manufacturing is different. When an over-supply has reduced prices, one of two events usually occurs: the first is a diminished payment for wages; the other is a diminution of the number of hours during which the laborers work, together with a diminished rate of wages. In the former case production continues to go on at its ordinary rate: in the latter, the production itself being checked, the supply again adjusts itself to the demand as soon as the stock on hand is worked off, and prices then regain their former level. The latter course appears, in the first instance, to be the best both for masters and men; but there seems to be a difficulty in accomplishing this, except where the trade is in few hands. In fact, it seems to be necessary, for its success, that there should be a combination amongst the masters or amongst the men; or, what is always far preferable to either, a mutual agreement for their joint interests. But a combination among the men is difficult, and is always attended with the evils arising from the ill-will which exists against any who, in the perfectly justifiable exercise of their judgment, are disposed not to act with the majority. The combination of the masters is on the other hand unavailing, unless the whole body of them agree: for if any one master can procure more labor for his money than the rest, he must be able to undersell them.

229. If we look only at the interests of the consumer, the case is different. When too large a supply has produced a great reduction of price, it has opened the consumption of the article to a new class, and has increased the consumption of those who previously employed it: it is, therefore, against the interest of both these parties that a return to the former price should occur. It is also certain, that by the diminution of profit which the manufacturer suffers from the diminished price, his ingenuity will be additionally stimulated; and that he will apply himself to discover other and cheaper sources for the supply of his raw material—to contrive improved machinery, which shall manufacture it at a cheaper rate—or to introduce new arrangements into his factory, which shall render the superintendance of it more perfect. In the event of his success by any of these courses, or by their joint effects, a real and substantial good will be effected. A larger portion of the public will receive advantage from the use of the article, and they will procure it at a lower price; and the manufacturer, although his profit per cent. on each operation is reduced, will yet, by the more frequent returns on the larger produce of his factory, find his real gain per cent., at the end of the year, nearly the same as it was before; whilst the wages of the workman will return to their level, and both the manufacturer and the workman will find the fluctuations of demand less considerable, from being dependent on a larger number of customers.

230. It would be highly interesting, if we could trace, even approximate, through the history of any great manufacture, the effects of gluts in producing improvements in machinery, or in methods of working; and if we could show what addition, to the annual quantity of goods previously manufactured, was produced by each alteration. It would probably be found, that the increased quantity manufactured by the same capital, when worked with the new improvement, would produce nearly the same rate of profit as other modes of investment.

231. Supposing new and cheaper modes of producing not to be discovered, and that the production continues to exceed the demand, then it is apparent that too much capital is employed in the trade; and after a time, the diminished rate of profit will drive some of the manufacturers to other occupations. What particular individuals will leave it, must depend on a variety of circumstances. Superior industry and attention will enable some factories to make a profit rather beyond the rest; superior capital in others will enable them, without these advantages, to support competition longer, even at a loss, with the hope of driving the smaller capitalists out of the market, and then re-imbursing themselves by an advanced price. It is, however, better for all parties, that this contest should not last long; and it is important, that no artificial restraint should interfere to prevent it. An instance of such restriction and of its injurious effect occurs at the port of Newcastle, where a particular act of Parliament requires that every ship shall be loaded in its turn. The Committee of the House of Commons, in their Report on the Coal Trade, state that, "Under the regulations contained in this act, if more ships enter into the trade than can be profitably employed in it, the loss produced by detention in port, and waiting for a cargo, which must consequently take place, instead of falling, as it naturally would, upon particular ships, and forcing them from the trade, is now divided evenly amongst them: and the loss thus created is shared by the whole number."—*Report*, p. 6.

232. It is not pretended, in this short view, to trace out all the effects or remedies of over-manufacturing; it is a difficult subject, and, unlike some of the questions already treated, requires a very extensive combination of the relative influence of many causes.

INQUIRIES PREVIOUS TO COMMENCING ANY MANUFACTORY.

233. There are many inquiries which ought always to be made previous to the commencement of the manufacture of any new article. These chiefly relate to the expense of tools, machinery, raw materials, and all the outgoings necessary for its production,—to the extent of the demand which is likely to arise,—to the time in which the circulating capital will be replaced,—and to the quickness or slowness with which the new article will supercede those already in use.

234. The expense of tools and of new machines will be more difficult to ascertain, in proportion as they differ from those already employed; but the variety in constant use in our various manufactories is such, that few inventions now occur in which some considerable portion may not be found resembling others already constructed. The cost of the raw material is usually less difficult to determine, but there occasionally arise cases in which it becomes important to examine whether the supply, at the given price, can be depended upon: for in the case of a small consumption, the additional demand arising from a factory may produce a considerable temporary rise in price, although the same circumstance may ultimately reduce its price.

235. The quantity of any new article likely to be consumed is a most important subject for the consideration of the projector of a new manufacture. As these pages are not intended for the instruction of the manufacturer, but rather for the purpose of giving a general view of the subject, an illustration of the way in which such questions are regarded by practical men, will, perhaps, be most instructive. The following extract from the evidence given before a Committee of the House of Commons, in the Report on Artizans and Machinery, shows the extent to which articles, apparently the most insignificant, are consumed, and the view which the manufacturer takes of them.

The person examined on [illegible] Mr. Ostler, a manufacturer of glass beads and other toys of the same substance, from Birmingham. Several of the articles made by him were placed upon the table, for the inspection of the Committee of the House of Commons, which held its meetings in one of the committee-rooms.

"*Question.* Is there any thing else you have to state upon this subject?

"*Answer.* Gentlemen may consider the articles on the table as extremely insignificant; but perhaps I may surprise them a little by mentioning the following fact. Eighteen years ago, on my first journey to London, a respectable looking man in the city asked me if I could supply him with dolls' eyes, and I was foolish enough to feel half offended; I thought it derogatory to my new dignity as a manufacturer, to make dolls' eyes. He took me into a room quite as wide, and perhaps twice the length of this, and we had just room to walk between stacks from the floor to the ceiling, of parts of dolls. He said, 'these are only the legs and arms; the trunks are below.' But I saw enough to convince me, that he wanted a great many eyes; and as the article appeared quite in my own line of business, I said I would take an order by way of experiment; and he showed me several specimens. I copied the order. He ordered various quantities, and of various sizes and qualities. On returning to the Tavistock Hotel, I found that the order amounted to upwards of £500. I went into the country, and endeavored to make them. I had some of the most ingenious glass toy makers in the kingdom in my service; but when I showed it to them they shook their heads, and said they had often seen the article before, but could not make it. I engaged them by presents to use their best exertions; but after trying and wasting a great deal of time for three or four weeks, I was obliged to relinquish the attempt. Soon afterwards I engaged in another branch of business (chandelier furniture), and took no more notice of it. About eighteen months ago I resumed the trinket trade, and then determined to think of the dolls' eyes; and about eight months since, I accidentally met with a poor fellow, who had impoverished himself by drinking, and who was dying in a consumption, in a state of great want. I showed him ten sovereigns, and he said he would instruct me in the process. He was in such a state that he could not bear the effluvia of his own lamp; but though I was very conversant with the manual part of the business, and it related to things I was daily in the habit of seeing, I felt I could do nothing from his description. (I mention this to show how difficult it is to convey by description the mode of working.) He took me into his garret, where the poor fellow had economized to such a degree that he actually used

the entrails and fat of poultry from Leadenhall market to save oil (the price of the article having been lately so much reduced by competition at home.) In an instant, before I had seen him make three, I felt competent to make a gross; and the difference between his mode and that of my own workmen was so trifling, that I felt the utmost astonishment.

"*Quest.* You can now make dolls' eyes?

"*Ans.* I can. As it was eighteen years ago that I received the order I have mentioned, and feeling doubtful of my own recollection, though very strong, and suspecting that it could [not] have been to the amount stated, I last night took the present very reduced price of that article (less than half now of what it was then,) and calculating that every child in this country not using a doll till two years old, and throwing it aside at seven, and having a new one annually, I satisfied myself that the eyes alone would produce a circulation of a great many thousand pounds. I mention this merely to show the importance of trifles, and to assign one reason, amongst many, for my conviction, that nothing but personal communication can enable our manufactures to be transplanted."

236. In many instances it appears to be exceedingly difficult to estimate the sale of an article, or the effects of a machine: a case, however, occurred in a recent inquiry, which, although not quite appropriate as an illustration of probable demand, is highly instructive as a guide in such inquiries. A committee of the House of Commons was appointed to inquire into the tolls proper to be placed on steam carriages; a question, apparently, of difficult solution, and one on which widely different opinions had been formed, if we may judge by the very different rate of tolls imposed upon such carriages by different "turnpike trusts." The principles on which the committee conducted the inquiry were these: They first endeavored to ascertain, from competent persons, the effect of the atmosphere alone in deteriorating a well constructed road. The next step was to determine the proportion in which the road was injured, by the effect of the horses' feet compared with that of the wheels. Mr. Macneill, the superintendant under Mr. Telford, of the Holyhead roads, was examined, and proposed to estimate the relative injury, from the comparative quantities of iron worn off, from the shoes of the horses, and from the tire of the wheels. From the data he possessed respecting the consumption of iron for the tire of the wheels, and for the shoes of the horses, of one of the Birmingham day coaches, he estimated the wear and tear of roads arising from the feet of the horses to be three times as great as that arising from the wheels. Supposing repairs amounting to one hundred pounds to be required on a road travelled over by a fast coach at the rate of ten miles an hour, and the same amount of injury to occur on another road, used only by waggons moving at the rate of three miles an hour, Mr. Macneill divides the injury in the following proportions:

Injury arising from—	Fast Coach.	Heavy Waggon.
Atmospheric changes	20	20
Wheels - - -	20	35.5
Horses' feet drawing	60	44.5
Total Injury	100	100

One of the results of these experiments is, that every coach which travels from London to Birmingham distributes about eleven pounds of wrought iron along the line of road between those two places. The committee agree that "The only ground on which a fair claim to toll can be made, on any public road, is to raise a fund, which, with the strictest economy, shall be just sufficient, first, to repay the expense of its original formation; secondly, to maintain it in good and sufficient repair." Supposing it also to be ascertained that the wheels of steam-carriages do no more injury to roads than other carriages of equal weight travelling with the same velocity, the committee now possessed the means of approximating to a just rate of toll for steam-carriages.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 27th of August to the 16th day of September, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
August 27..	6 a. m.	69	29.82	SW	light	WSW	fair
	10	77	29.78	..	..	..	..
	2 p. m.	85	29.70	..	moderate	WSW / WNW	..
	6	78	29.73	..	..—gale	WSW	.. —gale at 8, from NW
	10 p. m.	74	29.78	SW—NW	fresh	..	..
" 28..	6 a. m.	63	29.83	..	..	WSW / NNW	..
	10	68	29.90	NNW	..	..	..
	2 p. m.	68	29.90	N	moderate	..	..
	6	66	29.90	..	..	..	..
	10	62	29.96	..	..	WSW	..
" 29..	6 a. m.	56	30.00	..	light	..	..
	10	62	29.99	WSW	..	.. / W	..
	2 p. m.	68	29.98	NW	fresh—mod.	W & NW	hail storm at 2, without thunder—fair
	6	60	30.03	N by W	moderate	W	fair
	10	54	30.10	..	..	..	clear
" 30..	6 a. m.	53	30.20	..	..	W	fair
	10	58	30.22	..	light	..	..
	2 p. m.	68	30.21	S	moderate	..	..
	6	64	30.18	..	..	..	..
	10	63	30.19	..	..	..	..
" 31..	6 a. m.	63	30.13	SW—WSW	..	W by S	cloudy —rain from 8 to 11
	10	65	30.12	WSW—SSW	..	..	rain —cloudy
	2 p. m.	70	30.06	SW	..	..	cloudy
	6	71	29.98	..	..	W—W by N	.. —clear —cloudy
	10	68	29.97	..	..	W by N	..
Septem. 1..	6 a. m.	68	29.87	WSW	..	..	fair—high haze from W by N
	10	76	29.88	W	..—fresh	..	.. — ..
	2 p. m.	81	29.89	NNW	fr'h—strong	..	..
	6	70	29.97	..	gale	..	.. —gale from NNW
	10	62	30.06	..	fresh	..	..
" 2..	6 a. m.	64	30.10	..	moderate	..	clear
	10	66	30.10	..	..	NNW	fair—light scattering scuds from NNW
	2 p. m.	70	30.09	..	light	..	..
	6	66	30.08	..	..	..	..
	10	63	30.11	..	..	W by N	cloudy
" 3..	6 a. m.	58	30.17	ENE—E	..	WNW	..
	10	66	30.19	SE—S.	..	..—SW	..
	2 p. m.	72	30.15	S—WSW	..	WSW	..
	6	67	30.10	WSW	..	..	..
	10	66	30.08	S	moderate	..	..
" 4..	6 a. m.	67	30.00	SW	..	..	..
	10	75	29.99	..	light	..	fair
	2 p. m.	83	29.95	..	..	..	..
	6	78	29.90	.	..	WNW / SW	.. —high cirrus haze from WNW
	10	75	29.91	..	..	SW	..
" 5..	6 a. m.	74	29.92	..	moderate	WSW / SW	..
	10	80	29.95	WSW	..	WSW	..
	2 p. m.	84	29.97	W by S	..	W by S	..
	6	81	29.98	SW	..	..	.. —brilliant aurora borealis at 8½—gale
	10	76	30.04	WSW	light	..	.. [at Buffalo
" 6..	6 a. m.	69	30.16	W by S	..	WSW	..
	10	76	30.17	W	..	..	..
	2 p. m.	82	30.14	WSW	..	..	.. —cloudy
	6	76	30.11	..	..	..	cloudy
	10	72	30.10	..	..	..	.. —fair—aurora borealis at 10½—gale
" 7..	6 a. m.	67	30.17	WNW	..	WNW	fair [at Quebec
	10	74	30.20	NW—W by S	..	..	.. —brilliant parhelion circles about
	2 p. m.	76	30.16	WSW	mod.—fresh	W by S	cloudy [the sun
	6	74	30.12	..	moderate	..	.. —rain
	10	70	30.13	..	..	..	rain
" 8..	6 a. m.	60	30.01	NE by E	..—fresh	ENE	..
	10	62	30.00	NE	fresh—mod.	..	.. —rainy
	2 p. m.	63	30.03	..	moderate	NE	cloudy—scuds from NE
	6	62	30.08	NNE	..	NE by N	.. —fair
	10	59	30.18	..	..	..	fair
" 9..	6 a. m.	60	30.19	NNE	..	ENE	cloudy
	10	64	30.17	..	..	..	fair —cloudy
	2 p. m.	67	30.17	SE	..	ESE / NW	cloudy —fair —cloudy
	6	65	30.14	..	..	ESE	fair
	10	63	30.10	..	light	..	cloudy
" 10..	6 a. m.	65	29.98	SSW	..	SW	..
	10	70	29.92	SW	..	..	.. —fair —cloudy
	2 p. m.	73	29.87	..	..	WSW	fair
	6	72	29.83	..	..	..	..
	10	68	29.90	..	..	..	..
" 11..	6 a. m.	60	30.01	NNW	..	..	..
	10	65	30.02	..	moderate	.. / NW	..
	2 p. m.	70	30.01	NW	..	WNW	..
	6	67	30.04	..	..	W	..
	10	62	30.10	..	..	..	..
" 12..	6 a. m.	59	30.17	NNE	..	W by S	cloudy
	10	65	30.20	..—W by N	light	WSW	.. —rain
	2 p. m.	57	30.18	N by W to W	..	.. / NNW	rainy —fair at W
	6	55	30.19	..	..	WSW	fair
	10	54	30.22	..	..	..	clear
" 13..	6 a. m.	50	30.28	N by W	..	WSW—NNW	.. —fair
	10	56	30.31	..—NNW	moderate	N by W	fair
	2 p. m.	59	30.30	NNW	..	..	..
	6	58	30.27	..	..	..	..
	10	54	29.27	..	..	..	clear
" 14..	6 a. m.	49	30.24	NNW—WSW	..	..	..
	10	58	30.25	WSW—W by S	light	..	..
	2 p. m.	65	30.06	W by S	moderate	..	..
	6	62	30.08	WSW	..	..	..
	10	59	30.07	..	..	..	..

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Sept'r 15..	6 a. m.	56	30.08	w by s	light	w by s	fair
	10	63	30.10	NW—WSW.	..	..	..
	2 p. m.	68	30.05	SW—S	..	..	..
	6	65	30.02	S—WSW	..	..	.. —haze clouds
	10	62	30.03		..	..	..
" 16..	6 a. m.	56	30.11	NNW	moderate	NNE	.. —light scuds from NNE
	10	63	30.18	NNE		..	..
	2 p. m.	67	30.17	..	light	..	..
	6	65	30.18	..	..	..	..
	10	63			..	..	..

Average temperature of the week ending Monday, September 2, 66°.82.
Do. do. do. do. do. 9, 70°.37.
Do. do, do. do. do. 16, 61°.72.

Arithmetical mean of the thermometer for the month of August, 71°.42.

Maximum height of the barometer in August, 30.22 in.—Minimum, 29.70 in.—Range, 0.52 in.

The observations of winds for August result as follows: From the North-Eastern quarter, including N. 28½—from the South-Eastern, including E. 30½—from the South-Western, 59—from the North-Western, 31.

The observations of the higher currents, as indicated by the clouds, result as follows: From the North-Eastern quarter, during 1½ periods of observation—from the South-Eastern during 3½—from the South-Western, 83½—from the North-Western, 35½.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of July, 1833—(*Latitude* 31.10 *N.*, *Longitude* 91.59 *W. nearly.*)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date. 1833.	Thermometer. Morn'g.	Noon.	Night.	Wind.	Weather, Remarks, &c.
July 1	73	89	83	calm	clear—light flying clouds—Red River falling
" 2	73	89	82	..	.. —evening wind w—ocre grown for use, and cayenne pepper ripe
" 3	72	80	80	N—high	.. all day—pulled fodder
" 4	68	84	78	N—light	.. ..
" 5	67	86	78	calm	.. .. —planted pole and bunch beans
" 6	72	88	83	SE	.. .. —bent down corn
" 7	76	89	80	calm	.. —evening cloudy—heavy thunder and light shower
" 8	72	90	83	SW—light	.. — .. ..
" 9	79	91	80	W	.. — .. gale from w—heavy thunder and light shower
" 10	74	90	83	..	.. all day—planted corn-field peas
" 11	73	90	83	W—light	.. ..
" 12	74	90	79	calm	.. —evening wind s—at 5 p. m. thunder shower
" 13	73	88	77	..	.. — .. .. —at 4 p. m. .. ..
" 14	74	89	79	..	.. — .. .. N—at 6 p. m. .. ..
" 15	74	87	77	NE	cloudy all day
" 16	73	87	79	..	clear—flying clouds
" 17	70	84	81	..	.. — .. .. —evening calm
" 18	71	90	82	calm	..
" 19	74	91	82	SE—light	..
" 20	73	90	80	calm	.. —night cloudy and thunder, no rain
" 21	75	90	78	..	.. —at 5 p. m. heavy thunder shower from s
" 22	74	88	82	NE—light	..
" 23	74	91	82	calm	.. —evening wind SE, light
" 24	75	91	82	..	.. — .. .. S, ..
" 25	72	89	82	..	..
" 26	73	90	83	S—light	..
" 27	73	91	84	calm	..
" 28	73	92	86	..	..
" 29	76	93	77	W	.. —evening heavy thunder shower (Red River has fell this month 4 feet
" 30	74	86	81	..	.. —flying clouds (10 inches, and is now 5 feet 8 inches
" 31	76	84	76	..	cloudy—showers (below high water mark of 1828.

CITY OF PHILADELPHIA.—As a proof of the prosperity of Philadelphia, the enterprize and spirit of her citizens, the public improvements in progress, and the anticipated internal advantages in our city, the Commercial Herald had recently two articles on the local statistics of our city, chiefly relative to the public buildings or works recently completed or now in preparation. We extract the list, as compiled for the Philadelphia Gazette, with the computed cost of each building or work:

The Fairmount Water Works cost	$2,063,000
Bank of the United States	413,000
Bank of Pennsylvania	235,000
Girard Bank	250,000
Philadelphia Bank	50,000
Mint	175,000
Arcade	162,000
University, (new buildings only,)	60,000
Chesnut street Theatre	75,000
Arch street Theatre	63,000
Franklin Institute	34,000
Schuylkill Permanent Bridge	300,000
Upper Ferry Bridge, Fairmount,	110,000
Arsenal on the Schuylkill, below South street,	150,000
First Presbyterian Church, Washington Square,	55,000
St. Andrew's Church, 8th, above Spruce street,	65,000
City Prison, corner Broad and Arch sts.	50,000
Sixth Presbyterian Church, Spruce st.	30,000
Baptist Church, Sansom street,	33,000
Twelfth Presbyterian Church, 12th and Walnut streets,	30,000
American Sunday School Union	42,600
Baptist Church, Spruce street,	25,000
Custom House and Stores	97,100
Farmers' and Mechanics' Bank,	50,000
Commercial Bank,	27,000

To these may be added the Pennsylvania Institution for the Deaf and Dumb, Academy of Fine Arts, Academy of National Sciences, Masonic Hall, City Library, Orphan's Asylum, Widow's Asylum, Walnut st. Theatre, Pennsylvania Hospital, Almshouse, Hall of Independence, and a long list of other public buildings, and upwards of one hundred churches, the cost of which we are unable to state.

The following Public Buildings are now in progress:

New Exchange, to be completed next year, architect's estimate	$250,000
Naval Asylum, to be completed this season,	250,000
Penitentiary, to be completed this season,	510,000
County Prison	228,000
Will's Hospital, for the Lame and Blind, to be completed this season,	50,000
Almshouse, completed next year,	7 to 800,000
Bricklayer's Hall	11,000
Moyamensing Hall	13,000
Central Presbyterian Church, estimate	58,000
South front of Girard's Square, sixteen houses, 4 stories high, with marble basements,	256,000
North side of Girard's Square, twenty-two houses,	200,000
Railroad in Broad, from Vine to South street,	60,000
Girard College, just commenced, architect's estimate	$90,000
Public School, Front, near Pine street,	10,000
Girard appropriation for improving the eastern front of the city	500,000

From this statement it will be seen that the cost of the Public Improvements in progress at this time amount to nearly *four millions and a half of dollars*.

And on the assessed value of real estate in the city and county of Philadelphia—excluding all the public buildings, all the churches, the squares, burying grounds, &c. none of which are subject to taxation—the Herald has been able to ascertain the average value:

In the City and Liberties	$95,063,057 50
Penn township, Germantown, Roxborough, Bristol, Oxford, Byberry, Morcland, Lower Dublin, Blockley, and Kingsessing,	11,872,350 00
Total,	$106,935,407 50

MANUFACTURE OF COTTON IN THE UNITED STATES.—The New-York Mercantile Advertiser contains the subjoined interesting article:

We proceed according to our promise, to give further statements of the state of the Cotton manufactured in the United States, in 1831, as collected by the Committee of the New-York Convention. In our paper of Saturday last we showed that there were in twelve States of the Union, 795 cotton mills, with a capital of 40,714,984 dollars, manufacturing annually 77,751,316 lbs. of Cotton, or 214,882 bales of 361 $\frac{86}{100}$ lbs. each.

Number of Spindles	1,246,903
Do. of Looms	33,506
Pounds of Yarn sold	10,642,000
Yards of Cloth made	230,461,900
Pounds of Cloth	59,604,925
Hands employed—Males 18,539 Females 38,927—	57,466
Pounds of Starch used	1,641,253
Barrels of Flour for sizing	17,245
Cords of Wood burnt	46,519
Tons of Coal do.	24,420
Bushels of Charcoal burnt	9,205
Value of other articles consumed not enumerated	$599,223
Spindles then building	172,924
Gallons of Oil consumed	300,338
Hand Weavers	4,760
Total dependents	117,626
Annual value of Cotton Manufactures	$26,000,000
Aggregate or total annual amount of wages paid	$10,294,944

That there may be no doubt as to the accuracy of these statements, we give the names of the following gentlemen, through whose means the accounts were collected from the manufacturers in the different States, viz.: Maine and New-Hampshire, Lloyd W. Wells and John Williams; Massachusetts and Vermont, Robert Rogerson & Patrick T. Jackson; Rhode Island, Jas. De Wolf, James F. Simmons and Charles Jackson; Connecticut, J. H. De Forest; New-York, E. B. Sherman, James Wilde and Richard P. Hart; New-Jersey, Kentucky, Ohio and Indiana, David Holsman and Mark W. Collet; Pennsylvania, Delaware and Tennessee, Levi Waln and Alexander Breckenridge; Maryland and Virginia, Columbus James, Columbus O'Donnell and J. W. M'Culloch.

A machine has been invented in Jefferson co., N. Y., for milking cows. If this plan of labor saving machinery, has the same effect that other modern improvements have, butter that is now worth 10 cts. per pound will fall to two pence, and cheese may be had without price.—[Western (Ohio) Intelligencer.]

Large Fruit.—We were yesterday presented, by M. Reuben Edgerton, of Pompey, with a basket of plums, some of which we found, on measuring, to be 6 3-4 inches in circumference. Mr. E. informs us that he has raised this season, not less than 120 bushels, comprising about thirty different varieties of plums.—[Cazenovia Moniter.]

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LITERARY NOTICES.

THE AMERICAN QUARTERLY REVIEW, No. XXVII. Philad. KEY & BIDDLE: New York, G. & C. & H. Carvill.—This number comes to us from new publishers in Philadelphia, Messes. *Key & Biddle*, but under the same editorial auspices; and so we are happy to learn it is to remain.

The contents of this number are—I, on the Life and Writings of Governor Livingston, by Theodore Sedgwick, Jr.; II, on the Life and Speeches of Wm. Windham; III, on Slavery in the District of Columbia; IV, on Poor Laws; V, on the Narrative of Silvio Pellico; VI, on Goodrich's Geography; VII, on Professor Felton's edition of Homer; VIII, on the Works of Joanna Baillie; IX, on Roscoe's Life and Writings; and X, on the Report of Messrs. De Beaumont and De Tocqueville, respecting the Penitentiary System in the United States.

Of these various papers, we have only time to notice two, the third and the fourth.

It is the most unreasonable pretention in the world, indulged in too generally at the South, that because the non-slaveholding States do, upon deliberate advisement, abstain, and desire to abstain, from any discussions or proceedings that might be construed into an interference with the rights or feelings of the owners of slaves in the slaveholding States—they are, therefore, to be debarred from removing the stain and blight of slavery from that spot in our common country, where all meet upon a common footing,—the District of Columbia. There is the seat of Government of this great and free Republic; and there, if anywhere, should every trace disappear of an institution, so palpably at war with all our principles of liberty and equality, as slavery. It is, therefore, well urged in the annexed extract from the second article, and sustained by ample proofs, in the pages whence it is taken, that duty requires of Americans the abolition of slavery in the District:

The existence of slavery in any part of the United States, is probably a subject of frequent and bitter reflection to every patriot and philanthropist. The citizens of the northern section of the country, however, though they see and lament the extent of the evil in the southern states, have their feelings perpetually chilled by the consciousness that all their efforts to remove or alleviate the disease which oppresses that quarter of our land, must be indirect and operate slowly. Many too of our most respectable citizens think that any discussion in the northern states, of the subject of slavery as it exists in the southern states, is an improper interference with their institutions.

But there is one part of the country where slavery is allowed, in regard to which the citizens of the north have not only a right to indicate and complain of the evil, but a great duty to perform of active exertion for its suppression. We refer to the District of Columbia. This district now is, and probably long will remain, under the exclusive jurisdiction of the General Government. We dispute the assertion that slavery in this district, is the business of the southern states more than of the northern. It is the common concern of the whole nation. Slavery exists in that district by the permission of the government of United States. The responsibility of tolerating the institution there is national, and shared by the inhabitants of the northern states, equally with those of the southern.

A little attention to the history and present condition of this district, will, we believe, convince any candid mind that slavery ought to be abolished there. This conclusion does not rest solely or even chiefly upon arguments which will apply to slavery in the southern states, but upon others also which apply specially to the District.

The next article, on Poor Laws, is one meriting undivided attention. We are so thoroughly copyists—with all our claim to unshackled independence both of mind and political institutions—of European, and particularly English, models, that, like the accurate Chinese tailor, to whom an old coat was sent for a pattern, we copy patches and all. The English system of poor laws exists in our country, where it never should have existed;—where there never was the palliation for them, which excess of population alone can furnish. These laws are working their invariable effect here as elsewhere, and create the misery, the helplessness, the improvidence, and the dependence, they profess to provide against. If it be possible, and while the evil is yet susceptible of remedy, let it be eradicated. We fully concur in the annexed conclusions of this able article:

We are not prepared to recommend a sudden and immediate repeal of the Poor Laws. We would proceed by gradually establishing almshouses and farms—enforcing a strict prohibition of ardent spirits—and absolutely refusing all relief out of the house. The next step would be to put the almshouse under the care of a contractor, who would have the stimulus of private interest as well as public duty, to urge him to the due enforcement of the best discipline and management. Afterwards, all relief might be denied to the able bodied—the farm worked by hired labourers, and the aged, and sick, and children, alone supported by the public. When a healthful tone should have been restored to the labouring classes by these means, the further reception of children into the asylum might be refused. Parents who had again learnt to rely for their own support upon their own industry, would certainly, in this country, find no difficulty in also supporting their children. Provision for orphans should be continued if necessary, which we apprehend would scarcely be the case in this district, where there are already several orphan asylums, and where the munificent bequest of Stephen Girard for the benefit to that class, is soon to be effectualy applied to their relief. A shelter with medical attendance for the really indigent sick, should never be refused. It will be well for the country when our almshouses shall be converted into mere hospitals. The domestic ties and affections would be redintegrated among the poor.—The children who had been maintained by the labour of their parents, would themselves in turn cheerfully support and cherish those parents, when age or infirmity should have rendered them helpless. But would there be no poverty—no distress—no necessity for relief?—Yes, there would be all these, and to an extent sufficient to afford scope for the liberal exercise of the most virtuous of all virtues—charity.—The demands upon private charity would be much fewer and smaller than they are now, but they would not—they never can entirely—cease. There will always be scope enough for "gentle deeds of mercy," and opportunities,

> ——"to inquire the wretched out,
> And court the offices of soft humanity;—
> To shelter and give raiment to the naked,
> To reach out bread to feed thee rying orphan,
> And mix the pitying tears with those that weep!"

Contrast the blessed scene of prosperous industry, virtue, domestic bliss, and benevolence, which is generally, and which might be universally exhibited in this country—contrast this scene with the idleness and profligacy, the infamy and dissoluteness of males and females, the hundreds of bastards, and the thousands of drunkards of both sexes, all now directly encouraged by the expenditure of a vast public fund—contrast, in fine, the comfort, cleanliness, and happiness, of an honest and industrious family, living and thriving by the labour of its members, with the filth, misery, loathsomeness and vermin—the insensibility to all gentle affections, and the greedy selfishness of the legal panper, and it will be a source of wonder that there should not be formed a general determination to root out the accursed system, which day by day, and year by year, is visibly corrupting the morals, and, and destroying the industrious habits, prosperity, and soundness of the people. We rejoice in the belief, that public opinion is daily gaining strength and consistency on this subject, and will ere long speak a language which can neither be misunderstood nor destroyed. The rights of the poor—of the virtuous, industrious, and honest poor—will be vindicated, and the unmolested enjoyment of their domestic comforts, and of the fruits of their labour, secured to them against the insatiable demands of the idle drunkard, and profligate pauper.

MEN AND MANNERS IN AMERICA, BY THE AUTHOR OF CYRIL THORNTON. *Philadelphia:* CAREY, LEA & BLANCHARD.—We are disappointed in this volume. A philosophical spirit of inquiry into our social and political condition, although it should occasionally lead to conclusions shocking to our vanity or prejudices, would yet have compensated us by the opportunity of comparing our own views with those which a foreigner, qualified to conduct such an inquiry, might present. Self-improvement would result from such a comparison. We had hoped that Mr. Hamilton's book would be such a one; but he appears to have sinned as "all his tribe" have done before, by jumping to general conclusions from individual instances, and by considering as peculiar, prominent characteristics to which, as a sojourner among a strange people his attention was naturally turned, but which, living on with the current in his own country, had escaped his observation there. This latter misapprehension is particularly illustrated by the imputation much dwelt upon in these pages, that money is the idol and chief good of Americans; and throughout the thirst for gold is spoken of as something different from any thing the author had witnessed in his own country. But surely in no country in the world is money so worshipped as in England, or so omnipotent to overcome what neither merit, nor talent, nor virtue, unaided by gold, can avail to do—the distinctions of rank and the artificial barriers of society. All there is barter; hence Bonaparte's sarcasm upon the "nation of shopkeepers;" hence the plots and chief incidents of the many novels which aim at presenting living pictures of the manners and habits of the day. On this head, we quote, not in the way of retaliation and reproach, but as confirming the position stated above, that a stranger is apt to mistake as peculiarities in a foreign country, what his own abounds in, Mr. Bulwer's late work on England and the English,—a work, by the way, which furnishes for every passage of Mr. Hamilton's book that imputes special errors or vices to Americans, abundant parallels, in English manners and society.

"The first thing (says Mr.B.) which strikes the moral inquirer into our social system, is the respect in which wealth is held." "In some countries," he adds, "pleasure is the idol, in others, glory and the prouder desires of the world; but with us, money is the greatest of duties."

Want of philosophic observation, however, is not the only fault we find with Mr. H.'s book: there is another even graver, because affecting its fairness; that is, that it was both written and published in aid and furtherance of English habits and institutions. The avowed motive for giving it to the world at the present moment, is, to counteract the evil which "drivellers," who quote with approbation in Parliament, and as worthy of imitation, the practical operation of American institutions, may bring upon England. With such predispositions, no man could do justice to a foreign nation. Mr. Hamilton, moreover, is a writer of much practice, and therefore duly sensible of the value, without always considering the truth or justness, of a brilliant alliteration, or antithesis. He has not always been above these temptations, as may be in part seen by the grouping of the figures in the extract we make respecting the President's levee. With all this, however, he has too much of character and fairness, not to admit the existence of much worth and talent and integrity—of general prosperity, and the unquestionable security of person and property, among us; and by these and other admissions effectually, though unconsciously, disproves the unfavorable conclusions to which he arrives. But we must break off—presenting to our readers today only a series of portraits drawn from this volume.

MR. GALLATIN.—Mr. Gallatin I regarded with peculiar interest. His name was one with which I had been long familiar. Born in Switzerland, he became a citizen of the United States, soon after the Revolution, and found there a field, in which it was not probable that talents like his would remain long without high and profitable employment. I believe it was in the cabinet of Mr. Jefferson that Mr. Gallatin commenced his career as a statesman. Since then, much of his life has been passed either in high offices at home, or as minister to some of the European courts; and the circum-

stance of his foreign birth rendering him ineligible to the office of president, this veteran statesman and diplomatist, wisely judging that there should be "some space between the *cabinet* and the grave," has retired from political life, and finds exercise for his yet unbroken energies in the calmer pursuits of literature.

In his youth, Mr. Gallatin must have been handsome. His countenance is expressive of great sagacity. He is evidently an acute thinker, and his conversation soon discovered him to be a ruthless exposer of those traditionary or *geographical* sophisms, in politics and religion, by which the mind of whole nations has been frequently obscured, and from the influence of which none, perhaps are entirely exempt. Mr. Gallatin speaks our language with a slight infusion of his native accent, but few have greater command of felicitous expression, or write it with greater purity.

Mr. Harding.—I had the pleasure of becoming acquainted with Mr. Harding, a painter of much talent, and very considerable genius, His history is a singular one. During the last war with Great Britain, he was a private soldier, and fought in many of the battles on the frontier. At the return of peace, he exchanged the sword for the pallet, and without instruction of any kind, attained to such excellence, that his pictures attracted much notice, and some little encouragement. But America affords no field for the higher walks of art, and Harding, with powers of the first order, and an unbounded enthusiasm for his profession, is not likely, I fear, to be appreciated as he deserves. Some years ago, he visited England, where his talents were fast rising into celebrity, but the strength of the *amor patriæ* unfortunately determined him to return to his native land. I say unfortunately, because in England he could scarcely have failed of attaining both wider fame and more liberal remuneration, than can well be expected in America. The modesty of this artist is no less remarkable than his genius. He uniformly judges his own performances by the highest standard of criticism, and is far rather disposed to exaggerate than extenuate their defects. Such a character of mind holds out hopes of future achievement. In truth, even now, he is deficient in nothing, but a certain softness and finish, which time and a little practice will undoubtedly supply.

Joseph Bonaparte.—Joseph Bonaparte, in person, is about the middle height, but round and corpulent. In the form of his head and features there certainly exists a resemblance to Napoleon, but in the expression of the countenance there is none. I remember, at the Pergola Theatre of Florence, discovering Louis Bonaparte from his likeness to the Emperor, which is very striking, but I am by no means confident that I should have been equally successful with Joseph. There is nothing about him indicative of high intellect. His eye is dull and heavy; his manner ungraceful and deficient in that ease and dignity which we vulgar people are apt to number among the attributes of majesty. But Joseph was not bred to kingcraft, and seems to have been forced into it rather as a sort of political stop gap, than from any particular aptitude or inclination for the duties of sovereignty. I am told he converses without any appearance of reserve on the circumstances of his short and troubled reign—if reign, indeed, it can be called—in Spain. He attributes more than half of his misfortunes, to the jealousies and intrigues of the unruly marshals, over whom he could exercise no authority. He admits the full extent of his unpopularity, but claims credit fur a sincere desire to benfit the people.

One circumstance connected with his deportment I particularly remember. The apartment was warm and the ex-king evidently felt it so, for taking out his pocket handkerchief, he deliberately mopped his bald "discrowned head," with a hand which one would certainly have guessed to have had more connexion with a spit than a sceptre.

President Jackson and his Levee.—We found the President had retired with a headach, but in a few minutes he appeared, though from the heaviness of his eye, evidently in a state of considerable pain. This, however, had no influence on his conversation, which was spirited, and full of vivacity. He informed us that he had been unwell for several days, and having the fatigues of a levee to encounter on the following evening, he had retired early, in order to recruit for an occasion which required the presence of all his bodily powers. When this subject was dismissed, the conversation turned on native politics, the Indian question, the powers of the Supreme Court, and a recent debate in the Senate, which had excited considerable attention.

Of the opinions expressed by this distinguished person, it would be unpardonable were I to say any thing; but I heard them with deep interest, and certainly considered them to be marked by that union of boldness and sagacity, which is generally supposed to form a prominent feature of his character. General Jackson spoke like a man so thoroughly convinced of the justice of his views, that he announced them unhesitatingly and without reserve. This openness might be increased, perhaps, by the knowledge of my companion being a decided supporter of his government; but sincerity is so legible both in his countenance and manner, that I feel convinced that nothing but the strongest motives of state policy could make him hesitate, under any circumstances, to express boldly what he felt strongly.

On the following evening I attended the levee. The apartments were already full before I arrived, and the crowd extended even into the hall. Three—I am not sure that there were not four—large saloons were thrown open on the occasion, and were literally crammed with the most singular and miscellaneous assemblage I had ever seen.

The numerical majority of the company seemed of the classes of tradsmen or farmers, respectable men, fresh from the plough or the counter, who, accompanied by their wives and daughters, came forth to greet their President, and enjoy the splendors of the gala. There were also generals, and commodores, and public officers of every description, and foreign ministers and members of Congress, and ladies of all ages and degrees of beauty, from the fair and laughing girl of fifteen, to the haggard dowager of seventy. There were majors in broad cloth and corduroys, redolent of gin and tobacco, and majors' ladies in chintz or russet, with huge Paris ear-rings, and tawny necks, profusely decorated with beads of colored glass. There were tailors from the board, and judges from the bench; lawyers who opened their mouths at one bar, and the tapster who closed them at another;—in short, every trade, craft, calling, and profession, appeared to have sent its delegates to this extraordinary convention.

For myself, I had seen too much of the United States to expect any thing very different, and certainly anticipated that the mixture would contain all the ingredients I have ventured to describe. Yet, after all, I was taken by surprise. There were present at this levee, men begrimed with all the sweat and filth accumulated in their day's—perhaps their week's—labor. There were sooty artificers, evidently fresh from the forge or the workshop; and one individual I remember—either a miller or a baker—who, wherever he passed, left marks of contact on the garments of the company. The most prominent group, however, in the assemblage, was a party of Irish laborers, employed on some neighboring canal, who had evidently been apt scholars in the doctrine of liberty and equality, and were determined, on the present occasion, to assert the full privileges of "the great unwashed." I remarked these men pushing aside the more respectable portion of the company with a certain jocular audacity, which put one in mind of the humors of Donnybrook.

Mr. Edward Livingston.—Mr. Edward Livingston, the Senator for Louisiana, shortly after my departure from Washington, became Secretary of State. Bred to the New York bar, he early took his station in the very first line of his profession. As a philosophical lawyer, he stands not only unrivalled, but unapproached. His experience in public life has been very great; and his high talents, extensive knowledge, and amiable character, have deservedly acquired for him the admiration and esteem of a people not prompt in the payment of such tribute.

Mr. Livingston's fame, however, is not American, but European. The criminal code which he has framed for Louisiana, is confessedly a magnificent specimen of philosophical legislation, and places the reputation of its author on a secure and permanent foundation. From this code the punishment of death is excluded, and Mr. Livingston is a warm advocate for its removal from the statute books of other States.

The labors of Mr. Livingston in the compilation of his code were, for many years, unwearied and assiduous. Men of more limited knowledge, and inferior powers, would have been unfit for such a task. Men of less enthusiasm would have shrunk from it in dismay. Mr. Livingston, fortunately for himself and his country, braved all difficulties, devoted to it the whole energies of his mind, and brought it to a happy completion.

Animated by the zeal of a philanthropist, he made himself acquainted with the laws of all nations, and the contents of every treatise on crime and punishment which could be discovered in Europe. He maintained an extensive correspondence with the most eminent political philosophers of the age, and among others, with Bentham, by whose enlightened advice he professes to have largely profited.

One incident in the life of Mr. Livingston is worthy of record, as affording a fine illustration of the character of the man. His labors connected with the code were already far advanced, when his whole papers were destroyed by fire. This happened at ten o'clock at night, and at seven on the following morning, with unbroken spirit, he began his task afresh! Few men are endowed with such buoyancy of spirit, and indomitable perseverance.

In person, Mr. Livingston is rather above the middle height. His countenance, though without elegance of feature, is peculiarly pleasing, from the benevolence of its expression, unusual at his years, which lights up his eye when he discourses on any interesting subject. His manners are those of a finished gentleman, yet rather, I should imagine, the spontaneous result of an innate and natural delicacy of thought and feeling, than of intercourse with polished society. To the courtesy and kindness of this eminent individual I feel deeply indebted. It is with pleasure that I now give public expression to those sentiments of admiration and respect which I shall ever entertain for his character and talents.

Daniel Webster.—The person however, who has succeeded in rivetting most strongly the attention of the whole Union, is undoubtedly Mr. Webster. From the Gulf of St. Lawrence to that of Mexico, from Cape Sable to Lake Superior, his name has become, as it were, a household word. Many disapprove his politics, but none deny his great talents, his unrivalled fertility of argument, or his power, even still more remarkable, of rapid and comprehensive induction. In short, it is universally believed by his countrymen, that Mr. Webster is a great man; and in this matter I certainly make no pretension to singularity of creed. Mr. Webster is a man of whom any country might well be proud. His knowledge is at once extensive and minute, his intellectual resources very great; and, whatever may be the subject of discussion, he is sure to shed on it the light of an active, acute, and powerful mind.

I confess, however, I did meet Mr. Webster under the influence of some prejudice. From the very day of my arrival in the United States, I had been involuntarily familiar with his pretensions. Gentlemen sent me his speeches to read. When I talked of visiting Boston, the observation uniformly followed, Ah! there you will see Mr. Webster." When I reached Boston, I encountered condolence on all hands. "You are very unfortunate," said my friends, "Mr. Webster set out yesterday for Washington." Whenever at Philadelphia and Baltimore, it became known that I had visited Boston, the question, "Did you see Mr. Webster?" was a sequence as constant and unvarying as that of the seasons.

The result of all this was, that the name of Webster became invested in my ear with an adventitious cacophony. It is not pleasant to admire upon compulsion, and the very pre-emience of this gentleman had been converted into something of a bore. To Washington, however I came, armed with letters to the unconscious source of my annoyance. The first night of my arrival I met him at a ball. A dozen people pointed him out to my observation, and the first glance rivetted my attention. I had never seen any countenance more expressive of intellectual power.

The forehead of Mr. Webster is high, broad, and advancing. The cavity beneath the eyebrow is remarkably large. The eye is deeply set, but full, dark and penetrating in the highest degree; the nose prominent, and well defined; the mouth marked by that rigid compression of the lips by which the New Englanders are distinguished. When Mr. Webster's countenance is in repose, its expression struck me as cold and forbidding, but in conversation it lightens up; and when he smiles, the whole impression it communicates is at once changed. His voice is clear, sharp, and firm, without much variety of modulation; but when animated, it rings on the ear like a clarion.

As an orator, I should imagine Mr. Webster's forte to be in the department of pure reason. I cannot conceive his even attempting an appeal to the feelings. It could not be successful; and he has too much knowledge of his own powers to encounter failure. In debate his very countenance must tell. Few men would hazard a voluntary sophism under the glance of that eye, so cold, so keen, so penetrating, so expressive of intellectual power. A single look would be enough to wither up a whole volume of bad logic.

In the Senate, I had, unfortunately, no opportunity of hearing Mr. Webster display his great powers as a debater. During my stay the subjects on which he happened to speak were altogether of inferior interest. In the Supreme Court he delivered several legal arguments which certainly struck me as admirable, both in regard to matter and manner. The

latter was neither vehement nor subdued. It was the manner of conscious power, tranquil and self-possessed.

Mr. Webster may be at once acquitted of all participation in the besetting sins of his age and country. I even doubt, whether, in any single instance, he can be fairly charged with uttering a sentence of mere declamation, His speeches have nothing about them of gaudiness and glitter. Words with him are instruments, not ends; the vehicles, not of sound merely, but of sense and reason. He utters no periods full of noise and fury, like the voice of an idiot, signifying—nothing; and it certainly exhibits proof that the taste of the Americans is nor yet irretrievably depraved, when an orator like Mr. Webster, who despises all the stale and petty trickery of his art, is called by acclammation to the first place.

In conversation, Mr. Webster is particularly agreeable. It seems to delight him, when he mingles with his friends, to cast off the trammels of weighty cogitation, and merge the lawyer and the statesman in the companion;—a more pleasant and instructive one I have rarely known in any country. As a politician, the opinions of Mr. Webster are remarkably free from intolerance. He is one of the few men in America who understand the British Constitution, not as a mere abstract system of laws and institutions, but in its true form and pressure, as it works and acts on the people, modified by a thousand influences, of which his countrymen in general know nothing.

Mr. Van Burn.—Mr. Van Buren, then Secretary of State, and now Vice-President, possesses, perhaps, more of the manner which in England would be called that of the world, than any other of the distinguished individuals whom I met in Washington. He is, evidently, a clever man, with a perfect knowledge of character, and the springs of human action. Neither his conversation nor his manner are marked by anything of official reserve. Indeed, where the whole business of the government is conducted by committees of the Senate and Representatives, an American Secretary of State can have few secrets, and those not of much value. The opponents of the ministry, however, accuse Mr. Van Buren of being a manœuverer in politics—a charge, I presume, to which he is obnoxious only in common with his brother statesmen, of whatever party; for, where independence is impossible, finesse is necessary. But, on the details of party politics I say nothing; I only know that the Secretary of State is a gentleman of talent and information, of agreeable manners, and, in conversation, full of anecdote and vivacity.

Tales and Novels of Maria Edgeworth, vol. VII; uniform edition. New York, J. & J. Harper. This volume contains *Leonora* and various letters, and *Patronage*. It is, too, equally well got up, mechanically, as the preceding volumes of this excellent series.

A Complete System of Mensuration of Superficies, and Solids of all Regular Figures, by Tobias Ostrander, Teacher of Mathematics. New York, McElrath, Bangs & Co.—This treatise designed for schools and private learners, is intended to supply the want, which is said to exist, of a plain and practical exposition of the principles upon which the daily operations of mensuration are mechanically, as it were, conducted. Previous treatises, it is said, have assumed too much knowledge on the part of learners. This leads them on, step by step, from the A, B, C, to the mystery of the whole subject. The work is plainly and accurately published—and must be useful.

My Imprisonment.—*Memoirs of* Silvio Pellico, *translated from the Italian by* Thomas Roscoe. New-York, J. & J. Harper.

This is a book which in Europe should, like the drum covered with the skin of *John Zisca*, be used to arouse every heart against oppressions such as it details, and against the political institutions under which they could be perpetrated with impunity.—Here it will be eagerly perused, as the interesting record of undeserved sufferings endured with high-minded constancy, and cheered by unfailing reliance upon the promises of the gospel. It is a beautiful instance of the power of the mind when rightly directed and finely touched, to elevate the physical frame above even such torments as this son of genius was subjected to. Pellico's crime was a desire to improve, elevate and nationalize the feelings of his countrymen, to render Italians worthy of their descent—and with this view he became the editor of a newspaper. His journal was soon suppressed by the Austrian Censorship, and he himself cast into prison, and that prison was "the leads" of the Ducal palace at Venice. Our readers shall see what sort of imprisonment that was:

My solitude, meantime, grew more oppressive.—Two sons of the jailer, whom I had been in the habit of seeing at brief intervals, were sent to school, and I saw them no more. The mother and the sister, who had been accustomed, along with them, to speak to me, never came near me, except to bring my coffee. About the mother I cared very little; but the daughter, though rather plain, had something so pleasing and gentle, both in her words and looks, that I greatly felt the loss of them. Whenever she brought the coffee, and said, "It was I who made it; I always thought it excellent; but when she observed, "This is my mother's making," it lost all its relish.

Being almost deprived of human society, I one day made acquaintance with some ants upon my window; I fed them; they went away, and ere long the place was thronged with these little insects, as if come by invitation. A spider, too, had weaved a noble edifice upon my walls, and I often gave him a feast of gnats or flies, which were extremely annoying to me, and which he liked much better than I did. I got quite accustomed to the sight of him; he would run over my bed, and come and take precious morsels out of my hand. Would to heaven these had been the only insects which visited my abode. It was still summer, and the gnats had begun to multiply to a prodigious and alarming extent. The previous winter had been remarkably mild, and after the prevalence of the March winds, followed extreme heat. It is impossible to convey an idea of the insufferable oppression of the air in the place I occupied. Opposed directly to a noontide sun, under a leaden roof, and with a window looking on the roof of St. Mark, casting a tremendous reflection of the heat, I was nearly suffocated. I had never conceived an idea of a punishment so intolerable; add to which the clouds of gnats, which spite of my utmost efforts, covered every article of furniture in the room, till even the walls and ceiling seemed alive with them; and I had some apprehension of being devoured alive. Their bites, moreover, were extremely painful, and when thus punctured from morning till night, only to undergo the same operation from day to day, and engaged the whole time in killing and slaying, some idea may be formed of the state both of my body and my mind.

I felt the full force of such a scourge, yet was unable to obtain a change of dungeon, till at length I was tempted to rid myself of my life, and had strong fears of running distracted. But, thanks be to God, these thoughts were not of long duration, and religion continued to sustain me. It taught me that man was born to suffer, and to suffer with courage; it taught me to experience a sort of pleasure in my troubles, to resist and to vanquish in the battle appointed me by Heaven. The more unhappy, I said to myself, my life may become, the less will I yield to my fate, even though I should be condemned in the morning of my life to the scaffold. Perhaps, without these preliminary and chastening trials, I might have met death in an unworthy manner.

FOREIGN INTELLIGENCE.

From Europe.—The arrival of the Tamerlane from Havre, and the Splendid from Liverpool, has put us in possession of Paris and London dates to the 13th and 14th of August, inclusive.

The details of the attack made on the 25th July, by the Miguelite troops, on Oporto, have been at last received in London. The loss sustained by the besieging army is represented as truly terrible, and the strongest feelings of dissatisfaction were created against Marshal Bourmont for having insisted upon the attack. The Marshal himself, who was severely wounded, it is reported has retired to Spain. As the government of that country shows no disposition to move in favor of Miguel, the unhappy contest which has lately distracted Portugal may be considered as finally concluded,—and, indeed, may by this time be laid forever at rest, by the withdrawal of the vanquished party from his brother's dominions.

Nothing is yet known respecting the fate of Don Miguel and his army, but it is generally believed that the Government of Ferdinand has determined on not receiving that Prince in Spain. Portuguese Stock is quoted at 90 1-4, and the Regency Scrip at 25 1-4 premium. Don Pedro is said to have granted a general amnesty, excepting only the Minister of Police. It is thought that one of his first acts will be the suppression of the convents throughout Portugal. This certainly sounds as if the Regent thought himself already secure in his new situation. The Portuguese Consul at Bayonne is mentioned among those out of the kingdom who have recently declared for the new Government. The Miguelite General Viscount de Molellos, who had repaired to Beja, took refuge, it is said, in Badajoz, after being deserted by his troops. It is said that M. de Bourmont, after resigning his command, had embarked for Cadiz, whence he was sent to perform quarantine at Mahon. A report however prevailed in Paris, that the French Government think they have discovered a project for landing in Vendee with the remains of the French Etat Major in the service of Don Miguel. Other rumors give a little importance to this extravagant project, if such be indeed entertained. The Echo du Peuple, of Poitiers, states that "from the constant movements and secret councils between the Nobles and the Priests, and the display of the white flag at several towns in the country, no doubts can be entertained that the legitimatists were preparing for a last effort. They have for a long time boasted that an effort would be made as soon as Henry V. attained his majority." We imagine that half the reports of this kind owe their birth to idle newspaper speculation. The public mind has been so stimulated by striking political movements in Europe, that the press can there keep its unnatural appetite in play only by supplying continual food of the same character; just as our western brethren, when suicides are slack, and robberies and murders run low, are sure to gratify the public's amiable predilection for horrors by some dreadful cock and bull story, that shall make the hair of the whole nation stand on end. The French King was to leave Paris on the 26th, accompanied by Marshal Soult, and Admiral de Rigny, and arrive at Cherbourg on the 31st. The Cabinets of France and Spain are both engaged in arrangements preparatory to recognizing the independence of their late colonies in this hemisphere. A letter writer from Madrid under date of August 1st, says—"We are assured that negotiations are on foot respecting the recognition of several of the late Spanish colonies in America. Our cabinet still puts forward, as the *sine qua non*, the proportionate division of the debt, which is to be settled on conditions similar to those now in contemplation between Holland and Belgium." And Paris dates of August 11, state that the government has received new propo. sals from that of Hayti, but they have not been acceded to. The government requires that positive guarantees should be given before any further negociations are entered upon, in order that the execution of what may be agreed upon, may be confided in. The brig Le Cuirassier was about to sail from Brest, with despatches for Port au Prince, from the Minister of Foreign Affairs, on the subject of this negotiation, and she is to wait for the answer of the Haytien government. Some advices of moment from Switzerland, with accounts of some interest from Poland, will be found below. The Paris Constitutional, in speaking of the former country, pretends that the Germanic Diet has already given orders to interfere in the affairs of Switzerland. But other journals say that none of the letters which have arrived from that part of Germany make any mention of the matter; and besides, it would have been rather difficult for the High Diet to have already taken such measures, as a great number of the representatives were absent from Frankfort. The Frankfort Journal, in an article on the affairs of Portugal, expresses much fear lest an alliance of what it calls the liberal powers—meaning England, France and Portugal, under its new regime—shall disturb "that general peace won by Europe after so many efforts and sacrifices." The apprehension, though it might readily find a place in an Austrian or Russian brain, becomes ridiculous when a part of the scheme conjured up by the Frankfort editor, to frighten his legitimate readers, embraces a movement in unison with the liberals on the part of Spain; which country, he thinks, may by some hocus pocus process be brought under their influence. "This explains," he goes on to say, "why the Northern Powers, so interested in the equilibrium of Europe, cannot, without imprudence, confine their vigilance to the Rhine and Italy. They must also extend their influence to Spain, and have a deliberative voice at Lisbon and Oporto." *Quem Deus vult, &c.* If these disinterested regulators of human affairs

thrust their fingers into the constitutional arrangements of the Peninsula at the present crisis, they may communicate an electric shock to the inflammable materials at home, which may lead them to regret, when too late, that they did not "confine their vigilanee to the Rhine and Italy." The grand struggle that Mr. Canning foretold, every one knows must come sooner or later; but it is astonishing how blindly they who have everything to lose, would hurry it. Shut up in its own atmosphere, legitimacy may live many a day yet; but for its supporters to go beyond their acknowledged sphere to check the growth of liberalism elsewhere, is like pushing a cordon sanitaire inte an infected district beyond the frontier, and thus supplying a conductor for contagion over the border.

Parliament was to be prorogued on the first of September. For a great many years past there has not been so abundant a harvest as at present.

In the House of Commons, on the 7th August, Mr. Lyall presented a petition from merchants and brokers of London, for the continuance of the usual facilities to transmit letters to the United States of America, otherwise than by Post Office Packets, when opportunities offered. Sir James Graham replied that there was every disposition to comply with these wishes of the merchants, if a practicable mode could be suggested that would secure the revenue against fraud and injury.

The place of Don Miguel's retreat is not yet ascertained. It is said that, on receiving the intelligence of the overthrow of his forces, he set out to join Don Carlos, with the view of accompanying him into Italy. Donna Maria was about to depart from Paris on her way to Portugal.

Disturbances in Switzerland.—Schwytz, July 31.—A civil war has just made its appearance in this part of the country. An inhabitant of Kussnacht* (Schwytz) exterior) having petitioned for a reunion with the Schwytz Interior, was arrested yesterday by the authorities, but afterwards rescued by his friends. Serious disturbances ensued; the windows of several houses were broken, muskets were fired, and several persons were wounded. The party who were for a reunion suffered much. Troops were immediately sent to the frontier to prevent a civil war. Col. Aleyberg, an officer of the Federal Government, but now attached to the small diet, entered Kussnacht at the head of 600 men, and took possession of it, in the name of the Canton of Schwytz. He deposed the authorities, appointed new magistrates, made the principal patriots prisoners, and brought them under escort to Schwytz. We have here 3000 men under arms ready to support him; and the smaller Cantons are all brave and zealous, and are also ready to lend their aid. On the arrival of the troops on the frontier this morning, several musket shots were heard in the distance, and soon afterwards a messenger brought intelligence that hostilities had commenced, and a public functionary transmitted to the commandant a letter demanding a supply of forces.

[* Kussnacht is on the borders of the Lake of the four Cantons, three leagues from Lucerne, and with its district contains 4000 souls. It was at this place that Wm. Tell slew the tyrant Gessler. This small state was subject to Schwytz before the revolution of 1793.]

Latest from Mexico.—The New Orleans Bulletin of the 31st ult. has the following—

By the schooner Tampico, Daunas, from Tampico, we have copious files from the *Gazeta*, to the 10th August, and a supplement from the *Telegrafo* of Mexico (city,) the latter containing a despatch from Gen. Valencia, to the Minister of War, the insurgent general, D. Angel Perez Palacies, with all his host, prisoners, arms, and every thing falling into the hands of Valencia. The battle lasted but five hours; the patriot troops behaving in the most heroic manner.

On which the Telegraph observes, "the liberty of the Mexicans is about to be secured forever."

In the State of New Leon, Col. Don Ramon Corina, commanding the Federal Troops had completely triumphed over the rebels, who had renounced their faction, and placed themselves at the disposal of the Mexican government. (Last despatch dated Moontery, July 19th.

The prisoners taken at Cuernavaca are 300, besides Esalada and Palacies. (Tampico Gaz. Aug. 9,)

The same paper, and date, says—A courier has just arrived from Mexico, and it being too late to make extracts, we shall only say that Gen. Valencia's victory is confirmed, and on the 29th of July, Aristo and Duran were in Griega moving towards Zelaya.

Mexico, July 28.

We announce with grief that at the departure of the express which brought the preceding (Valencia's despatch) Gen. D. Vicente Filasala was in the agonies of death.—[Democrata.]

Owing to the late hour at which we received those interesting papers, &c. we are compelled to break off here—though with much reluctance.—[N. O. Bulletin, Aug. 31.]

SUMMARY.

Our distinguished fellow citizen, *Christopher Hughes*, arrived Sunday from England, on a temporary leave of absence, as we learn, from his post, as *Chargé d'Affaires* at Stockholm. He will, as always, find a warm welcome among his numerous friends at home.

Appointments by the President.—Charles I. Hambro, Consul of the United States at Copenhagen, in the place of John Raynals, deceased.

George K. Walker, Attorney of the United States for the Middle District of Florida, in the place of John K. Campbell, deceased.

Dr. Aylett Hayes, of Virginia, has bequeathed freedom to about one hundred slaves, and twenty dollars for each, to assist the Colonization Society in conveying them to Liberia.

Omnibusses &c.—There are now seventy-six Omnibusses in this city, eighteen of which run through Broadway and Canal street to Greenwich; fifteen to the Dry Dock; fourteen up Broadway to the corner of Bleecker st; eleven to the upper end of Bleeker st; seven through the Bowery to the corner of Twenty first street and eighth avenue; five to the upper Bull's Head; two to Greenwich via Courtlandt and Greenwich streets; and one, (the Red Rover) through Chatam street and the Bowery, thence across the city to Military Hall, and then to 273 Bleecker st.

Besides these there are one hundred and ninety-four licensed hackney coaches at the different stands; two thousand four hundred and forty nine carts; and one hundred and fifty seven porters, with either barrows or hand carts.—[Standard.]

Snow.—We learn by the Litchfield, Connecticut, Enquirer, that Mount Riga, in Salisbury, was whitened with snow on Thursday the 5th inst. It is also said that snow was observed in Winchester and Goshen, and of course we should think, in Norfolk, for it is a common remark that the good people of Norfolk never pretended to make any account of snow, until it is at least two years old.—[Albany Daily Advertiser.]

Norfolk, Friday, September 13.—The steamboat Watchman, commanded by Lieut. Thos. R. Gedney, of the Navy, left here on Saturday last for Mobile, but in consequence of a strong head wind, was detained at Old Point Comfort until Tuesday afternoon, when she proceeded to sea, and, we regret to add, was the same night, a little to the southward of the Capes, run foul of by the brig Nahant, Parker, from Boston, bound to this port, and so much injured as to render it necessary for her to put back. She will be repaired and ready for sea in about eight or ten days.

We learn that the Watchman is intended to ply between Mobile and New Orleans, to carry the mail between those cities; was built at Washington, with excellent accommodations for passengers, and has an engine of 50 horse power, constructed by those celebrated machinists, Messrs. Watchman & Bratt, of Baltimore. Lieut. Gedney who is at present in command of her, is ordered on a survey of a part of our Southern coast.—[Herald.]

[*From the Buffalo Journal of Sept.* 4.]

A floating palace came into our harbor yesterday, bearing the imposing title of 'George Washington, built at Huron, Ohio, under the direction of her commander, Capt. A. Walker, and owned by the Hudson Steamboat Company. She is 186 feet in length, with breadth of hull 30 feet, guards not included—hold 12 feet, and of 606 tonnage—decks flush, and promenade deck splendidly arranged. She has on deck six state rooms of two and three berths each, admirably arranged for families, through the avenues to an elegantly constructed staircase and descends to the ladies' cabin, composed of 28 births, supporting the deck by finely turned columns, and furnished in a style more rich and with better taste than any boat we ever saw on the Hudson. Thence to the grand cabin, or, rather grand saloon, done off in the same manner, and from which you communicate with the deck, larboard or starboard, by winding stair cases, —her height to the first deck being 10 feet, and from the first to the second the same.

She has two two pressure horizontal engines of 100 horse power each, built by Warden & Benny, Pittsburg, and is ship rigged, with tops and standing top gallant yards. Furnished by Staats of this city, and fitted out by Murray & Co. Cost $75,000. In her steerage, or forward cabin, are 40 berths well furnished, a bar, a steward and table, and three different prices of passage are named—cabin, steerage and deck. Whole number of berths 166.

Steam-Boat between Newbern and Elizabeth City.—The elegant new Steam Packet *John Stoney*, which arrived at Elizabeth City on Monday afternoon last, has been placed on the route between *Newbern and Elizabeth City*, and will hereafter run regularly, leaving Elizabeth City every *Tuesday* and *Friday* afternoon, immediately after the arrival of the Northern Mail. We understand that this boat will perform the run between the towns in from 18 to 20 hours, and probably less. She now anticipates the mail line near a day. Arrangements are in progress to have the Southern end of the Atlantic route so arranged, as to be entirely worthy of confidence. The price of the passage in the *John Stoney* from Elizabeth City to Newbern is $10, including fare. She will leave Newbern *twice a week* on her return to Elizabeth City, on such days and at such hours as will best suit the arrival of the Southern and Western Mail there.—[Norfolk Herald.]

Boundary Line between New York and New Jersey.—It is with pleasure we learn from the Newark Daily Advertiser, that the commissioners on the part of the States of New Jersey and New York on Monday last, concluded their negotiation, by a satisfactory settlement of the territorial limits and jurisdiction between the two States, on just and equitable principles, securing to each State the enjoyment of all substantial rights.

It is understood distinctly that the claim *so* important and indeed indispensable to this city, of jurisdiction to high water mark on the Jersey shore, is conceded—reserving to New Jersey the right of soil and property.

We understand that Mr. John S. Miercken, our late Consul for Martinique, left that Island in September last, on board the schooner Lafayette, bound for Philadelphia, via, Turks Island; that she called at the latter place, and received on board a cargo of salt and sailed again, since which, nothing has been heard of her; and that the place of the Consul is in consequence vacant. Mr. Miercken was a native of this city—a son of the well known Peter Miercken of Southwark. He was a young man of most estimable character, and of the finest talents. His loss, for we fear there is no hope for his friends, will be lamented by all knew him.

Pedestrianism.—The Boston Evening Gazette mentions that Col. Haskett, of SouthCarolina, finished his undertaking of walking two thousand miles in seventy days, on bread and water, on Friday last.—"He has, as will appear by his certified report, exceeded the distance nearly four hundred miles, and gained in weight 2 1-2 lbs. He has visited nearly all the towns in the New England States, and will return home on his abstemious diet, travelling on foot. On his return he will proceed south to Philadelphia, at which place, to comply with the wishes of some professional gentlemen, he will undertake to walk forty miles a day for six days on a prescribed amount of food. After this, it is said he will prepare for publication his notes on diet, and publish them to be distributed gratis in the places he has visited. His object, as he states, has been not to exhibit himself as possessing more physical power than others—but he says, he believes that any man can perform the same. The time and distance was selected to prove this. First—the distance per day is answerable to ten hours labor, and this time (the heat of summer) to show the effect of the the diet in predisposing the body to stand the effect of heat.

[*From the Troy Press.*]

A Steamboat on a New Plan.—Mr. Burden, of this city, already favorably known to the public as a most ingenious mechanic, and the author of an important invention, whereby he has secured a fortune to himself, and conferred a great benefit upon the country—we mean his patent *wrought* spike machine, —has undertaken no less a task than that of effecting an entire overturn in the construction of steamboats and steam navigation. He is now constructing a steamboat, on a plan peculiarly his own, to run 25 miles the hour, and to make a trip from Albany to New York and back by daylight.

It is not, however, in respect to *speed* only, which is to constitute the chief excellence of Mr. Burden's

boat, but in regard to materials, weight, cheapness of construction, and the power necessary to propel it, it is designed to effect a saving of 50 per cent. over the most approved models new in use.

The plan is this: Mr. Burden has constructed two trunks, which, for the want of a better similitude, we shall compare to two huge sea-serpents. They are each 300 feet long, and only 8 feet diameter in the centre, tapering off each way to a point. They are constructed of staves, like a barrel, except instead of hoops on the outside, they are drawn together from the inside by iron rods having a head at one end and screws cut at the other. These at regular intervals pass from the outside of the trunk through each stave, and through a stout iron in the centre, and are there drawn up and secured fast by a nut. The staves are of pine timber 4 inches thick, and from 30 to 80 feet in length. These two trunks are to be placed side by side, 16 feet apart at the centre, and suitably and efficiently connected together by transverse timbers, upon which the deck is to be laid and the machinery placed. It is designed to propel the boat with one wheel only, which is to be placed *between* the trunks at the centre. The buckets will be 16 feet long, and the diameter of the wheel considerably greater than in common boats. The engine will be horizontal, like that of the Novelty; and is designed ordinarily to exert a 75 horse power, but is so constructed that greater may be had if necessary. Mr. B. however, does not calculate that more will be required.

The trunks were constructed at Meritt's Mills, below the city, and were launched, or rather *rolled*, into the Hudson yesterday. We had the pleasure of seeing one of them deposited in the watery element. The other was launched before we arrived. It is designed immediately to frame them together, and lay the deck. This done, the machinery will be applied, and the invention tested by actual experiment. It is proper, however, to say, that an experiment has already been made, with a boat of smaller dimensions, and trunks *eighty* feet long; the success of which, in the opinion of Mr. B. justifies the present undertaking, and is the basis of his entire confidence in its success.

Mr. Audubon.—This distinguished naturalist, (it is stated in the Boston Daily Advertiser,) returned from his Northeastern excursion to Boston on Wednesday, 4th ultimo. We believe that there is no one who will not be gratified to learn the progress of his arduous and unremitted labors in a branch of science which he has made peculiarly his own; and he has kindly favored us with information on the subject of his recent tour, which we are glad to lay before our readers: regretting only that we are not able to present it in his own rich and animated language, and to invest it with the attractions which it would derive from his own descriptive power.

Mr. Audubon, in company with a few friends, left Eastport on the 6th of June, in a vessel hired for his purpose. His course was first directed to the straits of Canso, and thence to the Madalene Island, a poor and barren spot, inhabited by a few persons, who are principally French Canadians. From these islands, he sailed towards the Gannet rock, which derives its appellation from the birds of the same name, that resort to it in multitudes large enough to wring the heart of Mr. Malthus. The rock is four hundred feet in height, and several acres in extent.—When it was visited by Mr. Audubon, it was covered with innumerable birds upon their nests, which gave it the appearance of a huge mass of snow, while the countless numbers of those hovering above it presented a perfect image of a snow storm. The report of muskets did not appear in the slightest degree to alarm them. A severe gale prevented the party from attempting to explore this extraordinary colony, and the rock is in fact regarded by the fishermen as inaccessible. The same gale carried them rapidly by the southern extremity of Anticosti, in the mouth of the St. Lawrence, to the coast of Labrador, which they reached in the 51st degree of latitude. The shore of this iron country is extremely bold, and presented a most desolate appearance—the land was covered with heavy fogs, and diversified, even at the summer season, with numerous deep drifts of snow. Mr. Audubon spent a fortnight in the harbor called Little Nitasguan, employing his time in making excursions in the country, and along the coast, to the distance of 40 miles. The whole appears to be a solid rock, covered with mosses of uncommon depth and beauty; the vegetation in the valleys, which lie open to the sun, is remarkable for its luxuriance, and variegated with beds of rich plants, which were entirely new to every member of the party; the only forests are composed of thin and scattered dwarf trees, principally firs. Here Mr. Audubon was enabled to ascertain the habits of many of the birds which resort to our coast during the winter, and discovered two new species, a *Fringilla* and a *Parus*. In the harbor of Nitasguan, he met with a British surveying schooner, the Gulnare, under the command of Capt. Bayfield, from whom, together with his officers, Lieut. Bowen and Dr. Kelly, the party experienced a very friendly and kind reception.

On leaving this place, Mr. Audubon proceeded eastwardly to the fine harbor of Wapatiguan, where he was a few days afterwards followed by the Gulnare. Here he procured specimens of the willow grouse, old and young, ascertained the habits of many land and water birds, examined the country and neighboring islands, gathered a few new plants and shells, and departed for the port of Little Macatine. The shores of this coast were more bold and rugged than he had yet visited; the aspect of the country became more sterile, and a corresponding change was observable in the climate. The excursions of the party in this quarter were numerous and fatiguing, and it was with difficulty that any of their number could walk for a greater distance than ten miles a day. On ascending the highest hills, the prospect in every direction was of an uniform and very cheerless character: the same thick mosses were spread over the table land, the plants were nearly the same, and lakes, formed by the melting of the snows of winter, were every where spread out around them. In this solitary spot, a Scotch settler had fixed his abode for more than twenty years, and seemed quite contented with the beauties of the scene. His sole occupation was that of taking seal and salmon, which were tolerably abundant in their respective seasons, and which he exchanged for requisite supplies with vessels from Quebec and Newfoundland. He had a wife and six children, by whom the travellers were received with hospitality and kindness. All of them appeared contented with their situation, and had contracted a strong attachment to their wild and dreary residence. Mr. Audubon here found the wild goose in its breeding season, and was favored with an opportunity of observing the habits of several rare species of water birds.

Brador was the next stage in the progress of the travellers; on their way to this port they explored several of the intermediate islands, where many species of birds were found breeding in abundance. These islands are resorted to by people from Nova Scotia, for the purpose of procuring eggs; they commence their operations by trampling on all which they find on the islands, and on the following day begin to collect those which are newly laid; and so successful are they in their search, that Mr. Audubon fell in with a party of three persons, who, in the course of six weeks, had found thirty-two thousand dozen, of the estimated value of four hundred pounds. There is no limit to the havoc made by these people: not content with carrying away the eggs merely, they kill the birds by thousands, in order to pluck a few feathers from the breast, and then throw them into the sea, or leave them on the rocks; and if this wanton destruction should be pursued a few years longer, it is obvious they must exhaust the sources of their profit, by driving the birds from their accustomed haunts. In the port of Brador, where they found excellent anchorage, the party met with sixty or seventy fishing vessels, the crews of all of which were actively employed. The fish were very abundant, and all expected to obtain what they denominate a fare. Mr. Audubon was, however, convinced, that a due regard to the season, and the proper application of their labor, might render the fishery far more productive than it is; and we hope hereafter to have it in our power to offer the result of his inquiries upon this subject to our readers.

The cold at this place was much more severe than was to have been expected in July. The party found it necessary to make larger fires than on the other portions of the coast; and even then the cold was so intense, that Mr. Audubon's pencil occasionally dropped from his fingers, while engaged in drawing by the fireside. Icebergs were here for the first time seen. In fact, as the party advanced along the coast, they found that a distance of only a hundred miles produced a very remarkable difference in the progress of vegetation. Here also they encountered a brother-in-law of the anchorite of Little Macatine, occupying an equally independent situation, his nearest neighbors residing at a very serious distance. This personage had maintained his post for more than 30 years, and was decidedly of the opinion that the country was the finest he had ever seen. He cultivated a small garden, in which were growing a few indifferent vegetables, and was the owner of the only horse which was seen by the travellers in the country; but for the purpose of visiting those whom he called his neighbors, he was accustomed to employ Esquimaux dogs, of which about forty were attached to his establishment. These are fed upon the seals which he catches in the spring, and which are piled in a huge mass in the vicinity of his front door, where they remain until his neighbors have reason to rejoice at their remoteness from his villa. At this place Mr. Audubon had the fortune to procure the male and female of a very large and beautiful new species of Falco, with several smaller birds. Some of the party visited a settlement, thirty miles distant, while the rest traversed this wild region in different directions, whenever the weather permitted.

On their departure from Brador, they crossed the Straits of Belle Isle, and sailed along the coast of Newfoundland, until they reached St. George's Bay, which they describe as the finest that they ever saw. The coast of Newfoundland was more elevated and broken, and even more sterile, than that of Labrador. At St. George's Bay they found a village, consisting of forty houses and two hundred inhabitants, all of whom were fishermen. These people enjoy none of the luxuries, and few of the comforts of life; in the winter season, the want of fuel, and the apprehension of exposure to the violent gales, compel them to invert the order of fashionable usage and to retire to small camps or cabins, erected in the interior. When the party left this anchorage, they were driven by a severe storm to some distance N. of the Madalene Islands, and for two days and nights were tossed in the sea of the Gulph, which Mr. Audubon emphatically describes as the vilest of seas.

As soon as the weather permitted, he sailed in the direction of Pictou, in Nova Scotia, where he discharged his vessel, in order to visit a portion of the British provinces. Pictou is a pleasant village on the margin of a beautiful bay, in which twenty or thirty vessels were at anchor, waiting for supplies of coal. The country in its vicinity is more fertile than is usual with those which abound in minerals. At Pictou, Mr. Audubon received many attentions from the Consul, Mr. Blanchard, and Professor Maculloch of the University, who has a rich collection of well preserved birds, and presented him with several valuable specimens. The road from this place to Truro is Macadamized, and resembled the finest roads of that description in Europe; and the country is rich and diversified, both in its aspect and natural productions. Truro is situated in the centre of a luxuriant valley, adorned with neat farm houses and villas; it was there that the party caught a first view of the head waters of the Bay of Fundy. Professor Maculloch was there, having gone thither for the purpose of introducing them to some gentlemen of the provincial assembly, in whose company they passed several agreeable hours. From this place to Halifax, the appearance of the country becomes less and less attractive.

The appearance of Halifax is pleasing at a distance, but a residence of a few days did not incline the travellers to feel much regret at the period of their departure; they were so unfortunate as not to see any of the gentlemen to whom the letters of introduction, which they received at Truro, were addressed. From this place to Windsor, which is situated on the river of the same name, eight or ten miles above its confluence with the Bay of Fundy, the aspect of the country is not very inviting; though on the road which winds along the bay, immediately after leaving Halifax, there are many fine seats, with ornamented grounds around them. At Windsor, the tide was observed to rise more than sixty feet, and when at half flow, it rose three feet perpendicularly in the space of ten minutes. At low water, the bed of the river is almost dry; the vessels, which were scattered along the bank to be laden with gypsum, the great commodity of the place, appeared to have been stationed there by some magic power. Mr. Audubon embarked at Windsor on board the steamboat Maid of the Mist, a most appropriate name for the latitude in which she plies, and after touching at St. Johns, returned at length to Eastport, and from thence to Boston, where he arrived in good health, and without having met with any disastrous accident in the whole course of his tour.

In this excursion it was not the expectation of Mr. Audubon to make many new discoveries; the coast of Labrador is not one which judicious birds would be likely to select for any other than a summer residence. He has, however, in ascertaining the habits of those already known, procured information which must materially enhance the value of his great work; and the drawings executed during his absence, particularly of the three birds which have been mentioned as discovered by him, are exquisitely beautiful.

Curious Organs of Fishes.—The habits of some fishes require that they should cling firmly to the

rocks or to whatever presents to them. Their locomotive powers are perfect; but how are they to become stationary in the tide or the stream? I have often thought it wonderful that the salmon or the trout, for example, should keep its place, night and day, in the rapid current. In the sea, there are fishes espeeially provided with means for clinging to the rocks. The lump fish, *cyclopterus lumpus*, fastens itself by an apparatus which is on the lower part of its body.—The sucking fish, *remora*, has a similar provision on its back. It attaches itself to the surface of the shark and to whatever is afloat; and, of course, to the bottom of ships. The ancients believed it capable of stopping a ship under sail, and Pliny, therefore, called it *remora*. We must admire the means by which these fishes retain their proper positions in the water, without clinging by their fins or teeth, and while they are free for such efforts as enables them to seize their food. The apparatus by which they attach themselves resembles a boy's sucker, the organ being pressed against the surface to which the creature is to be fixed, the centre is drawn by muscles in the same manner that the sucker is drawn with the cord, and thus a vacuum is made. In the cuttle-fish we see a modification o. this apparatus: the suckers are on the extremities of their processes, or arms, and become instruments of prehension and of locomotion. They are capable of turning in all directions, either to fix the animal or drag it from place to place. In the Indian Seas, these creatures become truly terrific from the length of their arms, which extend to eight or nine fathoms, and from the firmness with which they cling. Dr. Shaw tells us, that on throwing a fish of the species cyclopterus lumpus into a pail of water, it fixed itself so firmly to the bottom that, by taking hold of the tail, he lifted up the pail, although it contained some gallons of water.—[Sir. C. Bell's Bridgewater Treatise on the Hand.]

[*From the London Morning Herald, Aug.* 8.]

DR. DIXON, THE AFRICAN TRAVELLER.

Extract of a letter, dated Cape Coast Castle, 28th April, 1833.

"I fear I have been guilty of great neglect in not sooner communicating to you the result of my inquiries respecting the fate of Dr. Dixon. These particulars I shall, however, now briefly recapitulate to you, that you may be able to answer any inquiries on the subject: on their correctness I believe you may perfectly rely.

"His Majesty's ship Brazen, having Capt. Claperton and the expedition on board, on her voyage down the coast to Bagadry (from whence it was intended the expedition should start,) touched at Whydah, a small town on the Dahomey coast. Here the gentlemen of the expedition landed, and were hospitably entertained by a Senhor de Souza, the most notorious and extensive slave dealer on the coast of Africa. While here, Dr. Dixon expressed a strong desire to penetrate into the interior through Dahomey, so as to rejoin Capt. Clapperton and his companions at Katunga, or, as it is called on the coast, Eyeo. M. de Souza readily offered his services, and actually accompanied the Doctor to the Court of Dahomey, at an immense expense to himself, being obliged, when visiting the King, to make him large and valuable presents. Dr. D. was well received by the King, who swore not only to protect him while passing through his own dominions, but to use his power and influence to procure for him similar favor and protection from those chiefs through whose dominions he must needs pass. The Doctor accordingly left Dahomey well escorted, and the King, or Chief, into whose country he was about to enter, having also sworn to afford him every protection and assistance, he had every prospect of being able to reach Katunga long before Capt. Clapperton. There it was, however, that his ignorance of the customs of the country, and impatience or irritability of temper, cost him his life. When approaching the principal town, the King, attended by his sons and Chiefs, came out, as is customary, to meet him; and the King desired his eldest son to swear fidelity to the stranger, after the fashion of the country. You will, perhaps, recollect that this is done in this part of Africa by the party drawing a sword, or kind of sabre, (more like a bill-hook than any thing else) and making a long harangue, using all the while the most violent and angry like gestures, and pushing the point of the sword almost down the throat of the party in whose favor the oath is taken: in fact they show their dexterity by dutting close to the face without actually touching it. Dr. Dixon unfortunately misunderstood the meaning and nature of the whole ceremony, and concciving from the gestures and appearance of the King's son, that he meant to kill him, drew his sword and plunged it into his body. Instantly all was uproar, and the Doctor would, of course, have been sacrificed on the spot, had not the King interfered, and ordered him to be guarded into the town, declaring that he would not break his oath, even although his own son had been stabbed;—it was, besides, against the "Fetish" of that country, to shed blood in the King's presence. Dr. D. was ordered to leave the country the next morning, and with an escort from the King, proceeded on his journey accordingly. The instant, however, that he passed the boundaries of the King's dominions (when, according to their ideas, the King's oath was no longer binding,) his escort fell upon him and murdered him.

"This, I have reason to know, is a true and correct account of Dr. Dixon's lamentable fate."

The Hon. R. G. Van Polanen, whose death was mentioned under our obituary head on Saturday, was a genleman of distinguished worth and ability. He was a native of Holland and has represented his country with credit and dignity in the four quarters of the world—in Europe, as the diplomatic agent of his government in Switzerland and at some of the continental courts—in Asia, as the head of the judiciary of the Dutch Colony of Batavia—in Africa, as the incumbent of a high civil station at the Cape of Good Hope—in South America, in a similar situation at Dutch Guiana; and in North America, as Consul General during the administration of Washington, and during that of Jefferson as Minister. This was the last public office which he held. He was ardently attached to the independence and ancient republican institutions of his native country, and when Holland was merged in the empire of France he refused to accept office under the new order of things, and for the last thirty years resided in this country, as a private citizen, in the enjoyment of an easy fortune and literary leisure At a late period of his life he received from the present Dutch government the offer of the first law office in the Colony at Batavia, which he declined on account of his ill health and advanced age. He was educated at one of the Dutch universities and was learned in classic authors, in the civil law, in the literature of his own country, of Italy, Germany, France and England. With English literature in particular he had attained a minute acquaintance rare in a foreigner. He was acquainted in early life with Fox, Voltaire and Gibbon, concerning the latter of whom he used to relate many agreeable reminiscences of conversations held at his weekly public dinners and *soirées* while residing at Lausanne, where might be met at one period or other all the learned and accomplished men of Europe, who could afford to travel. In this country, his public duties had not only brought him into official connection, but personal intimacy with Washington, Hamilton, the elder Adams, Jefferson, and Madison. He was simple in his habits of life, frugal in his ordinary expenditures, but highly liberal for all worthy objects. The mildness and gentleness of his manners made him beloved by all who had the good fortune of his acquaintance. He was of the old school of Dutch scholars and statesmen, proud and fond of the ancient glories, manners and institutions of his country, and an adequate representative of the principles, habits and studies which produced De Witt, Barneveldt, and Grotius.—Evening Post.]

In reference to a baneful exudation from the earth's surface, on the coast of Africa, the following anecdote of Com. B—— and Sir Niel Campbell, then governor of Sierra Leone, related to me by a friend on whose veracity I can implicitly rely, deserves to be recorded. I must premise, that it occurred during the rainy season, when these exhalations are much more dense than at present. Sir Niel sent an aide-de-camp on board early one morning to invite the commodore to breakfast at eight o'clock, who excused himself by saying that he made it an invariable rule on the coast of Africa not to land before ten. The messenger went on shore, and speedily returned with another message from the governor, saying, that as he was very anxious to see the commodore, he had put off breakfast until ten, and that he had gone to take a ride in the interim. There was no refusing this; and the cautious officer inquired in what direction Sir Niel rode. "To the westward," was the reply. "Then," said he, "I shall perhaps be able to show you why I do not leave the ship before the day is well advanced." The road which the governor had taken was at that time, nearly parallel with the beach, by King Tom's Point, and only a short distance from it. Commodore B—— took the aide-de-camp to the gangway, and after looking a little time, pointed out to him the governor's course by his hat and feather, the last of which was distinctly vissible, waving over the sheet of mist which covered the ground, himself and his horse being completely enveloped in it. The young soldier expressed great astonishment at the singular phenomenon, and said he was sure that no one on shore was aware of the existence of so dense and dangerous an envelope. Not long after this Sir Niel Campbell fell a victim to the climate.—[Dr. Leonard's Voyage on the Slave Coast.]

Mr. Leslie.—We regret to hear that this admirable painter is about to leave England for America. An offer to preside over the drawing classes of a public institution, the emoluments of which will not exceed 300*l.* per annum, some forty miles from New York, has, it is said, tempted him to emigrate. We could scarcely adduce a more striking proof of the wretched encouragement given to the Fine Arts in this country. Mr. Leslie, confessedly at the head of his profession, and an artist who has "golden opinions from all sorts of men," is about to leave the country, in all probability forever, because it may be presumed he cannot realize some three or four hundred pounds per annum by his pencil. Truly this circumstance reflects but little credit on either the national taste, or the national liberality. Our English Raphael, Stothard, has never made more than has been sufficient for the subsistence of himself and family; Hilton has received but slender encouragement; Thompson, the late Keeper of the Academy, and an historical painter to boot, has retired in disgust from his profession; Danby has expatriated himself to get out of the reach of the myrmidons of the law; and more than one of our deservedly popular sculptors have been compelled to take refuge from the importunities of their creditors in the *Gazette!* We cannot wonder that our painters, even those whom we are most accustomed to honor, should embrace any proposal that seems likely to place them beyond the reach of such contingencies. Mr. Leslie had painted three of the most beautiful modern pictures extant, viz:—Sir Roger de Coverly going to Church with the Spectator; Sancho Panza before the Duchess; and May Day in the reign of Queen Elizabeth. For the best and most authentic Portrait of Scott (so at least say his family and friends) we are also indebted to his pencil. The world of art will therefore lose in him one of its brightest ornaments. The Americans claim, we believe, Mr. Leslie as a countryman; they have no title to his presence on that score, as he was born in London; although the greater part of his life has been spent in the United States. This is the second member of the English Academy of whom America has deprived us. Allston has been long a resident in Philadelphia. Mr. Newton is also, it is rumored, about to leave us, but from a different cause. He has married an American lady, and is moreover an American by birth.—[United Service Journal.]

MARRIAGES.

On the 5th instant, at Utica, by Thomas H. Hamilton, Esq., Mr. BENJAMIN SMITH, to Miss ELLEN GRIFFITHS, all of Steuben.

On Wednesday evening last, by the Rev. Mr. Aikin, the Rev. ALEXANDER M. MANN, of Ithaca, to SUSAN, daughter of Thomas Walker, Esq. of this city.

This morning, by the Rev. Thomas E. Vermilye, Mr. WILLIAM STONE, of Rahway, N. J. to Miss ANN MARIA MOTT, of this city.

Last evening, at St. Ann's Church, Brooklyn, by the Rev. C. Cutler, CLARENCE D. SACKETT, to EMILINE, daughter of Saml Fleet.

On the same evening, by the Rev. D. L. Carroll, ROBERT SPEIR, Jr. to HANNAH, daughter of Samuel Fleet.

On the 27th ult. Mr. William M. Barton, of Grainger county, Tennessee, to Miss Maria, daughter of John Donaldson, Esq. of Jefferson, county. Also, in Jonesboro' on the 27th ult. Mr. Thomas B. Emmerson, to Miss Eliza Green, daughter of Mr. John Green.

On Thursday afternoon last, Mr. Hiram D Pearce, of Troy, to Miss Sarah Jane Wiswall, of Lansingburgh.

In Salisbury, on the 26th ult. Mr. George W. Holley, to Miss Caroline E. Church, daughter of the Hon. Samuel Church.

In Geneva, on the 27th ult. Mr. John A. Crossman, to Miss Gertrude Dayton, only daughter of Dr. D. Dayton.

At Westfield, Chautauque co. on 12th ult. Capt. Ira R. Bird, to Miss Caroline E. Beecher.

At Rutland, (Vt.) on Wednesday the 11th inst. by the Rev. John Hicks, ROBERT SWEENY, Esq. of Montreal, to CHARLOTTE, daugter of Robert Temple, Esq. of the former place.

In Waterbury, Vt. on the 5th inst, Mr. AHIRA J. RICHARDSON, to Miss MARY ANN BANCROFT, both of that place.

In Geneva, N. Y. on the 10th instant, by the Rev. Mr. Bruce, George C. Dixon, Esq. Attorney at LAW, of Penn-Yan, Yates Co., to Miss Henrietta C. C. Gourgas, step-daughter of John A. Coffin, Esq. of Geneva.

In Phelps, on the 5th inst. Mr. Benjamin Poorman, to Miss Roxey Hutchins, both of that place.

In Canoga, Seneca Co., by Rev. Mr. Hall, Mr. L. C. Boardman, of this village, to Miss Lucinda Stout, of the former place.

At Milan, Huron Co., Ohio, Sept. 3, by the Rev. Mr. Judson, Mr. Harry Chase, merchant of Ludlowville, N. Y., to Miss Delia Conger, daughter of Elijah Conger, Esq. of the former place.

DEATHS.

Of scarlet fever, yesterday, 18th instant, GEORGE, aged four years, and this morning HANNAH MURRAY, aged seven years, children of George W. Giles, Esq.

This morning, EUGENIE, youngest daughter of W. W. Montgomery, of New Orleans,

Last evening, of Consumption, NANCY, wife of David McCreary, in the 44th year of her age.

On Monday morning, the 16th inst., the Rev. Joseph Brown Cor. Sec'ry. of the American Seamen's Friend Society, aged 46

In Oneida village on the 11th ult. the Rev. Hez'h N. Woodruff, aged 71.

At his residence, near Urbana, Ohio, on the 6th instant, of bilious fever, ANDREW WAY, Esq. for many years one of the most esteemed, as he was one of the worthiest, inhabitants of Washington City, and formerly printer to Congress.

In Baltimore, Isaac Phillips, late Navy Agent, and one of the earliest Captains in the U. S. Navy.

In Havana, in the month of August last, of the Asiatic cholera, after an illness of only 15 minutes, Enrico Causici, late of New-York, sculptor.

At Whitestown, on Wednesday the 4th instant, HORACE T. MITCHELL, aged 18 years, son of Amos Mitchell, formerly of Boonville.

In Hardwick, Vt., Mr Gershom Cobb, aged 38.

In Deerfield, Col. Elihu Hoyt. He was chosen a representative and senator in the Legislattre for twenty seven successive years.

In Westborough, Dexter, son of Jonas Libbey, aged 5 years.

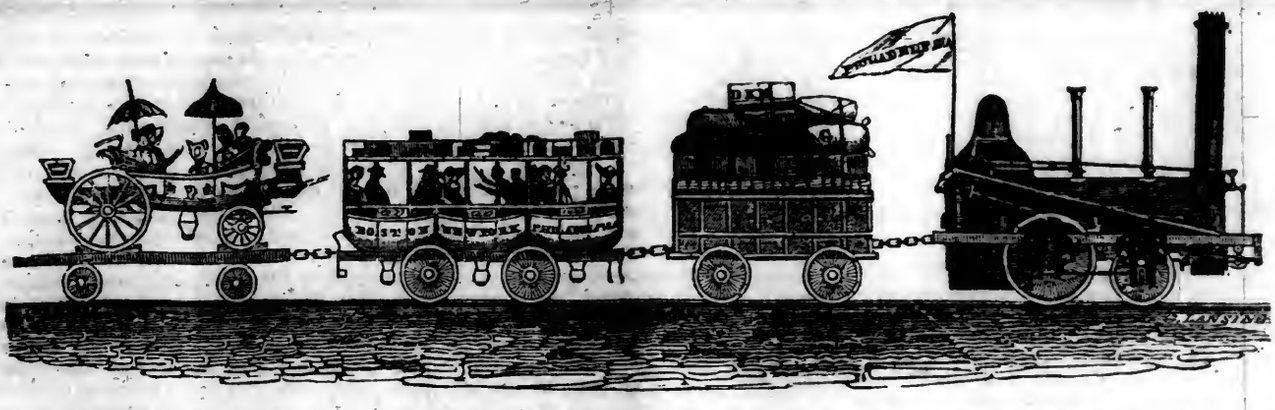
In Cambridgeport, Mrs. CLARINDA R. PAIGE, aged 28, wife of the Rev. Lucius R. Paige.

At West Bridgewater, the Hon. DANIEL HOWARD, in the 85th year or his age.

In Montpelier, Vt., on the 3d inst, GEO. H. PRENTISS, Esq., son of Hon. Samuel Prentiss, aged 28.

In Royalton, Vt., August 1st, Mrs. JERUSHA DEWEY, wife of Ebenezer Dewey, Esq., aged 66.

At New Orleans, 1st Sept., Mr. Nehemiah Ludlum, aged 21 years, a native of New York; Mrs. Catharine C. Ludlum, aged 18; Mr. Solon Hill; 31st ult., after a short illness, of the prevailing epidemic, Mrs. Augusta H. Hunt, aged 35 years, a native of Portland, Me.; of yellow fever, Joshua Mezick, Jr. in the 21st year of his age, and George H. Mezick, aged 19 years, natives of Baltimore; 1st inst., of the prevailing fever, Mr. Abner Cox, aged 32 years; 31st ult., of the prevailing epidemic, Mr. Eugene Flanagan, aged 22 years, a native of Ireland; Mr. Eugene Dionks, a native of Baltimore; of yellow fever, Mr. Wm. Stebbins, aged 29 years, a native of the State of New York, and for the last year or two a resident of Mobile; 1st inst., Mr. Thos. Pearson, aged 30 years: of the prevailing epidemic, Mr. J. V. Dehanne, a native of Paris, and late from New York; 2d inst., of yellow fever, Mr. Eli B. Hoyt, a native of Connecticut, aged 25; of yellow fever, Mr. Jonathan Wadley, aged 24, a native of Oxford, Ohio.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, SEPTEMBER 28, 1833. [VOLUME II.—No. 39.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 28, 1833.

We have observed with much pleasure for several days past, that an experiment was being made in Broadway, between Barclay and Murray streets, to test the utility, and, as *we* believe, the *superiority, of Mr. M'Adam's* plan of forming the covering of our streets with fine *broken* stone, instead of the ordinary pavement. We do not entertain a doubt of their eventually superceding entirely the ordinary pavement. The superior convenience and comfort, as we conceive, of M'Adamized streets, when properly constructed, over the common pavement, will be found to consist in their smoothness of surface, and the ease with which they may be kept clean, as well as in their permanence. We perceive, however, that those who have the management of this "experiment" have adopted a plan *widely* differing from what we conceive to be the *true* one—so different, indeed, as to be *directly contrary* to the mode now in extensive use in England. Instead of *raising* the centre, a deep trench is dug, on the bottom of which is laid a covering of *flat stones* of from 20 to 50, or 70 lbs. weight, and over this is thrown a mass of broken stone, 10 or 12 inches in depth, and varying in size from three to *fifteen* ounces in weight.

This cannot certainly be considered as giving the plan, which they propose to follow, a fair test. No better location in the city, perhaps, could be found to show off the success of the plan than that selected by the Corporation in Broadway near the Park, and therefore a fair experiment should be made.

If John Loudon M'Adam were consulted upon the subject, he would say *dig no trenches*, but raise the centre from 3 to 5 inches, in a width of 30 feet, by throwing the earth from the sides, or from a distance. Let it be made uniform in its compactness and surface, that it may settle properly. Place the gutter stone, which should be of a thickness to correspond with the depth of broken stone to be laid on, and grooved or hollowed on the top, close beside the curb, after which put on about three inches in thickness of material, or broken stone, the largest of which should not *exceed six ounces in weight*. Let this be laid on of equal thickness, and then made compact with a roller—cast iron, if you please—which will give a uniform surface. Then put on another and another coat of stone, broken fine as before, and roll it down, until the covering is 10 or 12 inches in thickness, which will be found *ample for all purposes*, provided it has been *properly* managed in laying it on.

The stone should be broken so fine as to form, after a little use, a solid mass; so much so as to become impervious to water, which will, if permitted to filter through, surely cause the large stone at bottom to settle, and the surface, of course, to become uneven. A good road may probably be made upon the present plan, but it will cost double, and still not be as good as a road built after the rule laid down by Mr. M'Adam. We trust now a beginning has been made, to do away with pavements, that the measure will be carried into full operation, that our citizens may be able to judge for themselves of its utility and convenience.

The communication from Mr. Bulkley, which will be found in this number of the Journal, has been several weeks in our possession. It has been delayed in consequence of having other matters on hand, which we deemed of more importance to our readers than the continuation of a controversy, in which the main subject has in a great measure been lost sight of.

We are deeply sensible of the importance, to the Journal, of a free discussion of the merits of the various modes of constructing Railroads, in its columns, and would, therefore, suggest to those who favor us with a description of their inventions, or with their views of the inventions of others, the importance of avoiding personalities. An argument, to sustain which personal reflections are necessary, is hardly worth the ammunition; and, aside from the unfavorable influence it has upon the success of the Journal, we are unwilling to be the medium of a controversy, which, when thus carried on, can be productive of no beneficial results.

Lexington, Sept. 13th, 1833.

To the Editor of the American Railroad Journal:

Dear Sir—I wrote to you a few days ago some further observations on the subject of Arches. If you have received that communication, and consider the matter worth a place in your Railroad Journal,* I must request you to have the kindness to add the following note at the bottom. Very respectfully, V. D. G.

Note.—The formula referred to above (as given in the 34th number of this Journal, page 531,) for determining the value of the *vertical axis* of the required ellipse, was by some inadvertence written wrongly in the manuscript. It should have been the following:

$$a = \tfrac{1}{2}p \times \frac{\left\{\frac{c'.2r+p+2ch}{2c'r+2ch}\right\}^{\frac{1}{3}}}{\left\{\frac{c'.2r+p+2ch}{2c'r+2ch}\right\}^{\frac{1}{3}} - 1}$$

* See Railroad Journal, last number, page 593.

Active measures for the establishment of a railway between Southampton and London have been revived, with increased prospects of ultimate success. The project has been taken up with much spirit in London, and shares to the amount of $50,000 are said to have been subscribed by one house.

A discovery of considerable importance as connected with the production of steam, has just been made by the superintendent of one of the gas establishments in London. He has ascertained, says the Court Journal, that an excellent fuel may be provided in coke, gas, tar, and water, applied in particular proportions; and as the weight of this fuel is little more than one third of the quantity of coals requisite to produce the same result, it will no longer be difficult to establish communication by steam with India and other distant parts of the world, the great and indeed hitherto insuperable objection, the weight and bulk of the fuel, being now removed. Colonel Torrens, the Member for Bolton, some time since we understand took out a patent for a discovery of a locomotive power, still more astonishing than this, for his principle was a power derived from an article requiring so little bulk that a quart of the liquid would produce sufficient for the impulsion of a ship or carriage over fifty miles. The subtility of this article, however, is said to be such, that it cannot be confined within any known metal, and therefore the discovery is without beneficial result. There is no objection of this kind to the discovery above named,

Reply of R. Bulkley to Uriah A. Boyden, on the subject of the Guard Rail. To the Editor of the American Railroad Journal.

Sir,—It being a declared purpose of our *government* to encourage useful improvements, we have a right, at all times, to presume that the *people* protected by it will not, whether they be native born citizens, or citizens by *adoption*, unreasonably attempt to thwart the rise and progress of such improvements. And if, after an object of improvement becomes publicly *announced as accomplished, and approved of by competent judges*, and only awaiting events for practical application, any individual feels inclined to contest, in opposition thereto, he should *first satisfy himself* that he is *competent to the undertaking*—that he is *master* of the part of the subject he feels a desire to espouse: lest he should subsequently become possessed with the mortifying reflection of having failed to enlist any sensible, reflecting man, under his banner.

The 'New-York Patent Guard Rail,' composed of a malleable iron rod, or rods incased in cast iron, was announced as having been perfected and highly approved of by numerous scientific engineers; and it may be said to have been approved of by every individual who has minutely examined the rails. It was also announced that rails eight feet long, made on this principle, had been tested, as to strength, with bearers, or *supports*, eight feet apart; that at a single bearing, in the middle of the rail, *ten tons* were applied without affecting the rail—being about four times the weight that would be required in use. And that the respectable founder, in this city, who applied the weights, gave as his opinion, that *twenty tons*, at a single bearing, would not break them. Yet, even after such announcement, and by a more scientific description, Mr. Uriah A. Boyden, of Lowell, Massachusetts, who had *never seen the rails*, appeared, by hostile communication in your Journal, in discussion of the possibility of perfecting that which had already been perfected, and perfected, too, in a most satisfactory manner.

How far Mr. Boyden was master of the part of the subject he espoused, may be inferred by reference to the record of his *conclusions*—the fallacy of which may be understood by quoting one or two, out of the many contained in the various columns of your Journal, comprised in his communications, as, for instance, on the subject of the difference of contraction and expansion, between malleable iron and cast iron. His *conclusion*, following his premise, is contained in these words: 'Hence,' he stated, 'the wrought iron bar may be nearly or quite torn asunder, without any extraneous force being applied to the rail.' This, too, he must have understood as being effected while both were in a heated state; whereas, in practice, when both descriptions of iron are applied together, there is *no* difference in contraction and expansion perceptible. If there be any difference, the one becomes conformed to the other, while *both* are in a heated state; so that castings made on this principle are as *perfect* as if made entirely of cast iron. Besides, if there were, in fact, a difference, a wrought iron rod while in its heated state, say of one inch diameter and a foot long, instead of being 'torn asunder,' would bear being drawn down to a *thousand* feet in length, more or less, without even beginning to *tear it asunder*—hence the fallacy of his conclusion alluded to.

I will quote one more of his, assumed to be, cogent conclusions—it being on the subject of the difference in the wear between malleable iron and cast iron rails. In my description of the manufacture of rails, on which Mr. Boyden's communication was predicated, is stated the 'use of entire metalic moulds,' or chill plates, with a view to cause increased hardness in the rails. In his communication on that part of the subject, he concludes his premise in these words: 'But (says Mr. Boyden) it seems that cast iron wears off about *five times* as fast as wrought iron.'

Such is his conclusion, placed on record in a page of a public journal? I forbear remarks which such a sentence, and such sentences, manifestly intended for effect in opposing, would justify—common sense, in any individual who examines the subject, will determine the merited award. The absurdity of his said conclusion will forcibly appear in the following paragraph:

'In order to wear off iron, or any other substance, it requires substance to come in *contact*, by which one frets off the other. It is but a few days since we were informed, through the public prints, that a culprit, under sentence of death, made his escape from prison by fretting off, or sawing off, malleable iron bars with a *spoon:* we have often had accounts of prison bars being fretted off by a knife, by watch springs, and by various other instruments; and with a single fine-toothed saw—such as used by carpenters—many malleable iron railroad bars might be severed. Such saws are frequently used for the purpose of severing pieces of malleable iron; whereas, perhaps, a single cast iron rail, cast on a chill, as proposed, would resist the effect of a thousand, more or less, of such saws, or other instruments.'

The effect can be too easily ascertained, by experiment, to render it necessary to rely on the speculative conclusions of Mr. Boyden, or other writers of a similar class.

And, having touched upon the rationality of Mr. Boyden's conclusions, I will now allude to the *principle*—the principle by which he has manifestly been actuated, in the course of his hostile remarks on this subject: I allude particularly to the impression he, in his determination to oppose, intended to convey, by *knowingly* perverting extracts, by attributing to Mr. Wood, an eminent and impartial author, expressions made by another individual, which expressions, from their extreme partiality and flat denial of the truth of observations of respectable engineers, were calculated to *substantiate*, if undetected, part of Mr. Boyden's statements in his communications on this subject, but they were also calculated, seriously, to affect the respectability of Mr. Wood as an author. In my reply I directed his attention to this quotation, presuming it to have been an error; and in his next succeeding communication I was surprised to learn that it was *intentional*. 'I (he says) *knew* it was a quotation from Stephenson.' He has so put it on record, and he may now give reason after reason, since detected, and admitted, if he chooses.

In Mr. Boyden's last communication he says much on a new subject, it being the subject of *consistency;* but before replying to it, as a subject, I propose to use it in explanation of his many inconsistencies, although, as I remarked in my last communication, 'I see no use in explaining or pointing out errors to that description of writers;' others, however, may view the subject in its proper light.

I did state in my first reply to Mr. Boyden, that 'his statements were inconsistent with Mr. Sullivan's.' Each of them commented on the same part of the subject, while each were aiming, eagerly aiming, at opposition—each giving his own reasons for condemning or undervaluing the object in question. Therefore, it being in allusion to the incasing of a wrought iron rod with cast iron, I need not again quote their premises; but the sequel, according to Mr. Boyden, is—'Hence the wrought iron bar may be nearly or quite torn asunder, without any extraneous force being applied to the rail;' and the sequel, according to Mr. Sullivan, is—'It will be *loose in the bore*;' whereas they are not only inconsistent in relation to each other, but *both* are wrong in their conclusions—both are inconsistent in relation to the effect in practice. Wrought iron bars, while incased, are firmly bound by the cast iron, and after having been incased, and the cast iron broken off, are as perfect as before they had been so used. Hence their inconsistencies. These conclusions were drawn by those writers, with special allusion to my method of manufacturing rails. Mr. Boyden, finding himself foiled in screening himself from this charge of inconsistency, now, in his last communication, makes his inconsistencies more and more apparent: he states, 'If Mr. Bulkley can conceive of a malleable iron bar being within a hole in a cast iron bar, the hole being larger than the malleable iron bar, and at the same time the malleable iron being strained longitudinally, he will be able to perceive that Mr. Sullivan's and his (Mr. Boyden's) statements can both be true.' In reply to this I will first state, that I do think it a most singular proposition for an opponent in argument to even hint to his antagonist to conceive of a changed object—an *imaginary* object—merely to screen that opponent from the absurdity of his own conclusions; yet the *absurdity* of his proposition exceeds that of his conclusions, if possible. He might, with equal rationality, have said, 'conceive of the materials for a ship being fastened together by bolts of *half an inch* diameter, in holes of an *inch* diameter,' as to speak of drawing or straining a bar of iron longitudinally by the effect of a surrounding object, the *orifice* in the surrounding object being at the 'same time *larger* than the malleable iron bar'—thus showing his conclusions to be *consistent with impossibilities*. And then he speaks of 'conceiving of a malleable iron bar being *longer* than the cast, and its *ends larger* than the calibre of the cast bar:' the idea of *thus* forming a rail is as ridiculous as his conclusions, to which I have adverted.

And as to that word '*consistency*,' in which Mr. Boyden has so much exposed himself, I could, taking his three communications collectively, point out more *inconsistency* than in any equal extent of writing I have ever before read.

And he has so far become entangled by his own errors and misrepresentations, that he has now, as I before stated, not only alluded to a 'changed object,' a rail of different construction from the one he began commenting upon, but in his last communication has attempted to change the definition of a word,—that important word '*consistency*,' so as to make *that* also comport with his writings. Such readers of your journal as have read his last communication casually, may have passed the (*his*) new definition of the word '*consistency*,' unnoticed. At first glance, when noticed, his exposition in lexicography seems to put lexicographers to the blush; for, according to Mr. Uriah A. Boyden, those lexicographers who have heretofore been undoubted as to correctness, can no longer be deemed to be, or be deemed to have been, *masters* of the English language; for Mr. Boyden states that 'every *master* of the English language knows the word *consistency*,' as applied to writings, signifies that the parts agree, or stand together, or that it is not self-contradictory; and he adds, that 'it *never* implies that the writing is either *true* or *false*, or that it either *agrees* or *disagrees* with any thing not stated in the writing.'

The absurdity of *this* is only equalled by another in Mr. Boyden's second communication alluded to in your Journal, page 434, third column; wherein it alludes to *his* having stated, that every *intelligent* engineer had now become satisfied as to a specific point; when, in point of *fact*, perhaps not one engineer in a hundred, or a thousand, knew even the outlines of the subject in question; and perhaps in every instance, those engineers, many of whom rank in the first class, who had examined the object to which he alluded, declared their impressions to be directly the *reverse* from what *he* had stated. I alluded to this in my reply as an absurdity on the part of

Mr. Boyden; could it not with propriety be called inconsistent with the fact? If so, it implies that the writing is false. If this view of it be correct, it might be compared to the "killing two birds with one stone," as I advert to one of his absurd or inconsistent statements, to prove the inconsistency of the other in allusion to the true definition of the word consistency; and the very definition he has above given is self-inconsistent, for it does disagree with things not stated in his writing. It disagrees with the publications of lexicographers, which publications are "things" not *stated* in his writings; and *his* definition may with propriety be called inconsistent with theirs, it being contradictory to theirs. Therefore, having quoted Mr. Boyden's definition above, I will now quote the definition by lexicographers, namely, *consistent*—"not contradictory, not opposed;" *consistency*—"agreement with itself, or with any other thing." And *their* definition of the word *inconsistency* is as follows: "absurdity in argument or narration, incongruity"; also of the word *inconsistent* is as follows: "incompatible, not suitable, incongruous, contrary, absurd." This contradiction to *his* definition shows the extreme absurdity of his declaration of what every master of the English language knows, when perhaps every school boy of common understanding would comprehend the fallacy of his definition.

The idea conveyed in the last clause of Mr. Boyden's definition of the word "consistency" is of a most preposterous description. He says "it never implies that the writing is either *true* or *false*." Query: if Mr. Boyden makes false quotations from the writings of others, which he has *admitted* knowingly to have done, is it not "inconsistent" with *truth*? Once more as to his definition of *inconsistency*, as I wish him to understand his errors: he says, "it," meaning consistency, "never implies that the writing is either true or false; or, that it either agrees or disagrees with any thing *not stated* in the writing." Query: suppose two men attempt to describe a specific thing, both give a *wrong* description, and each *disagrees* with the other, would not their writings be deemed to be *inconsistent* with the nature of the thing they had attempted to describe? and would not their disagreed writings alluding to that specific thing be inconsistent with each other, although neither had mentioned the other in his writings?

I am at a loss to account for the desire manifested by Mr. Boyden to misrepresent in the manner he does. In his last communication he says, 'Mr. Bulkley in his last reply to me *denies* having accused me of inconsistency in my writings;' whereas I did not state any such denial. The denial I did state was of a different nature; it alluded to a *previous misstatement* of his, which misstatement of his charged me with saying what I did not say; and 'I *denied* having written any such words;' and I added, that the words which he attributed to me as being the author of, 'were original with himself.' (This previous misstatement of his, to which I have alluded, may be seen in the American Railroad Journal, page 434, first column, and is a kind of *deception*, in which no writer could be justified.] I have already written three times as much as I intended when I commenced, but I find it impossible with few words to do justice to the subject.

When considering that the proposed improvement in question was stated to have been predicated upon practical results, it would I think be difficult to point out an instance under similar circumstances, of hostile attacks of equal virulence; and when considering that such description of attacks are never made by persons who are disposed to encourage useful improvements, the moving cause of that opposition at first seemed mysterious, and led to the supposition that the assailants might have been impelled by strong feelings of ostentation, or from interested motives; the latter forms an, I do not say reasonable, excuse; and subsequently it has appeared that such interested motive did in a measure exist; for, in allusion to the rapid decay of wooden rails, one of the assailants having proposed an improvement in preserving timber for rails, stating that he had reason to think it could be done in such wise as to last thirty, perhaps fifty years;' and the other, in allusion to what I had stated as to the liability of wrought iron to decay and become weakened by crusts of rust, stated, that 'iron may in some degree be defended from rusting by having in combination a small quantity of some other substance.' Whenever, therefore, he may think proper to give a more *minute description* of that '*small*' quantity of some '*other*' substance, I trust he will not choose the subject of the 'Guard Rail' as a prelude to his description.

Mr. Boyden in his last communication had the impertinence to allude to my having slandered him; I detest the very idea of attempting to slander any individual. Were I to know of having written a sentence that should by disinterested judges be deemed to be slanderous, I would hasten to make acknowledgments. Mr. Boyden alludes to it in general terms; he is cautious not to allude to any specific sentence as containing it. I have been cautious that no sentence I have written should contain it; hence his extreme imbecility in making such a charge for shelter to his own errors. Had he have said that I had censured him, he would have made a just remark; I have charged him with making false quotations; he *has* admitted it. I have charged him with inconsistency, and with absurdity; it is therefore for the readers of your Journal to determine whether I have not shown those charges to be well founded in reference to his writings; and I did not make those charges in general terms, but *specifically*.

In the latter part of his last communication he has further conveyed ideas manifesting a degree of meanness which no judicious writer would be guilty of, in attempting, among other remarks, to convey the idea that the severity of my remarks were owing to a fear of being *foiled* in relation to an object in which I had spent time and money in perfecting; but he may consider himself as informed, that the true basis may be discovered in my writings, and that it will require conclusions more just than he has shown himself capable of forming, in his allusions to the 'tearing asunder' of heated wrought iron rods, and of hard cast iron wearing off 'five times' as fast as wrought, before there will be any danger of foiling an improvement predicated upon practical results. It were an insult to presume that the minds of readers, at this enlightened age, could be diverted by such absurdities. No, Mr. Editor, the severity of my remarks were involuntary, they were provoked by the, what most writers consider, unpardonable practice of making false quotations, together with his absurdities which I have above commented upon. A false quotation or misrepresentation put in type in a public journal may, in a subsequent number, be corrected, but this does not correct the *evil;* it may stand for ever in print, and the evil communication may be read and commented upon by persons who have no knowledge of the existence of a contradictory communication.

No, sir; so far from my mind being so intently fixed in favor of this or any other improvement, however valuable, even could I gain an exclusive patent right to all the rails that will be required for all the roads that will be established in the United States for the next twenty years, I would not for it consent to continue an interchange of communications through a public journal, with any individual whose principles permit him to diverge from bounds of propriety.

I therefore appeal to you, as the editor of a public journal, which ranks, and very justly ranks, with the most respectable publications of the day, whether communications should be received and published unqualifiedly, from a man who now upon the columns of your Journal stands self-convicted of *knowingly* making *false quotations*, thus presenting himself *justly* an object for animadversion; and when his improprieties become distinguished each by its proper character, he calls it slander, instead of acknowledging his errors: slander, without alluding to any specific reason. He had none to allude to by which he could be justified, thus practising a principle in writing which it is desirable not to contend with.

Mr. Boyden having made three several communications, and I have replied to them all, the subject, apparently in all its bearings, is before the readers of your Journal, who now have an opportunity of judging as to the real object of attempting to oppose *speculatively* that which had satisfactorily been accomplished *practically;* and for a minute description of which, with engravings, readers are referred to the American Railroad Journal, Vol. II, No. 14, page 210; and for replies to its opposers, to the same volume, No. 18, page 276; No. 20, page 307; No. 23, page 354; No. 24, page 373; No. 28, page 434; in which are contained numerous extracts from publications of celebrated authors, alluding to practical results on the important subject of *Wooden Rails* and of *Metalic Rails* for railroads.

Respectfully, yours,

R. BULKLEY.

[For the American Railroad Journal.]

MR. EDITOR,—I am at a loss whether I understand, correctly, what is meant by traction, or the force of traction; for in your first volume, page 405, is a table by Mr. Telford, by which I understand, that on the same piece of road, with a coach of 18 cwt. and seven passengers, on an inclination 1 in 600, at a speed of 6 miles an hour, the force required was 111 lbs. and at 10 miles an hour, the force required was 128 lbs.; that is to say, on the given inclination the force required to move at the rate of ten miles an hour, compared with that required to move at the rate of six miles, was as 128 to 111, or, if the coach were moving at the rate of six miles, and you add to the whole force $\frac{17}{111}$, it will increase the speed to 10 miles an hour—showing a great *gain* by a rapid motion; but in No. 6, of vol. 2, you have published, from the Baltimore Gazette, an essay on Steam Carriages upon Turnpike roads, where the writer says, referring to the same table, "Thus it is proved that the force of traction on a turnpike road varies with the velocity; that is to say, the force required *to pass over one mile, or any given distance*, at the rate of ten miles per hour, is greater than that required to pass with the same load an *equal* hour *distance*, at eight miles per hour, and the resistance on *an equal space*, at eight miles per is greater than at six miles per hour;" being directly the reverse of the conclusion to which my understanding of the table led me, namely, showing a great *loss*, instead of a great gain, by rapid motion, as compared with a slower one. Will you, sir, or will some of your intelligent correspondents, do me the favor to decide which of us has the correct conclusion.

Mine is corroborated by a similar table in one of your numbers, from Major Long. By the late experiments in canal navigation, by subsequent remarks in the same article, from the Baltimore Gazette, and by the laws of matter and motion; for if a carriage were moving on a perfectly horizontal road, with any given velocity, say 50 miles an hour, and had *no* resistance from the atmosphere, or from friction at the axle, or from obstruction at the surface or otherwise, it would continue to move at the same velocity indefinitely. Therefore, on a *level* road, a carriage, whatever be its weight and lading, having attained a given velocity,

requires no more power to keep up that velocity than what is necessary to overcome the resistance from the atmosphere, from friction at the axles, and from obstructions at the surface.

You see that these views are calculated very strongly to confirm the opinion which you have heretofore published, on the advantages of large wheels at least on a level road,'[see No. 26, current Volume] and this is a matter of no small importance, for it is evident that a road can be made from the Cape of Florida, or from New-Orleans, scarcely varying from a level all the way to Norfolk, and probably to Philadelphia and New-York, by admitting curves which would be no disadvantage on a road of earth. In all the great West, also, roads can be made in various important directions, and of immense extent, without ever departing materially from a level.

You doubtless perceive that I have more enthusiasm than science, and I may remark that I have no scientific neighbors, who have sufficient interest in such speculations, to show me my errors, if they be errors; and their fallacy may be so plain that you will not willingly occupy your time with them. However, I venture once more to ask, as a great favor, that my mistake, if it be one, may be pointed out. It [illegible] course that I have great confidence in my own views, that they are correct; and if so, they are of great importance, and go far to show that a road of earth is better than a railroad, at least for one or two valuable considerations. Transportation can be much more rapid, and the carriages will be more durable and less liable to accident.

Suppose a carriage, with wheels 20 feet diameter, and 18 inch tire, each wheel weighing perhaps 3 tons, passing frequently over a well graduated road of common earth, is it not evident that such a road would soon be almost as smooth and as hard as iron! I am aware of the effects of severe frost, but my mind is principally directed towards the great south, and the great west, where frost occasions very little inconvenience. Let such a carriage set off from an elevation, and descend an inclined plane, sufficient to give it, by the force of gravity, the required velocity. a very small power will then be sufficient to keep up the motion, and its impetus will carry it up another inclination, where it is to discharge cargo, or take in coal and water, and whence it would have the advantage of a descending plane when again setting off.

A carriage with large wheels will have a smooth and regular motion, without trembling or jolting. And if it be true that the expenditure of steam, and consequently of fuel and water, is as the number of revolutions, then the conclusion is inevitably and very greatly in favor of such wheels, and a road of earth. But for the present I will not indulge myself or trouble your readers any further. C. O.

Virginia, Aug. 7, 1833.

On the Undulating Railway. By BENJAMIN CHEVERTON. [From the London Mechanics' Magazine.]

SIR,—Your correspondent, 'Junius Redivivus,' is a clever writer, but an unpractised thinker. He was evidently not brought up a lawyer, to examine both sides of a question. He will do better in time, but at present he is apt to take a single view of things, and, therefore, an incomplete and superficial one, if I may be allowed to say so without giving him offence. But I should be reprehensible in so saying if I did not give an instance in proof of my assertion. I take, therefore, his last communication respecting the undulating railway.

I beg, however, at the very outset, clearly to be understood that I do not contend for any advantages which this sort of railway is alleged to possess over the ordinary level one—not even in theory, much less in practice; but I limit myself to the assertion that 'Junius Redivivus' has not exhibited the fallacy upon which he says the projector has stumbled, nor proved the existence of one. Is he aware of what has been done in the case—of the nature of the experiment shown at the Adelaide street Gallery of Practical Science and Works of Art? A carriage, whose moving power was a spring, was wound up to the same tension in each trial, by traversing it backwards a given distance on the floor. If placed alternately on the level and on the undulating railway, it was found that it travelled a certain distance in the same time, although the extremity of the latter railway was raised six inches above the level of the former. Now, where is the fallacy of which 'Junius Redivivus' speaks! Is it in the *fact?* and would he say with an engineer, a friend of mine, that though he should see it he would not believe in it? All his arguments, indeed, go to prove that the thing is impossible; but on further consideration he may be inclined to suspect their relevancy to the subject he has taken in hand, rather than the accuracy of his sight. It may, however, be said that the fallacy lies in the inference drawn from these experiments as to the superior advantages of this new form of railway. It is admitted—but then why did not 'Junius Redivivus' apply himself to this point, detect the lurking error, and show that the experimental trials were not fairly instituted? Instead of this, he contents himself with general reasoning about the impossibility of power being self-generated, maintaining that 'what is gained by an accelerated motion down hill, is balanced by an up hill to ascend in turn;' that 'no more power can come out of a thing than that we put into it;' and with giving superfluous utterance to many more such truisms, about which, it is to be hoped, few of your readers need now to be instructed, except, perhaps, some two or three perpetual motion seekers.

I will myself become a 'schemer,' just to show 'Junius Redivivus' that all his arguments are thrown away, that they are altogether beside the question, by proving that they are equally applicable to the following as pretty a subject, *on paper*, as ever was seen. Let there be a series of axles elevated high above the ground, and placed at certain equal distances apart. They are to be actuated by a power sufficient to overcome their own friction on their bearings, and the resistance of the air to the motion of the carriage, &c. A swinging platform is to be suspended from each axle in the manner of a pendulum, and, at the extremities of the arcs which they describe, short roads are to be constructed in order to receive the carriage in its transit from one platform to the other. A slight sketch will explain my meaning better. (Sketch omitted.)

A B are axles; C D, platforms; F D, roads. On the arrival of the platform at E, the carriage, being on wheels, will, by its momentum, be carried over the road to the platform at C, and again be launched forward to its next stage, and so on in succession. Will 'Junius Redivivus' be so good as to point out any theoretic absurdity in this notable scheme, however preposterous it may be in a practical point of view. Unlike the undulating railway, its economy of power is acquivocable and undeniable, and yet it is equally open to all 'Junius Redivivus's' up-and-down-hill arguments, and which are in an equal degree irrelevant. If I were to say that the momentum of the platform and its carriage, acquired in the descent from D to F, was more than sufficient to carry it from F to E, I should be chargeable with the nonsense against which his arguments are directed; for 'the man should, indeed, be laughed at, who asserts that the power of a machine is multiplied by going up and down hill.' Nothing, however, of the kind is asserted, not even, as I understand, by the sanguine projector of the undulating railway, much less by its scientific friends; but it is contended, and, in reference to the scheme before your readers, with the full assurance of truth, that friction is diminished, and power, therefore, saved, but not multiplied, as 'Junius Redivivus' would have it. That there is less friction in this pendulum mode of conveyance than on a common railway, is evident from the circumstance of its being confined to a trifling motion of the axles in their bearings during the passage of the load through the much greater space of the arc, D E. Not that the diminution of the friction would be exactly in this proportion, for the wheels of the railroad carriage would have to be taken into the account. The case assimilates to that of a large wheel and a small one, and the saving would be in the proportion of the ratio of the pendulum rod and the radius of its axle to the ratio of the carriage wheel and its axle. The advantage here spoken of is unquestionable; but whether there would be less friction on an undulating than on a level railway, is a debateable point, and 'Junius Redivivus' should have combatted the affirmative instead of fighting a man of straw. He should have shown that friction would not be diminished at any part of the curve, or, admitting a diminution at any place or places, he should have instructed us how it would be compensated by an excess of friction. I need not say where or how—that is for 'Junius Redivivus' to do. The writer in the Athenæum is certainly wrong—not so much from taking an incorrect as an incomplete view of the subject. He has omitted all consideration of the centrifugal force that is generated, and which much influences the result. It may here be asked, how, then, did the experiments exhibit results apparently so much in favor of the undulating railway? I cannot enter upon this point, as I have not investigated or even seen them; but there is no doubt that it arose principally, if not wholly, from the inertia of the carriage having been overcome by an extraneous force in the one case and not in the other. The projectors doubtless considered the experiment to be a fair one, but I hope they will not allow themselves to be self-deceived to their own bitter cost.

There is a sort of paradox connected with the subject, which it may be worth while to mention here, especially as I am inclined to think it is at the foundation of those fallacious views which the projectors and supporters of this scheme entertain. Among the latter are some whose eminence and position in the scientific world should have kept them from drawing crude and hasty conclusions. I have said that the axles B A, &c. are to be actuated by a power sufficient to overcome their own friction, the resistance of the air, and that opposed to the passing of the carriage over the roads D E, &c. Now, without further application of power, no progress can be made; but yet without any continual supply of it, as locomotion proceeds, and simply by a single additional effort in the first instance, effected by the descent of the machine from D to F, not only will the distance D E be accomplished, but another and another, even unto the world's end. That is to say, the initial force, though only just competent to produce motion of a given velocity, is effective for its prolongation at the same rate to any distance, or for any length of time. And this is true, not only of the present scheme, but also of the undulating railway. Oh! it is absurd, says 'Junius Redivivus,' and begins immediately to smell perpetual motion. He must remember that, by the terms of the proposition, all hindrance is provided against; the motion therefore, is unimpeded, and no reason can be assigned why it should cease after it is once commenced. The paradox is only in the way of putting the case, for the like may be said of all machinery and moving bodies. It is probable, however, that some confused notions on this head may have led the projectors of the undulating railway to imagine that they had herein an exclusive advantage over the level railway, and that the succession of descents maintains the moving force which is first generated, forgetting that such force needs no supply for its maintenance, and that all that is requisite for its unimpaired existence, is to provide that it shall not be exhausted by demands upon it to meet friction, &c. The same thing takes place on the ordi-

nary railway, though not precisely in the same manner. At first the impelling power of the engine is greatly in excess above the resistance, and constitutes an accelerating moving force up to the point at which it is no longer in excess, or when a uniform motion is obtained. The steam power is now wholly employed in overcoming resistance, and *not* in producing motion, otherwise an accelerated velocity would take place. The motion, therefore, results from the force imparted to, and residing in, the machine, and will continue unchecked for any time or distance, if that force is not drawn upon for any other purpose. If it were an object of any moment to shorten the time in imparting to a carriage the inertia of motion, this may be obtained by a commencing inclined plane on a level railway, as well as on an undulating railway; but that any after advantage can be procured by a succession of them is wholly a mistake.

In connection with this subject and the beforementioned place of exhibition, I beg, in conclusion to draw attention to Mr. Saxton's very ingenious and original mode of propelling a carriage on a railway. It is a reversal in practice of the principle embodied in the windlass of unequal diameters.

I am, sir, yours, &c.

BENJAMIN CHEVERTON.

P. S.—Verily, our coachmakers are wonderfully ignorant of 'the application of the principles of science:' they have not gone deep in their studies, or 'Junius Redivivus' would not have been obliged to tell them that a plate of iron was stiffer placed on its edge than when laid flat. His scientific expedient of accommodating the tension of carriage springs to their load, 'by supplying the absence of flesh and blood by weights conveniently arranged, just as a ship takes ballast on board when her cargo is discharged,' reminds me of a mode of travelling which I noticed in Spain. Two persons being mounted on a mule, one on each side, the lighter pannier was balanced against the other with a load of stones. When 'Junius Redivivus' wrote this remark, 'that no more power can come out of a thing than is put into it,' did it not remind him of his own proposal to employ a steam engine to work an air-pump, for the purpose of having air-guns instead of steam artillery? Surely he too is not 'one of those numerous, unthinking people, who believe that, by making a simple machine complicated, they actually multiply their power,' or who imagine that they cannot produce a thing so well at first as they can at second hand.

These observations, as they are made in good part, so I hope they will be taken. They allude to mere specks, as it were, on the face of the sun, but which are blemishes notwithstanding.

THE PADDINGTON STEAM CARRIAGE COMPANY.—A steam omnibus, constructed for this Company, on the plan of Mr. Hancock, (says the London Mechanics' Magazine,) has at length made its appearance on the road between the City and Paddington. We saw it at work on Monday, Tuesday, and Wednesday last, and were very well pleased with the manner of its operation. It seemed to be as perfectly under the regulation of the steersman as any of the rival vehicles drawn by horses, went a good deal faster, as much so, perhaps, as the crowded state of the road would allow, and caused no annoyance by noise or smoke, to either bipeds or quadrupeds. In external appearance it differs little from an ordinary omnibus, and contains accommodations for exactly the same number of passengers. The part for the passengers is in front, the furnace in the rear, and the engine work (which occupies but a small space, between the two. The motive power is communicated by chains, and to one wheel only. The internal arrangements are, we believe, similar to those of the carriage made by Mr. Hancock, which plied for some time on the Stratford road, and is fully described in the Mechanics' Magazine for the 28th April, 1832. All that (apparently) now remains to be done, is to ascertain the average cost of this mode of conveyance, as compared with horse power; and this, of course, must be an affair of time. We trust the Paddington Company will act more openly by the public in this respect than previous speculators have done; and that they will make known the result of their experience, whatever it may be, without any mystification or evasion.

Since writing the preceding notice, we have received the following very frank and satisfactory letter on the subject, from a shareholder of the Company:—

SIR,—The London and Paddington Steam Carriage Company have tried and proved the effectiveness of their carriage, by taking it from Paddington to London-wall, and thence up Houndsditch, through Whitechapel (on market day), and on to Stratford and West Ham, and returning the same way back again; thus proving its capability of proceeding through crowded thoroughfares without inconvenience or liability to accident to the persons in the carriage or others. We have also on Monday begun to ply to and from Paddington to the City for hire; and intend for the present, continuing to go once or twice a day for the purpose of developing the wants of the road, and also such imperfections as may appear in practice, in order that we may remedy them in the other carriages in progress of preparation. As soon as we have got two more carriages ready, the whole three will commence running in regular succession on this line of road, each carriage performing fourteen journeys to and fro per day, which is nearly the work of three omnibuses and thirty horses. During the early journeys of this single carriage, the fare will be one shilling. We do not, however, wish people to think we have commenced business as we mean to go on; for, at present, we are really only going for the purpose of satisfying the public of the safety and perfect practicability of this mode of travelling, and also of getting practice on the road, so that we may find out and apply every improvement that may be requisite. When the novelty of the thing has worn off a little, it is to be hoped that the road will not be so crowded with curious gazers, as it is every time we now go out, to the great prejudice of the speed of the vehicle, which it requires no small portion of skill and care on the part of the guide to steer with safety through the multitude of coaches, gigs, carts, drays, &c. that constantly beset its path. As it is, a second journey each day would, *at present*, become a perfect nuisance; but as soon as the road, by our frequent journeys, becomes less crowded, we shall, even with the one carriage, go two or three journeys occasionally, *perhaps more*, as soon as we are satisfied that we have adopted every improvement in strength and quality that daily practice may show to be necessary. The carriage has been open to public inspection on these premises for nearly three months: but, now that we go out daily, strangers are not admitted on any account, as it would interfere too much with the regular business of the establishment, and also with the progress of the other carriages.

I have now, sir, presented you with a few *facts* as to the present and future; and facts only, for I hate puffing and lies as much as you can do, in a great national matter like this. I do not know whether I am too sanguine or not, but I conceive we shall be able to satisfy the public that the important question as regards steam-travelling on common roads—*to be, or not to be*,—will now be solved.

I am, sir, your obedient servant,

CANDIDUS.

London, April 24, 1833.

ROTARY PUMP.—Messrs. Hale, Crane & Co. of this city, have obtained a patent for, and established a manufactory of, a new rotary pump, which promises to be a decided and valuable improvement. Two wheels are inclosed in a casing which corresponds with them in size, and which fits closely upon their sides. One of the wheels has, on its periphery, floats or wings, three in number, at equal distances apart—somewhat like cogs; the other wheel has cavities, into which the cogs or floats may fall; both wheels being so placed in their casing as to revolve together, and their peripheries forming a water joint. Through the ends or heads of the casing pass the shafts, which support and turn the wheels. There are two apertures in the casing, through one of which the water is drawn up by the suction produced by the motion of the floats as they recede from the wheel containing the cavities, and through the other the water is discharged, by the approach of the floats towards it. The pump may be put in motion by the hand or other power. One 14 inches in diameter, with the application of the power of two men, will raise and discharge 180 gallons per minute. A pump of this size is already in successful operation at the Simsbury mines in this state; and orders for others have been received from several States in the Union.—[N. Eng. W. Review.]

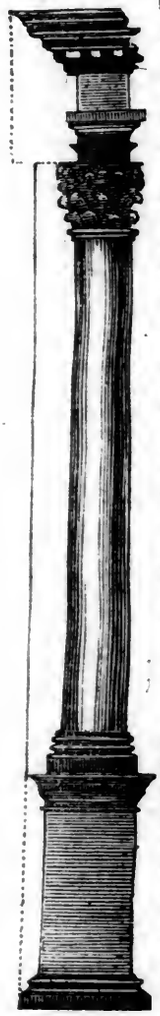
SILK MANUFACTURE.—One of the most gratifying exhibitions we ever witnessed is that of the silk-worm in all its stages, with the mulberry-leaves, eggs, cocoons, chrysalis, miller, &c., together with a complete domestic process of manufacture, which may be seen at the Agricultural Warehouse, North Market street, Boston. The machine which is there in motion was invented last winter, by Mr. Adam Brooks, of Scituate, Massachusetts, and a patent of it, which we have seen, was issued on the late 29th of June. It is an improvement, as it seems to us, of vast importance: for, unlike the Piedmontese Wheel, heretofore chiefly used, which only performed the reeling process, *it combines the reeling and twisting*; and the saving of labor is such, in consequence, that 150 skeins can be made in a day by one woman, and a little girl, to turn this improved wheel, as easily as 40 can by the old. This we learn from those who have tried both. One of the new machines is used in Connecticut, and another in New-York, besides those in the family of the ingenious inventor, who now devote their time, in a great measure, to this business.

Mr. Brooks is one of the Society of Friends. His wife, who superintends the wheel, and has paid some attention to silk-making for several years, had made frequent complaints of the labor lost by the old machine. Her husband doubted the practicability of amending it, and told her so in plain terms—but went to thinking, it seems, and in about three weeks produced this capital improvement. Mrs. Brooks says it was formerly a very hard day's work to make 30 skeins; she can now make 100 in ordinary hours. The silk is beautiful—as smooth as the Italian itself—and stronger than that. We challenge the strongest-fingered editor in the city to break a thread of it. If he succeeds he shall have one of the silk handkerchiefs, we engaged this morning—socks and all. —[Boston paper.]

MR. TREVITHICK.—We regret to learn that this distinguished engineer, who may justly be regarded as the father of steam locomotion in England, died on the 22d May at Dartford, in Kent, after a few days' illness. He was in his 67th year.

Of the Orders of Architecture. [Continued from page 536.]

Composite Order.—The Composite Order is the last of the five orders of columns: so called because its capital is *composed* out of those of the other orders.



It borrows a quarter round from the Tuscan and Doric; a double row of leaves from the Corinthian; and volutes from the Ionic: its cornice has simple modillions, or dentils.

The *composite* is also called the *Roman* and *Italian* order, as having been invented by the Romans; conformably to the rest, which are denominated from the people among whom they had their rise.

Most authors rank this after the Corinthian, either as being the richest, or as the last that was invented: Scamozzi alone places it between the Ionic and Corinthian, out of a view to its delicacy and richness, which he esteems inferior to that of the Corinthian; and, therefore, makes no scruple to use it under the Corinthian, wherein he is followed by M. le Clerc. The proportions of this order are not fixed by Vitruvius; he only marks its general character, by observing, that its capital is composed of several parts taken from the Doric, Ionic, and Corinthian: he does not seem to regard it as a particular order; nor does he vary it at all from the Corinthian, except in its capital. In effect, it was Serlio who first added the *composite* order to the four of Vitruvius, forming it from the remains of the temple of Bacchus, the arches of Titus, Septimus, and the Goldsmiths, at Rome: till then, this order was esteemed a species of the Corinthian, only differing in its capital.

The order being thus left undetermined by the ancients, the moderns have a kind of right to differ about its proportions, &c. Scamozzi, and after him M. le Clerc, make its column 19 modules and a half; which is less by half a module than the Corinthian. Vignola makes it 20, which is the same with that of his Corinthian; but Serlio, who first formed it into an order by giving it the proper entablature and base, and after him M. Perrault, raised it still higher than the Corinthian.

This last does not think different ornaments and characters sufficient to constitute a different order, unless it have a different height too; agreeably, therefore, to his rule of augmenting the heights of the several columns by a series of two modules in each, he makes the *composite* 20 modules, and the Corinthian 18; which, it seems, is a medium between the porch of Titus and the temple of Bacchus.

M. Perrault, in his Vitruvius, distinguishes between composite and composed order. The latter, he says, denotes any composition whose parts and ornaments are extraordinary, and unusual; but have, withal, somewhat of beauty, both on account of their novelty, and in respect of the manner or genius of the architect: so that a *composed* order is an arbitrary, humorous, composition, whether regular or irregular.

The same author adds, that the Corinthian order is the first composite order, as being composed of the Doric and Ionic, which is the observation of Vitruvius himself.

Gothic Architecture.—After having described the five Orders, it will naturally be expected that we should say something of the *Gothic* style; we shall therefore give a general view of the distinguishing features of this species of architecture.

The attention to Gothic architecture having only been lately revived, the practice has not hitherto been digested into so systematic an order as the Greek or Roman; and it is not a little extraordinary, considering that during the ages in which it was extensively practised, its operations were directed by men of science and literary habits, that no written rules have been discovered in the religious houses which were then the only depositories of knowledge. This has led Mr. Knight, and other men of observation, to assert, that each architect proceeded independently of rules, and worked in the manner which to him appeared best calculated to produce a striking effect, and that it was in consequence of the absence of determined rules, that this school rose to the degree of sublimity it attained. This is denied by other able and enlightened men, who have paid much attention to the subject, especially Dallaway, Milner, and Hawkins, who maintain, that although few arranged rules and proportions have been published in books, yet architects and workmen were constantly guided by known rules, agreeably to the prevailing mode. It is evident, although not so rigidly confined as the Egyptian, that the Gothic architects were fully as much limited as the Roman; for the contrast between the massy Norman style, and the latter, or florid Gothic, is not greater than what was produced by varying from the plainness, simplicity, and oblong forms of the ancient Greek temples, to the circular, delicate, and highly ornamented edifices of the late Roman.

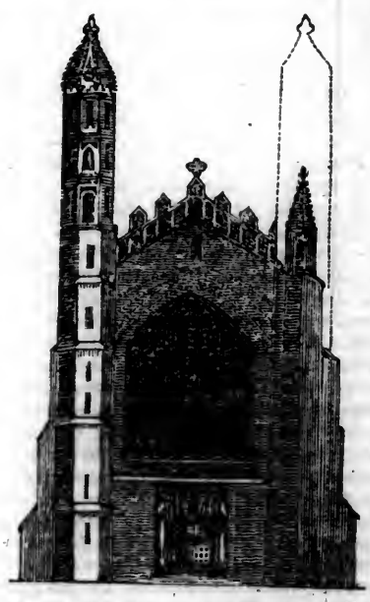
The Gothic style having been employed almost exclusively in edifices appropriated to the purposes of the Christian religion, the outlines of the ground plan have almost uniformly been a cross. In the Greek and Roman oblong temples, the ratio of the length and breadth was determined by the number of columns placed at nearly equal distances along the ends and sides, while that of the height was regulated by the diameter of the column; but in Gothic, where seldom any columns have been placed on the outside of the edifice, and the use of arches proving a relief from constraint within it, it is alleged that the proportion of the length to the breadth has been determined by triangles and squares. Of this, Mr. Hawkins, in his History of the Origin and Establishment of Gothic Architecture, (chap. 10,) has produced an early instance from Cæsar Cæsarianus, a celebrated architect of Milan, who, in an elaborate commentary annexed to his translation of Vitruvius, has explained the principles of Gothic architecture.

With regard to the form of the *essential parts*, they are mostly defined in the following description of the three orders of architecture, as given by Dr. Milner:

The *first order* is characterized during its formation—that is to say, till near the latter end of the 12th century,—chiefly by its acute arch (its pillars and other members being frequently Saxon); but after its formation, not only by the narrowness and acuteness of its arch, but also by its detached, slender shafts, its groining of simple, intersecting ribs, its plain pediments without crockets or side pinnacles, and its windows, which were either destitute of mullions, or have only a simple, bisecting mullion, with a single or triple trefoil, quatrefoil, or other flower, in the head of them. Of this order are the east end of Canterbury, the west end of Lincoln, and the whole of Salisbury Cathedrals, besides the transepts of York Minster and Westminster Abbey.

The *second order* is marked, not only by the fine turn of its perfect equilateral arch, but also by the cluster columns, being, for the most part, formed each course out of the same stone; by the elegant, but not over-crowded tracery of its windows and groining, by its crocketted pinnacles, tabernacles, and pediments, the latter of which, towards the conclusion of the fourteenth century, were made with an ogee sweep towards the arch they covered. To this order belong the nave of Westminster Abbey, the nave and choir of York Minster, the naves of Winchester, Exeter, and Canterbury Cathedrals, Wykeham's two colleges, St. Stephen's Chapel, &c.

The *third order* is known, not only by the flatness of the point of the arch, but also by its numerous, large, and low descending windows, together with the multiplicity and intricacy of its tracery; by its pendents from the roof; by the minuteness and profusion of its ornaments, both exteriorly and interiorly; by its fan-work and numerous shields and devices on the ceiling. To this order belong St. George's Chapel, Windsor, King Henry the Seventh's Chapel, Westminster, and King's College Chapel, Cambridge, of which the following is an eleva



tion, showing on one side the buttresses, the tower being supposed to be removed, and on the other the tower, which not only supplies the place of a buttress at the end, but assists also in supporting a considerable por-

tion of the thrust in the direction of the length of the chapel.

One of the finest features of Gothic architecture, and which, in many instances, still forms the most striking ornaments of our cities, is the tall, tapering spiral, which was first built of wood by the Normans, and afterwards in stone, early in the 13th century. In the course of the 14th and 15th centuries, they were greatly increased in number.

Babbage on the Economy of Manufactures.

[Continued from page 600.]

237. As connected with this subject, and as affording most valuable information upon points in which, previous to experiment, widely different opinions had been entertained, the following extract is inserted from Mr. Telford's Report on the State of the Holyhead and Liverpool Roads. The instrument employed for the comparison was invented by Mr. Macneill; and the road between London and Shrewsbury was selected for the place of experiment.

The general results when a waggon weighing 21 cwt. was used on different sorts of road, are as follows:

	lbs.
1. On well made pavements, the draught is	33
2. On a broken stone surface, or old flint road	65
3. On a gravel road	147
4. On a broken stone road, on a rough pavement foundation	46
5. On a broken stone surface, upon a bottoming of concrete, formed of Parker's cement and gravel	46

The following statement relates to the force required to draw a coach weighing 18 cwt., exclusive of seven passengers, up roads of various inclinations:

Rate of inclination.	At six miles per hour.	At eight miles per hour.	At ten miles per hour.
1 in 20	268 lbs.	296 lbs.	318 lbs.
1 in 26	213	219	225
1 in 30	165	196	200
1 in 40	160	166	172
1 in 600	111	120	128

238. The time in which the goods produced by any new factory can be brought to market and the returns realized, should also be well considered, as well as the time the new article will take to supercede those already in use. If the article is consumed in using, the new produce will be much more easily introduced. Steel pens readily took the place of quills; and a new form of pen would, if it possessed any advantage, as easily supercede the present one. A new lock, however secure, and however cheap, would not so readily make its way. If less expensive than the old, it would be employed in new work: but old locks would rarely be removed to make way for it; and even if perfectly secure, its advance would be slow.

239. Another element in this question which should not be altogether omitted, is the opposition which the new manufacture may create by its real or apparent injury to other interests, and the probable extent of the influence of that opposition. This is not always foreseen; and when anticipated, is often inaccurately estimated. On the first establishment of steamboats from London to Margate, the proprietors of the coaches running on that line of road petitioned the House of Commons against them, as likely to lead to the ruin of the coach proprietors. It was, however, found that the fear was imaginary; and in a very few years the number of coaches on that road was considerably increased, apparently through the very means which were thought to be adverse to it. The fear which is now entertained that steam-power and railroads may drive out of employment a large portion of the horses now used, is probably not less unfounded. On some particular lines such an effect may be produced; but in all probability the number of horses employed in conveying goods and passengers to the great lines of railroad, will exceed that which is at present used.

ON CONTRIVING MACHINERY.

240. The power of inventing mechanical contrivances, and of combining machinery, does not appear, if we may judge from the frequency of its occurrence, to be a difficult or a rare gift; and, amongst the vast multitude of inventions which have been produced almost daily for a series of years, a large part has failed from the imperfect nature of the first trials; whilst a still larger portion, which had escaped the mechanical difficulties, failed only because the economy of their operations was not sufficiently attended to.

The commissioners appointed to examine into the methods proposed for preventing the forgery of bank notes, state in their report, that, out of one hundred and seventy-eight projects communicated to the bank and to the commissioners, there were only twelve of superior skill, and nine which it was necessary more particularly to examine.

241. It is, however, a curious circumstance, that although the power of combining machinery is so common, yet the more beautiful combinations are exceedingly rare. Those which command our admiration equally by the perfection of their effects and the simplicity of their means, are found only amongst the happiest productions of genius.

To produce movements even of a complicated kind is not difficult. There exists a great multitude of known contrivances for all the more usual purposes, and if the exertion of moderate power is the end of the mechanism to be contrived, it is possible to construct the whole machine upon paper, and to judge of the proper strength to be given to each part as well as to the frame-work which supports it, and also of its ultimate effect, long before a single part of it has been executed. In fact, all the contrivance, and all the improvements, ought to be made in the drawings.

242. On the other hand, there are circumstances dependent upon physical or chemical properties, for which no drawings will be of any use. These are the legitimate objects of direct trials. For example: if the ultimate result of an engine is to be that it shall impress letters upon a copper-plate by means of steel punches pressed into it, all the mechanism by which the punches and the copper are to be moved at stated intervals, and brought into contact, is within the province of drawing, and the machinery may be arranged entirely upon paper. But a doubt may reasonably spring up, whether the bur that will be raised round the letter, which has been punched upon the copper, may not interfere with a proper action of the punch for the letter which is to be punched next adjacent to it. It may also be feared that the effect of punching the second letter, if it be sufficiently near to the first, might distort the form of that first figure. And if neither of these evils should arise, still the burs produced by the punching might be expected to interfere with the goodness of the impression produced by the copper-plate; and the plate itself, after having all but its edge covered with figures, might, from the unequal condensation which it must suffer in this process, change its form, so as to render it very difficult to take off impressions from it. It is impossible by any drawings to solve these difficulties, experiment alone can determine their nature. Such experiments have been made, and it is found that if the sides of the steel punch are nearly at right angles to the face of the letter, a very inconsiderable bur is produced; that at the depth which is sufficient for copper-plate printing, no distortion of the adjacent letters takes place, although those letters are placed very close to each other; that the small bur which arises may easily be scraped off; and that the copper-plate is not distorted by the condensation of the metal, and is perfectly fit to print from, after it has undergone this process.

243. The next stage in the progress of an invention, after the drawings are finished, and the preliminary experiments have been made, if any such should be requisite, is the execution of the machine itself. It can never be too strongly impressed upon the minds of those who are devising new machines, that to make the most perfect drawings of every part tends essentially both to the success of the trial and to economy in arriving at the result. The actual execution from working drawings is comparatively an easy task; provided, always, that good tools are employed, and that methods of working are adopted, in which the perfection of the part constructed depends less on the personal skill of the workmen, than upon the certainty of the methods they employ.

The causes of failure in this stage most frequently arise from errors in the preceding one; and it is sufficient merely to indicate a few of their sources. They usually arise from having neglected to take into consideration that metals are not perfectly rigid, but elastic. A steel cylinder of small diameter must not be considered as an inflexible rod; but in order to insure its perfect action as an axis, it must be supported at proper intervals. Again, the strength and stiffness of the framing which supports the mechanism must be carefully attended to. It should always be recollected, that the addition of superfluous matter to the immoveable parts of a machine is not accompanied with the same evil that arises when the moving parts are increased in weight; since no additional momentum is thus generated.

244. The stiffness of the framing of a machine draws after it another important advantage. If the bearings of the axis (those places at which they are supported) are once placed in a straight line, they will continue so, if the framing be immoveable; whereas, if the frame-work changes its form, although ever so slightly, considerable friction will immediately arise. This effect is so well understood in the districts in which our spinning factories are numerous, that in estimating the expense of working a new factory, it is allowed that five per cent. on the power of the steam-engine will be saved if the building is fire-proof. This saving arises entirely from the greater strength and rigidity of a fire-proof building preventing the long shafts or axes that drive the machinery from being impeded by the friction which would arise from the slightest deviation in any of the bearings.

245. It is quite a mistaken idea to suppose that any imperfect mechanical work is good enough for a trial. If the experiment is at all worth trying, it ought to be tried with all the advantages of which the state of mechanical art admits; for an imperfect trial may cause an idea to be given up, which better workmanship might have proved to be practicable. On the other hand, when once its success has been established with good workmanship, it will be easy to ascertain that degree of perfection which is necessary for its due action.

It is partly owing to this circumstance, the *imperfections of the original trials*, and partly owing to the gradual improvement in the art of making machinery, that many inventions which have been tried, and have been given up in one state of art, have, at another period, been eminently successful. The idea of printing by means of moveable types had probably suggested itself to the imagination of many men conversant with impressions taken either from blocks or seals. We find amongst the instruments discovered in the remains of Pompeii and Herculaneum, stamps for words cut out of one piece of metal, and including several letters. The idea of separating these letters, and of recombining them into other words, for the purpose of stamping a book, could scarcely have failed to have occurred to many: but it would almost certainly have been rejected by those best versed in the mechanical arts of that time: for any workman of those days would have instantly perceived the impossibility of producing many thousand pieces of wood or metal fitting so perfectly, and ranging so uniformly, as the types or blocks of wood used in the art of printing.

The principle of the press which bears the

name of Bramah was known about a century and a half before the machine, to which it gave rise, existed; but the imperfect state of mechanical art in the time of its inventor, would have effectually deterred him, if it had occurred to his mind, from attempting to apply it as an instrument for exerting force in practice.

These considerations prove the propriety of repeating, at the termination of intervals, during which the art of making machinery has undergone any great improvement, the trials of methods which may have previously failed, although they were founded upon just principles.

246. When the drawings have been properly made, and the machine has been well executed, and when the work it produces possesses all the qualities which were anticipated, still the invention may fail; that is, *it may fail of being brought into general practice.* This will most frequently arise from the circumstance of its producing its work at a greater expense than that at which it can be made by other methods.

247. Whenever the new or improved machine is intended to become the basis of a manufacture, it is essentially requisite that the whole expense attending its operations should be fully considered before its construction is undertaken. It is almost always very difficult to make this estimate of the expense; but the more complicated the mechanism, the less easy is the task; and in cases of great complexity and extent of machinery, it is almost impossible. It has been estimated roughly, that the expense of making the first individual of any newly invented machine will cost about five times as much as the construction of the second; an estimate which is, perhaps, sufficiently near the truth. If the second machine is to be precisely like the first, the same drawings and the same patterns will answer for it; but if, as usually happens, some improvements have been suggested by the experience of the first, more or less of these must be altered. When, however, two or three machines have been completed, and many more are wanted, they can usually be produced at much less than one-fifth of the expense of the original invention.

248. The arts of contriving, of drawing, and of executing, do not usually reside in their greatest perfection in one individual; and in this, as in other arts, *the division of labor* must be applied. The best advice which can be offered to a projector of any mechanical invention, is to employ a respectable draughtsman, who, if he has had a large experience in his profession, will assist in finding out whether the contrivance is new, and can then make working drawings of it. The first step, however, the ascertaining whether the contrivance has the merit of novelty, is most important; for it is a maxim equally just in all arts, and in every science, that the man who aspires to fortune or to fame by new discoveries, must be content to examine with care the knowledge of his contemporaries, or to exhaust his efforts in inventing again what he will, most probably, find has been better executed before.

This, nevertheless, is a subject upon which even ingenious men are often singularly negligent. There is, perhaps, no trade or profession existing in which there is so much quackery, so much ignorance of the scientific principles, and of the history of their own art, with respect to its resources and extent, as is to be met with amongst mechanical projectors. The self-constituted engineer, dazzled with the beauty of some, perhaps, really original contrivances, assumes his new profession with as little suspicion that previous instruction, that thought and painful labor, are necessary to its successful exercise, as does the statesman, or the senator. Much of this false confidence arises from the improper estimate which is entertained of the difficulty of invention in mechanics; and it is of great importance, to the individuals, and to the families of those who are thus led away from more suitable pursuits, the dupes of their own ingenuity and of the popular voice, to convince both them and the public that the power of making new mechanical combinations is a possession common to a multitude of minds, and that it by no means requires talents of the highest order. It is still more important that they should be convinced that the great merit and the great success, of those who have attained to eminence in such matters, was almost entirely due to the unremitted perseverance with which they concentrated upon the successful invention the skill and knowledge which years of study had matured.

PROPER CIRCUMSTANCES FOR THE APPLICATION OF MACHINERY.

249. The first object of machinery, and the chief cause of its extensive utility, is the cheap production of the articles to which it is applied. Wherever it is required to produce a great multitude of things, all of exactly the same kind, the proper time has arrived for the construction of tools or machines by which they may be manufactured. If only a few pairs of cotton stockings should be required in a country, or in circumstances in which it is impossible to purchase them, it would be an absurd waste of time, and of capital, to construct a stocking-frame to weave them, when, for a few pence, four steel wires can be procured, by which they may be knit. If, on the other hand, many thousand pairs were wanted, the time employed, and the expense incurred, in constructing a stocking-frame, would be more than repaid by the saving of time in making that large number of stockings. The same principle is applicable to the copying of letters: if only three or four copies are required, the pen and the human hand furnish the cheapest resource; but, if hundreds are called for, lithography may be brought to our assistance; and if hundreds of thousands are wanted, the machinery of a printing establishment is the most economical method of accomplishing the object.

250. There are, however, many cases in which machines or tools must be made, where economical production is not the most important object. Whenever it is required to produce a few articles—parts of machinery, for instance,—which must be executed with the most rigid accuracy or be perfectly alike, it becomes nearly impossible to fulfil this condition, even with the aid of the most skilful hands. In such circumstances, it is necessary to make tools expressly for the purpose, although these tools should, as frequently happens, cost more in constructing than the things they are destined to make.

251. Another instance of the just application of machinery, even at an increased expense, arises where the shortness of time in which the article can be produced has an important influence on its value. In the publication of our daily newspapers, it frequently happens that the debates in the Houses of Parliament are carried on to three and four o'clock in the morning—that is, to within a very few hours of the time for the publication of the newspaper. The speeches must be taken down by reporters, conveyed by them to the establishment of the newspaper, perhaps at the distance of one or two miles, transcribed by them in the office, set up by the compositor, the press corrected, and the papers be printed off and distributed before the public can read them. Some of these journals have a circulation of from five to ten thousand daily. Supposing four thousand to be wanted, and that they could be printed only at the rate of five hundred per hour upon one side of the paper, (which was the greatest number two journeymen and a boy could take off by the old hand-presses,) sixteen hours would be required for printing the complete edition; and the news conveyed to the purchasers of the latest portion of the impression, would be out of date before they could receive it. To obviate this difficulty, it was often necessary to set up the paper in duplicate, and sometimes, when late, in triplicate: but the improvements in the printing machines have been so great, that four thousand copies are now printed on one side in a hour.

252. The establishment of "The Times" newspaper is an example, on a large scale, of a manufactory in which the division of labor, both mental and bodily, is admirably illustrated, and in which also the effect of the domestic economy is well exemplified. It is scarcely imagined, by the thousands who read that paper in various quarters of the globe, what a scene of organized activity the factory presents during the whole night, or what a quantity of talent and mechanical skill is put in action for their amusement and information.* Nearly a hundred persons are employed in this establishment; and, during the session of Parliament, at least twelve reporters are constantly attending the Houses of Commons and Lords; each in his turn, after about an hour's work, retiring, to translate into ordinary writing the speech he has just heard and noted in shorthand. In the mean time fifty compositors are constantly at work, some of whom have already set up the beginning, whilst others are committing to type the yet undried manuscript of the continuation of a speech, whose middle portion is travelling to the office in the pocket of the hasty reporter, and whose eloquent conclusion is, perhaps, at that very moment, making the walls of St. Stephen's vibrate with the applause of its hearers. These congregated types, as fast as they are composed, are passed in portions to other hands; till at last the scattered fragments of the debate, forming, when united with the ordinary matter, eight and forty columns, re-appear in regular order on the platform of the printing press. The hand of man is now too slow for the demands of his curiosity, but the power of steam comes to his assistance. Ink is rapidly supplied to the moving types, by the most perfect mechanism: four attendants incessantly introduce the edges of large sheets of white paper to the junction of two great rollers, which seem to devour them with unsated appetite; other rollers convey them to the type already inked, and having brought them into rapid and successive contact, re-deliver them to four other assistants, completely printed by the almost momentary touch. Thus, in one hour, four thousand sheets of paper are printed on one side; and an impression of twelve thousand copies, from above three hundred thousand moveable pieces of metal, is produced for the public in six hours.

253. The conveyance of letters is another case, in which the importance of saving time would allow of great expense in any new machinery for its accomplishment. There is a natural limit to the speed of horses, which even the greatest improvements in the breed, aided by an increased perfection in our roads, can never surpass; and from which, perhaps, we are at present not very remote. When we reflect upon the great expense of time and money which the last refinements of a theory or an art usually require, it is not unreasonable to suppose that the period has arrived in which the substitution of machinery for such purposes ought to be tried.

254. The post-bag, despatched every evening by the mail to one of our largest cities, Bristol, usually weighs less than a hundred pounds.

* The Author of these pages, with one of his friends, was recently induced to visit this most interesting establishment, after midnight, during the progress of a very important debate. The place was illuminated with gas, and was light as the day: there was neither noise nor bustle: and the visitors were received with such calm and polite attention, that they did not, until afterwards, become sensible of the inconvenience which such intruders, at a moment of the greatest pressure, must occasion, nor reflect that the tranquillity which they admired was the result of intense and regulated occupation. But the effect of such checks in the current of business will appear on recollecting that, as four thousand newspapers are printed off on one side within the hour, every *minute* is attended with a loss of sixty-six impressions. The quarter of an hour, therefore, which the stranger may think it not unreasonable to claim for the gratification of his curiosity, (and to him this time is but a moment,) may cause a failure in the delivery of one thousand copies, and disappoint a proportionate number of expectant readers, in some of our distant towns, to which the morning papers are despatched by the earliest and most rapid conveyances of each day.—This note is inserted with the farther and more general purpose of calling the attention of those, especially foreigners, who are desirous of inspecting our larger manufactories, to the chief cause of the difficulty which frequently attends their introduction. When the establishment is very extensive, and its departments skilfully arranged, the exclusion of visitors arises, not from any illiberal jealousy, nor, generally, from any desire of concealment, which would in most cases be absurd, but from the substantial inconvenience and loss of time, throughout an entire series of well combined operations, which must be occasioned even by short and casual interruptions.

Now, the first reflection which naturally presents itself is, that, in order to transport these letters a hundred and twenty miles, a coach and apparatus weighing above thirty hundred weight is put in motion, and also conveyed over the same space.*

It is obvious that, amongst the conditions of machinery for accomplishing such an object, it would be desirable to reduce the weight of matter to be conveyed with the letters: it would also be desirable to reduce the velocity of the animal power employed; because the faster a horse is driven, the less weight he can draw. Amongst the variety of contrivances which might be imagined for this purpose, we will mention one, which, although by no means free from objections, fulfils some of the prescribed conditions, and is not a purely theoretical speculation; since some few experiments, though on an extremely limited scale, have been made upon it.

255. Let us imagine a series of high pillars erected at frequent intervals, perhaps every hundred feet, as nearly as possible in a straight line between the two post towns. An iron or steel wire of some thickness must be stretched over proper supports, fixed on each of these pillars, and terminating at the end of every three or five miles, as may be found expedient, in a very strong support, by which it may be stretched. At each of these latter points a man ought to reside, in a small station-house. A narrow cylindrical tin case, to contain the letters, might be suspended by two wheels rolling upon this wire: these might be so constructed as to enable them to pass unimpeded by the fixed supports of the wire. An endless wire of much smaller size must pass over two drums, one at each end. This wire should be supported on rollers, fixed to the supports of the great wire, and at a short distance below it. With this arrangement, there would be the two branches of the smaller wire always accompanying the larger one; and the attendant at either station might, by turning the drum, cause these two branches of the small wire to move with great velocity in opposite directions. In order to convey the cylinder which contains the letters, it would only be necessary to attach it, by a string, or by a catch, to either of the branches of the endless wire. Thus it would be conveyed speedily to the next station, where it would be removed by the attendant to the commencement of the next wire, and thus transmitted on. It is unnecessary to enter into the details which this, or any similar plan, would require. The difficulties are obvious; but if these were overcome, it would present many advantages besides velocity: for if an attendant reside at each station, the additional expense of having two or three deliveries of letters every day, and even of sending expresses at any moment, would be comparatively trifling; and it is not impossible that the stretched wire might itself be available for a species of telegraphic communication yet more rapid.

Perhaps if the steeples of churches, properly selected, were made use of, connecting them by a few intermediate stations with some great central building, as, for instance, with the top of St. Paul's; and if a similar apparatus were placed on the top of each steeple, and a man to work it during the day, it might be possible to diminish the expense of the two-penny post, and make deliveries every half hour over the greater part of the metropolis.

256. The power of steam, however, bids fair almost to rival the velocity of these contrivances; and the fitness of its application to the purposes of conveyance, particularly where great velocity is required, is now beginning to be generally admitted. The following extract from the Report of the Committee of the House of Commons on steam carriages explains clearly its various advantages:

"Perhaps one of the principal advantages resulting from the use of steam will be that it may be employed as cheaply at a quick as at a slow rate; 'this is one of the advantages over horse labor, which becomes more and more expensive as the speed is increased. There is every reason to expect that, in the end, the rate of travelling by steam will be much quicker than the utmost speed of travelling by horses; in short, the safety to travellers will become the limit to speed.' In horse draught the opposite result takes place: in 'all cases horses lose power of draught in a much greater proportion than they gain speed, and hence the work they do becomes more expensive as they go quicker.'

"Without increase of cost, then, we shall obtain a power which will insure a rapidity of internal communication far beyond the utmost speed of horses in draught; and although the performance of these carriages may not have hitherto attained this point, when once it has been established, that at equal speed we can use steam more cheaply in draught than horses, we may fairly anticipate that every day's increased experience in the management of the engines will induce greater skill, greater confidence, and greater speed.

"The cheapness of the conveyance will probably be for some time a secondary consideration. If, at present, it can be used as cheaply as horse power, the competition with the former modes of conveyance will first take place as to speed. When once the superiority of steam carriages shall have been fully established, competition will induce economy in the cost of working them. The evidence, however, of Mr. Macneill, showing the greater efficiency, with diminished expenditure of fuel, by locomotive engines on railways, convinces the committee that experience will soon teach a better construction of the engines, and a less costly mode of generating the requisite supply of steam.

"Nor are the advantages of steam power confined to the greater velocity attained, or to its greater cheapness than horse draught. In the latter, danger is increased, in as large a proportion as expense, by greater speed. In steam power, on the contrary, 'there is no danger of being run away with, and that of being overturned is greatly diminished. It is difficult to control four such horses as can draw a heavy carriage ten miles per hour, in case they are frightened, or choose to run away; and for quick travelling, they must be kept in that state of courage that they are always inclined for running away, particularly down hills, and at sharp turns of the road. In steam, however, there is little corresponding danger, being perfectly controllable, and capable of exerting its power in reverse in going down hills.' Every witness examined has given the fullest and most satisfactory evidence of the perfect control which the conductor has over the movement of the carriage. With the slightest exertion it can be stopped or turned, under circumstances where horses would be totally unmanageable."

257. Another instance may be mentioned in which the object to be obtained is so important, that although it might be rarely wanted, yet machinery for that purpose would justify considerable expense. A vessel to contain men, and to be navigated at some distance below the surface of the sea, would in many circumstances be almost invaluable. Such a vessel, evidently, could not be propelled by any engine requiring the aid of fire. If, however, by condensing air into a liquid, and carrying it in that state, a propelling power could be procured sufficient for moving the vessel through a considerable space, the expense would scarcely render its occasional employment impossible.*

* It is true that the transport of letters is not the only object which this apparatus answers; but the transport of passengers, which is a secondary object, does, in fact, put a limit to the velocity of that of letters, which is the primary one.

* A proposal for such a vessel, and description of its construction, may be found in the Encyclopædia Metropolitana, art. "Diving Bells."

THE POPULATION OF THE UNITED STATES.—The Boston Journal has some interesting suggestions on this subject, derived from the last Quarterly Register.

The greatest population to a square mile is in the District of Columbia, where it is 393; in Connecticut, 63; in Rhode Island, 72; Massachusetts, 81; Maryland and New-Jersey, 40; Ohio, 24; New-York, 41; Pennsylvania, 30.

The population of New-York in 1840, it is supposed, will be 2,500,000, or 200,000 more than that of all New-England, and about equal to that of all the North-Western Territories. That of Pennsylvania is rated at 1,700,000; of Ohio, 1,300,000. That of Virginia is put at a few thousand more. And thus the oldest settled of the States, which in 1790 had a population of 747,000, will have been overtaken by a State which had no government of any kind until one year before that date, did not become a State until 1802, and had in 1790 a population of only 3000. Indeed, Ohio has the resources within itself for growing into the greatest State of the Union. It can support, without difficulty, a people as dense as that of Holland.

Ohio contains but 39,000 square miles, while Virginia contains 64,000, which is within 1000 of the whole area of New-England, and makes Virginia the largest as well as the oldest State. The next in order is Georgia 62,000, and Missouri 60,000. Illinois contains 55,000, Florida 50,000, New-York 46,000, Pennsylvania 44,000, N'th Carolina and Louisiana 48,000 each. Delaware contains 5100, and Rhode Island 1350.

The most rapid increase of population we observe is in the case of Ohio, which increased from 3000 to 45,000 in ten years, and in the next ten to 230,000. This last was at the rate of 409 per cent. in ten years, whereas the average rate of the whole Union for the last 10 has been but 33 per cent. and that of New-England but a little less than 19. That of New-York was never greater than 72; of Maine, 58; Illinois, 350; Indiana, 500; Michigan, 764; Arkansas, 1344. The most rapid increase has, of course, been in the early settlements.

The population of the United States in 1480 is rated at 17 millions. What it will be a hundred years hence, it is not easy to calculate. What it *may* be, however, is inferible from the fact that our territory is immensely extensive; that a vast amount of rich land is yet unoccupied; that lands now cultivated may be made vastly more productive; that a large portion of our country is under tropical climates; and that if the whole country should support but 230 inhabitants to a square mile, as England now does, we should have, as the editor of the Register observes, more than 450,000,000!!

GARDENS AND HONEY AT SYRACUSE.—The following is an extract of a letter from an American gentleman in Sicily, published in the Journal of Commerce:

"We next entered the Marquis of Casal's garden. It contains several acres, but it is subterranean, like that of the genii in the tale of Aladdin. It is an excavation, and the smooth rocky walls rise around it, between 100 and 200 feet high. The oranges, citrons, and lemons, are the largest in Sicily: they are delicious, and there is a great variety of flowering plants. The imagination can hardly conceive a more delightful place. Another similar garden is attached to the Capuchin Convent. The walls were shaped into form with vast labor, and some pillars of rock were left standing in the middle. There are many caverns, but the open spaces are cultivated as a garden. The approach is over a large rock, when you come suddenly upon a garden yellow with golden fruits, sunk deep in the earth. On a shelf in the rock are fifty swarms of bees, that gather a honey little less fragrant than that of Hybla. Let me tell you in a parenthesis, lest I forget it elsewhere, that I have been to Hybla itself, where I obtained a hundred pounds of that honey, so renowned in poetry. It is above all honey in taste, and it has the fragrance of flowers. You shall taste it, for there is no more to be had at Hybla. Strange it is that while Sicily has had so many different populations, the Greek, the Roman, the Saracen, the Norman, and a mixture of them all, that, if the ancient dead could revive, they would hardly know their country: yet the same bees continue to make the same honey, and have the same flowers that were gathered by Proserpine, or sung by Theocritus."

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LITERARY NOTICES.

On the adaptation of External Nature to the Moral and Intellectual Constitution of Man; by Rev. T. Chalmers, D.D.; 1 vol.: *Philad*, Carey, Lea & Blanchard.—Though third in the order of publication, this is the first in the order of division of the eight treatises written for the Bridgewater legacy of £8000 stg. It is, as all that Dr. Chalmers writes, unquestionably able and ingenious; but frequently obscure, and harsh and negligent in style. It too, taken in connection with the two previous treatises heretofore noticed in these columns, serves to confirm our first impression of regret, that the able and well considered legacy had not been given undivided to some one individual. Such a man, with capacity and instruction enough to embrace the whole subject—"the Power, Wisdom and Goodness of God as manifested in the Creation"—and to illustrate it, as desired, by arguments derived from the animal, mineral and vegetable kingdoms, from the construction and functions of man, and from every department of art, science and literature, could surely have been found; and if not, so magnificent a bequest would well repay the study and application of half a life devoted to the acquisition of the requisite knowledge. We should then have been presented with a homogeneous treatise, where, though each distinct topic were separately treated, there would be a constant and natural support derived from one to the other, and all combining harmoniously to proclaim and prove the great truths it is intended to illustrate. Now we have disjointed treatises, in which the aid that one branch of the eight into which the subject has been arbitrarily divided, might afford another, is scarcely availed of—for fear of touching on another's ground—or, if availed of at all, slightingly and often most unsatisfactorily. Another objection to this parcelling out of the subject is, that the bulk of the treatises will be so increased as by their extent alone to deter many persons from reading them. These objections, however, are now unavailing. We must take the treatises as they are; and thus far, it is to be said with all truth, that they are executed with ability and a due sense of the importance of their object.

We make a single extract from this volume, which combines, we think, the peculiarities of Dr. Chalmers's style, with his accustomed force of reasoning:

The chief then, or at least the usual subject-matter of the argument for the wisdom and goodness of God, is the obvious adaptation wherewith creation teeme, throughout all its borders, of means to a beneficial end. And it is manifest that the argument grows in strength with the number and complexity of these means. The greater the number of independent circumstances which must meet together for the production of a useful result—then, in the actual fact of their concurrence, is there less of probability for its being the effect of chance, and more of evidence for its being the effect of design. A beneficent combination of three independent elements is not so impressive or so strong an argument for a divinity, as a similar combination of six or ten such elements.—And every mathematician, conversant in the doctrine of probabilities, knows how with every addition to the number of these elements, the argument grows in force and intensity, with a rapid and multiple augmentation—till at length, in some of the more intricate and manifold conjunctions, those more particularly having an organic character and structure, could we but trace them to an historical commencement, we should find on the principles of computation alone, that the argument against their being fortuitous products, and for their being the products of a scheming and skilful artificer, was altogether overpowering.

We might apply this consideration to various departments in nature. In astronomy, the independent elements seem but few and simple, which must meet together for the composition of a planetarium. One uniform law of gravitation, with a force of projection impressed by one impulse on each of the bodies, could suffice to account for the revolutions of the planets round the sun, and of the satelites around their primaries, along with the diurnal revolution of each, and the varying inclinations of the axes to the planes of their respective orbits. Out of such few contingencies, the actual orrery of the heavens has been framed. But in anatomy, to fetch the opposite illustration from another science, what a complex and crowded combination of individual elements must first be effected, ere we obtain the composition of an eye,—for the completion of which mechanism, there must not only be a greater number of separate laws, as of refraction and muscular action and secretion; but a vastly greater number of separate and distinct parts, as the lenses, and the retina, and the optic nerve, and the eye-lid and eye lashes, and the various muscles wherewith this delicate organ is so curiously beset, and each of which is indispensable to its perfection, or to the right performance of its functions. It is passing marvelous that we should have more intense evidence for a God in the construction of an eye, than in the construction of the mighty planetarium—or that, within less than the compass of a hairbreadth, we should find in this lower world a more pregnant and legible inscription of the Divinity, than can be gathered from a broad and magnificent survey of the skies, lighted up though they be, with the glories and the wonders of astronomy.

Commentaries suited to Occasions of Ordination; by Bishop White, of Pennsylvania. New York, *Swords, Stanford & Co.*—This new edition of a work that has become a standard in the American Episcopal Church, is prepared at the express request of all his brother bishops, by the venerable and reverend prelate, who, serving in the armies of Independence as a chaplain, has lived to see his beloved country, as well as the church, of which he is by age the honored head, reach their present palmy state. The work is well printed, with a fine engraving prefixed of Bishop White; and will doubtless be acceptable to the numerous ministers and members of the Episcopal communion.

The Communicant's Manual, &c. taken from the Manual for the Altar; by the late Bishop Hobart. New York, *Swords, Stanford & Co.*—A neat little pocket volume, adapted, like that noticed above, to the special use of Episcopalians.

The Spirit of Prayer; by Hannah More: with Prayers and Meditations for each Day in the Week. N. York, *Swords, Stanford & Co.*—From a dying bed, *Hannah More*, in this little volume, seeks to crown the good effected in a long life of active benevolence and piety, by presenting in a striking view, the necessity and the consolations of prayer, and exemplifying the spirit in which it should be resorted to.

Polynesian Researches, Vol. II; by Wm. Ellis. New York, J. & J. Harper.—There are no volumes of recent publication better got up, mechanically speaking, than these; or which, by their contents, are more interesting. On the appearance of the first volume, we took occasion to express this opinion at more length; and we see additional confirmation of it in that now before us.

German Parables, by Krummacher: *New York*, Peabody & Co.—These parables are renowned in Germany, and they seem to us well rendered into our language, and calculated to improve as well as amuse.

The Modern Cymon, from the Jean of Paul de Kock; 2 vols.: *Philadelphia*, Carey, Lea & Blanchard.—The humor of this French novel of middle life seems to us to have evaporated in the translation, while much of its coarseness and—we must even say it—its vulgarity is retained. It furnishes however, we presume, a faithful portraiture of living manners, and thence its chief interest.

Sketches of Turkey in 1831 and 1832, by an American. 1 vol. 8vo. pp. 500. *New York:* J. & J. Harper.—Though given to the world without a name, it seems to be understood that *Dr. James E. Dekay*, of this city, is the author of these Sketches. We are quite safe, we think, in saying, that if the name were originally withheld from doubts as to the value, or the reception of the book, they will be effectually dissipated; for we have rarely seen a work better calculated to arrest and repay attention, or more marked by sound judgment, careful observation, and an independent tone of thought, in the selection and discussion of the various topics which it embraces. The Turks as a people are manifestly favorites with the author—though he does not on that account overlook or underrate their deficiencies. On the other hand, he omits no opportunity of expressing his contempt for the Greeks, and treats our American enthusiasm in favor of these "descendants of Themistocles" as schoolboy raphsodies, or at least as the offspring of schoolboy recollections. We will not contest this point with him—content, as we always are, in this "bank note age," to find enthusiasm on any subject unconnected with self. This book will dissipate many popular errors in regard to the habits and manners of the Turks. Foremost among these is the universally received opinion, that they are great chewers of opium, and that a special part of the city is assigned to coffeehouses, where the opium-eaters go to indulge their propensity. This our author positively contradicts, never having seen in Constantinople, he says, himself, but one individual, and that was a Jew, under the influence of this drug. If it ever was a national vice, he adds, it has wholly disappeared. Another common opinion is, that in Turkey the women are all closely secluded. Yet see what an eye witness tells us:

Every person who has been in Turkey, and is not afraid of speaking out his real sentiments, instead of timidly acquiescing in the loose reports of ignorant or prejudiced travellers who have preceded him, will agree with us when we state that women in Turkey actually enjoy more liberty than in the other countries of Europe or in America. We do not speak of the higher classes, for we know nothing about them, although our opportunities have been equal to those of most of our predecessors, and in many cases superior. We allude to the middling classes, by which alone every country is to be judged, if judged fairly or correctly. No stronger proof of the liberty they enjoy is necessary than the numerous parties of ladies which one meets with in the environs of Constantinople, which excursions, from their frequency, appear to form almost the sole business of their lives. It is in fact a pleasant way of passing time; and resembles our own practice, except that it differs in its details. Instead of a formal card from Mrs. White to Mrs. Green and the Misses Green, the Turkish lady sends her servant to a friend, and asks her company to ride out to Belgrade, or to an excursion on the Bosphorus. Instead of being bored to death like Mrs. White, who hopes half her dear friends will stay away, and between the grumbling of husband and remissness of servants, is in a feverish flutter for a week or fortnight, the Turkish lady manages the affair in a different manner. The fair Fatimah orders provisions to be put up for a day's excursion, and leaving enough for her complaisant husband, steps into her *caik and calls upon her friend the lady Zaylilah. From thence the party proceed up the Golden Horn, or, breasting the Bosphorus, select some lovely valley bordering upon that "ocean stream." Here the friends spend the day surrounded by their household, and continuing their customary avocations, while the young people are sporting under the shade of the lofty trees, and the party return home in the evening in high spirits, and with their health improved by exercise in the open air. It may be doubted whether our young women are equally benefitted by spending an evening in a heated and crowded room, and vitiated atmosphere; but we fear the comparison may be thought Gothic.

In Constantinople, and the same may be said of all Turkey, the women occupy the markets, and fill the streets, and barricade the bazars. Availing themselves of the general respect paid to their sex, they elbow their way through a crowd, regardless of whom they may derange in their way; and the domestics do not scruple to act upon the principle of "peaceably if we can, forcibly if we must." It has more than once been our lot, in a crowded bazar, to receive a substantial punch in the side, and upon turning round, discover that the uncourteous sa-

* A light boat.

lutation proceeded from the fair hand of some Turkish servant woman, whose path we had unconsciously impeded. They never address a stranger, nor reply to a casual observation. In perambulating the bazars with two American children, I have been, however, frequently accosted by the Turkish women, and their inquiries and observations were made with the most perfect freedom and simplicity. These facts are mentioned to show the unrestrained liberty enjoyed by the Turkish women; and we are assured, by persons whose long residence and perfect familiarity with many Turkish families here entitle them to full credit, that the class of discreet and sensible husbands maliciously termed henpecked is as numerous in Turkey as in any other part of the globe.

For truth, honesty and fidelity, the Turk has, on the showing of this writer, no superior; and urbanity of deportment, even towards Christian dogs, he never found wanting. On the contrary, he cites various instances where, among the soldiers as well as the people, he met with the most obliging treatment.—There is to be sure among them a great indifference to human life—but not more, we apprehend, than in Spain or Italy—whilst their kindness to the brute creation is proverbial. Take for example these instances:

I have, however, already had opportunities of witnessing the kindness universally manifested by the Turks towards the brute creation. It is not an uncommon thing to see open boats in the Golden Horn loaded with grain, and literally covered with flocks of ringdoves feeding undisturbed. Besides these water-birds, there are others, which are constantly on the wing, and hence termed by the Turks *Yengwan*, which the Franks have translated into "ames damnées," in allusion to their perpetual restlessness. [A species of Pediceps.]

* * * * *

There is one little circumstance connected with these tombstones which displays an amiable trait of character. On the upper corner of each stone are two small cavities, which are usually filled with water. The intention of this is to supply a drink to the thirsty birds, and indeed to invite them to take up their residence in the neighborhood, and by their song to give additional cheerfulness to the spot. It is not, however, exclusively an Armenian practice, for the Turks and other orientals have the same custom.

Turkish ignorance, or rather unskilfulness in mechanics, is quite extraordinary. "I do not think," says our traveller, (p. 163) "I ever saw a straight wall, a level floor, or a true perpendicular, in any house during my residence in Turkey." Yet with all this, they construct works both ingenious and gigantic. That described in the annexed extract,—as a means of passing water over a deep ravine, without incurring the expense of a vast aqueduct, and in the absence of pipes, (which they have not the skill to make,) capable of sustaining the pressure of a great head of water—is very striking.

Where a valley of great extent is to be crossed, the Turks have resorted to an ingenious contrivance, which I have nowhere seen clearly described, but which, from its simplicity and value, merits a more particular notice. From the want of sufficient mechanical skill to manufacture water-pipes strong enough to bear the weight of a large column of water, they adopted the following plan: In the direction of the proposed water-channel, a number of square pillars are erected at certain short intervals. They are about five feet square, constructed of stone, and, slightly resembling pyramids, taper to the summit. They vary in height, according to the necessities of the case, from ten to fifty feet, and in some instances are even higher.

They form a striking peculiarity in Turkish scenery, and it was some time before the principle upon which they were constructed was apparent. The water leaves the brow of a hill, and descending in earthern pipes rises in leaden or eathern ones, up one side of this pillar, to its former level, which must be, of course, the summit of the pillar, or *sooteray*, as it is called by the Turks.* The water is here discharged into a stone basin as large as the top of the sooteray, and is discharged by another pipe, which descends along the opposite side of the pillar, enters the ground, advances to the next sooteray, which it ascends and descends in the same manner; and in this way the level of the water may be preserved for many miles over large ravines or plains, where an acqueduct would be, from its expensiveness, manifestly out of the question. In the city of Constantinople, the old ruinous acqueduct of Valens, which no longer conducts water in the usual manner, is converted into a series of sooterays, and permits one to examine their structure in detail. The stone basin on the summit is covered with an iron plate, to prevent the birds from injuring the water. This is connected by a hinge, and, upon lifting it up, the basin is found to be divided into two parts by a stone partition. Several holes are made in this partition near its upper edge. The water from the ascending pipe is allowed by this means to settle its foreign impunities, and the surface water, which is of course the most pure, flows through these apertures into the adjoining compartment, from whence it descends, and is carried to the next sooteray, where the same process is repeated. A number of projecting stones on the side facilitate the ascent of the person who has the charge of these sooterays, and whose business it is to remove the deposits from the water in the stone basins.

This ingenious hydraulic arrangement seems to possess advantages which might recommend its adoption elsewhere. As the pressure is thus divided among this series of syphons, the necessity for having very strong and costly pipes is obviated. As they are from three to five hundred yards apart, the cost is probably much less than by any plan which could be devised, where, in addition to the cost of a canal or series of pipes, we should be compelled to raise it again by the expensive agency of steam or some other costly apparatus. The frequent exposure of the water to air and light at the summit of these sooterays is another very important advantage which cannot be too strongly insisted upon; as it is now well known that nothing tends more to purify water than the presence of these two agents. The arrangement likewise of the basins on the top of the pillars is well adapted for getting rid of much of the matters deposited from turbid waters. Lastly, to the descending pipe a small cock is attached near the ground, by which the flocks and herds of the adjoining villages and fields are furnished at all times with a copious supply of water.

On the heights of Pera there is a large reservoir, 200 feet square, built of the most solid and substantial masonry; from this reservoir the water is distributed through the suburbs of Fundukli, Pera, Galata, and Cassim Pacha.

After a deliberate survey of the various hydraulic contrivances for supplying Constantinople with water, one is at a loss to know which to admire most, the native good sense which pointed out the necessity and importance of furnishing the capital and its suburbs with pure and wholesome water, the ingenuity displayed in conquering almost invincible obstacles, or that wise and liberal economy which considered no expense too enormous, no sacrifice too great in comparison with the health and comfort of the people. The various water-courses about Constantinople must exceed fifty miles in length, and the expenses of the various reservoirs and aqueducts could not have been less than fifty millions of dollars. With a single remark we shall conclude our remarks on this subject. The city of New York, with a population of more than 200,000 inhabitants, has been deliberating for years over the question—whether it is expedient to spend two millions of dollars for the purpose of introducing a copious supply of pure and wholesome water.

The numerous and expensive expedients adopted of insuring a supply of water to Constantinople, are indeed worthy of all admiration, and at a humble distance, of all imitation in New York. It will surprize our readers, we apprehend—it certainly did us—to learn that there are 1200 primary public schools in Constantinople, in which reading and writing are taught, and the Koran is read and explained. From the fact that in those schools visited by him no girls were present, our author drew the conclusion that reading and writing are not in Turkey deemed indispensable to females.

Much information that cannot be otherwise than useful, is collected in the chapter which treats of the commerce of the Black Sea. The advantages that Americans may derive from it are thus set forth:

'The Austrians are and will continue to be our most active rivals. An American is surprized upon entering the Mediterranean to find that a flag unknown to him is flying at the masthead of almost every third vessel he may happen to fall in with. He is told it is the Austrian flag; and the key to the wonder is the extent of her Italian possessions. Under her flag the ancient enterprise of Venice has received new life, and her canvass whitens every sea. The carrying-trade is chiefly in their hands, and is considered as exceedingly profitable. They have been on thorns ever since our treaty has been in agitation, as they seemed to anticipate that American vessels would monopolize the whole business. Although the cost of navigating an Austrian vessel is less than one of our own, yet this would, we apprehend, be more than counterbalanced by our superior sailing and quicker despatch. The Austrian vessels are usually polacre brigs of 150 to 400 tons. Desirous of informing myself personally of the advantages which they are supposed to possess over our own ships, I visited one which had recently been built at Trieste, and said to be the finest that had ever been launched from that port. She was of the burthen of 400 tons, had cost when complete $20,000, was navigated by eighteen men. In the summer months she only requires sixteen men. Their wages vary from $8 to $10 per month, and her annual insurance is $1000. The men are furnished with excellent provisions, and the captain informed me that he could get no sailors, unless he furnished them with as good food as he required for himself. This vessel makes two voyages annually between Odessa and Trieste, which is considered about the average, although three and even four have been made; but this is acknowledged to be of very rare occurrence. Much of the length of these voyages must depend on the facilities afforded for making up a cargo, but we have been informed by competent authority, that even allowing for the unavoidable delays at the Dardanelles and Bosphorus, forty days would be an ample allowance for the passage between Trieste and Odessa. This would give four complete voyages, but as the Austrians commonly make but two, each trip must consume more than ninety days. Our own vessels, we are inclined to believe, taking the whole year round, would make a complete voyage every two months, provided there was no unusual detention on account of the cargo. From these facts our ship-owners may judge for themselves of the rivalry to be anticipated from Austrian vessels.

Whether however, after reading the annexed passage, our thorough political economists will think the Doctor a sound judge in matters of commercial intercourse, we somewhat doubt; yet his facts are facts "for a' that."

We do not profess to be versed in the metaphysics of commerce, and indeed have given up the idea of ever being made to comprehend its intricacies, when we were instructed that it was far more beneficial to pay a foreigner six cents for an article, than to purchase it from a neighbor and fellow citizen at the same price, or who will take something from us which will be an equivalent. The advocates for free-trade will find a beautiful example of its operation in Turkey. The duties, as we have said are almost nominal; and, as a consequence, domestic industry is at a stand. England furnishes them with cloths, rat-traps and penknives; France with caps, confectionaries, and shoes; while Russia obligingly furnishes them with bread.

THE LAST MAN; BY MRS. PERCY BYSHE SHELLEY. 2 vols. Philadelphia, CAREY, LEA & BLANCHARD.—'The Modern Prometheus,' by the same female hand,—strange, that a female should have such a taste as this and the former work indicate!—will prepare all readers for the tales of horror, desolation, and wo, wrought up with considerable talent, which this work presents. It is the history of the earth depopulated by a pestilence, and leaving only a single survivor. It is quite as horrible as can be desired.

ORAN THE OUTCAST; OR A SEASON IN NEW YORK. 2 vols. PEABODY & Co.—These volumes purport to be a description of a portion of society in New York, which "arrogates to itself the title of 'good.'" We do not know any portion of society which does "arrogate" this title; nor, if that occasionally, and by no means skilfully, touched in these pages, be that portion, have we any great curiosity to know it. There is, however, little space comparatively devoted to this topic, the work being made up principally of a series of most improbable adventures and incidents. There is some talent displayed in the

* This word is from the Turkish *sooteraysoo*, which means the levelling of the water, and expresses very well the object of the sooteray.

style, and a respect for sound principles inculcated in the sentiments of the writer; but as a picture of New York society of any sort, or at any time—the book is a failure.

Transatlantic Sketches, comprising Scenes in North and South America and the West Indies, by Captain J. E. Alexander, *Philadelphia*, Key & Biddle.—The author of this thick royal octavo has certainly shown himself a very active, industrious personage to travel through a hemisphere and write such a book in a *twelvemonth*. His researches, as may be readily believed, are not very deep; but he is a good-humored, rattling, cosmopolit*ish* character, who whisks over half our little planet as unceremoniously as if, instead of voyageing among nations, states and empires, he were taking an afternoon trot on the Third avenue.

We have marked a few extracts relating to that inexhaustible subject, about which, in what Captain Hamilton calls our greedy and inexhaustible national vanity, Americans never tire of hearing—ourselves. The first relates to our army, a post of which near New Orleans, was visited by Capt. Alexander:

The officers were very sensible and gentlemanly, but their manner was more reserved than is usual among our people; and though we were near a scene of (to them) great exultation, the defeat of some thousands of our Peninsular heroes by entrenched American riflemen, yet they made not the slightest allusion to it; and there was no vain boasting on their part, but a delicate reserve, when I introduced the subject, and expressed a wish to visit the unfortunate field

The uniform of the officers and men was a blue coatee with white buttons, lace on the cuff and collar, and wings on the shoulders; *the men on duty were not particularly well set up, but the Americans in general have a lounging air about them.* The barrack-rooms were clean, and the kits neatly arranged; but I was surprized to see that, in the hot climate of Louisiana, the American soldiers slept two in a bed. Their bed-stands were wooden frames, which could easily be taken to pieces, and had upper and lower berths. There are no iron bedsteads yet in the States, and consequently their men are far from being so comfortable as ours in this respect. In the barrack-square I observed the punishment of hard labor with a clog and chain attached to the foot of the culprit; and I understand that flogging and solitary confinement was often resorted to, though free and independent American soldiers being flogged seemed rather strange, *but there are few genuine Americans in the army.*

Speaking elsewhere of the army, the Captain comments upon the inadequate pay of non-commissioned officers, on whom he insists the efficiency of a corps chiefly depends.

Speaking of the backwoods, he says:

Let the youth who is full of himself, who is conceited with the flattery of female friends, uplifted in his own estimation, make a tour in the backwoods of America, it will soon cure him of his empty pretensions. Affectation is unknown there, and he will soon acquire a natural manner of acting and thinking.

FOREIGN INTELLIGENCE.

Later Still.—The Napoleon arrived yesterday afternoon from Liverpool. We have our regular London files to 25th ult. inclusive.

The Portuguese question is the main one now.—Bourmont, it would seem, was bent upon making an attempt to regain Lisbon. He had been sending off his troops by detachments in the direction of Coimbra several days, before he fairly raised the siege of Oporto, and in that way had evidently stolen a march upon his opponents. His force, after the junction effected with Mallellos and the Duke of Cadaval, would exceed considerably in numbers any that Villa Flor (the Duke of Terceira) could oppose to him.—Donna Maria had not been officially recognized by either France or England. The former hesitated, it is said, until it could obtain the promise of commercial immunities in Portugal equal to those of England;—the latter because of the distrust—entertained in a special degree by the Lord Chancellor—of Don Pedro. Lord Wm. Russell was, however, acting avowedly at Lisbon in concert with Don Pedro and the Marquis Palmella, Don Pedro having openly assumed the Regency in the name of his daughter, and thus revoked the commission previously given to the Duke of Palmella.

The Paris papers view this as disgracing M. Palmella.

In France all seemed quiet. The imprisoned Ministers of Charles X. were, it was said, about to be transferred from Ham to Blaye, the recent place of detention of the Duchess of Berri. King Philip was about visiting the sea coast, and at Dieppe was to give a succession of naval and other fetes.

The existence of a treaty between Russia and Turkey was admitted by Lord Palmerston in the House of Commons in reply to some question put to him; but of its nature, he was, he said, wholly uninformed. We refer our readers to the report of what took place on that occasion.

The first session of the first Reformed British Parliament would, it was understood, be closed by the King in person on Thursday 29th August. It has been a very long, and certainly an important one—though we infer from the tenor of the papers, by no means satisfactory on the whole to the nation. Three important acts, however, it had passed: that for the emancipation of slaves in the colonies; that renewing the charter of the Bank, and that renewing, with most essential modifications, the East India Company's charter. So completely were the members tired out by the length of the session, or so completely did the love of grouse shooting (which commences on the 12th of August) prevail over the sense of legislative obligation, that the most prominent measures were, according to the Spectator, decided by "about forty Peers, and about twice as many Commoners."

So flagrant was this abuse, that during the discussion of an important clause in the Bank charter bill, Sir John Wrottesley took occasion to make the following remarks respecting the small attendance of members in the House:

That clause was so important, that he was impressed with a feeling of awe upon it, seeing the state in which the House then was. That Parliament had been elected under the impression that *all monopolies should cease. By looking at the public papers, he found that* 300 *out of the* 658 *members were pledged at the hustings to vote for the repeal of all monopolies, more particularly the Bank and East India; yet now, when they were discussing one of the most important of all, there were not above fifty members present.*

The clause passed by a majority of 49 to 16!

Spain seems to be again in suspense by reason of the renewed illness of the King. It is now rumored that Zea Bermudez, who has complete ascendancy in the ministry, is playing into the hands of Don Carlos, and that the pretensions of that prince in opposition to those of the Infanta will, in the event of the King's death, be sustained by that minister.

We understand that it is decided that Queen Donna Maria is to embark at Havre, where Admiral Napier, in the John IV., will come to receive her. She is to leave Paris on Monday next, and orders have been already sent to Havre to prepare lodgings for forty persons, of whom her suite will consist. Her Majesty will be accompanied by the Duchess of Barganza and the Marquis of Loule. It is also said that a French Minister Plenipotentiary will go with the young Queen, who will be formally acknowledged by the French Government immediately upon her arrival at Lisbon. Rumours are abroad of the disgrace of the Marquis of Palmella, which it is said, are confirmed by a courier from Spain.

[*From Galignani's Messenger.*]

"A report" says the *Courrier Francais*, "is current that the projected marriage between the Duke de Nemours and Donna Maria will not take place, because the Queen has openly declared her attachment for Duke Eugene de Leuchtemberg, brother of her august mother-in-law, and that he alone shall be her husband. The Duke de Leuchtemberg is the son of Eugene Beauharnois, his sister is the wife of Don Pedro.

The *Moniteur Algerien* has the following paragraph:—

"News has just been received here of the taking of the towns of Monstaganem, by the troops from the division of Oran. We are not yet acquainted with the details of this brilliant affair, in which the marine had a great share.'

Constantinople, July 25.—What was some time ago a mere report is now an undoubted fact. The Porte has concluded an offensive and defensive alliance with Russia, which is still kept secret, and of the contents of which only so much has transpired, that Russia engages to afford every assistance asked for by the Porte, and that the latter engages, in case Russia should be at war with any power whatever, to treat that power as an enemy; farther, that Russia renounces the payment of the expenses of the late expedition, estimated at ten millions of rubles, and that the duration of the treaty is fixed for eight years; that this treaty is as advantageous to the Porte, as it greatly strengthens the power of Russia, admits of of no doubt. In particular nothing can be better adapted to defeat the ambitious plans of Mehemet Ali, should he entertain any such, as has been conjectured.

The Porte issued a few days ago a new coinage, the real value of which is much greater in proportion to the nominal value than all the coin of the same description before issued. It is difficult to imagine how this it possible in the dilapidated state of the Turkish finances; but perhaps report has exagerated on this point.

The capital enjoys profound tranquility, and trade and commerce seem to revive.

The accounts from Greece are favorable.—[Algemeine Zeitung, Aug. 16.]

The *National*, after some observations on the importance of an offensive and defensive alliance between Russia and Turkey in pursuance of which the latter Power would be compelled to close its ports against any nation with which the former may go to war, argues that the only remedy for the evil is for France to form an equally close alliance with Egypt, which it strongly advises being at once done, if, indeed, it be not already too late, and if the success Mehemet Ali has obtained, without the assistance of France, do not induce him to consider her friendship as now useless to him.

[*From the Athenæum.*]

Letters have been received from Richard Lander, dated 8th May, from Fernando Po, where he had been obliged to go for the recovery of his health.—He had been seriously ill, but was so far recovered, that he intended to return in the Albert man-of-war, in a day or two, to the brig at the mouth of the Niger, where it had been arranged that the steamboats from the interior should meet him. The steamboats had been detained up the river for want of water.

Colouel Nicholls, the Governor of Fernando Po, had kindly furnished him with a supply of wine and medicines for the invalids. Lander expected to be in England in September or October.

During the first month, not less than twenty deaths occurred among the persons composing the expedition: in the second, five. Of the officers only three remained alive, namely, Messrs. Lard and Lander and Lieutenant Allen.

London, Aug. 24.—We have received the French papers of Wednesday, 22d, with a letter from our correspondent of the same date.

Paris, Aug. 21.

The approaching birth-day of the Duke of Bordeaux, on which, according to the ancient usages relative to the King of France, he will attain his majority, is, it appears, to be a grand day for the legitimatists; all the young heroes of the party, except those who are with Gen. Bourmont, are to make a pilgrimage to Prague, to pay their homage to their Sovereign; but as they apprehended that the police may not approve of so formidable an army marching through the country, they are to go in separate detachments of twos and threes, and only show themselves in their might after their arrival at Prague.—One little circumstance is a serious annoyance to them. The Marquis de Pasteret, who still considers himself Chancellor of France *de jure*, was to have headed the party at Prague, and drawn up an official act of the majority, oath of allegiance, &c. but it appears that the Noble Marquis has been refused a passport, and must either go by stealth or not at all.

All the absolutists are highly indignant at the publication of the Portuguese intercepted letters.

The Roman Catholic priesthood in India exceeds in number the ministers of the Protestant Church, in the proportion of about 300 to 1; and the population of each persuasion differs in an equal ratio.

The Lord Chancellor is much opposed to general abolition of *sineeures*, which would do away with the appointment he holds as *keeper of the King's conscience*.—[Figaro in London.]

Tremendous Fall of Limestone-cliff at Marcross.—On Thursday, the 24th of July, an immense avalanche of the lofty cliff at Marcross, in this county, took place, and it is calculated that 200,000 tons of limestone rock were precipitated upon the beach. It has unfortunately occurred very near one of the newly-erected light-houses, and though there is no immediate danger, yet, when what Leland so aptly calls "the rages of Severn" are considered, there is no calculating how soon these substantial and solid fabrics might be undermined. A large party from Cowbridge and its vicinity had been spending the day on the Marcross rocks, and some of the party (of the families of the Rev. Robert Knight and T. Basset, Esq, of Welch St. Donats) had only left the spot a few minutes before the fall took place.—[Merthyr Guardian.]

A French paper mentions that the public library at Caen has lately been enriched by several valuable volumes not less curious than remarkable for the beauty of the writing. They are presents sent from Karibal and Coromandel, by Messrs. Firmin and Hippolite Joyau. They are written upon lamina of the palm tree, called in the country aules, and contain dramatic poetry and eastern tales, in Tamoul, one of the principal languages in the south of Hindostan.—M. Joyau, sen. has also deposited at the Museum, in the names of his sons, a number of rare shells, but a still greater quantity have been lost by a singular accident. When the boat which brought this valuable addition to the science of conchology from Ceylon to Karibal left, the cholera had just broken out, and the sailors attributing the disease to the infection arizing from the dead fish in the shells, they were all thrown back into the sea. Messrs. Joyau, however, hope to repair this loss, though it will be attended with considerable difficulty.

A Terrific Sea Monster.—A boat belonging to Mr. Catt brought on shore at Seaford, a few days ago, a fish of an extraordinary kind. Its fins resembled the arm and hands (with finger nails) of a human being, and it had two protuberances or sort of pockets on each breast, which were filled with small fish.—When taken from the net, it followed the fishermen round the boat; and in order to get rid of "so ugly a customer," they procured weapons and despatched it forthwith.—[Brighton Gaz.]

This strange mannered monster, that "walks erect and looks to Heaven," must surely be a descendant of Shakspeare's Caliban, or of the nondescript sailor mentioned by Aboulfoaris, in the Eastern tale, He might, if taken alive and properly conciliated, have made a capital mate of a Nantucket smack cruising after the Sea Serpent.

The Destroying Engine.—Sir Thomas Urquhart tells us that John Napier, the father of the first Lord, and the inventor of the logarithms, had invented a destroying engine that would clear a space a mile in extent each way of the enemy; in other words, of 30,000 Turks without the loss of a Christain. But on being requested by his friends in his last illness, to reveal the contrivance, he replied. "That if he could lessen the means already existing for the destruction of man, he would with all his might apply himself to the purpose, but that they should never by his means be increased." He died 1617.—[Sharpe's Peerage, just published.]

Six Children at one Birth.—On the 30th December, 1831, the wife of Dermian Ploson, in the village of Dropin, in Bessarabia, was delivered of six daughters, all living, and only a little smaller than the usual size of children at birth, with the exception of the last, which was much the least. The mother was not quite twenty years of age, and of a strong constitution. The whole six children lived long enough to be baptized, but died on the evening of the day of their birth. The mother subsequently suffered indisposition, but got quite well.—[Gazette Medicale.]

William Hepplewhite, an apprentice on board the Indian, belonging to Shields, last year purchased and old clothes chest for 3s., which on being examined by the Custom house officers in Cork, where the vessel is now delivering a cargo, was discovered to have a false bottom, under which were found upwards of £2000.—[Durham Chronicle.]

SUMMARY.

Daniel Webster has accepted, as we learn from the National Gazette of yesterday, an invitation from the Franklin Institute of Philadelphia, to deliver an address before that body in the last week of November next.

APPOINTMENT BY THE PRESIDENT.

R. B. Taney, Esq. was yesterday appointed Secretary of the Treasury of the United States. On accepting this appointment, Mr. Taney resigned the office of Attorney-General.—[Globe, of yesterday.]

We have before us a copy of the specification of the materials and mechanical execution of the proposed new Custom House in this city. The building is to be 177 feet long, and 89 feet wide; and its form and order of the building to be similar to that of the Parthenon at Athens. It is to stand on a basement story, ascended by nineteen steps from Wall street and six steps on Pine street. There are to be eight Grecian doric columns at each front, and fifeen columns and antæ on each side attached to the walls. There is also to be a second row of six smaller columns back of and parallell with those of the main front, leaving a space of ten feet between the two rows; and nine feet between the inner row and the front wall of the building. Back of the two extreme columns of the inner row there are to be two antæ, and six antæ attached to the walls of the rear front, leaving a space of eight feet and a half between the columns and antæ. There will thus be twenty-four outside columns, five feet eight inches diameter at the bottom, and thirty-two feet high, including the capital, and eighteen antæ on the two sides, of the same height, five feet wider and three feet nine inches projection from the walls.—The six inner columns of the main front will be four feet eight inches diameter at bottom, and the antæ to correspond. The building is to be two stories high, except the great business hall part of which is to be vaulted as high as the roof will permit and its centre finished with a dome sixty-two feet in diameter. This hall will occupy the centre of the building, and will be one hundred and fifteen feet long, leaving a small vestibule at each end to enter from. It is to be seventy-seven feet wide in the *centre part*, which is a circle of seventy-feet diameter, with the length and breadth of the room extending beyond its circumference to these dimensions; and the four parts so extended beyond the circle are thirty-three and a half feet wide, leaving six rooms and three circular staircases in the four corners, the two largest rooms to be twenty-four by twenty-one feet each, besides a square staircase in the rear, and three vaults for papers at the two ends of each vestibule. The same division of the room is made in the second story. Nearly the same number, shape, and size of rooms are had in the basement, as above in the other stories, leaving all the area of the same shape and size as the great hall immediately about it; with the addition of sixteen fluted doric columns to support the vaulting and the pavement under the dome of the great hall.—[Evening Post.]

U. S. ShipSt. Louis.—The following is a list of officers attached to this vessel, which went to sea yesterday afternoon.

Commander—Thomas Moore Newell, Esq.

Lieutenants—1st, Wm. S. Harris; 2d, Wm. C. Wetmore; 3d, Samuel Mercer; 4th, Oscar Bullus; 5th, Richard H. Morris.

Surgeon—John Wiley.

Acting Sailing Master—J. Wentworth Cox.

Purser—Francis G. McCauley.

Assistant Surgeon—Euclid Borland.

Midshipmen—Thomas W. Melville, John G. Todd, N. E. Lane, James W. Revere, Wm. W. Smith, T. A. M. Craven, E. C. Ward Jr., Thomas M. Mix, John N. Maffit, Samuel Garrison, Charles Elliot, James A. Doyle, M. Hunt, Jr., F. Oakes, W. E. Newton, J. E. Duncan.

School Master—Felix Giendicella

Gunner—Francis Gardener.

Boatswain—John Ferris.

Sail Maker—Thomas J. Boyce.

Purser's Steward—A. O. Whelpley.

OYSTER STANDS.—In New Orleans these indispensable contributors to good living are, it seems, made a source of municipal revenue. The Mercantile Advertiser of 5th inst. gives the names of twenty-one let at rates varying from $180 to $900, producing an aggregate revenue of $9455.

Extract of a letter dated Apalachicola, Aug 28th 1833.—"Thinking it may be a matter of some interest to your eastern friends, shipping in this direction, to fully understand the facilities of transporting all kinds of goods from this port to the interior, I am thus particular. At present we have five steamboats which run constantly between this place and Columbus, Geo. affording an opportunity to forward with cheapness and despatch, goods to any part of the country bordering on the Apalachicola & Chatahoochee rivers, and a very large business is now doing between this port and the interior. The Cotton crops are very abundant, and should the sea island continue good, as there is now every prospect of, the quality will be superior."

Naval Architecture.—A genileman in this city, well known for his attachment to science, and patronage of the useful arts, is building a sea schooner of about 200 tons, intended to ply from this port, on the plan* and under the direction of Mr. Annesley. The model is allowed to be very elegant. As she now stands for planking, she presents a most singular and interesting appearance. Mr. Annesley's system must, we think, eventually succeed, as his vessels are seaworthy to the last, may be made to any model, and possess qualities that are indestructible by ordinary wear and tear.—[Albany Daily Adv.]

* The U. S. schooner Experiment was built upon plan.

[*From the Norwalk Gazette.*]

INDIANS.—Some of our heavy land-holders have been alarmed during the past week by the appearance among us of three Indians of the Mohegan tribe, who came to lay claim to a tract of land hereabouts, upon the strength of tradition in the tribe, that they once owned a piece, which was not sold but leased to some persons of the name of Dixon and Townsend.—They further stated that the land was contiguous to, or embraced "the Old Orchard," which has led to much speculation respecting the location of the Old Orchard, and who at present was the unfortunate possessor. After sauntering about two or three days, they disappeared, as wise probably as when they came.

A friend has handed us the following memorandum of the cost of such of the original township of Norwalk as lay between Saugatuck and Five Mile Rivers, extending an Indian's day's walk into the country:

From Norwalk river to Saugatuck river, and one day's walk into the country:—8 fathoms wampum, 6 coats, 10 hatchets, 10 hoes, 10 knives, 10 scissors, 10 penknives, 10 fathoms tobacco, 3 kettles, 6 hams, about 10 looking glasses. From Norwalk river to Five Mile river, and as far as an Indian can walk in a day in the country:—10 fathoms wampum, 3 hatchets, 3 hoes, and when the ships come* 6 glasses, 12 tobacco pipes, 3 knives, 18 drillers, 10 needles.

* Whether the 'ships' ever 'came,' does not appear.

The London Athenæum states that Lander, the African explorer, who has lost 25 of his party, was expected in England in September or October, and the letters from him are said to speak very confidently of the ultimate success of the commercial objects of the expedition. Nothing, however, in a mercantile point of view, could compensate, we should think, for such a fearful expenditure of human life as has already attended this wild undertaking. Every succeeding expedition into this fatal country seems to be more disastrous than those which preceded it; and though the cause of science has been in some degree promoted by recent discoveries, yet to what does this extension of our geographical knowledge amount, when the climate of the regions explored is so destructive to European constitutions, and the people that inhabit them so rude and barbarous, that while these considerations forbid the idea of commercial intercourse, the gratification of curiosity is the only reward of the perils encountered.—It is one thing with Denon and Belzoni to trace the mouldering vestiges of civilization in those parts of the same continent, where, as man once attained a high degree of refinement, he may again again assert the better qualities of his race—and another to plunge among hordes of primitive barbarians, which Providence would almost seem to have placed in such an inaccessible country for the very purpose of shutting them out from the intrusion of the rest of the world. Yet, while it is lamentable to think of so many noble and adventurous spirits—men that would give soul to any enterprize—lavishing energies that might be more usefully applied, in such a hopeless cause—one cannot withhold a full and proud, though most regretful tribute of admiration, to that undaunted courage, that most indomitable ardor of enterprize, which urges these British adventurers upon a fate so certain and so melancholy.

A spot on the sun was seen in this town yesterday, for the first time since the Spring. It probably entered on the sun on Wednesday, and will occupy about a fortnight in crossing his disc. It is quite small, and cannot be seen without a telescope.

Perhaps it may be remembered that the summer of 1816 was one of the coldest ever experienced in New England; a severe frost having occurred in every month, proving destructive to the hopes of the agriculturist, and 'causing as much loss as the embargo and war.' This remarkable coldness was generally ascribed to the immense spots visible the whole summer on the sun, which were sufficiently large to be seen through a piece of blackened glass, and were ascertained to cover about one third of his surface. But how shall we account for the almost equal coldness of the summer of 1833? It cannot be ascribed to the same cause as that of 1816, as during the last four or five months we have not been able to perceive any spot, and the whole surface of the sun has appeared, even when viewed through a powerful telescope, clear and serene.—[Newport Mercury.]

The following extract from "Smith's History of Canada," would almost induce a belief that the awful visitation of 1832 was not the first appearance of cholera on this continent. The author says:—

"Early in the spring of this year a fever of the most malignant and epidemical kind broke out at Quebec, and generally throughout the country. It was called the purple fever, and so destructive was it, that thousands died in the course of a few days."

The discoloration, and fatality of the disease, (which occurred in 1710) are two features strongly resembling Asiatic Cholera.

FOREIGN INTELLIGENCE.

By the Britannia, from Liverpool, we have our London files to 16th ult., and by the Poland, from Havre, we received on Saturday our Paris papers to the 17th ult. Such extracts as possess ordinary interest are annexed. The quarrel in Portugal is not yet settled, Pedro not being in force to move from Lisbon for the relief of Oporto, which was still beleagured and closely pressed by the Miguelites.—Of Miguel himself we have no tidings.

The disturbances in parts of Switzerland were pacified by the energy of the Diet, without the intervention of foreign troops.

FALMOUTH, Aug. 13.—The Corsair yacht arrived here this morning from Lisbon, which place she left on the 1st inst. The following news will be interesting, and will show the state of the public mind in the city. Don Pedro was publicly walking about with the greatest confidence, unarmed and unguarded, and was greeted with the warmest acclamations. A circumstance occurred on his landing which made him at once popular with the people. When he was stepping from the barge on shore, some of the police endeavored to clear the way with their swords, when he called on them to put up their weapons, and taking out his own sword, flung it into the sea. About 800 police or militia had been raised for the protection of the city. The behavior of all classes was beyond all praise.

The conduct of Don Miguel's police had excited a great deal of sensation at Lisbon. It appears that the Duc Cadova, with about 3000 police, after they had fled from Lisbon, retreated to Caldas, about 25 miles north of Lisbon, and sacked the place for four hours, committing the greatest depredations on the persons and property of the inhabitants. On the 31st July they were on the road to Luceria.

A division of Don Miguel's troops, about 1500, had forded the Tagus at Valoda, near Santerim, and a steamer was sent up by Don Pedro to negotiate with them. It was generally supposed that they would turn in favor of the young Queen.

The Corsair called off Oporto on the 5th, but nothing of importance had occurred since our last advices. The Miguelites, however, continued to harass the city by continually firing on the town and at all the boats which came within the range of their guns. At Oporto they were anxiously expecting that the lines of Don Miguel would be broken by troops from Lisbon. No movement had taken place at Lisbon for that purpose, and, in the present state of affairs, it does not appear likely that a sufficient force could be collected by Don Pedro. The contending forces at Oporto must therefore fight it out.

The Donna Maria was cruizing off Oporto.

The Committee of the Parisian Association in favour of the press have sent 2000 francs to the office of the *National*, in aid of the payment of the fine to which that Journal was condemned on Saturday. The Central committee of the Association of the Departments have remitted 500 francs for the same object.

The Brussels papers state, that at Charterey, on the 8th August, 38 persons were drowned in a moat. This melancholy accident happened in consequence of a sudden irruption of water from an ancient aqueduct, which in less than two minutes rose above 70 feet.

PARIS, MAY 13.—The Courier Francais gives the following as a communicated note:

An English journal having announced that M. Antonio Carlos d' Andrada had arrived from Rio Janeiro, commissioned to invite Don Pedro to return to that city, where, it was said, a party was anxious to receive him, we are authorised to declare this is a fiction, invented to divert Don Pedro from the Regency of Portugal. Brazil is by no means desirous of the return of this Prince, whose abdication was voluntary; and M. d'Andrada would never undertake a mission to recall him, having himself been imprisoned, and afterwards exiled, by the arbitrary decree of Don Pedro, when he dissolved the Constituent Assembly of Brazil, of which M. d'Andrada was one of the most distinguished Members.

The Munich Gazette expresses a hope that the Congress of Toeplitz will restore peace to the world, by setting bounds to the spread of constitutional opinions. After recapitulating the various agitations by which Europe has been disturbed in consequence of revolutions, it points out to the Sovereigns the three principal points which call for their attention and interference;—they are Portugal, Italy, and Spain.

PRUSSIA.

A letter of the 1st inst. from Berlin, gives the following as the principle questions to be discused at the interview between the Emperor of Austria and the King of Prussia:—1. The means of controlling the Constitutional Chambers of Germany without exposing the country to a revolution.—2. The censorship and freedom of the press.—3. The Universities:—4. A treaty on the commerce and custom duties of Prussia.—5. The occupation of Frankfort, and the number of troops that Austria and Prussia are to send as their contingents, without exciting jealousy on either side.—The question of Belgium, so far it relates to Luxembourg and the Germanic Confederation.—7. The question of Poland—but, as Russia is a party interested in this, it is said that Count Orloff, on his return from Constantinople, will be sent to Toeplitz to treat with the two monarchs.

To this series is to be added, whatever the Berlin and Hamburgh papers may say, that the Portuguese question and the treaty to be formed between Austria and Prussia for opposing on the one hand, the Anglo Gallican alliance, and on the other, to guard against the Russian Cabinet, which, notwithstanding the harmony that at present subsists between the Courts of St. Petersburgh, Vienna, and Berlin, gives umbrage to the other two Cabinets. On several of the above questions the King and Emperor entirely accord; these are those which relate to the Constitutional Chambers, to Luxembourg, and Poland, but they are not so with regard to the Universities, to the Customs, or the occupation of Frankfort; and it is in consequence of the difficulties which arise out of these latter questions that the interview has been agreed upon.

Charles X., it is said, has addressed a letter to the Sovereigns assembled at Toeplitz, expressing his surprise at not having been called to the Conference about to be held in that town. He declares that the difference which have occurred between him and his subjects have not made him lose his right of being a member of the Holy Alliance, in conjunction with the Sovereigns, his former allies. The abdication which he signed with his son, in favor of the Duke of Bordeaux, not having been accepted by France, ought to be considered as null and void. He consequently claims the full execution of the guarantees stipulated by the treaty of 1815.—[Temps.]

The Frankfort Journal gives the following extract of a letter of the 30th ult. from St. Petersburgh:—

"Several foreign journals have lately talked of a journey of the Emperor in foreign states, upon political affairs of the highest importance, but we believe that we can confidently assert that there is no foundation for these reports, and that his Majesty will not quit his own diminions."

SPAIN.

MADRID, August 3.—"The King is still in a suffering state, although rather better. For three days he kept his bed, but yesterday he was able to sit up. The Government has received intelligence of Don Carlos having placed himself at the head of Don Miguel's staff. An autograph letter complaining of this act had been addressed by King Ferdinand to his nephew. This letter has only revived the misunderstanding that has existed between our Government and that of Don Miguel, and a rupture between the two Governments appears to be inevitable. In fact, by a second note sent off three days ago to Lisbon, our two Ambassadors have received orders to quit that capital in 24 hours, and they are expected here in three or four days.—Our Gazette has ceased to style Don Miguel King, and no longer designates the troops of Donna Maria by the name of rebels.

MADRID, Aug. 6.--By a royal decree, Don Josef Manuel de Anjona, Minister of the Council, has been appointed Superintendan, General of Police.

SWITZERLAND.

Extract of a letter of the 10th inst. from Geneva:

"The complete pacification of Switzerland may now be considered as very near at hand, thanks to the unexpected energy displayed by the Diet, and its determination to occupy the whole of the cantons of Schwytz and Basle, until the fate of these two states be definitely aettl d. The hypocritical disavowal of the Conference of Schwytz is only a new fact to be added to the history of the intrigues of the Sarnean faction. A revolutionary manifesto was to appear if the attempt of Abyberg succeeded, and papers exciting to insurrection had been circulated in great numbers in the cantons of Lucerne and Berne. The Diet has duly appreciated the act of submission forced from the oligarchs of Schwytz.

In the spring of 1798, as in the autumn of 1822, these primitive Swiss, who boast of loyalty and patriarchal virtues, lulled asleep the vigilance of their enemies by capitulations, which they violated as soon as they felt strong enough to commence hostilities. The massacre of Nidwald, on September 9th, 1789 which became a subject of imprecation against the Directories of France and Switzerland, can be imputed only to the traitors who had misled the prevailing party by a foreign submission, and tore to pieces the act of amnesty. The fear of a foreign intervention appears now to have entirely subsided. The Austrians have hitherto made no movement towards the frontiers of the Tesin and Grisons. The Governor of Neufchattel has lately set out for Cologne, leaving to his faithful allies of Sarnen all the responsibility of the first attempts, in which he would have subsequenly acted a part, in the name of his master, if success had attended the wishes of the Holy Alliance. The Ministers of Austria, Prussia, and Russia, assembled at Baden, have, it is said, addressed a peremptory note to the Diet, which appears to have answered it with dignity as well as energy. The French Ambassador, on the contrary, has expressed a lively interest in the national cause, and much devotedness to the Chiefs of the regenerated cantons. The Canton of Valais has hitherto made no hostile demonstration. On the least indication of treachery, three or four thousand men from the canton of Taud could occupy the country from St. Maurice to Gondo.—We learn from the Basle, that the consternation produced by the events of the 3d and 4th inst. has been followed by general dissatisfaction with the government. M. Burkhard, the burgomaster, has taken refuge on the French territory, in order to escape the popular vengeance. The diet seems to have come to the wise resolution of maintaining an army on foot of 22,000 men, until the country be entirely pacified, and securred against the danger of foreign intervention.

The following is an extract from the Zurich Gazette:

"The Ambassadors of Austria, Prussia, Rnssia, Sardinia, and Bavaria, have arrived here, and made a visit to the President of the Diet, with whom they held a conference, which lasted an hour: they set off again next morning at eight o'clock. The conference did not assume an official character, but these gentlemen expressed great interest in the men of Basle.—They inquired whether, in case of necessity, force would be employed, and received an answer in the affirmative. They complained of the interference of the Poles in favor of the people of Liestal; but it was explained to them, that as the people of Basle were enabled by their money to procure assistance of every description, those of Liestal were entitled to obtain succour wherever they could find it. The Ambassadors talked loudly of the Compact of 1815. They were told in answer, that it was bad, but sufficed to enable Switzerland to assume a respectable position in relation to foreign states. There was no discussion on the subject of Schwytz. The conference terminated with civility, because a tone of vigor was adopted.

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the *present* contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR,
35 Wall street.

New-York, August 14, 1833.

AMERICAN INSTITUTE.

☞ THE Sixth Annual Fair of the American Institute will be held in the city of New-York, at Masonic Hall, on Tuesday the 15th of October next, and continue three days.

Premiums, consisting of Diplomas, or Medals, will be awarded, as usual, for such articles of American production, as shall be adjudged superior either in material or workmanship.

As a new impetus seems to have been lately given to American industry, it is confidently expected that the Fair announced for October next, will present still more decisive evidence of the advancing condition of our agriculture, our manufactures, and the arts, than any of those which have preceded it.

Such ingenious and useful machinery as may be conveniently transported, and put in operation, will give interest and spirit to the occasion.

Each article should be labelled with the name of the manufacturer, or producer, and with the agent's name, and number, in this city.

The design is to inform buyers where they can supply themselves with the best articles In this way, by means of former Fairs, many excellent workmen have become better known and have obtained permanent and profitable customers, who, while they have been better served, have at the same time rewarded and stimulated American skill and industry.

Articles entered for premiums must be delivered as early as Monday, the 14th of October.

More particular notices will be published previous to the Fair. For any other information which may be desired, apply to either of the Managers, in person or by letter.

JAMES LYNCH,
ANDREW WILLIAMS,
EDWARD T. BACKHOUSE,
CLARKSON CROLIUS, Jr.
WM. F. PHYFE,
JOHN SAMPSON,
JOSEPH TITCOMB,
JARED L. MOORE,
GEORGE BACON,
} Managers.

New-York, July 4th, 1833. A29 t13 oct R J

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F3 tf

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely headed to rediness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tf RM&F

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ The Troy Iron and Nail Factory keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y. July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviere, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

J23 1am H. BURDEN.

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new, among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodollte with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad.,
Germant. and Norris. Railroad

m1 1y

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, J31 6t corner of Maidenlane.

FOR SALE,

☞ ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c dedicate to Historical and Natural Sciences, Botany, Agricul ture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols with 100 plates, containing also the economical properties of 500 genera of American plants $3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with figures. 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO, 1 dollar

AMERICAN FLORIST, with 36 figures—price 36 cts.

*** Orders for these works, or any other of Professor Rafinesque's, received at this office. A9 tf J M & F

TO STEAMBOAT COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid. S1 R J M M & F

TO RAILROAD COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years and dispense with trucks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office Apply, post paid. S1 R J M M & F

INCOMBUSTIBLE ARCHITECTURE.

☞ INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIGNIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S1 R J M M & F

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,

No. 264 Elizabeth street, near Bleecker street, New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation. J25 tf

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD. U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25

From Canton.—We are indebted to Captain Bancroft of the ship Boston for Canton papers to the 20th April. They contain some items of interest.

The Chinese report that intelligence has reached Canton, of the king of Cochin-China having despatched a letter to his Imperial Majesty the Emperor of China, to which he has replied, concerning a foreign ship which has appeared upon the coasts of the former potentate, and from which some persons have visited the shore endeavouring through the medium of the Chinese character to establish a commercial connection with the country upon terms of amity and good feeling. This vessel which has been conjectured to be the missing *Sylph*, is more likely to prove the U. S. ship *Peacock*, which left here some time since, as was reported, upon a voyage of the kind, though no official information was given respecting the destination of that vessel. We trust that there is no serious ground for apprehension respecting the Sylph; she may have been detained by a variety of causes of which we here can know nothing: had any serious accident happened to her, the intelligence would no doubt have reached Canton officially, long ore this.

On the 8th Dec. was discovered by the officer in command of H. N. M. schr. "Pollux," a shoal in the Carimata Passage, the middle of which is in lat. 3° 25 30" South, and long. 109° 40 50" East of Greenwich. The extent of this shoal is about 3-4 German miles, lying N. and S. It is supposed to be the same as that placed on some charts as the "Enhuiven Sand."

A new species of portable gun or harquebuss has been invented, which is carried by two men, and which has been found to be very effective in the late rebellion near *Leen chow*; the governor accordingly, approving of the new weapon, orders those now making to be prepared immediately, and the troops instructed in their use without delay.

For those who wish to know "life in China," we add a few more amusing extracts.

A red paper slip published at Canton, contains the following account of "fashionable arrivals," and an announcement of the Imperial condescension towards the Tsung-tuk and Foo-yuen.

The Wan-wae, Lew-tih-chang, having returned from a mission to the court at Peking, brought as presents to the Governor and deputy Governor the word "Happiness" inscribed with the vermilion pencil, i. e. in the Emperor's own hand writing, and portions of deer's and tiger's flesh; in consequence of which all the civil and military officers of the city have sent in their compliments and congratulations.

Literal Translation of an Ink-Maker's Shop-Bill.—At the Shop *Shun-wang*—very good Ink—fine, fine,—Ancient shop—grandfather, father and self make this ink,—fine and hard, very hard,—picked out, very fine and black, before now,—sell very good Ink, prime cost very high. This ink is very heavy,—so is gold. No one makes like it. Others who make ink, make it for money, and to cheat; I only make it for a name. Plenty of gentlemen know my ink. My family never cheats, always bears a good name. I make ink for the "Son of Heaven," and all the mandarins round. All A-kwan-tsae's (gentlemen) must cometo my shop and know my name!

[We have long been in the habit of considering Mr. Warren, of No. 30 Strand, London, and the Lottery Office keepers in America, as the princes of the noble art of "puffing," but have been recently convinced that our friends the Chinese leave them far behind. The following translation of an ink-maker's card, will vie with the most perfect of the celebrated Blacking-manufacturer's tributes to the charms of his "liquid jet."

A Great Cavern Discovered in Ireland.—A correspondent of the Tipperary Free Press, gives an account of a Magnificent Cave, lately discovered near the town of Caher by some workmen employed in quarrying stones. The first indication of the subteranean edifice, was an opening in the rock, about 20 feet from the surface capable of admitting the body of one person. Prompted by curiosity, one of the men entered the opening, and proceeded along a sloping declivity which terminated, at the distance of 40 or 50 feet from the entrance, in an abrupt descent of about 20 feet. Unable to advance further he returned, and having procured a ladder, he, accompanied by two or three of the workmen, proceeded to explore the cavern. Having descended the ladder they proceeded along a passage about 300 yards in length, 40 feet in breadth, and generally between 30 and 40 feet in height, at the termination of which a superb cavern, nearly one mile in circumference, presented itself to their view. This grand cavern seemed to be supported by about 150 crystal columns, varying in height from 30 to 40 feet, and in diameter from 1 to 8 feet. In the middle of this spacious cavern is placed a crystalized petrifaction exactly resembling a table, about seven feet in length and two in breadth, surmounted with crystal candelabras of the most curious construction." The subject would be endless were I to enumerate the variety of surprizing creations which nature has displayed in this subterranean palace. At the distance of 700 or 800 yards, and immediately opposite the entrance, lies another passage, which led them into what they called the lower cave, which is about three-quarters of a mile in circumference, supported, like the former cave, by lofty pillars, and decorated with the most fanciful productions. Having proceeded through this cave they discovered an aperture, which having ascended by a flight of eight steps, a sight presented itself to their view capable of impressing the strongest emotions of surprize and astonishment on the mind of the spectator. It would be useless for me to attempt a description of this astonishing hall, as nothing less than the descriptive powers of a Sir Walter Scott could render it even moderate justice; suffice it to say, that it is about three miles in circumference, supported, like the other caves, with innumerable pillars, and adorned with almost perfect imitations of all that art and nature presents to our view.—However, I cannot forbear remarking that in the centre of this magnificent hall, and depending from its roof, appears a petrifaction resembling the body of a horse, through which, at the distance of fifteen feet from the floor, issues a stream of pure water, which, after forming several evolutions on its crystalized bed, disappears, with hollow murmurings, at the furthest extremity of the hall. Through an opening to the right, in the last-mentioned hall they descended, by a flight of ten or twelve steps, to a cavern called the long cave, which is about one mile and a half in circumference, supported in like manner by superb columns, and adorned with many of the same imitations of nature and art. Amongst the imitations of art is a hollow crystalized petrifaction resembling a drum, which, when struck upon, produces a sound, the reverberation of which will continue for several minutes. Having proceeded thro' the last mentionod cave, they came to a fissure in its right side, which led them into what they called the cellar cave. This cave, unlike the rest, is not supported by pillars, not adorned with those productions of sportive nature for which the others are so highly appreciated; but the spectator is amply compensated for the absence of those ornaments by the view of a deep and river, which urges its subterranean course through the middle of the cave."

Discoveries of this kind, which are not uncommon in this country, many parts of it, like the limestone regions of Pennsylvania and Kentucky, being celebrated for their immense cavernous passages, extending sometimes for many miles in length, and spreading out in their various ramifications to an incredible extent, tend as much as any display of her power to awaken our reverenee for the mysterious operations of Nature. What a singular manifestation of her economy is that which hollows out those subterranean chambers, more vast than any human art can construct, more splendid than any human imagination can devise, which builds far beneath the surface on which we move abodes as bright as those we dream of in other worlds, where new glories of creation are to be revealed to us, and then leaves them tenantless; with no eye to kindle with admiration at the dazzling forms of beauty heaped in prodigal confusion along winding aisles and vaulted avenues that never echo to the voice of praise, with not even an animated creature to share their shelter, or a ray of Heaven's light to smile upon their solitary grandeur! The mud hut of the peasant is reared above their swelling domes, and centuries watch the prouder edifices of a city succeeding, while thousands wander homeless over roofs that might shelter their whole race, dreaming not that all the wealth whose profusion they envy in others, could never purchase a palace or a tomb like that beneath their feet. Decay comes not there. The frail structures, reared by human hands above, perish away from the earth and Time sweeps their very memory to oblivion. But there—grand, solemn, and enduring—there, still as when first shaped out by an Almighty hand, repose those silent temples. The hidden retreats of Nature, when man would pry into all her secrets, and revealed only from time to time, as if to show, that when—the farthest regions of the earth explored—he carries his view to other planets, there are worlds beneath his feet he dreams not of; Teaching him, perhaps, to study further the mysteries of his own being, before he would attempt to resolve those of that One, who is thus glorified in all his works, hidden and manifest.

THE TOMB STONE.

Moss covered stone! in this mysterious ground
I greet thee—sacred to God's hallowed dead—
While Evening's peaceful glories, streaming round,
On thee are shed.

Beside thee hath not sounded, for long years,
The mourning voice of friends,—now mouldering too:
O'er thee, no longer, maids, with pious tears,
Spring's first flowers strew.

Who shall thy slumbering tenant now make known?
A sculptured skull remains, his tomb to grace:
Worn is his epitaph;—by weeds o'ergrown
The name's faint trace.

To thee I fly from life's tumultuous noise,
When Evening o'er the woods her splendor flings:
Altar of hope where bover heavenly joys
On seraph wings.

MARRIAGES.

On Thursday evening, 19th inst., by the Rev. Dr. Berrrian. Smith Lawrence, to Caroline, daughter of Samuel Betts, Esq.

On Tuesday evening, Sept. 24, by the Rev. Dr. Lyell, Mr. John J. Ayman, to Miss Sarah Bass, all of this city.

On Wednesday evening, the 25th inst., by the Rev Dr. McAuley, Courtlandt Van Buren Hasbrook, of the firm of Holmes, Bailey & Co., of this city, to Margaret, daughter of Robert Ainslie.

On Monday, the 23d instant, by the *Rev. J. M. Wainwright*, George C. De Kay, to Janet Halleck, daughter of the late *Dr. Joseph Rodman Drake*. all of this city.

In Owego, on Tuesday, 17th inst., by the Rev. Mr. White, Mr. Joseph S. Bosworth, Esq. of Binghamton, to Miss Frances E., daughter of Charles Pumpelly, Esq.

At Bridgewater, Oneida co., on the 13th inst., by the Rt. Rev. Bishop Onderdonk, John H. Smith, Esq. of Port Hope, Upper Canada, to Miss Augusta L., daughter of Isaac Woodworth. Esq.

DEATHS.

In this city, on the 25th instant, Mrs. Ann R. Collins, consort of Josiah Collins, of Edenton, North Carolina.

Last evening, of consumption, aged 19, Edward A. Firth son of John Firth.

Thursday evening, 19th inst., Julia F., daughter of Walter Jaggar, aged 2 years and 11 months.

Friday morning, Sept. 20th, of a lingering illness, which he bore with christian fortitude and resignation, Mr. David Wreden, in the 34th year of his age.

This morning, Aquila Paca, son of George W. Giles, aged four years.

At Staten Island, on the 17th inst. Mr. James S. Perine, aged 37 years. While he lived he was respected and beloved by all who knew him; and his death is deeply lamented by a numerour circle of friends and acquaintances.

Last night, after a lingering illness, Miss Adeline P. Hart, daughter of the late Peter G. Hart, Esq. of this city.

Last evening, suddenly, James McCrea, in the 41st year of his age.

On the 24th instant, at the residence of his father, in Schenectady, after a very short illness, of Consumption, William Porter Stuart, late of this city, a young gentleman of highly promising talents, universally respected and beloved by his acquaintances and friends; aged 21 years.

At Onondaga, New York, Mr. Edwin K. Sackett, eldest son of the late Samuel Sackett, of Brooklyn, Long Island.

At Albany, on Monday morning, Miss Elizabeth Phelps Sanford, aged 22 years, youngest daughter of Mr. Elihu Sanford, of this city.

In Wales, Erie co., suddenly, on the morning of the 14th inst. Gen. Joseph McClure, aged about 60, Postmaster at Franklinville, Cattaragus county. He was returning from Buffalo, where he had been on business, and while sitting in his chair he suddenly expired.

In Poughkeepsie, on Sunday the 22d instant, Mrs. Sarah Thompson, wife of Hon. Smith Thompson, in the 56th year of her age.

In Ohio, the Rev President Storrs, of Hudson College.—He was a gentleman of great literary and scientific attainments, a scholar and a Christian. He filled the elevated station to which he was called with credit to himself and usefulness to the institution, and his loss will be deplored as a public calamity.

At Orange, N. J. on Sunday afternoon, of apoplexy, the Hon. Isaac Pierson, aged 65 years, late a Representative in Congress from that State.

At Williamstown, Mass., on the 19th inst., Mrs. Catharine, wife of Dr. David Rosseter, of this city.

On the 13th Sept. Mathias Valentine, of Westchester, aged 42 years.

At New Orleans, of yellow fever, on the 1st inst., Robert Waterman, jr.; son of Capt. Robert Waterman, of this city, aged 16 years

At New Orleans, on Sunday morning, Peter Martin, a native of France, but for many years a resident of Detroit.

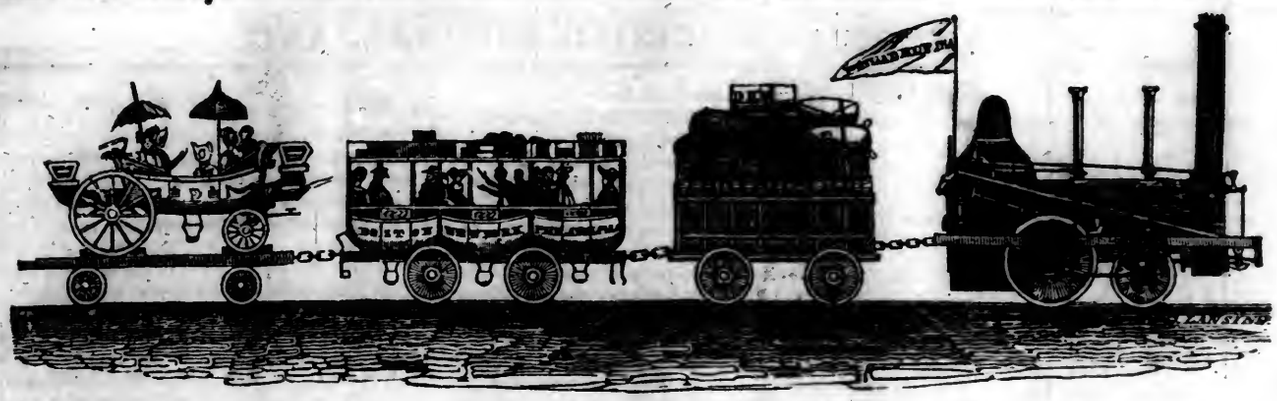
At the same place, on Sunday, Mrs. Caroline Clark, of Boston, aged 30, wife of Wm. Tufts, Esq. of the former place.

At the same place, on the 7th inst. of yellow fever, Franklin M. Fellows, aged about 24, a native of Boston.

At the same place, on the 4th inst. Wm. Lyons, a native of New Jersey.

At the same place on Friday last, in the 30th year of his age, the Rev. Carlise Leiris, Pastor of the Evangelical Protestant Church of that city.

At the same place, on the 8th inst. of yellow fever, Daniel Proctor.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, OCTOBER 5, 1833. [VOLUME II.—No. 40.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER , 1833.

Undulating Railways.—A large portion of the Journal this week is devoted to the subject of Undulating Railways. It has caused a warm discussion in England, and will, no doubt, call out some of our esteemed correspondents. We have neither leisure nor science to discuss it, and, therefore, must rely upon those of our friends who have both at their command.

Having, by experience, felt the want of a more complete Index to the Journal, we have had one made for the *first* volume, and for the *first six months* of the second volume—and for the greater convenience of those who desire to bind the Journal in parts of *six months*, instead of the whole year in one—the index is printed in parts of *six months*, with a *title page* to each. They will be forwarded to all those who are now Subscribers, in the course of the ensuing week. At the close of the year another index and title page, for the second half of the present volume, or from the 1st of July to the 1st of January, will be forwarded with the last number of the volume. This measure has been attended with some expense, but finding that most of our subscribers are desirous to bind and preserve the Journal, we have encountered it for their convenience and our own satisfaction.

☞ *Editors who receive this Journal in exchange, will please discontinue all advertisements of my various publications which they now have in their paper, as I may find it necessary to discontinue it at the close of the present volume. Those who have received subscribers, and not yet remitted the money, will please do so,* by mail, *as early as possible.*

The *increased expenditure*, in consequence of the improved appearance of the Journal since October last, has so greatly exceeded the increase of subscribers, which was anticipated from the measure, that I am *compelled* either *materially* to reduce its *cost of publication,—increase its circulation*, and sale of copies on hand, (*of which I can furnish five hundred complete sets from its commencement*)—or discontinue its publication. The friends *of*, and those interested *in*, Railroads, are certainly the *best* judges of its utility, and of its tendency to promote the cause to which it has been mainly devoted; and, therefore, it will be for them to say whether, *by their aid in extending its circulation, and in the sale of copies now on hand*, it shall be continued longer than the *close of the present* volume—First of January next—or whether it shall be then *discontinued* for want of a sufficient number of subscribers to pay the expense of publishing it.

The sale of *one half* of the copies on hand, with an equal increase of subscribers for the *current and ensuing volumes*, would be ample to secure its *successful continuance*, by enabling me to meet promptly its expenses, and also to derive a small compensation for my own time devoted to it, *which, thus far, has not been the case*—but, on the contrary, it is indebted to me several hundred dollars, in addition to my having superintended its publication without compensation for nearly two years. I would, therefore, observe, that unless the sale of *copies on hand*, and the circulation of the *present* volume should be *considerably* increased *before* the *close* of the year, I shall either change its *form, reduce its size, and discontinue most of my exchanges*, and thereby reduce its expenses of publication, or discontinue it *altogether*, and devote my attention wholly to my *other publications*—which are far more liberally patronized, and from which I derive some compensation for my services.

*** Would it not be well worth the while for each Railroad Company in the United States to order a *few copies* bound, for the use of their Engineers, while engaged in *surveying and constructing* their Railroad! Is it not possible—indeed, is it not *highly probable*—that they might be benefitted in the saving of expense, by some of the numerous suggestions and plans therein published, to *many times* the amount of the *cost* of the *Journal?* In the *survey* of a route which costs thousands—in the *construction* which costs *hundreds* of thousands—or in the completing of a long line of Railroad, with its machinery, engines, freight, and passenger cars, and other numerous appendages, which cost MILLIONS—is it not *almost certain* that some useful information, or hint, would be derived from the "Railroad Journal," which contains more reading upon the subject of *Railroads, Railroad machinery and improvements*, than all the other periodicals in the United States together? There cannot, in my opinion, be a doubt of the advantage they would derive from such a measure. Should those interested in Railroads agree with me in this suggestion, and act accordingly, by giving me orders for the Journal, at *an early period*, so as to increase my list of subscribers to *fifteen hundred* by the close of the year, it will be continued with increased energy and improved appearance.

D. K. Minor.

P. S.—It may not be amiss to say that the expenses of publication have exceeded the receipts from subscribers, in consequence of the publication of a *larger number* of copies than were *subscribed* for—upon expensive paper, and with a heavy cost for engravings—and that the sale of *one half* of those now on hand would place the *balance* on the *other* side of the ledger.

Should it be said that I have "assured the public of its *continuance*," or that "its permanence was established beyond a doubt," &c., I would reply that, from the favor with which it was received, and the assurances given me of aid in its circulation, of that fact *I had not a doubt*—nor do I *now* doubt its permanence—as I trust that the *friends of Railroads and Internal Improvements*—who are also, generally, *its* friends—will make an effort to extend its sale and circulation, so as to place it upon a fair basis. *Three hundred additional* subscribers will insure its continuance.

N. B.—*Should* it be discontinued, or changed in its appearance, at the close of this volume, timely notice will be given, and those who may have paid in *advance of that period*, will receive the balance in money—unless they should be willing to receive the Mechanics' Magazine, and Register of Inventions and Improvements, to the amount then due them.

NEW MOTIVE POWER.—Dr. Ritchie, in one of his recent lectures on electro-magnetism, at the Royal Institution, proved by experiments that by suddenly changing the poles of an electro-magnet, a bar of soft iron might be made to revolve with considerable force about its centre, thus obtaining a prime mover, which may probably be applied to useful purposes.

GRAND JUNCTION RAILWAY.—The act for this railway, which is to unite the Liverpool and Manchester with the Birmingham railway, has passed through both Houses without opposition, and received the royal assent at the same time with the Birmingham Railway Act.

The Undulating Railway. By JUNIUS REDIVIVUS. [From the London Mechanics' Magazine.]

SIR,—Your correspondents, Messrs. Badnall and Cheverton, have fallen on me tooth and nail, on the subject of my letter respecting the *undulating railway*, but neither of them seems to have accurately read the letter in question, and consequently without taking into consideration the fact of the very bare data on which I wrote, they pleasantly enough assume that I ought to have taken another ground of attack. All that I knew of the railway was from a casual hearing that there had appeared a paragraph in the 'omnium gatherum' of the 'leading Journal,' stating that an undulating railway had been invented, whose effect would be utterly to destroy all level railways by its superior utility. The *Athenæum* I have not seen. Feeling interested in the matter, I caused inquiries to be made at the Adelaide Gallery, but lo! the carriage had disappeared, and the inventor had retired to 'Brummagem.' Inquiry was made for a prospectus, and reference was given to Messrs. Sherwood, Gilbert, and Piper. Application was made to that firm, and the reply was, that nothing was known of it. Now, what inference could be drawn under these circumstances, but that the whole thing was a gull? I therefore assumed that the object of the undulating railway was to increase power or diminish friction, in short, to make a given amount of power do more work. Upon this assumption I reasoned, and I have reason to know that the reasoning was to the satisfaction of many persons besides myself, though Messrs. Badnall and Cheverton are not satisfied. I certainly do not purpose entering into the abstruse calculations the former gentleman adverts to in his two questions, and for which I have neither leisure nor inclination. I shall only state generally, that even supposing the total amount of friction to be the same on the curve and on the level, the accumulation of friction which will take place upon one-half of the ascent, will rack, and rapidly destroy either the engine or horses from which the power may be obtained. Neither shall I attempt to calculate the difference of the velocity on the curve and on the horizontal line, but content myself with remarking, that it is only by an increase of power that an increase of speed can be obtained. Does Mr. Badnall purpose using fixed engines on the summit levels to draw the carriages up the ascending curves? Before he puts upon me the onus of setting forth his fallacy, it would be but fair that he should give your readers an opportunity of knowing what it is that he really proposes to do, and wherein the advantage consists of the undulating surface over the level. I have taken some pains to acquire the information, but have not succeeded. You have been in the same predicament, and have evidently drawn the same conclusions as myself. Mr. Badnall seems sore with me: I regret it; I did not wish to hurt his feelings. I spoke of the railway, not with reference to persons, but to things. And my incredulity may certainly be excused, when it is considered that want of sufficient explanation, on the part of Mr. Badnall, has left me as well as others in the dark. I really should not be the last to hail with joy such a triumph of mind over matter as Mr. B. proposes, but I should like first to see it fairly made out beyond dispute.

Mr. Cheverton begins his letter by deprecating any intention of giving offence. It was needless—I am but a shadow, and as void of taking, as of intentionally giving offence, having no object in putting forth my ideas, such as they are, save the eliciting of truth, by which result I as well as others may hope to benefit. I say to all, strike and spare not, and, whenever culpable, I will bow to the chastening rod. Had I been an offence-taker, Mr. C. has certainly hit upon the best mode of provoking it. He calls me a 'clever writer.' I had rather he called me a fool, since the latter may be an honest man, whereas the former commonly means a man who can argue like the 'lawyer' Mr. C. alludes to, on any side of a question, without caring for the truth. I may be an 'unpractised thinker,' of which allegation I leave your readers to judge, but I assuredly am not 'a writer,' in the literary meaning of the term; and as for cleverness, I should be sorry to have it proven upon me, as being the direct opposite to either wisdom or honesty.

With regard to the general effect of the railway in question, Mr. C. seems to hold the same incredulity as myself, though he would seem to know something more of the details than I do. How he came by his knowledge I cannot divine, inasmuch as he says, specifically, 'I cannot enter upon this point, as I have not investigated nor even seen the experiments.' Taking this acknowledgment into consideration, he would seem to speak with over confidence as to the '*facts*' of the experiments. I will not say, with his friend the engineer, that 'though I should see it I would not believe it,' but were I to see it, I should be suspicious of a trick in the first instance, and in the next, when satisfied that the thing was actually a fact, I should be disposed to think that the age of miracles had returned, and that the laws of nature were in one especial instance subverted. Mr. C. would seem to be rather 'superficial,' in expecting me to reason without data; and that I had no more data than yourself to go upon, I have already set forth. I could not set forth a fallacy, which had not been presented to me for examination.

With regard to the scheme of locomotion from summit to summit, by means of the pendulum, I shall not reason upon it as a mathematical proposition, but as a practical matter. A carriage, say of one ton weight, exclusive of wheels and axles, will require a certain power to draw it along a given level. This carriage would be upon four axles of the smallest diameter consistent with security. If it were taken off the four axles, and slung upon one axle, it would be found in practice that the single axle would require to possess four times the strength of each of the four, and the friction upon the increased diameter would consequently be in the same proportion. More than this, the suspending-bars would be no slight addition to the total weight, and something extra must be allowed to the single axle on that accounnt. Therefore, taking into consideration the friction of the axle, slow though the motion be round the axle, the resistance of the air, the power required to move the carriage along the 'short roads,' the hanging and unhanging, the increased distance between the curve and the level, and the extra weight, I should say at once that the process would be less economical than that of the four-wheeled carriage on the level. There is no need of mathematical calculation to come to this result, and I cannot conceive the use of propounding abstruse mathematical calculation in a matter which, it is self-evident, can turn to no useful account. Mr. Cheverton will not set about pendulum locomotion in earnest, when he takes into consideration the expense of the lofty pillars required for the points of suspension, for the world is not yet ridged up into equal distances like a ploughed field. As for 'the proposition that all hindrance is provided against,' it is nothing more than a proposition that all friction shall be voted a bore; but so long as the bore continues to exist, so long will the pendulum locomotion remain an unprofitable speculation. When it shall be overcome, the only difficulty will be to chain up locomotive machines, to prevent them from doing damage by the exercise of their ruling passion—to move. Mr. C. asks me to show 'how and where the diminution of friction at any place or places along the curve would be compensated by an excess of friction in others.' The exact 'where,' I shall not attempt to shew; that it is so, I will endeavor to illustrate in a familiar manner. Let Mr. C. take a common carpenter's saw from the mould-loft, and screw it in a vice with the edge uppermost, parallel to the horizon; then let him traverse a roller along it in both directions, and he will find that the amount of friction will be considerably more from point to heel than from heel to point. The reason of this probably is, though I do not pronounce confidently, that the elasticity, both of the roller and the saw, exerts a greater force to overcome the friction in the latter case than in the former. The opposing points, in the former case, deaden the elasticity, and leave the friction to exert its whole force. Now, in running a carriage down hill, there is a very considerable quantity of elasticity brought into play; in some cases the friction is nearly all removed by the carriage actually bounding in the air, a fact which, as I have before remarked, caused, as I have been informed, the application of steel springs to coal-waggons. But after the carriage has descended with the velocity increased by the elasticity, it serves to impinge it with the greater force against the opposing points of the ascending curve, and the momentum is accordingly expended more rapidly than it was accumulated. As the ascent increases the friction increases also, and it is aided by the centre of gravity increasing its distance *behind* the point of contact. To state the matter shortly, the carriage runs down hill because the centre of gravity is *before* the points of contact; it will not run up hill, because the centre of gravity is *behind* the point of contact; and the elasticity which aids the downward momentum is absorbed on the ascent, in a ratio quicker than that of its generation, while no fresh elasticity can be generated, for the carriage in its ascent adheres closely to the track on which it moves. How Mr. Badnall purposes to apply his moving power I know not, but I apprehend that a steam-engine is not by any means improved by going at a very irregular pace; going down hill, scarcely any power would be needed—going up hill, an enormous power would be needed; and that horses are not the better for being unequally worked was sufficiently proved by the fact of the large expenditure of capital on the Highgate Archway.

Mr. Cheverton thinks it marvellous that carriage-builders should not be aware of the fact, that 'a plate of iron was stiffer placed on its edge than when flat.' Whether they are aware of the fact or not I do not pretend to pronounce. That it *is* a fact that some of them use their plates in an unscientific manner, he cannot doubt, when two of the guild, 'Phæton,' and 'A Carriage-maker,' have held differing opinions on it in the pages of your Magazine. Mr. C. is witty on my proposition to ballast carriages as ships are ballasted, yet wherein it is ridiculous I am at a loss to divine. He would scarcely propose to save weight in the use of the ship, by omitting the ballast altogether. This would be like the ape in the story, who

> 'To try conclusions, in the basket crept,
> And broke his own neck down.'

In the case of the carriage, the proposition was not the saving of weight, but the adjustment of the springs to the necessary tension for either one or more persons, and solely with a view to the greatest comfort of the riders. If it were merely desired to save weight, the springs should have been altogether omitted. If it be desired to procure the most perfect state of elasticity, conducing to the comfort of the

riders, I should feel obliged if Mr. C. would point out any better mode than the one I have proposed. The better to illustrate what he has conceived the absurdity of my proposition, Mr. C. has introduced the story of the Spanish mule; but it has proved a failure, and has served to evidence two things against himself: first, that he has not studied the philosophy of mule loading; and, next, that he is guilty of the 'unpractised thinking' with which he charges me. Had the spirit of Mr. C. ever inhabited the body of a mule, after the fashion of the transmigration doctrine, or had he served any time as an *arriero*, he would know that the most essential thing to the orderly travelling of a loaded mule is, that the cargo should be as nearly equal in *weight* and *bulk* as possible, on either side the pack-saddle. A good mule will carry four hundred pounds weight, two hundred on a side. Now, were two hundred and fifty placed on one side and two hundred on the other, and the mule could speak, like Balaam's ass, he or she would say to Mr. Cheverton, supposing him to be the muleteer, 'Be so good as either to take away the odd fifty from my right side, or if that cannot be done, as the next best thing, add another fifty to the left side, because the heat of the pack-saddle and the cloths beneath it has stewed my hide almost to a jelly, and the unequal strain across my back-bone will burst it when the cargo begins to jolt.' Now, with an inanimate cargo there is sometimes a chance of reduction; but as Mr. C. laughs at the muleteer's plan in the case of the live cargo, he is bound to show what better plan he would have adopted, or forfeit his reputation as an engineer skilled in resources. Would he have eschewed the 'load of stones,' and then have gravely purposed to pare away the superfluous weight from the biggest traveller, after the Procrustean recipe? I suspect that the Andalusian knife, or the four-square blade of the *matador*, would have been brought forward in arrest of judgment. There is a saying amongst the mountain muleteers of some parts of Southern America, *La mula sabe raciocinar mejor que algunos Christianos.* The mule knows how to reason better than some Christians.

With regard to the repeating air-gun I proposed, Mr. C. has taken 'an incomplete and superficial view' of my letter. If he reads it again, he may discover that there was no proposition therein to 'multiply power by complication,' but simply the substitution of compressed air, which would not destroy the gun, instead of the steam and intense fire which does destroy the gun. The power is to be communicated to the air by means of the steam, because the steam itself cannot well be applied. *Voila tout!* Really Mr. C. would seem to be an 'unpractised thinker.' Ere he so triumphantly quoted my words, to the intent of my 'mere confusion,' as *Cloten* says in the play, it surely would have been but a very small portion of wisdom to endeavor to understand the tendency of the air-gun letter, notwithstanding the obscurity of my mode of writing.

Mr. C., at the conclusion of his letter, again hopes that his 'observations will be taken in good part.' They are so, and replied to in the same spirit, and I have to thank him in addition for having thus given me an opportunity to explain myself more fully.

I am, sir, yours, &c.

JUNIUS REDIVIVUS.

April 22, 1833.

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*Mr. Badnall's Treatise on Railway Improvements, and in particular the Undulating Railway.** [From the London Mechanics' Magazine.]

The principal subject of the treatise before us is introduced by a preliminary exposition of the advantages of railway conveyance, and an examination of the obstacles to their immediate general establishment. Among these obstacles, the "difficulty of ascending inclined planes by locomotive power" occupies a foremost place. The employment of "stationary engines," or "locomotive engines with cog-wheels," to overcome this difficulty, is briefly adverted to, but justly pronounced to be attended "with serious if not insuperable inconveniences." Mr. Badnall's attention having been "particularly directed" to the discovery of some better remedy, the idea at length occurred to him that a sufficient power might be gained by the descent of a body down one inclined plane, to compensate for the opposition from gravity in ascending another; and if so, that a railway uniformly constructed in such an up and down, or undulating plan, might be economically substituted for the partly horizontal and partly inclined railways at present in use.

"The improvement occurred to me on the 7th of June, 1832. The impressions on my mind, before the trial of any experiments, were, that by an undulating railway a greater resistance would be opposed to the power of steam, or any other locomotive power, than upon a level railway; but that much would be gained by the power of gravity, multiplied by active power, down a descent; and that, consequently, a locomotive engine of any given power would travel at a greater speed, or drag a greater weight, than upon a horizontal railway. I was also of opinion that the increased resistance or fulcrum, offered by the descending part of each curve, and the advantage gained by the power of gravity multiplied by active power, would be sufficiently great to render locomotive engines more effective than they have at present proved to be upon inclined planes."—p. 31.

Mr. Badnall, after some explanatory remarks on the subject of friction and gravity, proceeds to describe the different experiments which have, in his opinion, fully established the soundness of these his preconceived opinions. Some of the more striking of these we shall here lay before our readers.

"I ordered a small engine to be manufactured, on clock-work principles, with a strong spring in a barrel, and a fusee sufficiently large to admit of travelling the length of 50 or 60 feet, being also particularly anxious that the power of the spring should be sufficient to overcome the pressure of the engine wheels on the plane, when kept from progressing. Wishing to try these experiments as privately as possible, during the time which the manufacture of the engine occupied, I was engaged at Douglass, in the Isle of Man, in superintending the making of two railways, the one curved, the other horizontal. These were each 32 feet in length (the length of the most spacious room I could find unoccupied); the length of the ascent and descent of each curve, or undulation, was *one foot*, and the height and depth of each curve from the centre was half an inch, or one inch from the summit of the convex to the base of the concave of the curve. I had also ordered a small carriage to be made, to be attached to the engine, when necessary, and to run upon four wheels of the same diameter as the wheels of the engine.

"On the 23d July I received the engine and carriage from Liverpool; their weights were as follows—Weight of engine, 9 lbs. 6 oz.: weight of carriage, 3 lbs. 10 oz.: diameter of wheels, 3 inches: width of the periphery of the wheels, $\frac{3}{4}$ of an inch.

"On trying the strength of the spring, I was sorry to observe that it was not sufficient, when I placed the carriage on a smooth surface and prevented its progression, to turn the wheels; that is, it had not power, as I wished it to have, to overcome the adhesion, or friction, between the wheels of the carriage and the surface of the plane.

"I, however, resolved to try a series of experiments with it, and afterwards to return it to Liverpool, to have a stronger spring attached to it.

"Accordingly, I had the railways placed firmly down, and upon as exact a level as circumstances would permit. The distance between the lines on each railway was eight inches; the width at the surface of the rails was half an inch; the distance between the wheels of the engine governed, of course, the width between the lines; and care was taken to give the carriages sufficient play to prevent them being bound by friction against the sides of the rails.

"Having ascertained that both railways were level, the spring was wound up, by drawing the engine backwards from the end of the line to the commencement. It was started without any weight attached, and the following was the result: Curved railway, 6 seconds; horizontal railway, 7 seconds.

"I then placed 7 lbs. weight upon the engine itself, which had a platform for such purpose: the result was, curved railway, 8 seconds; horizontal railway, 9 seconds.

"I then attached the small carriage to the engine, and, without load, I found the speed of travelling along either line was in the same proportion as before.

"I then tried various weights in the carriage, and invariably found a decided advantage in the curved railway. This advantage was, however, more evident in the following experiments: With 17 lbs. weight in the carriage, from north to south, curved railway, 15½ seconds; horizontal railway, 20½ seconds. From south to north, curved railway, 17 seconds; horizontal railway, 22½ seconds.

"Now, omitting the half-seconds, and taking the averages, the difference of space which the engine would have travelled over on the curve, in the time required to travel 32 feet on the horizontal plane, is as follows—16 : 32 : : 21 : 42 feet; shewing a difference of nearly one-third in the speed.

"Thinking it probable that, by the variation in the time occupied in traversing the lines from different sides of the room, that they might not be perfectly level, I had them again examined and adjusted with particular caution; after which, on again trying with the same weight, viz. 17 lbs., the result was as follows: From north to south, and south to north, on the curve, 16 seconds; on the level, 22 seconds.

"This last experiment was repeately tried, and without any distinct variation; the time was ascertained by a second-hand watch, and carefully noted by Mr. J. L. Gardener, of Manchester, who witnessed the experiments, as well as myself.

"Although I perceived that 17 lbs. was as great a weight as the engine could well convey upon the horizontal railway, I was anxious to try the result of greater, and increased the load to 22 lbs. The result was, from north to south, on the curve, 17 seconds; on the horizontal line, 30 seconds. From south to north, on the curve, 18 seconds; on the horizontal, 28 seconds.

"It was here quite obvious, that the curve produced a far more decided advantage; and this advantage was evident at starting; as, on the horizontal road, the engine moved very slowly at first, and traversed 12 or 13 feet before it attained its average speed, whereas, upon the curved line, its motion was apparently regular throughout.

"Although these experiments were in every point of view so satisfactory in regard to speed, I was surprized to find that the advantage was not so great as I anticipated in regard to the difference of load the engine was capable of dragging on the two lines. I, however, clearly proved that we could convey a much greater weight upon the curve line than upon the plane; for when the engine would not move at all upon the horizontal road, it would travel without difficulty upon the curve; and it is extraordinary, that in conveying any weight from 15 lbs. upwards on the latter, the time occupied in doing so varied in a very trifling degree.

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* A Treatise on Railway Improvements, explanatory of the chief Difficulties and Inconveniences which at present attend the General Adoption of Railways, and the means by which these objections may be overcome; as proved by a Series of Interesting Experiments, &c. By RICHARD BADNALL, Esq. 142 pp. 8vo. Sherwood & Co.

"The same comparative results took place upon an inclined plane of 1 in 144."

A second undulating railway having been constructed, with a curve of five feet ascent and descent, and two inches in depth, and some alterations having been made in the engine, which made it both stronger and lighter, the following additional experiments were made:

	Number of Seconds. Horiz. pl.	1 ft curv.	5 ft curv.
Engine alone, weighing 9 lbs. 4 oz. and the hind and fore wheels 5-16 inches apart, - - -	5	4	3½
Do. and carriage, weighing together 12 lbs. 14 oz. - - -	5½	4½	4
Do. with 5 lbs. in carriage, -	6¾	5½	4¾
Do. with 10 do. do. - -	8¾	6¾	5¾
Do. with 15 do. do. - -	9¾	7	6
Do. with 20 do. do. - -	15¾	8¾	7¼
Do. with 25 do. do. - -	18	11	9
Do. with 30 do. do. - -	30 scarcely could go	14	11
Do. with 35 do. do. -	could not go	18	12
Do. with 40 do. do. -	- - - - -		13
Do. with 45 do. do. -	- - - - -		15

After repeatedly trying these experiments, and always obtaining the same results, Mr. Badnall had another railway constructed with *short* ascents and *long* descents:

"The length of each descent being 8 feet; the length of each ascent 2 feet; and the whole line being thirty-two feet. It consisted of three descents and three ascents, and a platform of one foot at each extremity, the tops of which were on an exact level with the summits of each ascent; the depth of descent at the lowest point being two inches from the highest rise, as in the railway whose curves were five feet. It is necessary to remark, that the descents in this railway, except about a foot from their lowest points, were regular inclined planes, curving off at the bottom, to render the ascents more regular, which ascents were also curved."

The following table exhibits the results of this modification of the undulating principle:

	Number of Seconds. On the perfect level. Horizontal plane.	5 ft curve.	Long and short curv.	Weights.	Inclination 1 in 42½. Horizontal plane.	5 ft curve.	Long and short curv.
Engine alone	5	3¾	4		6¾	5½	5½
Do. & carriage	5½	4	5	lbs.	7¼	6	6
Do. with 5 lbs.	6¾	4¼	6	1	8¼	6¾	6¼
Do. 10 "	8¼	5¼	7	2	9¼	7	7
Do. 15 "	9¾	6	7¼	3	11	7¾	7½
Do. 20 "	13¼	7¼	8	4	12	8¼	7¾
Do. 25 "	18	9	8¼	5	13¾	8¾	8
Do. 30 "	33	11	9	6	16¾	9¼	8¼
Do. 35 "	-	12	10	7	22	10	9¼
Do. 40 "	-	13	11	8	30	12	9¼
Do. 45 "	-	15	12	9	-	14	10¼
Do. 56 "	-	-	14	10	-	-	11
Do. 58 "	-	-	14¼	11	-	-	12
Do. 59 "	-	-	14¾	12	-	-	13
Do. 60 "	gr't difficulty		16	13	-	-	15¼
				13½	-	-	16

Mr. Badnall states, that on trying the engine on this long and short curved railway, *the reverse way*, that is, by causing it to descend the short curve first, "the result was found to be the same."

It was observed in the course of the preceding experiments, that when heavy loads were passed over the railways, a considerable degree of vibration was occasioned. To get rid of this possible source of error, the different railways were next nailed firmly down upon three inch planks, and the following experiments made in the presence of Mr. Gill, of Manchester, one of the directors of the contemplated Manchester and Leeds Railway:

On a perfect level:

	Number of Seconds. Horizontal plane.	5 ft curve, rise 1 in.	Irregular curve, rise 2 in.
Engine and carriage, without load,	5½	4¾	4¾
Do. do with 5 lbs.	6¾	6	6
Do. do. 10 "	8¼	6¾	6¾
Do. do. 15 "	9¾	7¾	7½
Do. do. 20 "	11¼	8¼	7¾
Do. do. 25 "	13¾	9¾	8¼
Do. do. 30 "	15¼	10	9
Do. do.	32¼ "	18½	10½	9½
Do. do.	35 "	20	11	10½
Do. do.	37½ "	21½	11½	10½
Do. do.	40 "	23½	12	10¾
Do. do.	42½ "	29	12½	12
Do. do.	45 "	-	13¼	12½
Do. do.	50 "	-	16	12¾
Do. do.	55 "	-	19	17

Up an inclination of 1 in 96:

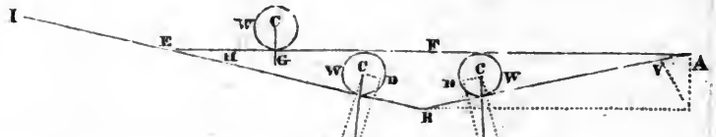
Engine and carriage, without load,	5½	4¾	4¾
Do. do with 2½ lbs.	6¾	5¼	5½
Do. do. 5 "	7¾	6	6
Do. do 7½ "	8¾	6¾	6½
Do. do 10 "	9	7¼	7
Do. do. 12½ "	11	8	7¼
Do. do. 15 "	12¼	8¾	8
Do. do. 17½ "	14	9¼	9
Do. do. 20 "	15¾	11	10¼
Do. do. 22½ "	19	12	11
Do. do. 24 "	27	12¾	12
Do. do. 25 "	would not go	13	13
Do. do. 27½ "	-	16¼	16
Do. do. 29 "	-	18¾	17

It will be observed, that the degree of speed on all the railways is much greater in these experiments than in any of those before recited. Mr. B. accounts for this by stating, that "the cord upon the spring-barrel having broken, he was compelled to re-attach it, and regulate the power of the spring accordingly." Another circumstance that will strike the reader is, that, in the experiments before made, 30 lbs. was the utmost load which could be conveyed on the horizontal railway, while in the last set of experiments 42½ lbs. were conveyed. This difference Mr. B. attributes partly "to the renewed strengtho f the spring," and partly "to the freedom from vibration," obtained by making fast the railways to the three inch planks. A still more remarkable discrepancy, however, is that exhibited by the two curved railways in regard to speed, in the different sets of experiments. In the first trial, for example, made with the long and short curved railway on a level, the rates of speed with all weights under 20 lbs. were less, by 1" and 1½", than on the five feet curved railway; while in the last quoted experiments there was scarcely any perceptible difference. In the case of all weights, again, above 20 lbs., the advantage was, in the former experiments, on the side of the long and short curve railway, to the extent in some instances, of 3", while in the latter the advantage rarely exceeded 1", and in some instances only half a second. Mr. Badnall admits that these differences are not so susceptible as the others of explanation. "I confess myself in difficulty, and can only account for it by the difference in the vibration of the two railways, or some inaccuracy in levelling, especially as the depth of each curve was similar."

Be the difference, however, as it may, between the two sorts of curved railways, Mr. B. thinks he is entitled to rest satisfied with the fact, that they have both, "whether upon the level or inclines, invariably proved an unquestionable and decided superiority over the horizontal railway." He estimates this superiority as being equal to a saving of one half in point of time, and a gain of twice the power in respect of weight.

Mr. Badnall's theoretical explanation of the advantage thus gained is as follows:

"Suppose the line E A to be a horizontal railway,—A B to be a descending one,—and B E an ascending one, on which are placed the three wheels, W W W.



"1. Now, the amount of friction produced by the pressure of the wheel W on the plane E A, is in exact proportion to its weight, or to the weight of any vehicle which rests upon it; and upon such weight also depends the amount of attrition produced by the revolution of the the axle within the nave or cylinder in which it moves.

"The reason why the amount of friction, or attrition, is proportionate to the weight of the vehicle, is because (supposing C to be the axle or centre of the wheel) the perpendicular line C G is the line of gravity.

"On a horizontal railway, therefore, the amount of pressure upon the rails, and the amount of axle and rolling friction produced by that pressure, are in exact accordance with, and altogether dependent upon, the weight of the carriages and load; and when locomotive power is employed to overcome this pressure and friction, and when a maximum velocity is attained, such velocity (the power being kept up) is uniform through spaces and times, and such pressure or friction is an *uniformly opposing power*. Moreover, as before frequently observed, the amount of load which any locomotive engine will convey is in exact accordance with the amount of its pressure upon the rails and axles; or, in other words, with the axle and rolling friction.

"2. Let us now suppose the wheel W to be traversing from A to B. From the point A, it is evident that a body would fall to T, according to the laws of bodies falling perpendicularly; and if upon the line A B we draw the perpendicular line V T, a body would descend by gravity down the plane from A to V, in the same time as it would fall, perpendicularly, from A to T; and the power of gravity, which enables it to do this, acting *equally* (practically speaking) throughout the whole descent from A to B, would produce *an uniformly accelerated motion;* in consequence of which, on the arrival of the carriage at the point B, the velocity would (allowing for the difference of friction) be mathematically equal to what it would be at the point T, had it fallen perpendicularly from A to that point. Now, the extent of the power of gravity, or cause of the wheel W descending down the incline A B, will be easily comprehended by reference to the parallelogram D C P G; where the diagonal, C G, is the line of gravity, C P the line representing the amount of pressure on the rail, and C D the line of motion; that is, the line or power of gravity, C G, instead of acting perpendicularly, and with full intensity, on the rail, as on the line E A, becomes divided into two separate and distinct powers, viz. C D and C P; the latter, if I may so express myself, endeavoring to stop the progress of the wheel, and the former employing every effort to urge it forward; and as C D is to C P, so is the one power exactly to the other—and thus, if the carriage or wheel W weigh five tons, and if C D be one-fifth of the power or force, C P, the pressure upon the rails is reduced from five tons to four tons; and *not only reduced*, but the amount of power thus saved is actively employed in opposing the resistance offered by C P.

"Such would be the *commencement* of the progress of a carriage descending the incline A B by its own gravity, until, as before observed, on arriving at B, it would attain the same velocity as it would have attained at T, had it fallen perpendicularly from A to T; and if locomotive power were constantly employed to assist this force of gravity, the progress of a body down the descent would be the result of these united powers; the motion would be *uniformly accelerated*, and although the velocity would be increased in proportion to the increased power employed, yet the descent would be in proportionate accordance with the laws of falling bodies, both as to spaces and times.

"3. But we will now suppose the same carriage, W, to be propelled from a state of rest at B, to the position on the incline B E, described in the diagram. The angle F E B being equal to the angle F A B, and the line of gravity, C G, being drawn, the parallelogram C D G P is exactly equal to that described on the descending plane; consequently, C P is the line representing the amount of pressure on the rails, and C D the line of power opposing such pressure; from which it is evident that, unless prevented by some greater power than C D, the carriage would roll back to B, but if opposed by any regular and greater power, which we will call locomotive power, the carriage would rise gradually up the plane B E, with uniform velocity, and through equal spaces in equal times; for the power C D, which is a portion of the force of gravity represented by C G, *being opposed by a greater power* than itself, does not in this case act as *an uniformly retarding power*, but as *an uniformly opposing power*. It will also be seen that, throughout the ascent, the pressure upon the rails, and, consequently, the amount of friction, is precisely the same as it was down the descent A B, viz. as much less than it was on the horizontal E A, as the line C D to D G.

"4. But to prove the advantage to be derived by an undulating railway, we must not allow the carriage to stop at B; we will therefore suppose it to travel as far as it is able, by gravity alone, along the undulated line A B E.

"Now, as before observed, it would descend from A to B, according to the laws of falling bodies, at which point it will have attained its greatest speed, and, consequently, its greatest momentum, and it is evident that it will rise the ascent B E, as long as the force of momentum is greater than the force C D; but the instant such force of momentum, which in this case is *an uniform retarding force*, becomes less than the force C D, the latter would effectually operate, and the carriage W would roll back, and finally settle at the point B.

"Supposing, however, that the momentum gained by the descent to B be sufficient to advance the carriage as far up the ascent as the point H,—it is evident that, could sufficient power be *then* employed to overcome C D, the ascent H E would be made in much less time, with fewer revolutions of the wheels and axles, and with much less expense of power, than it would require to move up the whole ascent B E, as stated in position 3.

"We will now suppose that an assistant power, equal to the available power C D, be employed to propel the carriage W along the undulation A B E, and that such power were withdrawn at the point B,—it becomes evident that, as *gravity alone* enabled the carriage to rise the ascent as far as H, which is more than one-half of the whole ascent, now that double power is employed, double momentum at the point B will be the result; and the power C D will thus effectually be opposed up the whole ascent B E. If this be true, how much more effectually will the power C D be counteracted if the assistant power be continued up the whole ascent B E!

"From this reasoning, it appears to me indisputable, as decidedly proved by experiment, that not only can a given load be conveyed along a curved line in *very much less time* than upon a horizontal plane, or *a very much greater weight* in the same time, but that loads which no locomotive power could move on the horizontal plane E A, would, impelled by gravity, assisted by other active power, descend down A B, and rise the ascent B E with facility; and it will be also evident, that whatever power may be left on arriving at the point E, will be the power of ascending the further incline E I; to which surplus must of course be added the continued active power employed to oppose C D.

"5. It must be remarked, that although the disposable *power* of gravity in opposition to pressure is only as C D to C P, yet this is no criterion of the extent of advantage gained in speed; in fact, C D may as properly be stated to represent the saving in friction. In whatever light, however, it may be viewed, C D represents a *constant* and *equal* power throughout the whole descent; but the spaces passed over down that descent, in consequence of such power, are *not* equal in equal times, but, owing to accelerated velocity, as the squares of the times Supposing, for instance, A V to be 10 yards, and the carriage was one second in reaching V, and allow the same space to be travelled over on the horizontal plane in the same time, at maximum velocity,—now, on the latter, the carriage would travel 30 yards in 3 seconds; but down A B it would travel 90 yards in 3 seconds; because $3 \times 3 \times 10 = 90$; and this velocity, although retarding up the ascent, if assisted by an equal power to that employed on the horizontal plane, would be so kept up as to arrive at a given distance in far less time than it could be done with an average load on the horizontal plane. Supposing, for instance, the horizontal line E A were 175 yards long, the descent A B 90 yards, and the ascent B E 90 yards, making the undulating line 180 yards, and that locomotive power were employed sufficient to overcome the friction and the resistance of the atmosphere on both lines, and to move a carriage along E A at maximum velocity, 10 yards per second, it is obvious, that the time required to travel from E to A would be seventeen and a half seconds, because $\frac{175}{10} = 17\frac{1}{2}$.

"Let us now apply the same power to the same carriage travelling along the undulation A B E, and take 10 yards as the space travelled over in the first second down the descent A B, it is obvious that it would reach the point B, or, in other words, traverse the 90 yards represented by A B in 3 seconds; because, according to the laws of descending bodies, $3 \times 3 \times 10 = 90$. This being admitted, and even presuming that the power employed upon the ascending part of the undulation, were *only just* sufficient to *overcome* the friction and resistance of the atmosphere, the carriage would naturally, as proved by the action of the pendulum, rise the ascent B E in the precise time it occupied in traversing from A to B. Hence, if a given power be employed, sufficient to overcome the friction and resistance of the atmosphere, and to impel a load 10 yards in the first second, upon an undulating line, such as A B E, 180 yards in length, the whole distance, if the power be constantly kept up, will be traversed in *less* than six seconds; whereas, if a given power be employed sufficient to overcome the friction and resistance of atmosphere, and to impel a load 10 yards in the first second of time, *at maximum velocity*, upon a horizontal line, such as E A, 175 yards in length, the whole distance cannot be traversed in less time than 17½ seconds. Thus, if we ascertain the maximum velocity at which a body can be impelled upon a horizontal line *in the first* second, and down the descending part of a given curve in the first second, such power being sufficient to overcome friction in both cases, the comparative time occupied in traversing each distance is easily determinable: the difference in advantage varying in proportion to the length and depth of undulation, as compared with the length of the horizontal line. Nor must it be overlooked, in considering this subject, that a much greater load can be conveyed along an undulating line than along a horizontal one. The axle and rolling friction to be overcome is necessarily less upon the former than upon the latter, and the fulcrum presented to the effective power of steam, down the descending part of each undulation, is a most important object of advantage. It will be seen, that in this explanation I have calculated the velocity of a body traversing a curve, according to the laws which would govern its descent down a regular inclined plane; there would of course be some difference, but in this instance it cannot be material to describe it."

In an appendix to the treatise, two letters are given from *Mr. Robert Stephenson, senior*, to Mr. Badnall, in which *Mr. S. fully admits the superiority of the undulating railway over the horizontal one*, and is at some pains to account for it on practical grounds. He concludes with expressing an opinion, that it "will require even a longer railway than the Liverpool and Manchester one, to prove the extent of its value."

To the Editor of the New York American:

Sir—I have heard gentlemen, who are unacquainted with Macadamized roads, say that they can*not* be, with propriety or economy, substituted for Paved streets. Being a young and modest man, as well as almost a stranger in this city, I do not desire to put myself in opposition to gentlemen of so much intelligence and character, but with your permission I will quote the language of one of the most experienced *road-makers* now living, who, by the by, was also once a resident of this city, and may therefore perhaps be the more entitled to credit—I refer, Sir, to John Loudon McAdams Esq. of Bristol in England. In reply to the question "have you in any instance tried the experiment of converting paved streets into roads?" put by one of the committee of the House of Commons, appointed to collect information upon the subject of road making—he said "I have in several instances taken up small pieces of pavement which I found upon the several road trusts, and substituted road. What has been the effect of the conversion of the pavement into roads? Answer. The expense has considerably diminished and the facility of travelling very considerably increased." He further says in relation to the mode of constructing roads, "the true principle of road-making is that the *road* should be considered as *an artificial flooring*, forming a strong smooth and solid surface, capable of carrying great weight, without obstruction to the wheels."—The road is to be made of *broken stone* without mixture of *earth, clay, chalk, or any other matter* which will *imbibe water, or* be *affected by frost*.

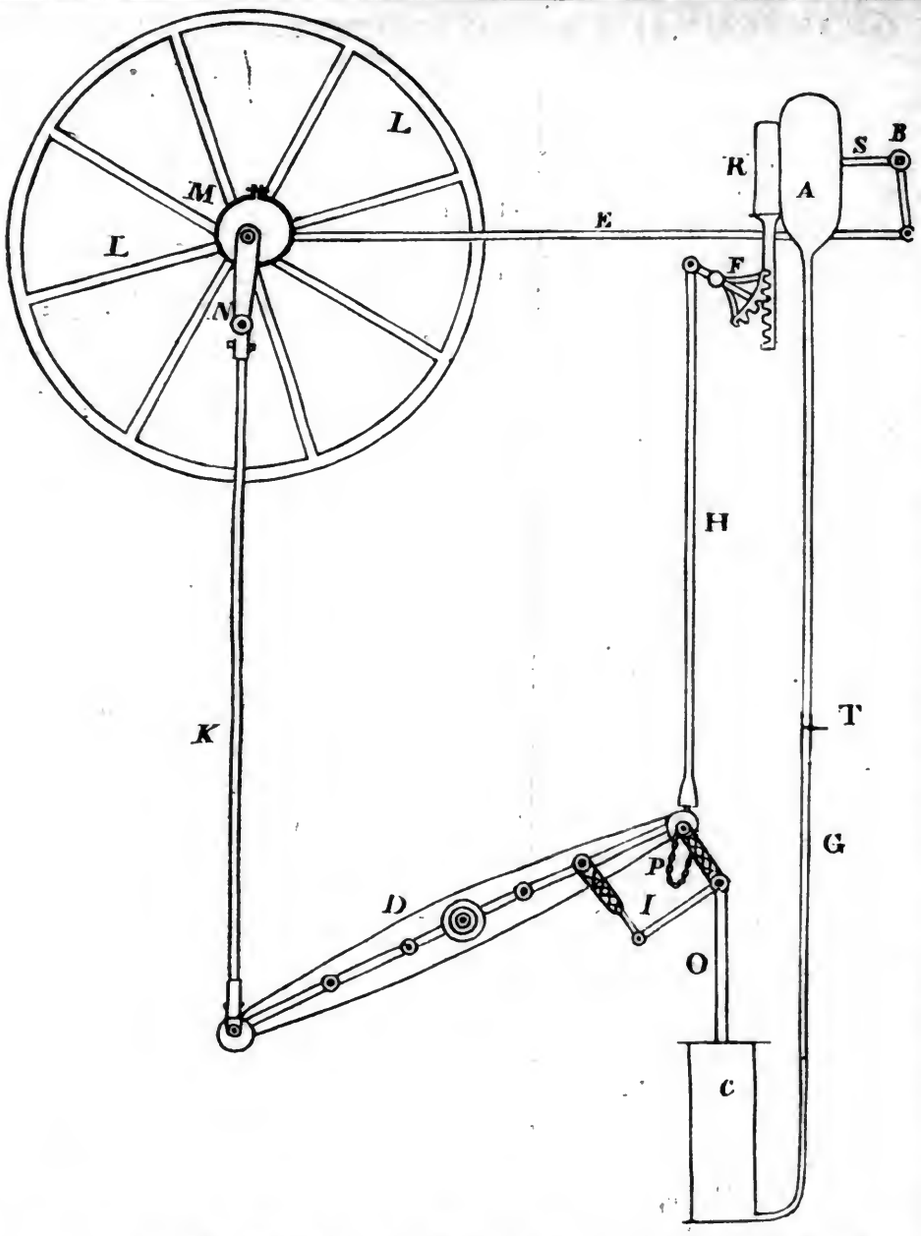
"Its form should be nearly flat: a rise of *three* inches from side to centre is sufficient in a width of 30 feet. The stone are to be broken so as *no piece* shall exceed *six ounces in weight*. The road bed is then to be put in shape, and a rake employed to smooth the surface. When the road is *so* prepared, the stone is to be *carefully* spread on it. This is rather a nice operation; and the future quality of the road will greatly depend on the manner in which it is performed. The stone must *not be laid on in shovels full*, but scattered over the surface, one shovel full following another, and spreading over a considerable space." Again he says, "Nothing is to be laid on the clean stone, on pretence of *binding*. Broken stone will combine by its own angles into a smooth, solid surface, which cannot be affected by vicissitudes of weather, or displaced by the action of wheels, which will pass over it without a jolt, and consequently without injury." Again, Sir, in his communication to the President of the Board of Agriculture of England, he says,—but I will omit what he says in that document until another time, as I am aware that *short* communications, upon almost any subject, are most likely to be read during the present busy season.

With your permission, therefore, Sir, I will endeavor to show, in another communication, wherein the present experiment in Broadway, although denominated a McAdamized street, differs widely from Mr. *McAdam's* system of road-making. M.

The steam engines are now in operation on the Camden and Amboy Rail Road. Passengers are conveyed to Philadelphia by this route, in seven hours.

We alluded a short time since to the successful trials of steam navigation made on the Chesapeake and Delaware Canal, which have been since so confirmed that it is expected that after this season steam power will altogether supercede that of horses, on the Canal. The boat used is 88 1-2 feet long on deck, 10 feet beam, and, draws 12 inches of water. Her boiler is 6 feet long by 3 feet in diameter; it is round and filled with tubes, the cylinder is 8 1-2 inches in diameter with a stroke piston of 2 1-2 feet. When running at a speed of 8 miles per hour, she consumes 314 lbs. of pine wood in that time, and at that speed the wash on the banks is only one-third of that made by the passenger barges when at the same speed.—[Philad. Chron.]

A steam-vessel of fifty-horse power has lately been launched at Vienna. This vessel is destined to navigate the Danube, and supply the capital with cattle from Hungary.



Suggestion for a New Motive Power. By G. N. To the Editor of the Mechanics' Magazine.

Sir,—As it is a professed object of your valuable Magazine to disseminate the knowledge of new discoveries, inventions, and improvements, I submit to your consideration the following description of a Hydro-pneumatic Engine, which, to me, is entirely original. In so doing I am not about to attribute to myself the discovery of any new principle, but think I can, with perfect confidence, lay claim to any advantages that may arise from a successful application of long known principles. It may not be improper here to remark, that, although I have not given it a *fair* trial, yet the experiment was enough to convince me of its success and utility as a motive power to most kinds of machinery.

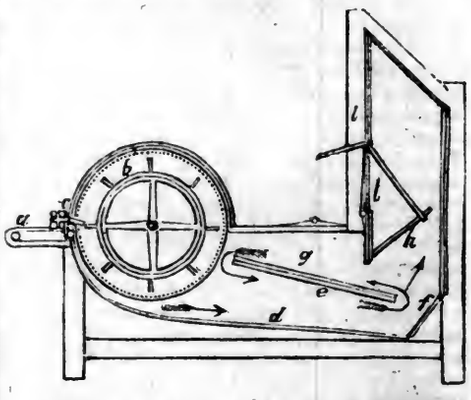
C is a strong cast iron cylinder, similar to that of a steam engine on the atmospheric plan, open at the top. G is a vertical pipe of small diameter, whose height cannot exceed 32 feet, joined to the cylinder C. O is a piston rod, attached to a piston packed in the usual manner. D is a working beam, attached by the parallel motion to the piston rod, O, at one extremity, and at the other to the shackle bar, K, which works the balance wheel, L, by the crank N. M is an eccentric. E is a connecting rod, worked by the eccentric M. A is an air-tight sphere, attached to the top of the vertical pipe G. H is a rod, which moves a slide in the chamber R, by the cogs at F. I is the parallel motion. P is a chain connecting the working beam and rod H. S is a pipe leading from an iron retort to the sphere A. B is a valve moved by the eccentric M, and rod E, the use of which will be hereafter explained.

The retort is furnished with a furnace for the forming of carbureted hydrogen gas, being filled with coal or other substances suitable for the purpose.

Having now explained the different parts of this engine, and their uses, I come now to the "modus operandi," the manner of setting it to work. Water is poured into the vertical pipe, G, till it elevates the piston on the principle of Bramah's Press. I must state here that there is a certain proportion existing between the vertical pipe, G, and cylinder, which must be found by actual experiment. The water should not be higher than the mark T, for instance, when the piston is elevated. Now, it is evident that the area of pipe above the mark T should be equal to the space below the piston, and the pipe should not exceed 32 feet in height, as before stated. As soon as the piston reaches the top of the cylinder, the working beam strikes the rod H, and shuts the slide in the chamber R, which was before open, rendering the sphere A air-tight. The next object is to depress the piston. The retort and pipe S being now filled with gas, an assistant fires the gas, and with a winch, for the purpose, turns the jet into the sphere A. The burning of the gas forms a vacuum: the water in the tube is raised, and the piston depressed. When the piston reaches the bottom of the cylinder, the chain P opens the valve at R, destroys the vacuum, and the water returning to its former position elevates the piston, strikes the rod, closes the slide. At the same instant the eccentric M throws in the jet of gas, a vacuum is re-produced. The machinery for throwing the gas in and out is very imperfect, and perhaps may not be clearly understood. The machinery here used is similar to that of Brown's Pneumatic Engine. I must refer the reader to a description of this engine in Nicholson's Operative Mechanic, where it is clearly explained. This engine might, perhaps, be improved by placing a cylinder at each extremity of the working beam. I think it may also be worked by mercury. But the engine must be much smaller in size; as mercury is twelve times heavier than water, the engine should be of such dimensions that its vertical pipe should not exceed 32 inches.

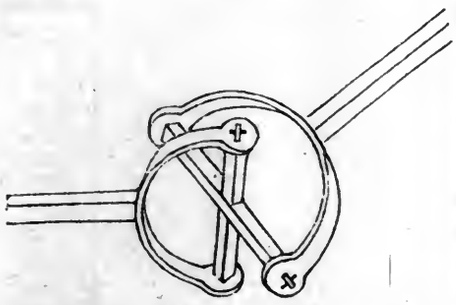
I shall be glad to see any remarks your readers may see fit to publish respecting the above. Yours, &c. G. N.

Method of Clearing Fur for Making Hats.—The preparation of hats is one of the principal uses to which fur is put in this country; we therefore select the present article for describing the mode of clearing the fur for that purpose. An account of the complete formation of a hat will be given in a future number. The patent improvements to which we are going to call the reader's attention are exhibited in the diagram beneath, and are intended to separate the finer portions of the fur from those that are less costly.



An endless web, or feeding cloth, is shown at *a*. It is extended on two rollers, upon which web the materials to be cleared and separated are placed, and by which they are carried forward into the machine. *b* is a hollow cylinder, with a flanch at each extremity. From the rims of these flanches a number of cords of catgut are extended and made tight. A peg or pin is so placed, the cords are put in vibration as they pass round, and thus take the material from the feeding cloth. To insure a requisite current of air for carrying the fur onward, vanes are placed

in the cylinder *b*. The precise amount of current is determined by the regulator *e*, and the board *f*. The portions that are not sufficiently cleared are returned in the direction of the arrow towards *g*, while that which is completed goes out at *h*, and from thence into a large upper chamber.—[British Cyclopædia.]



Dr. Hook's Joints.—The various joints employed in the human frame are all of the most perfect kind, though they differ considerably in their structure. The mechanic has, however, copied but two, the *hinge*, and the *ball and socket*. The hinge-joint is used for doors, and those places generally which require motion but in one direction. The ball and socket, on the contrary, admits of a variety of positions. The expense attendant on constructing the latter is very considerable, and to obviate this inconvenience the *Hook's-joint*, represented in the accompanying engraving, may be employed. It was originally invented by Dr. Hook, and is found very useful in communicating a rotatory motion from the principal axis of a machine to the more distant wheels it is intended to put in operation.

It consists of two semicircles, joined by a metal cross; and, if either of the semicircles be turned, a similar motion is communicated to the other. The same species of universal joint is employed to support a compass at sea.—[British Cyclopædia.]

Ingenuity of the Spider. [Communicated for the New-York Farmer, and American Gardener's Magazine.]

Mr. Editor,—I have thought it might be interesting to your readers, and consequently to yourself, to read the following statement of a fact which came within my observation recently in Brooklyn.

On passing along one of my garden walks the other day, I discovered a spider's web constructed rather singularly. It was suspened from a cherry-tree, being attached to the trunk, and running out with numerous fastenings, at different distances, on a large limb, which rose at an angle of perhaps 30 degrees from the earth. This you may suppose would make the web of rather a narrow triangle, and one not likely to bring the proprietor much custom. To enlarge its sweep, however, the spider had, by some means or other, formed a corner downward, and suspended from it a little stone, say half an inch in length, three-eighths in width, and one-eighth in thickness, well secured in parachute style, and hanging some eight or ten inches below. This weight kept the web taut, and swung slightly as the wind affected it; and there it remained for several days. I had some curiosity to know more of the projector of this contrivance, and on casting my eye near the tree, where the thickening fabric indicated that he kept his counting-room, I discovered a spider with a body nearly spherical, and of the size of a small cherry, about half an inch through, with crab-legs, and in all respects appearing ready for business. I touched him slightly with a little stick, upon which he made a motion toward it so sudden and so impassioned as well nigh made me jump, at the same time striking the stick in such a manner that inclines me to think, had it been animated, it would have felt his venom.

I am ignorant of the branch of natural history, as well as of some others, and know not the class to which this spider may belong; nor whether this mode of securing a web may not have been frequently observed by others. But the case to me being new, I submit it to you, with the hope that it may elicit remarks from those who are better informed than myself on the subject.

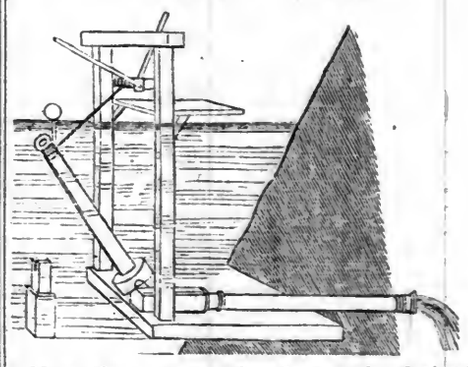
Ewbank's Patent Tinned Leaden Pipes.—We lately copied from a London paper a notice of a patent taken out in England by Messrs. Warner, for the manufacture of leaden pipes coated with tin. The invention struck us at the time as one of great value, and we have since learned with pleasure that it was made in this city: the Messrs. Warner having purchased the right for England of the inventor, Mr. Thos. Ewbank, of New-York, who has a patent for the United States.

It is well known to persons, who take pains to observe, as well as to the scientific, that leaden pipes are corroded by many of the fluids which pass through them, and that the small portion of acid which it often contains, in the course of time dissolves a perceptible quantity. Beer pipes made of this metal are often found deeply corroded; for the acetate of lead, which is a most poisonous chemical salt, is easily soluble, and is taken off by the fluid which aids in its formation. Mr. Ewbank's pipes are effectually guarded against this source of danger, by being lined within and without with pure tin. It is of great importance to know also that leaden vessels for culinary use may be protected from the action of acids in the same manner.

Patents, we understand, have been heretofore taken out in England, for coating lead with tin; but the processes rendered the expense too great, and they have been useless. Mr. Ewbank, on the contrary, is able to afford his pipes at a small advance only on the price of those made entirely of lead, which will greatly facilitate their general introduction.

Draining.—[We insert the following cuts and descriptions as subjects of reflection for farmers and mechanics. There is a wide field for mechanical ingenuity in rural pursuits.]

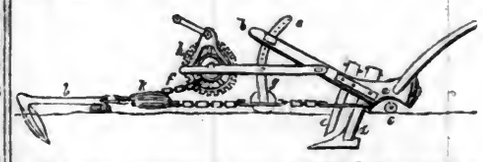
The inconvenience of an over-moist soil is but little felt in the neighborhood of the British metropolis. There are, however, many parts of England, in which draining becomes a most important desideratum. The first thing to be attended to is the elevation of the part to be drained: and as in large drains it becomes necessary to keep the channels themselves open, it is advisable to employ an apparatus similar to that represented in the annexed engraving, to accomplish this object.



Now, if we suppose the place to be drained situated in the neighborhood of the sea, it will not be advisable to admit a free communication at all times; but it requires a free passage of water at stated periods, for the purpose of cleansing the drain, and at different heights. The diagonal tube, supported by the rope coiled round the cylinder, may be readily placed at any required angle. When we wish the water in the drain not to exceed a certain height, we have only to regulate the winch accordingly.

We have thus briefly noticed the drain on a large scale. A very simple mode of draining land, which is wet merely from the retentive nature of the soil, and which has been practised with success, consists in adding to the felly of a six-inch cart wheel, a piece of wood upon which is a triangular rim of iron. That side of the cart containing this prepared wheel, is then loaded, till the piece of iron indents the soil to the depth of six or eight inches. These furrows are made in lines from five to ten yards asunder, the grass is merely pressed down, but not destroyed, and they generally grow up in the course of the year. They should, therefore, be made annually, at the approach of winter; but the work is so easily executed, that a single person, with two old horses, will go over from ten to twenty acres in eight hours.

Draining Plough.—This is a very important agricultural implement, of which we give a diagram.



We may suppose a case in which its powers would be indispensable. It becomes necessary to cut a trench for the passage of water; and the furrow being too deep for the common process, the anchor or hook, *l*, is inserted in the ground. We have thus a fixed point for resisting the action of the pulley, *k*. If power be now applied to the handle at top, it communicates motion to the wheel, *h*, with an enormous increase of power, and the acting portions of the plough, *c d*, are forced through the soil. The arrangement at *a b c*, enables the conductor to give the required depth to the furrow. It will be obvious that the pulley, *g*, by resting on the ground, tends to diminish friction.—[British Cyclopædia.]

Schools for Mechanics, &c.—The king of Bavaria issued a rescript in February last, directing the establishment of this description of popular schools in every quarter of his dominions, with the benevolent intention of affording the humblest workman an opportunity of receiving such instruction as

may fit him for his calling. He permits the districts to name the masters of these schools for his approval. In large towns the course of instruction will take a wider range, and be given in "Colleges of Industry."

LAMBERT'S CANE RIFLE.—This drawing represents the most compact and convenient rifle that we have ever seen, and we think has ever been invented.

The top figure represents it entirely shut, having the appearance of a substantial walking cane. In the under figure, it is represented ready for firing, in which position it can be placed almost instantaneously. The head is drawn out sufficiently far for the socket or ferule at the muzzle, (which is attached by a strap of metal in the side of the socket, with a hinge at the extremity,) to fall off by its own weight, (see drawing.) The cock is a bent lever of steel, made to turn and move on a hollow pivot pin, containing a chamber for powder, which is continued through the screw by which it is inserted, and opens into the barrel. The trigger lays in the plate which covers the lower side of the cock. By bending down the head of the cane (see drawing) the lower edge of the slide plate* catches a small dog of steel, with a notch or tooth in it, which rests on a spring let into the foot of the cock, and thus elevates the long arm of it. The head thus bent serves for a breech, by which the gun is conveniently held and aimed, by looking through a small slit in the cock over the sight in the ferule.

* By "slide plate" we mean a cylindrical metal plate of even diameter, about three inches in length, which is inserted in the head of the cane, and which encloses the lock when it is shut up.

M. GUESNEY'S NEW SYSTEM OF PHILOSOPHY.—Sir John Byerley has recently introduced into England a globe of a new and important character, invented by M. Guesney, an advocate of Coutances in Normandy, and described by him in a work entitled *Mouvement Heliaque*, Paris, 1825. Many of the more important phenomena of geology and physical geography have given birth to the wildest theories. M. G. being led to regard them as produced by the precession of the equinoxes, attempted their solution on scientific bases. Unfortunately M. G. is a sworn enemy of the Newtonian system, and while his whole theory is grounded on the precession of the equinoxes, he denies the cause of that precession, and affirms that the earth is perfectly spherical! His work abounds with errors quite as easy to refute, but he has the great and exclusive merit of having first had the idea of constructing a terrestrial globe in harmony with the celestial, by tracing the system of the ecliptic upon it as upon the celestial globe.

We may here observe, that the whole of the appearances in the heavens are to be referred to the two motions of the earth. The polar star is not polar to any planet but our own; and the poles of the ecliptic in the folds of Draco and in the Dorado are only so in reference to the earth. The axes of the world, as they are called, or those of the ecliptic and the equator, are two lines crossing each other *in the centre of the earth*, at an angle of 23° 28′, and extending to the heavens; but, we repeat it, they do not pass through the centres of any other planets; and are, therefore, to be referred to the earth alone.

The points where these lines pass through the surface of the earth are the poles on which its motions are performed, the movement of rotation, or diurnal motion, on the poles of the equator, and the movement of translation, or annual motion, on the poles of the ecliptic. M. Guesney's great difficulty was to fix the seat of the poles of the ecliptic on the terrestrial globe. In this he received no aid from astronomers, who declare the ecliptic to be a circle in the heavens, and to have no reference whatever to the earth, forgetting that, as the plane of the ecliptic passes through the centre of the earth, *it must cut its surface somewhere:* to determine those points, then, and consequently the poles of the terrestrial ecliptic, was the object of M. Guesney. He found that the magnetic needle and its dip were both directed to one point on the globe near the polar circle at the back of Iceland, precisely on the first meridian adopted by order of Louis XIII., passing through the island of Ferro. He found that, by supposing the seat of the pole of the ecliptic there, it gave a satisfactory solution of many hitherto inexplicable phenomena; he therefore fixed it there by approximation. Sir J. B. appears to be the only scientific person who has taken the trouble to sift the wheat from the chaff, and on this basis to erect a theory embracing the principal phenomena. Not, however, satisfied with approximation, where mathematical accuracy was evidently attainable, he endeavored to ascertain precisely the poles of the terrestrial ecliptic, when, fortunately, he found that Laplace, pursuing another object, had already solved the problem.

To avoid the confusion of every maritime nation using a different first meridian, Laplace wished them to take that "of which the midnight corresponds with the instant when the great axis of the ecliptic is perpendicular to the right line of intersection of the equator and ecliptic, which meridian is 166° 46′ 12″ east of Paris," or 169° 6′ 27″ east of Greenwich Observatory.

On the authority, therefore, of the greatest astronomer of any age, Sir J. B. has had a terrestrial globe prepared by Mr. Newton, with the system of the ecliptic described on the poles as fixed by Laplace; the north pole of the ecliptic being in the polar circle, and the winter solstitial colure, or first meridian, 10° 53′ 35″ west of Greenwich. A circle drawn from this pole as a centre, on a radius of 23° 28′, will pass through the pole of the earth, and trace its line of motion round the pole of the ecliptic, in 25,920 years.

This revolution of the pole of the equator round that of the ecliptic is admitted by all astronomers to take place in the *heavens*, but not in the earth. They admit, too, that the axis of the ecliptic is fixed and immovable, the ecliptic being so; but they have not yet shown how a right line intersecting another fixed right line at a given angle shall move round the latter at its extremity, and not at a given distance from the point of intersection! Assuming, then, that the pole of the equator revolves round the pole of the *terrestrial ecliptic*, it remains to show a few of the terrestrial effects of such motion.

By inspection of the globe, we find that the pole of the equator is now at nearly its greatest distance from western Europe; that it is advancing at the rate of about 394 yards annually on North America, and will pass through Lancaster Straits, Hudson Straits, over Resolution Isle, enter Europe at Cape Finisterre, pass over Bilbao and the northern frontier of Spain, through France over Toulouse, through Lombardy over Milan, through Germany over Vienna, and pass into Russia over Moscow, &c. &c. It is found that the solstitial colures are almost entirely in the ocean, cutting only a small portion of Western Africa, and a portion of Kamschatka, and proceeding without interruption until they meet the lower part of New-Zealand.

On inspecting the globe farther, we find that Kamschatka was at a given period within the tropics, which accounts for tropical fossils being found in the polar regions; and that the Oural Mountains were formerly in the latitude of Mexico, which explains why the precious metals are found in such high latitudes, and why the same precious stones are found in Mexico and the Oural Mountains. We find also that the direction of the straits in the higher latitudes run from west to east, or in the direction of the waters of the pole. The debris of mountains are found in the same direction in England, France, Italy, Scandinavia, &c. The plains of Lombardy are covered with Alpine debris, and in Scandinavia, masses of 50,000 tons have been transported, (Dr. Buckland fancies on the back of an iceberg,) by the immense force of the Polar Ocean.

The radius of the earth at the equator is about 65,000 feet greater than the polar radius, owing to the centrifugal force (which is as the radii of the parallels of latitude). And, as the pole moves through 46° 56′ of latitude in 12,960 years, in that lapse of time one part of the equator will be carried 46° 56′ into the southern hemisphere. At that period all western Europe will be buried under the waters of the pole (forming the period of a deluge), as it was at three distinct periods, at intervals of nearly 26,000 years; which ascertains the existence of the globe in its present state (which was probable its primitive) for 70,000 years. This change of the plane of the equator is probably the cause of all the great phenomena; it changes the latitude from polar to tropical regions, and thus renders a change in the action of the centrifugal force; and from whatever part the pole is receding, the centrifugal force is increasing, which produces an alteration of surface; in whatever place it is advancing there is a consequent depression. There is thus a daily tendency to elevation in some parts, and to depression in others; and to this cause Sir J. B. attributes earthquakes and volcanic action. According to this theory, as the elevation and depression must be greatest in the direction of the motion of the pole, so ought the degree of volcanic action to be. On inspecting the globe, we find this to be the case, and that volcanic action is greatest on the meridians of South America and the Philippine Isles. Where no elements of combustion exist we have eruptions of mud, &c.

The difference between the earth's radius at the equator and at 45° is 5,340 French toises, or about 33,000 English feet. Now, the equator changing its position nearly 47°, it follows that in the solstitial colure the present position of the equator will be depressed at least 33,000 feet. This will readily account

for marine fossils being found in Chimborazo, 15,500 feet above the surface of the ocean.

The above is a brief outline of the system to which Sir John Byerley intends shortly to call the attention of the public. He courts inquiry; for, if the theory be well founded, it will entirely re-model the science of physical geography.—[British Cyclopædia.]

Babbage on the Economy of Manufactures.

[Continued from page 600.]

258. *Slide of Alpnach.*—Amongst the forests which flank many of the lofty mountains of Switzerland, some of the finest timber is found in positions almost inaccessible. The expense of roads, even if it were possible to make them in such situations, would prevent the inhabitants from deriving any advantages from these almost inexhaustible supplies. Placed by nature at a considerable elevation above the spot on which they are required, they are precisely in fit circumstances for the application of machinery; and the inhabitants constantly avail themselves of it, to enable the force of gravity to relieve them from some portion of their labor. The inclined planes which they have established in various forests, by which the timber has been sent down to the water-courses, must have excited the admiration of every traveller; and these slides, in addition to the merit of simplicity, have that of economy, as their construction requires scarcely any thing beyond the material which grows upon the spot. Of all these specimens of carpentry, the Slide of Alpnach was by far the most considerable, both from its great length and from the almost inaccessible position from which it descended. The following is the description of that work given in Gilbert's Annalen, 1819, and translated in the second volume of Brewster's Journal:

"For many centuries, the rugged flanks and the deep gorges of Mount Pilatus were covered with impenetrable forests. Lofty precipices encircled them on all sides. Even the daring hunters were scarcely able to reach them; and the inhabitants of the valley had never conceived the idea of disturbing them with the axe. These immense forests were therefore permitted to grow and to perish, without being of the least utility to man, till a foreigner, conducted into their wild recesses in the pursuit of the chamois, was struck with wonder at the sight, and directed the attention of several Swiss gentlemen to the extent and superiority of the timber. The most intelligent and skilful individuals, however, considered it quite impracticable to avail themselves of such inaccessible stores. It was not till November, 1816, that M. Rupp, and three Swiss gentlemen, entertaining more sanguine hopes, drew up the plan of a slide, founded on trigonometrical measurements. Having purchased a certain extent of the forests from the commune of Alpnach for 6,000 crowns, they began the construction of the slide, and completed it in the spring of 1818.

"The slide of Alpnach is formed entirely of about 25,000 large pine trees, deprived of their bark, and united together in a very ingenious manner, without the aid of iron. It occupied about 160 workmen during 18 months, and cost nearly 100,000 francs, or £4,250. It is about 3 leagues, or 44,000 English feet long, and terminates in the Lake of Lucerne. It has the form of a trough, about six feet broad, and from three to six feet deep. Its bottom is formed of three trees, the middle one of which has a groove cut out in the direction of its length, for receiving small rills of water, which are conducted into it from various places, for the purpose of diminishing the friction. The whole of the slide is sustained by about two thousand supports; and in many places it is attached, in a very ingenious manner, to the rugged precipices of granite.

"The direction of the slide is sometimes straight, and sometimes zig-zag, with an inclination of from ten to eighteen degrees. It is often carried along the sides of hills and the flanks of precipitous rocks, and sometimes passes over their summits. Occasionally it goes under ground, and at other times it is conducted over the deep gorges by scaffoldings 120 feet in height.

"The boldness which characterizes this work, the sagacity displayed in all its arrangements, and the skill of the engineer, have excited the wonder of every person who has seen it. Before any step could be taken in its erection, it was necessary to cut several thousand trees to obtain a passage through the impenetrable thickets; and, as the workmen advanced, men were posted at certain distances, in order to point out the road for their return, and to discover, in the gorges, the places where the piles of wood had been established. M. Rupp was himself obliged, more than once, to be suspended by cords, in order to descend precipices many hundred feet high; and in the first months of the undertaking, he was attacked with a violent fever, which deprived him of the power of superintending his workmen. Nothing, however, could diminish his invincible perseverance. He was carried every day to the mountain in a barrow, to direct the labors of the workmen, which was absolutely necessary, as he had scarcely two good carpenters among them all—the rest having been hired by accident, without any of the knowledge which such an undertaking required. M. Rupp had also to contend against the prejudices of the peasantry. He was supposed to have communion with the devil. He was charged with heresy, and every obstacle was thrown in the way of an enterprize which they regarded as absurd and impracticable. All these difficulties, however, were surmounted, and he had at last the satisfaction of observing the trees descend from the mountain with the rapidity of lightning. The larger pines, which were about a hundred feet long, and ten inches thick at their smaller extremity, ran through the space of *three leagues*, or nearly *nine miles, in two minutes and a half*, and during their descent they appeared to be only a few feet in length. The arrangements for this part of the operation were extremely simple. From the lower end of the slide to the upper end, where the trees were introduced, workmen were posted at regular distances, and as soon as every thing was ready, the workman at the lower end of the slide cried out to the one above him, "*Lachez*" (Let go). The cry was repeated from one to another, and reached the top of the slide in three minutes. The workman at the top of the slide then cried out to the one below him, "*Il vient*" (It comes), and the tree was instantly launched down the slide, preceded by the cry which was repeated from post to post. As soon as the tree had reached the bottom, and plunged into the lake, the cry of *Lachez* was repeated as before, and a new tree was launched in a similar manner. By these means a tree descended every five or six minutes, provided no accident happened to the slides, which sometimes took place, but which was instantly repaired when it did.

"In order to show the enormous force which the trees acquired from the great velocity of their descent, M. Rupp made arrangements for causing some of the trees to spring from the slide. They penetrated by their thickest extremities no less than from eighteen to twenty-four feet into the earth; and one of the trees having by accident struck against the other, it instantly cleft it through its whole length, as if it had been struck by lightning.

"After the trees had descended the slide, they were collected into rafts upon the lake, and conducted to Lucerne. From thence they descended the Reuss, then the Aar to near Brugg, afterwards to Waldshut by the Rhine, then to Basle, and even to the sea, when it was necessary.

"In order that none of the small wood might be lost, M. Rupp established in the forest large manufactories of charcoal. He erected magazines for preserving it when manufactured, and had made arrangements for the construction of barrels for the purpose of carrying it to the market. In winter, when the slide was covered with snow, the barrels were made to descend on a kind of sledge. The wood which was not fit for being carbonized, was heaped up and burnt, and the ashes packed up and carried away, during the winter.

"A few days before the author of the preceding account visited the slide, an inspector of the navy had come for the purpose of examining the quality of the timber. He declared that he had never seen any timber that was so strong, so fine, and of such a size; and he concluded an advantageous bargain for a thousand trees.

"Such is a brief account of a work undertaken and executed by a single individual, and which has excited a very high degree of interest in every part of Europe. We regret to add that this magnificent structure no longer exists, and that scarcely a trace of it is to be seen upon the flanks of Mount Pilatus. Political circumstances having taken away the principal source of the demand for timber, and no other market having been found, the operation of cutting and transporting the trees necessarily ceased."

Professor Playfair, who visited this singular slide, states that six minutes was the usual time occupied in the descent of a tree; but that, in wet weather, it reached the lake in three minutes.

259. One of the most common effects of the introduction of new machinery into manufactures, is to drive out of employment much of the hand-labor which was previously used. This, for a time, produces a considerable suffering amongst the working classes; and it is of great importance for their happiness that they should be aware of the effects, and that they should be enabled to foresee them at an early period, in order to diminish as much as possible their injurious results. It is almost the invariable consequence of such improvements, ultimately to cause a greater demand for labor; and often the new labor requires a higher degree of skill than the old: but, unfortunately, the class of persons who have been driven out of the old employment are not always qualified for the new one; and in all cases, a considerable time elapses before the whole of their labor is wanted. One very important inquiry which this subject presents is the question—*Whether it is for the interest of the working classes, that any improved machinery should be so perfect as to defy the competition of hand-labor, and that they should be at once driven out of the trade by it; or whether it is more advantageous for them to be gradually forced to quit the trade by the slow and successive advances of the machine?* The suffering which arises from a quick transition is undoubtedly more intense; but it is also much less permanent than that which results from the slower process. If the competition is perceived at once to be perfectly hopeless, the workman will at once set himself to learn a new department of his art. The use of power-looms is an instance of a slow change, which has gradually been diminishing the wages of the hand-weavers. It appears that the number of hand-looms in use in England and Scotland in 1830 was about 240,000; nearly the same number existed in the year 1820; whereas the number of power-looms which in 1820 was 14,000, had in 1830 increased to 55,000. When it is considered that each of these looms at that time did as much work as three hand-looms, the increased amount of work produced was equal to that of 123,000 hand-looms. During the whole of this period the wages and employment of hand-loom weavers has been very precarious.

260. Increased intelligence amongst the working classes may enable them to foresee some of those improvements which are likely for a time to affect the value of their labor; and the assistance of Savings Banks and Friendly Societies, (the advantages of which can never be too frequently, or too strongly, pressed upon their attention,) may be of some avail in remedying the evil: but it seems also desirable to suggest to them, that a diversity of employment amongst the members of one family, will tend, in some measure, to mitigate the privations which arise from fluctuation in the value of labor.

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SEPTEMBER 28, 30, OCTOBER 1, 2, 3, 4—1833.

LITERARY NOTICES.

COPLAS DE DON JORGE MANRIQUE; translated from the Spanish, with an introductory essay on the moral and devotional poetry of Spain, by HENRY W. LONGFELLOW, Prof. of Mod. Lang. and Lit. in Bowdoin College: *Boston*, ALLEN & TICKNOR.—We are almost disposed to speak of Prof. *Longfellow* as the Bowring of America—so great and various is his proficiency in modern languages, as evinced by several publications heretofore, and particularly by this now before us; in which his talents as a poet not less than those as a linguist are so advantageously displayed.

The little poem here translated was a tribute of filial affection and regret on the death of his father. *Don Jorge Manrique*, the author, flourished in the last half of the sixteenth century, and was, like "nearly all the Spanish poets of any eminence," a soldier. He fought beneath his father's banner, surviving his parent, but ultimately dying on the field of battle.

Preliminary to the poetical version of these stanzas, Prof. Longfellow has given an extremely well written introductory essay "on the moral and devotional poetry of Spain." We shall interest our readers in the whole essay we are persuaded, by the following extract from its close:

The most prevailing characteristics of Spanish devotional poetry are warmth of imagination, and depth and sincerity of feeling. The conception is always striking and original, and when not degraded by dogmas, and the poor, puerile conceits arising from them, beautiful and sublime. This results from the frame and temperament of the mind, and is a general characteristic of the Spanish poets, not only in this department of songs, but in all the others. The very ardor of imagination, which, exercised upon minor themes, leads them into extravagance and hyperbole, when left to act in a higher and wider sphere, conducts them nearer and nearer to perfection. When imagination spreads its wings in the bright regions of devotional song,—in the pure empyrean,—judgment should direct its course, but there is no danger of its soaring too high. The heavenly land still lies beyond its utmost flight.—There are heights it cannot reach; there are fields of air, which tire its wing; there is a splendor which dazzles its vision;—for there is a glory, 'which eye hath not seen, nor ear heard, nor hath it entered into the heart of man to conceive.'

But perhaps the greatest charm of the devotional poets of Spain is their sincerity. Most of them were ecclesiastics,—men who had in sober truth renounced the realities of this life, for hopes and promises of another. We are not to suppose that all who take holy orders are saints; but we should be still farther from believing that all are hypocrites. It would be even more absurd to suppose, that none are sincere in their professions, than that all are. Besides, with whatever feelings a man may enter the monastic life, there is something in its discipline and privations, which has a tendency to wean the mind from earth,—and to fix it upon Heaven. Doubtless many have seemingly renounced the world from motives of worldly aggrandizement; and others have renounced it, because it has renounced them. The former have carried with them to the cloister their earthly ambition, and the latter their dark misanthropy; and though many have daily kissed the cross, and yet grown hoary in iniquity, and shrived their souls that they might sin more gaily on,—yet solitude works miracles in the heart, and many who enter the cloister from worldly motives, find it a school wherein the soul may be trained to more holy purposes and desires. There is not half the corruption and hypocrisy within the convent's walls, that the church bears the shame of hiding in its bosom. Hermits may be holy men, though knaves have sometimes been hermits. Were they all hypocrites, who of old for their soul's sake exposed their naked bodies to the burning sun of Syria? Were they, who wandered houseless in the solitudes of Engaddi? Were they, who dwelt beneath the palm-trees by the Red Sea?—Oh, no! They were ignorant,—they were deluded,—they were fanatic,—but they were not hypocrites,—if their be any sincerity in human professions and human actions,—thet were not hypocrites. During the middle ages, there was corruption in the church,—foul, shameful corruption; and now also hypocrisy may scourge itself in feigned repentance, and ambition hide its face beneath a hood; yet all is not therefore rottenness that wears a cowl! Many a pure spirit, through heavenlymindedness, and an ardent, though mistaken zeal, has fled from the temptations of the world to seek in solitude and self-communion, a closer walk with God. And not in vain. They have found the peace they sought. They have felt, indeed, what many profess to feel, but do not feel,—that they are strangers and sojourners here, travellers who are bound for their home in a far country. It is this feeling, which we speak of as giving a peculiar charm to the devotional poetry of Spain. We compare its spirit with the spirit which its authors have exhibited in their lives. They speak of having given up the world, and it is no poetical hyperbole;—they speak of longing to be free from the weakness of the flesh, that they may commence their conversation in Heaven, and we feel that they had already begun it in lives of penitence, meditation and prayer.

In the 29th and 30th stanzas, we find the original of the fine verses we had seen applied, without knowing whence they came, to our own Washington, beginning thus:—

His was Octavian's prosperous star,
The rash of Cæsar's conquering car,
At battle's call; &c. &c.

We coincide entirely with Prof. Longfellow in the high estimation he expresses of this poem of Manrique's. Our readers will be led perhaps by the quotation below to concur with us in the opinion that what is admirable in the Spanish, is beautifully rendered into English:

XLI.

Tú que por nuestra maldad,
Tomaste forma civil
Y baxo nombre,
Tú que á tu Divinidad
Juntaste cosa tan vil
Como el hombre,
Tú que tan grandes tormentos
Sufriste sin resistancia
En tu persona,
No por mis merecimientos,
Mas por tu suma clemencia
Me perdona.

XLII.

Así con tal entender
Todos sentidos humanos
Conservados,
Cercado de su muger,
Y de sus hijos y hermanos
Y criados;
Dió el alma á quien se la dió,
El qual la ponga en el cielo
Y en su gloria:
Y aunque la vida murió,
Nos dexo harto consuelo
Su memoria.

XLI.

"O Thou, that for our sins didst take
A human form, and humbly
Thy home on earth; [make
Thou, that to thy divinity
A human nature didst ally
By mortal birth,— [here,
And in that form didst suffer
Torment, and agony, and fear,
So patiently;
By thy redeeming grace alone,
And not for merits of my own,
O pardon me!"

XLII.

As thus the dying warrior prayed,
Without one gathering mist or
Upon his mind, [shade
Encircled by his family, [eye
Watched by affection's gentle
So soft and kind, [rose;—
His soul to Him, who gave it,
God lead it to its long repose,
Its glorious rest! [has set
And though the warrior's sun
Its light shall linger round us
Bright, radiant, blest. [yet,

We must say a word in commendation of the beauty of the paper and typography of this little volume.

POEMS BY THE HON. MRS. NORTON. *Boston*, ALLEN & TICKNOR.—Our columns have been too often graced by occasional poems from the pen of this lady, to render it necessary for us to say more now, than that in the collection of Poems here presented to us, we find the same grace, feeling, point, and polish, which distinguish her muse. We select one short piece, which may be admired for the truth of the moral it conveys, as much as for its poetical beauty.

THE CARELESS WORD.

A word is ringing thro' my brain,
It was not meant to give me pain;
It had no tone to bid it stay,
When other things had past away;
It had no meaning more than all
Which in an idle hour fall:
It was when *first* the sound I heard
A lightly uttered, careless word.

That word—oh! it doth haunt me now,
In scenes of joy, in scenes of woe;
By night, by day, in sun or shade,
With the half smile that gently played
Reproachfully, and gave the sound
Eternal power thro' life to wound.
There is no voice I ever heard,
So deeply fix'd as that one word.

When in the laughing crowd some tone,
Like those whose joyous sound is gone,
Strikes on my ear, I shrink—for then
The careless word comes back again.
When all alone I sit and gaze
Upon the cheerful home fire blaze,
Lo! freshly as when first 'twas heard,
Returns that lightly uttered word.

When dreams bring back the days of old,
With all that wishes could not hold;
And from my feverish couch I start
To press a shadow to my heart—
Amid its beating echoes, clear
That little word I seem to hear:

In vain I say, while it is heard,
Why weep?—'twas but a foolish word.

It comes—and with it come the tears,
The hopes, the joys of former years;
Forgotten smiles, forgotten looks,
Thick as dead leaves on autumn brooks,
And all as joyless, though they *were*
The brightest things life's spring could share.
Oh! would to God I ne'er had heard
That lightly uttered, careless word!

It was the first, the only one
Of those which lips for ever gone
Breathed in their love—which had for me
Rebuke of harshness at my glee:
And if those lips were here to say,
"Beloved, let it pass away,"
Ah! then, perchance—but I have heard
The last dear tone—the careless word!

Oh! ye who, meeting, sigh to part,
Whose words are treasures to some heart,
Deal gently, ere the dark days come,
When earth hath but for *one* a home;
Lest, musing o'er the past, like me,
They feel their hearts wrung bitterly,
And, heeding not what else they heard,
Dwell weeping on a careless word.

LETTERS OF HORACE WALPOLE TO SIR HORACE MANN, British Envoy at the Court of Tuscany; edited by LORD DOVER, 2 vols. New York, G. DEARBORN.—Great is the obligation that the lovers of that most captivating species of literature—which carries us as it were behind the scenes of the great tragi-comedy of life,—are under to Mr. Dearborn for the beautiful edition here presented to them of one of the most entertaining, and we may surely add, instructive works of this sort. We have through the English periodicals been enabled heretofore to lay before our readers such extracts from these letters as, while they will dispense us from the necessity of commenting upon the work now, will have had the effect, we are persuaded, of rendering them most anxious to possess the whole book. They will not regret its cost, either in time or money.

THE REPEALERS, A NOVEL; BY LADY BLESSINGTON. 2 vols. Philadelphia: CAREY, LEA & BLANCHARD.—Our readers know Lady Blessington by her spirited sketches of, and conversations with, Lord Byron. This novel introduces her as a more elaborate writer. It is a fiction by an Irish lady, intended to promote, what so many here in this country are laboring to prejudice, the sense of reciprocal advantage derived both to England and Ireland from the Union. Lady Blessington, in her conversations, and sketches of the Irish, both in high and low life, seems not less spirited and successful, than in those above referred to, of Lord Byron; and upon the whole, this work must redound to her reputation as a writer.

THE INVISIBLE GENTLEMAN, A NOVEL; by the Author of 'Chartley the Fatalist.' 2 vols. Philadelphia, E. L. CAREY & A. HART.—This novel depends for its interest on the faculty imparted to its chief character, of rendering himself invisible at pleasure by pulling his left ear! The dilemmas and scrapes into which the indulgence of this power lead him, and the occasionally ludicrous scenes which his sudden disappearance gives rise to, constitute the interest of the story. There is considerable skill evinced in delineating and individualizing characters, and in the general conduct of the story; and the moral, so far as the development of the plot goes to prove that happiness and reputation are not to be attained by any course at variance with the ordinary and established laws of nature,—is good.

HISTORY OF SPAIN AND PORTUGAL, Vol. V—forming vol. 23 of Lardner's Cabinet Cyclopædia. *Philadelphia:* CAREY, LEA & BLANCHARD.—This volume closes the history of the Peninsula, bringing down the narrative to the commencement of the French revolution. The motives for stopping at such an eventful period are stated to be, that the author had already exceeded his relative proportion for the historic part of such a collection as the Cabinet Cyclopedia; and moreover, that there were so many narratives of high authority of the important occurrences since that period in Spain, that he felt it the less necessary to prolong his work. Such as it is, we do not doubt this will become a very popular history.

MEMORANDA OF A RESIDENCE AT THE COURT OF LONDON, BY RICHARD RUSH. *Philadelphia:* KEY & BIDDLE.—This is a second edition of an agreeable and honest work—written in the spirit of truth and fairness. The beauty of this edition is remarkable. We have rarely seen from any press a better executed book.

VOYAGES ON THE COAST OF AFRICA; BY CAPT. OWEN, R. N. 2 vols. Harpers.—These volumes embody a large amount of important information, and address themselves alike to the navigator and the man of science. They detail the particulars and results of a voyage undertaken by command of the British Board of Admiralty, in order to obtain accurate surveys of the Eastern Coast of Africa, and that of the Island of Madagascar. The two voyages occupied nearly four years, and the discoveries effected during them, relate to all the rivers, harbors, &c. along the immense regions traversed by Capt. Owen.

The work is very handsomely printed. *

DRAMATIC SCENES FROM REAL LIFE, BY LADY MORGAN. 2 vols. Harpers.—It is pretty tough work for us with Lady Morgan. She has her admirers—warm ones and not a few—but though the persecution of the British Quarterly is a strong recommendation in her favor, still there are books which we would rather read than hers. In the first place, they are written in so many languages, that one is in danger of forgetting his own vernacular while tugging through the jargon of French, Spanish and Italian, with which she tesselates her English-Irish pages. And then, after you do slip and stumble through this stupendous polyglott conglomeration of phrases, you are half the time in the condition of a sportsman, who, after floundering over a dozen acres of rocks and brambles to get in the heart of a close cover, finds not a bird to reward him for his pains. We sicken too of Lady Morgan's "high life" affectations, and the absurd buffoonery she tries with such a strange want of tact to dignify into "elegant trifling." Nature made her a woman of vivid imagination, strong feelings, and unquestioned talents; and had she been born in the sphere whose tone she affects with such pertinacious vulgarity, or had her husband never exchanged his pestle and mortar for a coat of arms, and made her a knight's lady, she might, instead of wasting an excellent mind in trashy productions like that before us, have ranked next to Miss Edgeworth, as one of the first female writers of our century. Even in these volumes, which have more than the usual leaven of second hand pretension and egotism about them—(that sort of impertinence which English tourists pass off upon our countrymen for *ton*)—there are some bold and vigorous touches of character, which almost redeem every thing else. The characters of Mrs. Quigley and Mr. Galbraith, in the first sketch, are very well managed; and although we were nearly driven out of the volume by "an *exceedingly fashionable* footman, *armed* with an *elegant* horsewhip," we tolerated the coxcomb for the sake of an original and admirably drawn character of an Irish Priest, that soon after comes upon the scene. The entrance of this personage gives rise to some reflections upon the condition of Ireland, which would be worthy of a work of graver pretensions than that where they are found; and indeed if the reader is sufficiently inured to the polite jargon of what is called the English fashionable novel to overlook the absurd fillagree work with which Lady Morgan has interwoven "the tissue of her story," he may find, with many eloquent passages, a valuable residuum of information, so far as Irish society in all its phases is concerned, in the chief of these "Dramatic Sketches." *

THE HISTORY OF CHARLEMAGNE; by G. F. R. James, Esq. author of the 'History of Chivalry,' &c. The well-known author of 'Richelieu' and 'Philip Augustus,' was the man of all others to undertake a history of this kind. The antiquarian knowledge and research by which Mr. James is distinguished, united to his acute perception of character, and highly poetical cast of mind, qualify him especially for writing the biography of the great hero of the feudal ages; and he has consequently produced one of the most interesting, if not the most valuable works, which the Harpers have incorporated with their Family Library. We shall speak more particularly of this work hereafter. *

MARTIN FABER, *the Story of a Criminal*, 1 volume 18mo., Harpers.—An original American work of fancy is not so common among the light productions that weekly load our table, but that we read it with an interest which the re-publication of foreign books can hardly call forth. Martin Faber we have perused with close attention, and we do not hesitate to say, that since Godwin carried that singular and impressive style, first introduced in modern fiction by our countryman Charles Brockden Brown, to such perfection in Caleb Williams, no work of that school has come under our notice which shows more power than the little tale before us. The story is so brief that it is difficult to make an extract without giving an unfair insight into the whole book; but there is one scene so strongly wrought up in the best style of the authors with whom we have compared the author of Martin Faber, that we cannot withhold it from our readers.

The incidents are brought on by a parting interview, on the eve of his marriage with another, between the hero of the story and a girl whom he has ruined.—The wretched victim of his remorseless passions clings around her destroyer and beseeches him, with all the tenderness of a doting woman, to fulfil his vows and snatch her name, ere it be too late, from scorn and ignominy:

I stood even this appeal. My heart was steeled within me, and though I spoke to her less harshly, I spoke as hypocritically as ever. She saw through the thin veil which I had deemed it necessary to throw over my dishonesty, and a new expression took the place of tenderness in her features.

"It is all true then, as they have said," she exclaimed passionately. "Now, O God, do I feel my infirmity—now do I know my sin. And this is the creature I have loved—this is the thing—wanting in the heart to feel, and mean enough in soul to utter a falsehood and prevaricate—this is the creature for whom I have sacrificed my heart—for whom I have given up, hopelessly and haplessly, my own soul.—Oh, wretched fool—oh, miserable, most miserable folly. Yet think not," and as she turned upon me, she looked like the Priestess upon the tripod, influenced with inspiration—"Think not, mean traitor, as thou art—think not to triumph in thy farther seduction. Me thou hast destroyed,—I am thy victim, and I feel the doom already. But thou shalt go no farther in thy way. I will seek out this lady, for whose more attractive person, mine and my honor and affections, alike, are to be sacrificed. She shall hear from me all the truth. She shall know whether it be compatible with her honor and happiness, or the dignity of her character, to unite herself, in such bonds with a man who has proved so deadly, so dishonorable to her sex. And, oh, God"—she exclaimed, sinking fervently on her knee—"if it shall so happen that I save one such as I, from such a folly as mine, may it not expiate in thy sight, some portion of the sad offence of which I have been guilty."

She rose firmly and without a tear. Her eyes were red, her cheeks were burning with the fever of her whole frame, and she seemed, in all respects, the embodiment of a divine, a glorious inspiration. I was awed—I was alarmed. I had never before seen her exhibit any thing like daring or firmness of purpose. She was now the striking personification of both. She approached and sought to pass by me. I seized her hand. She withdrew it quickly and indignantly.

"Begone" she exclaimed—"I scorn, I despise you. Think not to keep me back. You have brought death and shame among my people in devoting me to both. You shall pollute me no more. Nay, speak not. No more falsehood, no more falsehood, for your own soul's sake. I would not that you should seem meaner in my sight, than you already are."

I seized her hand, and retained it by a fierce grasp.—

"Emily," I exclaimed, "what would you do—why is this? I ask but for delay, give me but a month, and all will be well—you shall then have what you ask—you shall then be satisfied."

"False—false! These assurances, sir, deceive me not—they deceive me no more. My hope is gone, forever gone, that you will do me justice. I see through your hypocrisy—I know all your villainy, and Constance Claiborne shall know it too. Ha! do you start when her name is but mentioned. Think you, I know it not all—know I not that you have been bought with money—that, vile and mercenary as you are, you have not only sold me, and this unborn pledge of your dishonesty and my dishonor, but you have sold yourself. Seek not to keep me back. She shall hear it all from these lips, that thenceafter shall forever more be silent."

She struggled to free herself from my grasp, and endeavored to pass by me with a desperate effort—her strength was opposed to mine, and in the heat of the struggle I forgot that victory in such a contest would be the heaviest shame. Yet, I only sought, at first, to arrest her progress. As I live, I had then no other object beyond. I did not intend violence, far less further crime. But the fate was upon me;—she persisted in her design, and in the effort to prevent her passage, I hurled her to the ground I paused, in a deadly stupor, after this. I was no longer a reasouing—a conscious being. She looked up to me imploringly—the desperate feeling which had heretofore nerved and strengthened her, seemed utterly to have departed. The tears were in her eyes, and, at that moment, she would have obeyed as I commanded—she would have yielded to all my requisitions—she would have been my slave. She met no answering gentleness in my eyes, and with a chocking and vain effort at speech, she turned her face despairingly upon the still dewy grass, and sobbed, as if the strings of the heart were breaking in unison with each convulsion of her breast. At that moment, I know not what demon posseesed me. There was a dead a more than customary silence in all things around me. I felt a fury within me—a clamorous anxiety about my heart—a knawing something that would not sleep, and could not be silent; and, without a thought of what I was to do, or what had been done, I knelt down beside her. My eyes wandered wildly around the forest, but at length, invariably, settled, in the end, upon her. There was an instinct in all this. She had the look of an enemy to the secret and impelling nature within me, and, without uttering a single word, my fingers, with an infernal gripe were upon her throat. She could not now doubt the desperate character of my design, yet did she not struggle—but her eyes, they spoke, and such a language! A chain which I myself had thrown about her neck—that neck all symmetry and whiteness—was in my way. I sought, but vainly, to tear it apart with my hands, and could only do so—with my teeth. In stooping to do this, she writhed her head round and lifted her lips to mine. I shrunk, as from the fang of a serpent. They had a worse sting, at that moment, in my eyes. Mournfully, as she saw this, she implored my mercy.—

"Spare, forgive, dearest Martin, I will never vex you again—spare me this time, and I will be silent. Kill me not—kill me not"—more wildly she exclaimed as my grasp became more painful—"I am too young to die—I am too bad to perish in my sins. Spare me—spare me. I will not accuse you—I—God! Oh, God!"—and she was dead—dead beneath my hands!

This is certainly finely dramatic. The painter of such a scene has literary talents of no common order. There is another passage which, as forming an admirable sequel to this, we must here add:

I have already said, the bride was beautiful. Words cannot convey an idea of her beauty. She was emphatically a thing of light and love—

"Which seen, becomes a part of sight"

In grace, one knew not with what, save herself, to institute a comparison. In expression, there were volumes of romantic, and interesting poetry, embodied in each feature of her face; and the steel of my affections, stern as it was, wherever she turned, even as the dutiful needle to the pole, turned intuitively along with her. Such was the maiden,—so much after the make and mould of heaven, whom a cruel destiny was about to link with one formed in spirit after the fashion of hell.

The ceremony was begun. We stood up with linked hands at the altar. The priest went on with his formula. The bride's hand trembled in mine, and her eyes were commercing only with the richly carpeted floor. I was about to answer the question which should have made us one, when a cold wind seemed to encircle my body. My bones were numbed, and a freezing chill went through my whole system. My tongue refused its office, and, instinctively, as it were, bending to the opposite quarter of the apartment, my eyes fell upon a guest whom none had invited. There, palpable as when I had last seen her, stood the form of Emily Andrews. A pale and melancholy picture, and full of terrible reproach. I was dumb, and for a moment, had eyes only for her. She was motionless, as when I had borne her to the unhallowed grave in which she did not rest. I felt that all eyes were upon me—the bride's hand was slowly withdrawn from mine, and that motion restored me. Mine were terrible energies. I seized her hand with a strong effort, and with a voice of the sternest emphasis, my eye firmly fixed upon the obtrusive phantom, I gave the required affirmative. With the word, the figure was gone.—I had conquered. You will tell me, as philosophers have long since told us, that this was all the work of imagination—a diseased and excited fancy, and in this you are probably right. But what of that? *Is it less a matter of supernatural contrivance, that one's own spirit should be made to conjure up the spectres which haunt and harrow it, than that the dead should actually be made to embody themselves, as in life, for the same Providence*? The warning sound that chatters in my ear of approaching death may be, in fact, unuttered; but if my spirit, by an overruling fate, is calculated for the inception of such a sound, shall we hold it as less the work of a superior agency? Is it less an omen for that?

This was not all. At midnight, as I approached my chamber, the same ghastly spectre stood at the door as if to guard it against my entrance. For a moment I paused and faltered; but thought came to my relief. I knew that the energies of soul, immortal and from the highest as they are, were paramount, and I advanced. I stretched forth my hand to the key, and all was vacancy again before me. If my fancies conceived the ghost, my own energies were adequate to its control. In this I had achieved a new conquest, and my pride was proportionately increased and strengthened. I was thus taught how much was in my own power, in making even destiny subservient to my will!

With these specimens of the work, which speak for themselves, we have nothing further to add of the unpretending but admirable little story of Martin Faber, except that the moral of the tale, which impresses the necessity of proper and early *education*, is excellent. How just are the author's ideas of education, his own book tells us in these words:

When the author speaks of education he does not so much refer to that received at the school and the academy. He would be understood to indicate that which the young acquire at home under the parental eye—in the domestic circle—at the family fireside, from those, who, by nature, are best calculated to lay the guiding and the governing principles. It is not at the university that the affections and the moral faculties are to be tutored. The heart, and—*les petites morales*—the manners, have quite another school and other teachers, all of which are but too little considered by the guardians of the young. These are—the father and the mother and the friends—the play-mates and the play-places.

We may seem to have already bestowed too much space upon a book that purports to be meant only "for the use of children;" but a writer of such approved discernment, as is evinced in the passage last quoted, must well know the ill effects of letting one's own powers lie idle; and will therefore enter into our views, when we express our unfeigned wish to hear soon again from the author of Martin Faber. *

Tales of the Caravanserai: by the Author of the 'Kuzzilbash,' 1 vol. Harpers.—Every novel-reader remembers the *Kuzzilbash*. It was one of the best works illustrative of men and manners in the East, since Hope's Anastasius, but more full of striking incidents than even that most interesting book. The present work of Mr. Fraser will, we think, sustain his reputation as one of the most successful and popular writers of the day. The materials are of the same description as the Kuzzilbash, and they are wrought up with the same talent which characterized that animated picture of wild encounters, and barbaric pageants, in half savage lands; changing as it did from the gardens of the harem, or the chambers of the *underoon* itself, to the sand-hills of the Desert, and the tents of its wandering inhabitants.

——The present volume, entitled the Khan's Story, is but the first of a series which may be expected from Mr. Fraser, under the general title of Tales of the Caravansarai—the plan of the work being to bring a number of oriental characters together in one of these Asistic hostelries in the midst of the Desert; and after shutting them up with a snow-storm which renders the roads, if they may be so so called, impassable for some weeks, to set each one present relating a story after the true Eastern fashion of beguiling time. The conception is a good one, and unless it be Mr. Morier, the ingenious author of Hajii Baba, we know of no living writer more capable of making it a most valuable medium for conveying just views of Eastern life and story, than he who has here undertaken it. *

SUMMARY.

James Fennimore Cooper, who, with his family, intended to embark in the Erie, finding the accommodations pre-engaged, went over to England, and will probably reach here by the next Liverpool or London packet.

The St. Louis.—Extract of a letter from Natchez, dated the 10th inst.—"The St. Louis, Story, has arrived after a quick and excellent passage. She was towed up by the steamboat Whale, from New-Orleans, and was only 48 hours coming up, a distance of 300 miles. She was received here yesterday afternoon amidst the shouts and acclamations of the citizens.—The St. Louis commenced discharging this morning."

We learn from the Galenian, that all the difficulties with the neighboring savage tribes are at an end. The Winnebagoes have crossed the Wisconsin River, and the vanquished Sacs and Foxes appear quite humble and disposed for peace. A treaty is to be held about the 10th instant, with the Potawatomies, a tribe of Indians inhabiting the borders of Lake Michigan, when it is expected that all the Indian title to the lands between the Mississippi river and the Lake will be purchased by government.

Gold in New England.—It appears by an article in Silliman's Journal, that Gold has been found in the southern part of the state of Vermont. The gold of the southern states and of Mexico is found in talcose rocks, and it was thought it would also be found in rocks of the same description in New England.

The search thus far has been successful. The Boston Globe states that gold was found dispersed over several hundred acres of this soil; about three penny weights of fine gold was obtained from a bushel of dirt collected in different places.

The U. S. Gazette fills out a column with the following distich, in which there is truth, if not poetry:

"There is nothing in life so shocking
As a fine girl with a hole in her stocking"

Bears.—It is scarcely in the recollection of the oldest inhabitants that so large a number of these animals have been killed and seen in this District. Probably not less than 30 to 40 have been sold in our markets in the last month and as many more killed. Two or three persons have had narrow escapes in encounters with them, and about two weeks ago a person was said to have been devoured by them. The following account as regards the parish of St. Joachim, 25 miles below Quebec, is furnished on good authority:—"A gentleman from St. Joachim mentions that no less than twelve Bears have been killed in that Parish within the last thirty days. These animals were were uncommonly lean and voracious. Most of them were destroyed by fire arms or taken in snares. In one instance however, he states that a large bear came boldly upon a man who was working in a field with a scythe—a struggle took place and the man was badly wounded in the hand and would probably have perished had not his brother come to his assistance, who contrived to trip up and finally to despatch the Bear with a scythe. The animal did not relinquish his grasp of his intended victim until he was completely exhausted by the loss of blood.—[Quebec Gaz.]

A letter from Charleston states, that owing to the recent high tides, which broke the banks, the rice planters on Cooper River, after their rice had been stacked had great part of their crop washed away.

[*From the Baltimore Patriot of Wednesday, P. M.*]

We learn that McClintock Young, Esq. of Baltimore, has been appointed Chief Clerk of the Treasury Department—and current rumor assigns the office of Navy Agent for this port to Col. John Thomas.

The D—l among the Tailors.—The following notification from the Virginia Penitentiary has caused great uproar among the tailors in Richmond. The other crafts have also taken up the subject, and a public meeting was called to consider of what steps it was expedient to take.

Tailoring in the Penitentiary.—The above branch of labor, for some years past restricted to demands of the Commonwealth, was by act of the last Legislature, placed on a footing with other mechanics in the institution, and is now open to individual orders, which will be executed neatly, faithfully, and with despatch, at the following prices:

Making a cloth frock or close coat,	$3 50
Do. domestic do.	2 to 2 50
Do. cloth or cassimere pantaloons,	1 25
Do. domestic do.	1 00
Do. vests, rolling collar or double breast,	1 50
Do. do, plain,	1 00

We do not wonder at the excitement upon this subject; for we cannot but think it an unjust interference with honest labor, that rogues and felons who are kept by the State, should be permitted to undermine its fair profits. The result of such a scheme is to make the whole expense of reforming and punishing criminals fall upon those mechanics whose branches of business are pursued in Prisons and Penitentiaries. If trades must be given to rogues, let it not be at the expense of honest men; and above all let not that be called economy, which ruins the upright and industrious mechanic in order that it may be proved that criminals in prison can be made to pay their own expenses. It would be both cheaper and juster, to levy a general tax for the support of prisons, and to employ the labor of its inmates in destroying one day what it created the day before, rather than to undersell, as is now done, the produce of honest labor.

"Rights of the Press.—An argument of several days has been held before the Mayor of Philadelphia, on a motion in a criminal proceeding that the reporters be prohibited from publishing the testimony pending the trial. The Mayor decided, with entire reason as it seems to us, against the prohibition.

Indian Affairs.—The annexed article of intelligence respecting the remains of the Six Nations, yet residing in the western part of this State, is from the Buffalo Patriot of Tuesday. It will be seen that we have now two "*Regencies*" in this State—that of Albany, and that of the Senecas:

"At the Grand Council of the Chiefs and Warriers of the Six Nations, now in session near this city, a grandson of the celebrated Indian Chief Red Jacket, two years old, has been elected Chief. This has been done in honor to the memory of that distinguished Chief. A Regent has also been appointed to act for him during his minority.

"The Council have not, as yet, decided on the important preposition submitted to the Indians, relative to the purchasing of their lands in this State, and their removal to Green Bay; but it is evident, judging from the angry discussion and division among them, that they will not accede to the wishes of the government, nor will they even send a delegate to the west.

Yesterday, a grand Ball match was played by the Seneca, Allegany, Cattaraugus tribes, against the Oneidas, Tonewandas, and Onondagas, for about $400 in goods and money, which resulted in favor of the Senecas. We understand that another trial of their skill will be had this afternoon, on a large plain one mile above Sackett's Tavern.

It is no very novel thing to see fruit trees blossom a second time in one year, but a second crop of fruit from the same tree in one season, is a novelty which the garden of Mr. W. Bowen, in Buckshuten, West Jersey County, can alone exhibit. And what is

most surprizing, the apples are as large as those of the early season.—[Philad. Chron.]

Agricultural Thrift.—Gen. James Shelby, of this county, sold a few days since, a flock of 160 mules, raised on his plantation, for the sum of $11,840 cash in hand. Fourteen of these mules were purchased by the agent of a gentleman of Cuba, and were sold for $130 each, making an aggregate $1,820 for the 14.—[Lexington (Ky.) Intell. of 24th ult.]

Orders have beee issued at the Quebec Custom House, that the Dollar is hereafter to be received at 4s. 4d. sterling, instead of 4s. 6d.

Several mercantile houses, says the Daily Advertiser, have failed at Quebec, and the claims against them will amount to between 60 and £70,000. There has also been a failure at Montreal and another at Kingston, which has had the effect of creating a want of confidence in that community.

The extensive furnace of Gosfield, in Upper Canada, has been totally consumed by fire. The melting ore was discharged upward, fell upon the roof and set fire to the building.

Good.—It is said that an actor who has recently arrived in this country with the intention of travelling, in addition to his professional occupation, finding that the proceeds of his book would be convenient for expenses, wrote the history of his journeys and the result of his observations beforehand, and took the money from the publisher for the copy-right.—[Jour. of Com.]

[*From the Baltimore Chronicle.*]

Journal of Mr. Durant's Aerial Voyage.—The Balloon was unmoored at 5 hours 27 minutes, the barometer standing at 29 42, and the thermometer 80. In a short time let go the Rabbit, and saw it land safely. At 5 h. 35 was over a road, and thought of descending, but kept on. At 5 h. 46 was within hailing distance of the earth, and conversed with several men; understood them to say the distance to Baltimore was 4 miles; understood their names to be Thomas and Philip Burgan. At 5 h. 50 was within hailing distance again, and conversed with several persons—understood them to say, Baltimore was distant 7 miles. On inquiring the name of the first town, in the direction I was going, understood them to say Abington, and afterwards Bel Air. At 5 h. 55, saw the Sun set and heard report of 2 guns; judged the sound came from W. by N.—About 3 minutes previous to which, tried an experiment for a gentleman in this city, which, if it proves successful, will be given to the world. At 6 h. 8, barom. 28,02, therm. 72, I was suspended over Gunpowder River. At 6h. 9, conversed with an inhabitant, understood his name to be Mr. Carroll, and the name of place Perry Hall—understood the name of another gentleman to be Isaac Holland, who was very communicative; he informed me I was 13 miles from Baltimore, and the next town was Bel Air—and desired I would not forget his name. At 6h. 16, again conversed; understood Bel Air was distant 5 miles. Felt anxious to see the town having heard a good account of it before starting, by persons who told me I should go in that direction. At 6 h. 32, barom. stood at 24,43, therm. 62. At 6h. 53, both anchors grappled with the earth about 200 feet from the Court House in Bel Air. About 200 persons immediately ran up, and politely proffered help, evincing a great desire to assist me. I remained suspended about one hundred feet, until towed by them to a clear field in the middle of the town; at 6h. 44, the car touched the earth. At 6h. 53, I stepped from the car. At 7h. 12, every thing was secured—packed up and taken to Mr. Richardson's Hotel, where I was politely received and entertained. Among the gentlemen who assisted me to alight were Benjamin Bond, Henry Richardson, Major W. Richardson, Doctor Augustus Bond, Doctor Munikhuysen, Colonel H. Dorsey, Colonel I. D. Maulsby, Joseph Robinson, Major Bradford, Mr. Dimmitt and Ralph S. Lee. The persons over whose farms I had passed, also came up with alacrity. I must not omit to mention the attention of the ladies in taking charge of my barometer, &c. Tea was soon prepared, and I partook heartily, having tasted nothing since half past seven o'clock, A. M. The tea table was graced with the presence of a large number of ladies, and my satisfaction was heightened by the presence and attention of the Rev. R. H. Davis, and Mr. Charbonnier. After tea, we called on Colonel H. Dorsey, where a bottle of very superior old wine was produced, he having promised it to his friends in case the balloon should descend in the village. In the morning, I breakfasted by invitation with Mr. Robinson, Postmaster. I was here waited on by Mr. Kenny, deputed by the ladies of the lower part of the town, to express their thanks for having selected their village as the place of descent. A number of ladies called, personally, and were each presented with a flower from the decoration of the car.

Left Bel-Air 9 h. 20, and was escorted by a cavalcade of gentlemen to the county line; the cavalcade was composed of Col. Maulsby, Mr. Boulden, Mr. Elliott, Mr. McKenney, Mr. Furry, Mr. Jones, W. P. Maulsby, Mr. Davis, Dr. Bond, and Dr. Munnihuysen. Arrived at Barnum's at half past 3 P. M. I should have mentioned that Mr. Richardson sent me to Baltimore in his gig, for which, as well as for my entertainment, he would receive no remuneration.

In conclusion, I beg leave to present my thanks thus publicly to those gentlemen of the city who kindly afforded me their aid in the preparations for the ascent at the Garden, and especially to acknowledge with a sense of obligation the courtesy which has been extended to me by the citizens generally in all my preparations and arrangements. At Bel-Air no less civility and kindness were afforded me on alighting there and in returning to the city. Nothing of personal attention has been wanting any where to make the ascent and the descent agreeable to my feelings. C. F. Durant.

The following is the amount of the valuation of real and personal estate, as made up by the Board of Assessors, at their final meeting last evening. The amount of taxes to be raised for the present year, it is understood will exceed $800,000, which, with the expenses of collection, &c. will not vary much from one half per cent. on this valuation. The total increase of the valuation of real and personal estate, since the last year's report, is $23,018,461. The expenses incurred by the prevalence of the Cholera last year, which are to be included in this year's taxes, we understand, amounted to nearly $300,000.—[Jour. and Adv.]

VALUATIONS.

Wards.	Real Estate.	Personal.	Total.
1st	22,521,104	26,051,869	48,572,973
2d	10,514,500	2,864,735	13,379,235
3d	10,100,000	6,306,772	16,406,772
4th	6,851,550	2,565,553	9,417,103
5th	8,698,000	3,727,172	12,415,172
6th	5,675,550	2,885,776	8,561,326
7th	5,486,180	1,989,470	8,469,650
8th	6,899,686	1,406,400	8,395,086
9th	4,806,300	551,100	5,357,400
10th	6,230,800	636,500	4,867,300
11th	6,487,958	551,000	7,038,958
12th	7,432,325	488,900	7,921,225
13th	2,351,600	345,158	2,696,758
14th	4,453,600	1,988,605	6,442,205
15th	7,167,735	2,054,200	9,220,935
Total,	114,907,013	54,474,110	179,381,193

Coal Trade.—We take from the Miner's Journal of Saturday, the following statement of the coal shipped from the mines the present season, up to the 20 inst.:—

Little Schuylkill	25,718
West Branch Railroad	57,750
Mount Carbon Railroad	55,386
Mill Creek Railroad	28,764
Schuylkill Valley Railroad	19,423
Lehigh Coal Trade	78,900
Delaware & Hudson Coal Trade	64,950
Total, tons	330,980

[*From the Boston Atlas.*]

Dr. Jonathan Wild, says a correspondent, whose death at Walpole has recently been announced, was venerable for years and for services to his country. In the spring of 1775 he received from Drs. Gardiner Baker and Warren his license to practise as a physician and surgeon. On the morning of the 19th of April he was walking alone in Randolph, his native town, and considering where he should pitch his fortune. The noise of guns at Lexington, decided him. He marched on that day as a volunteer, and arrived at Cambridge about an hour after the British had passed on their retreat. From that time he did not return home until he came sick from Canada whither he proceeded in the Spring of 1776, as a gunner in Major Stevens' artillery. His return took place in December following. Afterwards he served as surgeon's-mate, on board the Continental frigate Warren, Commodore John Hopkins; then as surgeon on board the privateer Speedwell, Captain Daniel, and, lastly, in the same capacity on board the Continental sloop of war Revenge, under the gallant and enterprising Captain Augustus Cunningham.

Dr Wild was a pensioner of the United States, during the last seventeen years of his life. His pension had lately increased, but he lived but a little while to enjoy it. He was eighty years old. For forty to fifty years he was an active practitioner of medicine.

Dr. Wild related to the writer sometime ago an anecdote of Washington of which he was a witness.

"On one night in December 1775, a party of 500 men was sent to fortify on Barrell's Hill, where the Insane Hospital now stands. It was very cold and Washington was there looking at the work. A man named Wilder of Plymouth, mistaking Washington for a soldier, came up behind him and putting his hands upon his shoulders shook him stoutly, saying, 'man alive, if you dont take a tool and go to work, you'll freeze to death.' The man was alarmed when he discovered his mistake, but Washington smiled so pleasantly that he was immediately relieved from his apprehensions.

The Rice Crops, which we noticed a few days since, as being very luxurient, have been somewhat injured within the last week, the high tides which prevail having broken through the embankments, and overflowed the fields in many places. The fields on Cooper River, which is said to have been the most promising, suffered most from these inundations.—[Charleston Courier.]

[*From the Alexandria Phenix of Tuesday.*]

Steamboat Burnt.—The Steamboat Ousatonic, plying between this place and the different landings on the Potomac River, was burnt to the water's edge, on Friday night last, whilst she was lying at Leonardtown, Md. The fire was entirely accidental, and so rapid was the progress of the flames, that the Captain and crew, asleep on board at the time, with difficulty escaped with their lives. We understand the Ousatonic was partially insured. Another boat, it is said, will be put upon this route as soon as the necessary arrangements can be made.

It is computed that there are in the United States about 800 whale ships, employing about 10,000 men, and which bring home every 40 months, about 227,960 barrels of oil, the value of which is not far from $4,000,000. The outfit of each ship, for 30 months' cruise, is from 15,000 to 20,000 dollars.

Health of New Orleans.—We are pleased to notice a manifest decrease of the number of interments for the last three days, and to understand that the number of cases of sickness has become less. We advise strangers, notwithstanding, not to hasten their return yet. As it is our intention weekly to notice the sanitory state of our city, they will readily perceive from our columns, when they can return with perfect security, and without risk.

Interments in the Catholic and Protestant Cemeteries.

	Catholics.	Protestants.
Sept. 13	23	12
" 14	21	7
" 15	14	15

[N. O. Bee of Sept. 16.]

There has been quite a decrease in the number of deaths within the last three days, but is owing more to the want of subjects, than any abatment in the disease. We have ascertained that there has been a few new cases of Cholera, but it does not appear to spread, and has been in almost every case produced by imprudence.—[N. O. Sept. 18.]

The death of the King of Spain is announced in a Lisbon letter of the 22d August, (some days later than before received,) published in the Boston papers of yesterday. The rumored battle between the forces of the contending brothers, was a rumor only.

Latest from Mexico.—Letters from Vera Cruz to Aug. 30th, state that the cholera was raging very badly among the poorer classes, and that the last accounts from the city of Mexico represented the disease as very destructive there also, among the same classes. Persons in comfortable circumstances were in both places comparatively exempt. Such has been the destruction among the soldiers, that both contending armies had been obliged to suspend all hostile movements. A letter from Mexico, dated August 27th, says that the deaths by cholera had already amounted to *fourteen thousand*, in a population of *one hundred and eighty thousand*. The disease was raging throughout the country.

From Brazil.—Capt. Green, of the brig Rebecca, from Para states that at the time of his sailing, that place was in a very unsettled state. A new President was hourly expected in a frigate from Rio, and it was expected that disturbances between the contending parties would take place at the exchange of Presidents. Preparations were making to fortify the city. The British sloop of war Race Horse, Capt. Cotton, sailed a few days previous on a short cruize; her commander had kindly offered to assist if necessary, all Americans residing at Para, in protecting them and their property. Produce of that country high and in demand. Dry salted Hides 150 reas per pound, Wet salted 100 do. Sugar 5 milli reas per arobe.—American produce in abundance and sales dull owing to the unsettled state of the country.

We are indebted to the Natonal Gazette for the following extracts from the introductory address delivered by Hon. Wm. Sullivan, before the Americen Institute of Instruction at Boston, 22d ult. Mr. Sullivan teaches practical truth in a clear and terse style, like a man of the world and a man of letters animated by a generous zeal for the welfare of all individuals. He answers in detail the important question—"*In what manner should an American youth be educated?*"

"The mere animal enjoyment of life, is far from being well understood in this country. This subject better deserves an appropriate treatise, than a short remark, which is all that this occasion allows. In this respect, we might be, with our abundant means far more intelligent and happy than we are. If those benevolent persons who give a portion of their time to teaching in Lyceums, would discourse on the common-sense practical philosophy of life, they would do far more good than they can do by discoursing ever so wisely on poetry, astronomy, rail roads and steam engines. How to eat, how to sleep, how to labour, what air to breathe, how to be dressed and how to be cleanly, concern every man, woman and child; for all these go to health, without which intellectual pleasures are of little worth.

"It is believed that there are lasting and painful infirmities, which begin in the school room. It is a convenience, and a relief, to a busy mother to send her children to school, for several hours in the day. She considers them safe while so employed: nor only so, they are getting learning, and preparing to get a living. But at this tender age, while the bones are hardening, and the delicate structure of the human frame is easily deranged, it is more than probable, that long continued *sitting* lays the foundation for diseases which show themselves in after life, and occasion affliction to the child, and cost and pain to parents. The learning that may be acquired, in these early years, can be no compensation for such evils. It would be far better, for parent and child, to have good schools for *playing*, as well as learning, during the early years of infancy. The natural athletic action of the human system, has no tendency to deform, or enfeeble it; while the tedious confinement of the school room is certain to do both. All that is contended for, is, that there should be a rational mixture of bodily action, and mental employment for children, as mutually auxiliary in preserving health, and in acquiring learning; and however common such thoughts may be, they cannot be too often expressed until they are carried into practical and general effect."

* * * * * *

"Admit that all our schools, as they now exist, and all others which have been mentioned, if established, answered the purposes intended, they would only qualify young persons to commence the getting of a living, and to acquire property, as though the sole purpose of this life were to get, and to use, to keep, and die possessed of, such things as can be weighed, measured and counted, or valued by money. It is not perceived, that it makes any part of the course of education, to teach *how to live, or for what to live.* Is it wise or consistent with human capacity, to limit education to the mere purpose of getting this world's goods and to exclude all instruction as to the uses to which they should be applied and as to their true value in comparison with other attainments? It is not assumed that property is, in general, misused among us, nor intended that the honorable industry which is enriching this country should be laid aside or interrupted. No doubt this industry is conclusive proof of national welfare, as far as it goes. It is the source of the noble charities of which our citizens may be justly proud, since nearly all of these come from private donations, and not from the public chest. Passing by many cases, which might be mentioned, we may select, with pride and pleasure, the recent munificence of one of our citizens, in aiding to bestow a new sense on those whom nature seems to have neglected, and to restore a sense to those whom misfortune has bereaved. Such sensibility to the wants of others, sheds a glorious lustre on our land. It is not contended, that the manner in which property is acquired, or used, is wrong, but that the education which qualifies one for no more than to acquire property, merely for its own sake, is not that education which qualifies any human being to be intelligent and happy." * * *

"It may be expected that when one ventures to assume that society is in error, and can become wiser, that he should point out the cause of error, and suggest the remedy. I have but light pretensions to the ability to do this. So far as I can see into this matter, it is from the general prevalence of unsound opinions as to worldly good; and from the habit into which the members of society have fallen, of making *comparisons* between their own condition, and that of others. One, for example, has little satisfaction in a keen appetite, simple food, good clean raiment, a moderate and comfortable dwelling place, furnished for usefulness and not for show, and in safe and convenient means of transportation from place to place, nor even in good health, when he is obliged to compare himself with one who dwells in a splendid mansion, adorned with pictures and statues, and who dines at a table dazzling with porcelain, silver, and gold and on food which it has tortured ingenuity to prepare for him; and who rides on yielding springs seated on downy cushions. But the person who distresses himself in comparing his condition with that of his fortunate and luxurious neighbor, would be astonished to hear, that his neighbor is envying him for his supposed freedom from vexatious care, for his tranquil industry, and well earned health. It does not seem to be the possession of riches, nor every use, nor even the most common use of them, which constitute happiness."

"For, after the common wants of nature are satisfied, if the rich have no inclination to use money for charitable purposes or the public benefit, the pleasure of being rich must be derived from the conciousness of being thought, by the world, to be so.—The real value of wealth may be tested by comparing it with knowledge. Lord Bacon, or some other wise man, says that knowledge is power. Wealth cannot buy health but can easily lead, to disease. It cannot buy knowledge, good sense, taste, good manners, or good feelings; but may, and often does, prevent the acquisition of all of them. It cannot purchase self-satisfaction or tranquility, but often makes one dissatisfied and painfully anxious. It does not make one independent, but often makes one a miserable slave. If a miracle could be wrought in relation to a sensible, well informed man, and a rich one who values himself only on his riches, the true value of wealth would be discerned. Suppose two such men could remain precisely in their respective conditions, as to possessions and use of worldly things, but that the eyes and tongues of the world should become insensible as to both of them. The rich man's house would be seen, but he would not be known to be the possessor. His festivals would occur, but he would not be known to give them. His equipage would continue to glitter, but he would not be known to be the fortunate owner. He would come to the sad conclusion, that he spends his life for others, and does not live for himself. While the other man would still have his sources of satisfaction, and come to the sound conclusion, that the world's admiration is of no worth to him."

"But this is not the worst of selfish wealth. One's children are necessarily habituated to consider, that the business of this life, and all that life is given for, is to be rich. They receive no instruction which qualifies them to know how riches should be used. If they inherit, and become afterwards poor, they are in a miserable state, compared with a poor man's child, who thinks it no degradation, but a privilege, to labor in any honest vocation. There are some who think the statute of distributions is an unwise provision; it tends, they say, *to break families down in three or four generations.* So far from being wrong, this is the very best feature in our whole system of policy. If wealth could be entailed, in such a country as this, while education continues as it is, all the inducements to be intelligent and happy would disappear from the land. The less that is thought of wealth for its own sake, and the more that is thought of those qualities which no wealth can purchase, the better pretensions will Americans have to intelligence and happiness."

Tactual Sensibility of the Heart.—A noble youth of the family of Montgomery, from a fall and subsequent abscess on the side of the chest, had the interior marvellously exposed, so that after his cure, on his return from his travels, the heart and lungs were still visible and could be handled; which when it was communicated to Charles I., he expressed a desire that Harvey should be permitted to see the youth and examine his heart. "When," says Harvey, "I had paid my respects to this young nobleman, and conveyed to him the king's request, he made no concealement, but exposed the left side of his breast, when I saw a cavity into which I could introduce my fingers and thumb; astonished with the novelty, again and again I explored the wound, and first marvelling at the extraordinary nature of the cure, I set about the examination of the heart. Taking it in one hand, and placing the finger of the other on the pulse of the wrist, I satisfied myself that it was indeed the heart which I grasped. I then brought him before the king, that he might behold and touch so extraordinary a thing, and that he might perceive, as I did, that unless when he touched the outer skin, or when he saw our fingers in the cavity, this young nobleman knew not that we touched the heart.—*Bell's Bridgewater Treatise.*

Extraordinary Product.—An experiment has lately been made on salt water obtained at the Messrs. Presten's Salt Works, on Holston River, which exhibited the following result. Twenty buckets full (sixty-seven gallons) of the water was put into a boiler, which evaporated in four hours, leaving a deposit of five bushels salt, weighing one hundred and fifty one pounds. This experiment shows that the bulk of salt is in the proportion of one-fourth to the water in which it is held. It is thought that there is known no water which approaches this in strength. There is not the slightest quantity of bittern or other foreign matter found in it. The supply of this water, is equal to the manufacture of five hundrod bushels of salt in twenty-fours hours.

Account of Common Salt.—It does now appear that the mineral kingdom contains a single species capable of being employed as food: but there is one mineral species which indirectly contributes to the nourishment of many other animals as well as man, and that is common salt, the flavor of which, to a certain extent, is not only grateful to the palate, but, practically speaking, mankind could not exist, or at least never have existed without the constant use of it. Thus, though employed in very small quantities at a time by any individual, and almost exclusively for the purpose either of preserving or of rendering his food more palatable, this substance may fairly be classed among the principal necessaries of life; and correspondently with this statement, we find that nature has supplied it in abundance, indeed in profusion often, in various parts of the globe: for, to say nothing of those apparently inexhaustible masses which occur among the solid strata of the earth, and which have been constantly quarried through successive ages from the earliest records of history, the ocean itself is a never-failing source of this valuable substance. In other instances salt springs afford the means of a ready supply; and through out a considerable part of the sandy districts of Africa and Asia the soil itself abounds with it. The abundant supply of common salt coincides with its extensive utility. It is every where indispensable to the comforts of man; and it is every where found, or easily obtained by him. And, though not to the same extent, the same observation holds with reference to many other natural saline compounds. Thus carbonate of potash, and natron or carbonate of soda, alum, borax, sal ammoniac, and sulphate of iron, or green vitriol, which are most extensively useful salts in many processes of the arts, are either found abundantly in various parts of the world, or may be obtained by very easy means: while a thousand other saline compounds, which are rarely of any practical importance, are scarcely known to exist in a native state.—[Kidd's Bridgewater Treatise.]

Turkish Proverbs.

Don't trust to the whiteness of the turban, the soap was bought on trust.

Death is a black camel which kneels at every door.

Blood is not washed out with blood, but with water.

THE SHEPHERD'S RESOLUTION.

[This fine old song was written by George Wither, a satirical writer of the times of James and Charles the First. It is extracted from one of his long pastoral poems, entitled "The Mistresse of Philarete," published in 1622.]

Shall I, wasting in despair,
Die, because a woman's fair?
Or make pale my cheeks with care,
'Cause another's rosy are?
Be she fairer than the day,
Or the flowery meads in May
If she be not so to me,
What care I how fair she be

Shall my foolish heart be pined
'Cause I see a woman kind?
Or a well disposed nature
Joined with a lovely feature?
Be she meeker, kinder, than
The turtle-dove or pelican,
If she be not so to me,
What care I how kind she be?

Shall a woman's virtues move
Me to perish for her love?
Or her well-deservings known,
Make me quite forget *mine own*?
Be she with that goodness blest
Which may merit name of *best*,
If she be not such to me.
What care I how good she be?

'Cause her fortune seems too high,
Shall I play the fool, and die?
Those that bear a noble mind,
Where they want of riches find,
Think, what with them, they would do,
That without them, dare to woo:

And unless that mind I see,
What care I how great she be?
Great or good, or kind or fair,
I will ne'er the more despair.—
If she love me, this believe;
I will die ere she shall grieve.
If she slight me when I woo,
I can scorn and let her go.
If she be not fit for me,
What care I for whom she be?

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the *present* contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR,
35 Wall street.

New-York, August 14, 1833.

AMERICAN INSTITUTE.

☞ THE Sixth Annual Fair of the American Institute will be held in the city of New-York, at Masonic Hall, on Tuesday the 15th of October next, and continue three days.

Premiums, consisting of Diplomas, or Medals, will be awarded, as usual, for such articles of American production, as shall be adjudged superior, either in material or workmanship.

As a new impetus seems to have been lately given to American Industry, it is confidently expected that the Fair announced for October next, will present still more decisive evidence of the advancing condition of our agriculture, our manufactures, and the arts, than any of those which have preceded it.

Such ingenious and useful machinery as may be conveniently transported, and put in operation, will give interest and spirit to the occasion.

Each article should be labelled with the name of the manufacturer, or producer, and with the agent's name, and number, in this city.

The design is to inform buyers where they can supply themselves with the best articles. In this way, by means of former Fairs, many excellent workmen have become better known and have obtained permanent and profitable customers, who, while they have been better served, have at the same time rewarded and stimulated American skill and industry.

Articles entered for premiums must be delivered as early as Monday, the 14th of October.

More particular notices will be published previous to the Fair. For any other information which may be desired, apply to either of the Managers, in person or by letter.

JAMES LYNCH,
ANDREW WILLIAMS,
EDWARD T. BACKHOUSE,
CLARKSON CROLIUS, Jr.
WM. F. PHYFE,
JOHN SAMPSON,
JOSEPH TITCOMB,
JARED L. MOORE,
GEORGE BACON,
} Managers.

New-York, July 4th, 1833. A29 t13 oct R J

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. F3 tf

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure. One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation. Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15, 1833. A29 tf RM&F

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¾ inch,
200 do. 1¼ do. ¾ do.
40 do. 1½ do. ¾ do.
800 do. 2 do. ¾ do.
800 do. 2½ do. ¾ do.
soon expected.

Flat Bars in lengths of 14 to 18 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment.

A. & G. RALSTON.
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. a7 8maowr

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,
No. 264 Elizabeth street, near Bleecker street,
New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation.

J25 tf

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.
Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new: among which are an Improved Compass, with a Tell escope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repair, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norriet. Railroad
m1 1y

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maidenlane.
J31 tf

FOR SALE,

☞ ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. devoted to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 500 genera of American plants $3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with figures. 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO. 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

*** Orders for these works, or any other of Professor Rafinesque's, received at this office. A9 tf J M & F

TO STEAMBOAT COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid.
S1 R J M M & F

TO RAILROAD COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office. Apply, post paid. S1 R J M M & F

INCOMBUSTIBLE ARCHITECTURE.

☞ INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIGNIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 59 North 8th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists.

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S1 R J M M & F

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 17th to the 23d day of September, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Sept'r 17..	6 a. m.	56	30.25	NNE—w by s	faint	w by s / sw	fair
	10	63	30.28	sw—s	light	.. / ..	..
	2 p. m.	70	30.22	s	mod.–fresh	.. / sw	.. —cloudy
	6	65	30.21	..	fresh	.. / ..	cloudy
	10	62	30.20	..	..	..	..
" 18..	6 a. m.	62	30.10	..	..	sw	.. —rainy
	10	64	30.07	ssw	..	..	rain
	2 p. m.	66	30.00	sw	moderate	..	..
	6	67	30.00	..	..	..	cloudy
	10	67	30.00	..	calm	..	..
" 19..	6 a. m.	67	30.00	sw	light	wsw	.. and foggy —fair
	10	70	30.02	..	..	..	fair
	2 p. m.	80	30.00	..	..	..	..
	6	76	29.97	wsw	..	..	..
	10	74	29.98	..	..	..	..
" 20..	6 a. m.	76	29.97	..	moderate	..	..
	10	80	29.94	sw	..	..	..
	2 p. m.	84	29.91	..	..	..	..
	6	81	29.90	..	..	..	.. —clouds and lightning at w & N
	10	76	29.89	..	..	..	cloudy —thunder shower
" 21..	6 a. m.	69	29.92	NNW—N	..	nw / N	..
	10	66	30.00	N	..	sw	..
	2 p. m.	66	30.00	N by W	..	..	..
	6	65	30.03	..	..	..	..
	10	61	30.10	..	..	..	..
" 22..	6 a. m.	54	30.20	NNE	..	sw by s	fair
	10	60	30.25	..—N by E	..	..	.. —thin variegated *cirri* from ssw
	2 p. m.	64	30.23	N by E	..	..	.. — .. .. ..
	6	62	30.21	..	light	sw / N by E	.. — .. .. ..
	10	58	30.21	..	..	sw by s	..
" 23..	6 a. m.	58	30.20	NE	moderate	..	..
	10	62	30.22	ENE	fresh	..	.. —detached *cirri* beautifully variega-
	2 p. m.	64	30.16	..	moderate	ssw	.. — .. .. .. [ted
	6	63	30.15	..	..	..	.. — .. .. ..
	10	60	30.10	..	light	..	..

Average temperature of the week ending Monday, September 23, 66°.94.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of August, 1833—(Latitude 31.10 N., Longitude 91.59 W. nearly.)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
1833.	Morn'g.	Noon.	Night.		
August 1	75	86	78	calm	clear all day—Red River falling
" 2	74	88	76	..	.. ..
" 3	75	88	84	..	.. ..
" 4	78	88	82	sw—light	cloudy
" 5	78	92	86	..	clear—evening calm and cloudy
" 6	78	80	76	calm	.. morning—11 a.m. fine shower fr NW—heavy thunder and rain in even'g
" 7	74	89	84	..	.. .. —evenings cloudy—sowed turnips, cale, cresses, lettuice, and
" 8	78	90	86	..	clear—martin birds left here [radish seed
" 9	78	89	84	NE	.. —flying clouds—evening and night, showers
" 10	77	88	80	w	cloudy all day—sweet potatoes very large for use
" 11	79	85	80	sw	.. —thunder showers evening
" 12	78	88	83	..—light	clear—evening calm
" 13	73	88	85	calm	.. —Red River fell this month 7 feet 10 inches, and off the flat
" 14	74	90	86	..	..
" 15	74	90	87	NW	.. —evening calm and cloudy
" 16	74	87	82	N—high	.. —flying clouds
" 17	68	84	80	NW—light	..
" 18	67	87	78	..	..
" 19	67	86	82	w—light	..
" 20	69	88	84	calm	..
" 21	72	89	82	NE—light	.. —light flying clouds
" 22	69	89	83	..	.. —evening calm
" 23	72	91	82	N	.. — .. cloudy, and thunder, no rain
" 24	74	91	81	calm	cloudy
" 25	74	90	82	NE—light	clear
" 26	73	89	82	calm	..
" 27	71	88	84	..	..
" 28	70	89	83	NE—light	.. —light flying clouds
" 29	70	89	83	..	.. — .. .. ..
" 30	71	89	78	..	.. —evening calm and cloudy
" 31	71	88	79	..	cloudy
Average	73	88	82	Genoral average of temperature for the month of August, 81°.	

Red River fell from the 1st to the 13th August, 7 feet 10 inches, and from the 14th to the 31st, 9 feet 4 inches—making in all the month, 17 feet 2 inches; and is now below high water mark 22 feet 10 inches.

MARRIAGES.

On Saturday evening, 28th inst. in St. Thomas's Church, by the Rev. F. L. Hawks, AUGUSTUS T. COWMAN, to ANN B. daughter of James GILLENDER, all of this city.

By the Rev. Dr. Brownlee, AMOS WILLCOX, Esq. to Mrs. ELIZA LINARES, daughter of John Nalle, of New York.

On Thursday evening last, JOSEPH D. SLADE, Esq. of Portsmouth, N.H., to Miss CATHARINE A, eldest daughter of Wm. Schuerman, of this city.

On Thursday evening, Sept. 26th, DANIEL H. TOMPKINS, to ELIZA, daughter of William Wright.

On Thursday evening, 26th Sept., by the Right Rev. Bishop Onderdonk, JOHN W. SCHMIDT, Jr. M. D., to Miss MARY ELIZABETH, only daughter of E. Baker, Esq., all of this city.

At Albany, on Tuesday evening, by the Rev. Dr. Ludlow, William Cooper, to Susan C., daughter of the hon. James Vandeposel.

On Wednesday evening last, at Newtown, L. I. by the Rev. Mr. Shelton, Mr CHARLES H. JUDSON, merchant of this city, to MARY, daughter of the late Capt. Daniel S. Moore, of the former place.

At Richmond, C. W. M'MURDO, of New Orleans, to Miss ANN F. DIXON; and CARTER CRITTENDEN, to Miss JULLET ADELLA HATCHER.

At Onondaga Hill, on the 19th, by Rev. J. H. Prentice, Mr. GEORGE REED, of Watertown, Jefferson co. to Miss ESTHER O. JUDD, of the former place.

The same day, by the same, F. C. D. M'KAY, Esq. of Warsaw Genesee co. to Miss ANGELINE J. JUDD, of Onondaga.

In Middlebury, (Vt.) on the 16th ult. by Rev. Mr. Merrill, Rev. HENRY SMITH, Prof. of Languages at Marietta College, Ohio, to Miss HANNAH BATES, daughter of Rev. Joshua Bates.

Yesterday morning, at Elizabethtown, New-Jersey, by the Rev. Thomas Mc rell, Mr. FRANCIS BURRITT, of New-York, to Miss PHOEBE PERRINE, of the former place.

In Philadelphia, on the 25th inst. by John Swift, Esq. Mayor, GEORGE D. COGGESHALL, Druggist of this city, to Miss DORAH, daughter of Thomas Walter, of Lower Merion, Township, Montgomery Co., (Penn.)

DEATHS.

On Sunday morning, at 5 o'clock, of a lingering disease, Mrs. ANN HAUSBROW, in the 24th year of her age.

On Friday, 27th ult. at Mamaroneck, Westchester county, EDWARD M. JOHNSON, in the 45th year of his age.

In Russelville, Ky., Maj. Morgan A. Heard, known to the public as the individual who attempted the life of Mr. Arnold, of Tennessee, on the steps of the Capitol, during the session of Congress before last.

In Utica, on the 19th inst. after a long and painful sickness, Mrs. Sophia Bagg, wife of Moses Bagg, Esq., in the 53d year of her age.

At Pensacola, on the 2d inst., Capt. David Christie, aged 35, formerly of New York.

At New Windsor, Orange county, N. Y., WILLIAM, infant son of John Ellison, Esq.

At Norfolk, LITTLETON S. SAVAGE.—At Pensacola, Captain R. B. THROCKMORTON, of Norfolk.

At Chicago, on the 24th ult. EDWARD SUMMERFIELD, Esq. from Georgia, lately from Missouri.

At Atlas, Illinois, Mrs. LUCINDA RITCHEY, aged 48 years, late of St. Louis.

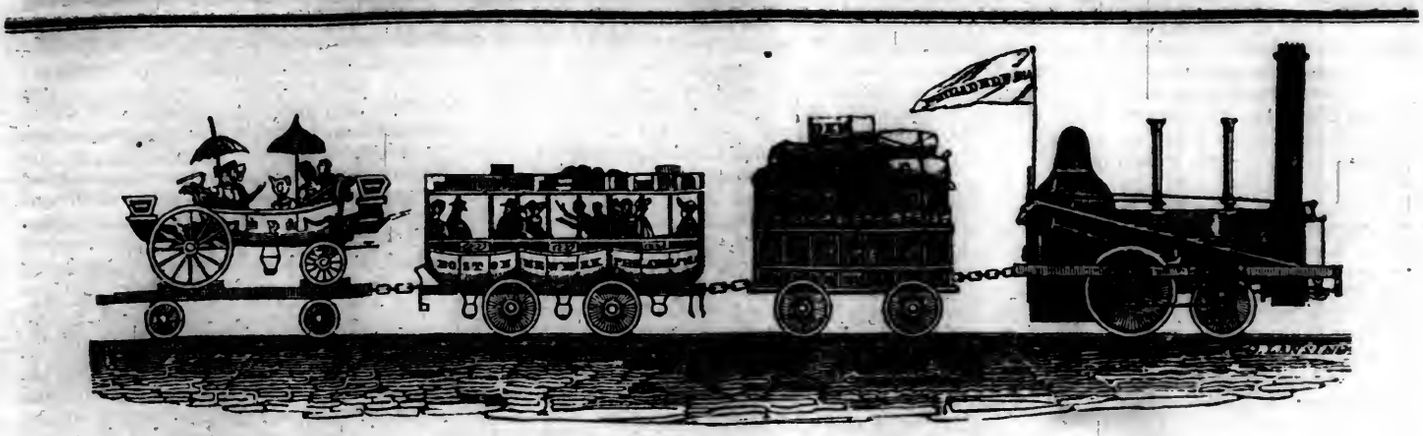
In Green County, on the 1st ult. Mr. HUGH M'GILL, aged 34 years.

In St. Louis, of the cholera, on Monday, after a sickness of eight hours, AMELIA ANN, one of the Sisters of Charity.

On the 11th ult. at New Orleans, of yellow fever, Mr. JAMES FINDLAY, of Forres, Murrayshire, Scotland.

At New Orleans, of the yellow fever, Oscar Wendell, eldest son of John L. Wendell, Esq., of Albany

"Mr. Wendell," says the New Orleans Mercantile Advertiser, "had resided in this city for the last two years, and by possessing a frank, independent, and generous disposition, he had endeared himself to a large circle of friends, who, while they deeply and sincerely sympathize with his bereaved and afflicted relations in his loss, bow with submission to the decrees of that all wise and Supreme Being, who gave and who hath taken away."



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, OCTOBER 12, 1833. [VOLUME II.—No. 41.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 12, 1833.

Mad River and Lake Erie Railroad.—Our readers will perceive by an advertisement in to-day's paper, that books for subscription to the stock of the Mad River and Lake Erie Railroad are to be opened on Monday, the 14th instant, at the Exchange. We have had occasion, heretofore, to notice this project, and have published the Report of the Engineer upon the result of an experimental survey to ascertain its practicability and probable cost. From this report it appears that the length of the road is 153 miles, and that the country over which it is to pass is in the highest degree favorable. The cost of construction will not exceed $11,000 per mile for a double track. It is remarkably adapted to the employment of locomotive engines, exclusively, upon it, as there is not an elevation upon the whole route that cannot be overcome by them with ease, without requiring either stationary or animal power. The fertility and resources of this part of the State of Ohio cannot be exceeded by any portion of the western country.

It requires no great stretch of the imagination to look forward to the period, and that not far distant, when, by the construction of this great and important work, the valley, not only of the Great Miami, celebrated as the garden of Ohio, but the great Valley of the Mississippi itself, will pour its riches into our bosom.

But there is another consideration which strikes us with peculiar force: and that is the great importance of securing to New-York the vast amount of travel from the South-Western States, that now goes to Baltimore and Philadelphia. The city of Cincinnati is the stopping place for all travellers from the south by the Mississippi and Ohio rivers. This is rendered necessary by the difference in the depth of water above and below that city. Most of the boats that come up to Cincinnati from below, drawing so much water as to prevent them from ascending the Ohio farther. Boats of lighter draught are, therefore, employed in the trade between that city and Wheeling. This renders a trans-shipment necessary. As matters at present stand, the traveller finds it easier for him to take steamboat from Cincinnati to Wheeling or Pittsburg, and then to cross the mountains by stage, upon a comparatively good road, than to traverse the whole length of the State of Ohio, over bad roads, to reach Lake Erie, where he has about as far to travel to reach New-York as he would have, were he at Wheeling. The consultation of personal accommodation, of course, carries off the great portion of the travel to Baltimore and Philadelphia—that is, the merchant who comes to New-York for his goods finds it more convenient to take Baltimore and Philadelphia in his route, than to come here direct. When at those places, he will, of course, look at the markets, and as he has to return by the way he came, he will purchase part of his goods there.

But, construct this road, and how will the matter stand? The traveller finds himself at Cincinnati. He then has the choice of a safe, easy, and expeditious conveyance to the Lake, requiring only 18 to 20 hours travel, whence he can reach New-York in 84 hours, or he can take the steamboat to Wheeling, requiring generally from three to four days, when he will have to consume three days more to reach Baltimore, unless he chooses to ride night and day for two days, making at least six days from Cincinnati to *Baltimore*, by the one route, and five days to *New-York*, by the other.

We think there can be no doubt as to which route would command the preference.

This will more emphatically be the case with the traveller from St. Louis, and intermediate points, along the route of the National Road. Already worn out by a long journey in the stage, when he arrives at Springfield, where the two roads intersect, he will prefer the route by way of the Lake, to a two days' ride to Wheeling, and a threedays' ride thence to Baltimore.

We have entered thus into detail, because we consider it of the highest importance that the *travel*, not only of Ohio, (for that is but a small portion of the Great West,) but of Indiana, Illinois, Missouri, Kentucky, Tennessee, Arkansas, Mississippi, Louisiana, and even of the Texas, should, by the offer of a cheaper, more comfortable, and much more expeditious route, be secured to this city. The merchant *will* consult his own personal accommodation in a journey of so great a length, and if a better route, in these particulars, is presented to him elsewhere, it is vain to think he will not embrace it.

The remarks we have made with regard to the travel, will apply with equal force to the trade of the West for the same facilities are offered for the transportation of merchandize as for that of passengers.

We have heard the remark made, that this work is too far off materially to affect the interests of New-York. We are entirely of a different opinion, and so must be, we think, every man who gives the subject a moment's reflection. Whatever avenues you open for the transportation of produce to Lake Erie, affect New-York as much as the beating of the heart affects the remotest extremities of the body. This produce will come to Buffalo, whence it will find its way to the Hudson. It was avowedly to prevent the trade of the Mississippi Valley from being diverted from passing through the Ohio Canal, and going to Wheeling and Pittsburg, whence it would go to Baltimore and Philadelphia, that an arrangement was made by commissioners with Ohio, last winter, reducing the rates of toll on both canals, on down freight, 29 per cent., and on freight going west, 14½ per cent., and we understand that a further reduction of 25 per cent. is to be made this winter on up freight for the same purpose. Notwithstanding this reduction, the tolls this year have exceeded those of last year, for the same period, upwards of $212,000. The interests of the two States are indissolubly united. Ohio is interested in causing all the trade of the lower country to pass through her territory, and New-York is equally interested in effecting this object, because all the produce that passes through that State, passes through her territory also.

Much more might be said upon this subject, but from the view that we have taken of it, we think that the Commissioners on the part of this Company come before the commercial interest of New-York with fair, yea, with irresistible claims to their support, and we trust they will find in the liberal and prompt manner in which the stock will be taken, that the citizens of New-York properly appreciate its importance.

Baltimore and Philadelphia, our enterprizing and spirited rivals in the great struggle for the trade of the west, are, and we are gratified to see it, fully awake to the subject; let not New-York, then, through *indifference*, or *ill-timed parsimony*, lose the vantage ground to be gained by the construction of this, to us, invaluable work.

For a map of the state of Ohio, and parts of the adjoining states, and Lake Erie, see page 645 of this number of the Journal.

[From the Baltimore Gazette.]

We have obtained a copy of the report made by the Committee appointed to examine the Report of the Chief Engineer of the Baltimore and Ohio Railroad Company, in relation to the location of the proposed Railway to the City of Washington, which we now lay before our readers.

From the time which has been devoted to the examination of the district between the two cities, and the very extensive and laborious researches and calculations which have been made, we presume that the best practicable route for the road has been secured. The high character of the officer to whom the location was confided, and of the committee to whom its revision was referred, afford a sufficient guarantee to the stockholders and to the public, that the location has been made without reference to any private considerations, and with a strict regard to the public accommodation.

Office of the Balt. and Ohio Railroad Company.

"A report was received from the Chief Engineer upon the surveys and calculations made with a view to the location of the Washington Railroad, which was referred for examination to Messrs. Morris, Potts, Donaldson, Swan, and Magruder, who were desired to report to this Board the relative advantages of the several routes that have been surveyed. Also, the extent to which the right of way may have been granted to the company."

The committee have performed the duty assigned in the foregoing resolution, by a careful examination of the Engineer's report, which is of great length, and presents in detail to the consideration of the board, the various routes through which the road may be conducted—is minute in the calculation of the prime cost of the railway, and a comparison of the several modes of construction and their durability, and treats upon the motive power and machinery, and the difference in the expense of that power as applied to the several routes, &c. &c.

By a reference to the report, and the accompanying tables and plat, it will appear that there are twelve practicable routes indicated—ten of these may, however, be considered as versions or modifications of the other two, designated as No. 2, or upper route, and No. 12, or lower route.

The advantages which the upper and lower routes maintain above all others, are such as virtually to exclude all but Nos. 2 and 12 from any further notice in this report.

In examining the relative merits of Nos. 2 and 12, the question is necessarily and inseparably connected with the various branches comprised in the Engineer's report. To render justice to the report, and at the same time disengage it of the minute calculations introduced to sustain the engineer's conclusions, and to reduce the question to such a space as to render it susceptible of being generally appreciated, the Committee have had the subjoined table (A) prepared. It exhibits at one view a comparison of the upper and lower routes, in relation to the various questions, such as distance, time consumed in the transit upon them, cost of construction, repairs, cost of motive power, &c., machinery to be applied thereon. The report represents the length of the lower route from the Baltimore and Ohio Railroad near to "Hockley's Mills" to Washington, as ascertained by measurement, to *be in miles*, 32·2052; and from and to the same points on the upper route, as 29·3469, constituting a difference in distance in favor of the upper route, 2·3583, or rather more than two miles and one-third.

The time required to travel from Baltimore to Washington by the lower route is estimated to be 2 hours 7 minutes; and on the upper route 2 hours; difference in time, 7 minutes.

From the same authority we learn that the difference of cost between the upper and lower routes in graduation, masonry, bridging, double track of railway, cost of restoring the embankments during the first 5 years, with the ordinary repairs of graduation and masonry united, will be *in favor* of the *lower route*, the capital sum of $18,836, which will be equal to an increased annual expense on the upper route of $2,933 16. On the other hand, it is estimated that when the two roads will require *repairs* and renewals of the double railway, and two engines for freight, and two for passengers are in operation, the difference in cost of those items will be in favor of the upper route the capital sum of $36,833 33, or a reduced annual expense, consequently that route is entitled to be credited the sum of $2,210 30.

The difference in the outlay in the upper and lower routes, bringing down the enumerated disbursements of each route successively to the period when the expenditures are incurred on account of construction, repairs, and renewals, and with *two engines for freight*, and two for passengers, are in operation, which it is supposed will be the least number competent to transport the traffic of the road, it is at this point that the work may be considered as to have been consummated and the inevitable expenses incurred, so that the relative merits of the upper and lower routes, so far as they relate to cost of construction, repairs, renewals, and the use of motive power, can with propriety be compared and a balance struck, by which it will be perceived that at this stage of the inquiry there yet remains a difference between the upper and lower routes in favor of the latter the capital sum of $12,047 66 1-3, or an increased annual expense on the upper route of $722 86.

A reference to the note in table A will enable the Board readily to estimate the annual expense of working one engine on the lower route contrasted with upper route: it will there be seen that on the *Lower Route*

The cost of fuel is estimated at	$3,291.35	
Wear and tear . . .	5,041.49	
		$8,332.84
Upper Route.		
The cost of fuel is estimated at	$3,204.59	
Wear and tear . . .	4,762.56	
		7,967.15
Showing the annual difference in the working of one engine to be in favor of the upper route the sum of		365.69

The Committee forebear to pursue the comparison further, than merely to add, that the Engineer's Report estimates that when the trade upon the road shall require 4 freight and 4 passenger engines, with the train of cars necessary for an advantageous use of the motive power, the difference of cost will be in favor of the upper route the capital sum of $9,078.66⅔, or an annual sum of $544.72.

In the present inquiry, the Committee have weighed the question of immediate or first cost of construction, repairs, and renewals, within a definite period, and the cost of transportation with the machinery, assumed as the minimum requisite for the wants of the public when the road is first in use, in connexion with which they consider a prudent forecast as to the probable future operations of the road, and it appears that the cost or expenditure on the two routes at a period when *two engines* for freight and three for transportation are in use, will be so nearly equally poised, as to present an inconsiderable difference in favor of the upper route—which, as has been stated, increases with the introduction and use of engines. The difference in distance exceeds two miles and one-third, is in effect a gain of near six per cent. in time, acquired at the increased expense of less than one per cent. ($12,047.66⅔) on the estimated cost of the work. It has, however, been shown that this discrepancy will not rest here, but in the progress of time, and for causes which have been enumerated, there is reason to believe that the scales will be turned in favor of the upper route. The arguments advanced by the several advocates of the upper and lower routes do not, in the estimation of the committee, vary the question, but leave the subject wholly unaffected by them. The lower route approximates a fertile and affluent neighborhood. The upper route passes in the vicinity of a manufacturing community already arrived at a period of some consequence, and susceptible of a material augmentation. It is believed that the reasons for a departure from the course which is the most eligible for the population convened and to be accommodated at the *termini* of the road, are not of sufficient consequence to induce the adoption of the upper or lower routes on account of any increased advantages that may accrue to the company by the immediate traffic—and that the question is left to be deliberated upon on grounds wholly independent from such considerations. In reviewing the inquiry in reference to cost of construction, and those repairs and renewals entailed upon the work, in connection with the expenses of machinery, motive power, immediate and anticipated, distance, difference of time required to pass and re-pass from Baltimore to the Seat of Government, the Committee unanimously concur in the opinion, that by the selection of No. 2, or the upper route, it would be most subservient to the convenience of the public, and at the same time best promote the permanent interests of the stockholders, and therefore present a specific question for the consideration of the Board comprised in the accompanying resolution.

All which is respectfully submitted by

JOHN B. MORRIS, JAMES SWAN, } Directors on the part of the Stockholders.
R. B. MAGRUDER, Director on the part of the State.
JOHN I. DONALDSON, Director on the part of the city of Baltimore.
} Committee.

Sept 23, 1833.

Resolved, as the sense of this Board, That in the construction of the Washington Railroad, that No. 12, commonly called the upper route, as laid down in the map, and referred to in the engineer's report, is the most eligible one, and that the same is hereby adopted, and that the engineer be, and he is hereby instructed, forthwith finally to locate and prepare the same for contract.

THE PENNSYLVANIA LOCOMOTIVE.—Patents have been granted to Colonel Long, of the United States Army, for "certain improvements in the construction of locomotive and other steam engines," under the designation with which this article is headed. The numerous experiments which have been made by Col. Long, with the view of perfecting, and satisfactorily testing the efficiency of his improvements, have been attended with great expense, and have led to the most satisfactory results.

In this communication it is intended to explain some of the more prominent objects of Col. Long's improvements, and to conclude with a brief recital of some of the practical results accomplished by them.

1st. The successful application of anthracite coal as a fuel for locomotive engines has been a leading object of the inventor. This object has been attained in the most satisfactory manner, by means of a furnace and boilers of a peculiar construction. The furnace is surrounded by water on all sides, in a manner similar to that adopted in the most approved English locomotive engines, but differs from the latter in the manner of attaching the fire-box to the boilers, and in exposing a much larger comparative boiler surface to the direct action of the heat. The furnace is supplied with a grate of a peculiar construction, which may be made to oscillate at pleasure, on an axle provided for that purpose. By means of the movements thus communicated, the fuel may be speedily discharged from the fire-place, whenever occasion requires it; or may be shaken or agitated in such a manner as to prevent the coal from packing upon the grate bars, and thereby obstructing the requisite draft into the flues and chimney.

In addition to the fire-box already mentioned, the boiler, or steam generator, consists of two

or more cylindrical boilers, placed horizontally and lengthwise of the engine. Each cylindrical boiler is furnished with tubular flues, passing longitudinally through that portion of the boiler situated in the rear of the fire-place. The heated air, flame, &c. is admitted into these flues through a niche in the cylinder prepared for this purpose, and is conducted through them into a smoke-box and chimney situated at the back end of the boiler.

In addition to the tubular flues just mentioned, there is a broad and sufficiently copious flue situated beneath the cylindrical boilers, by means of which the heated air, &c. is brought into contact with the entire lower half, or exterior, of all the cylindrical boilers.

The very extensive boiler surface thus acquired and presented to the action of the heat, contributes to render the production of steam exceedingly copious, while the heat imparted by the fuel is almost entirely absorbed in its production. Such is the efficiency of this arrangement, that in a boiler nine feet and eight inches long, with two cylindrical boilers, each twenty inches in diameter, embraced within that length, the whole weighing, inclusive of all the flues, three thousand pounds, two hundred gallons of water have been evaporated in an hour, under a pressure of 90 pounds to the square inch, and at the expense of two bushels of anthracite coal.

In order to facilitate the combustion, or rather the ignition of the coal, a slip chimney has been introduced into the engine, by means of which the height of the chimney may be varied at pleasure, from fourteen to twenty feet.

Among the advantages expected to result from this method of constructing boilers, are the exposure of a much larger comparative surface to the action of the heat; a very great reduction of the quantity, or weight, of the water necessary to a minimum supply in the boilers; a similar reduction in the weight of the boilers, as also in the thickness of the metal of which they are composed; together with certain facilities hereafter to be noticed, for removing, renewing, and replacing the boilers, without deranging other parts of the engine.

2d. The steam is employed in the working cylinders in such a manner as will allow of its operating, not only by its absolute, but by its expansive force. This object is effected by means of certain adjustments in the steam valve apparatus, by the aid of which the entrance of the steam into each of the working cylinders is intercepted, at about five-eighths of the stroke of the piston. The advantages of such an arrangement are too obvious to require a particular designation. It is sufficient to remark, that by this means, three-fifths of the steam generated are rendered quite as efficient as the whole would be without such an arrangement.

3d. The adoption of wooden wheels bound with wrought iron, and of such a construction as will admit of tightening the tire, or otherwise repairing it without materially affecting the relations between the centres and the peripheries of the wheels.

It is obvious to any one acquainted with the nature of the materials employed in the construction of wheels, that the iron bands, or tires, of wooden wheels will expand, and contract by the ordinary changes in the temperature of any climate, in such a manner, and to such an extent, as will, sooner or later, render the tire loose upon the felloes. In the wheels of the Pennsylvania locomotive, such a defect is readily remedied by withdrawing the flange tire and inserting thin iron wedges between the remaining tire and the felloes, without the hazard of producing eccentricity in the wheel.

4th. The construction and application of boxes, or bearings for the wheels, or between the carriage frame and the axles, which not only serve as *steps* for the bearing journals of the axles, but as receptacles for the grease, oil, or unguent, necessary for their lubrication. The boxes are of the best hard brass, and are, moreover, adjusted to *bosses* attached to the axle in such a manner as to obviate the use of linch-pins, or other apparatus, to confine the axles in their bearing.

5th. The construction of a carriage frame, in a manner to afford the requisite stiffness in the engine, without the necessity of firm and substantial attachments to the boiler, as a means of imparting this essential property to the engine.

It must be manifest to every one conversant with steam engines, that the ordinary or rather extraordinary strain produced in boilers by the expansive force of high steam, is all that they ought to be compelled to resist. If to this great strain, that attendant on the concussions of a heavy engine in rapid motion be added, the liability to explosion is greatly increased, while, at the same time, rents and fissures in the joinings of the boilers, of a character seriously to injure the engine, and impair its efficiency, are likely to occur.

The only remedy hitherto devised to correct this difficulty has been found in increasing the thickness of the metal composing the boilers, which must of course add proportionately to the weight of the engine, without increasing its efficiency. The evil here adverted to has been far more advantageously remedied in the Pennsylvania locomotive in the way just suggested, viz. by giving to the engine the requisite stiffness without depending on attachments to the boiler for the attainment of this object.

The boilers, instead of being firmly connected with the frame, are merely suspended within it by the introduction of springs, whereby they are exempt from the violent shocks to which other parts of the engine are occasionally exposed. By means of this arrangement, also, the working parts of the engine are relieved from the vibrations and other irregularities calculated to impair the efficiency, and injure those parts of the engine affected by such irregularities.

6th. Lightness in the construction of locomotive engines has been regarded as a leading object of this invention. This object, it is believed, has elicited far less attention from those concerned in railroads than it deserves, especially when viewed in connection with rapid transportation. Strong objections have repeatedly been urged against the employment of light engines, on the ground of their not having sufficient adhesion to the rails, to prevent the wheels from slipping. In reply to such objections, it is proper to observe, that it is very seldom that a gross load weighing more than thirty tons, including passengers, baggage, and cars, is ever offered for rapid conveyance, and that an engine weighing only three tons has sufficient adhesion to convey such a load, even on a road slightly ascending.

In view of the solidity and texture of the materials of which engines must be composed, it is confidently believed that the greatest economical speed for an engine weighing six tons, will not exceed fifteen miles an hour. It is as confidently believed that a greater speed, with an engine of the weight just mentioned, would be attended with serious injury, not only to the engine itself, but to the rails and other parts of the road on which it travels. This being admitted, the inference is fair and conclusive, being grounded on the laws of motion, concussion, &c. by which the movements of heavy bodies are governed, that an engine weighing three tons only, and moving at the rate of thirty miles an hour, will be attended with shocks equally severe, and, consequently, that the *wear and tear* of the engine, rails, &c. will be equal in both cases. Hence, if a speed of thirty miles per hour must be attained, the weight of the engine ought not to exceed three tons. This may be regarded by some as a mere matter of assumption, yet facts may be adduced of a character to corroborate and enforce such a conclusion.

Having given the foregoing explanations touching the objects aimed at in the construction of the Pennsylvania locomotive, the writer will conclude his remarks for the present, by recording a few of the general results drawn from numerous and repeated trials of this engine on the railroad leading from Philadelphia to Germantown.

The extent of this road between the two places above mentioned is six and a half miles. Its ascent from the depot, in Ninth street, to its termination in Germantown, is 207 feet, or a little more than thirty feet per mile. The steepest ascent is at the rate of forty-five feet per mile, which occurs in a distance of about half a mile in Germantown. The road is exceedingly crooked, and the evenness of its surface is much impaired by the settling of embankments, and the consequent derangement of the rail-tracks. The number of trips, outward and returning, performed by the engine, is about eighty, the whole of which were attended with similar results. In no instance has a trip been interrupted for want of sufficient steam; on the contrary, at almost every trip the fire door has been thrown open a part of the time, in order to prevent the generation of more steam than could be used.

The only fuel employed was anthracite coal. The quantity consumed in running to Germantown and back again did not exceed two bushels. The quantity of water evaporated under a pressure of eighty to ninety pounds per square inch, was about 200 gallons per trip. The engine was repeatedly started with a fresh charge of coal in the furnace, and with a pressure of steam barely sufficient to put the train in motion, yet, on reaching a distance of three or four miles, on an ascending trip, while the train was moving at its greatest speed, the steam was generated in such profusion as to force open both safety valves at once.

The results that will now be noticed, all of which relate to ascending or outward trips only, are as follows, viz.:

Three passenger cars with fifty passengers were drawn the entire distance in twenty-eight minutes, including two stoppages on account of way passengers.

Three passenger cars with sixty-nine passengers were drawn through the same distance in twenty-six minutes, including four stoppages as above.

Three passenger cars with 124 passengers were drawn, as above, in twenty-nine minutes, including three stoppages as before.

Two passenger cars were drawn as above, in 19 minutes, the number of passengers being forty.

To these may be added the two following trials with burthen cars:

A gross load of 11¼ tons was conveyed to Germantown in twenty-six minutes.

Six burthen cars, each weighing 28¼ cwt. three of the cars being loaded with stones, gross load, by estimate 25 tons, were conveyed upward on the steepest and most crooked part of the road, the ascent on a part of the distance being at the rate of 45 feet per mile, at a speed, as nearly as the engineer could judge, of at least 12 miles per hour.

On the 4th of July six trips were made, each with three cars attached. Average time of ascent 25 minutes; average number of passengers conveyed, between 60 and 70.

By a fair comparison with the results of other engines plying on the same road, and propelled by the use of pine wood for fuel, the cost of coal required to perform a given service does not exceed one half that of pine wood for a similar performance, two bushels of the former being of equal efficiency with one-fourth of a cord of the latter.

There is still another consideration which entitles anthracite coal to a decided preference before pine wood, or any other fuel employed in locomotive engines, which is that, in the use of the former, passengers are entirely exempt from the annoyance of smoke, sparks, cinders, &c. which are produced and thrown out in great profusion when other kinds of fuel are employed.—[Journal of the Franklin Institute.]

[For the American Railroad Journal.]

Mr. Editor,—I understand that a committee appointed by the Directors of the Boston and Providence Railroad Company, to decide upon the southern termination of the Railroad, is now sitting in this city for that purpose.

As I am a stockholder, and deeply interested, I may be allowed through your Journal to express the wish that it be located so as to accommodate the public generally, the city of Providence and the New-York travel and transportation, by the way of Stonington. Should these considerations not have full weight in this decision, it may prove highly prejudicial even to the Boston and Providence Railroad, which I consider one of the first routes and best Railroads in the United States.

It is suggested that this road may terminate in Massachusetts, opposite Providence, and may be connected with the Stonington Road, by a ferry below the city of Providence. By this mode the trade of Providence would not only be greatly inconvenienced, but the travel and transportation to New-York via Stonington would be in a great degree impaired; not only would the distance be increased considerably, but the ferry would be an insurmountable obstacle at some seasons of the year, and an objection at all seasons.

If the Rhode Island Company's are not permitted to enter the Boston and Providence Road on equitable and reciprocal terms, will not some other mode be discovered to continue the Stonington Road to Boston, to accommodate the city of Providence and the New-York travel? Some persons may not think so, but I have no doubt there will, from what information I can collect; and I would ask the Directors of the Boston and Providence Company to pause before it is too late, and prevent the consequent evils that must ensue to the stockholders, if there is not a mutual and good understanding; there is a harmony of interest between the several companies which demands of each that it promote the interest of the other. I verily believe that the stock of the Boston and Providence Railroad Company is 5 per cent. lower at this time than it would be were this question of the union of the roads satisfactorily disposed of.

[For the American Railroad Journal.]

Mr. Editor—

I observe by the Journal of Commerce that a keel has been laid in Boston for a Steamboat intended as a Liverpool Packet, and it may be of great importance to the proprietors and the public to know that a boiler has been invented, on an improved plan, to burn anthracite and other coals, which it is anticipated will obviate the principal difficulties of crossing the Atlantic by steam.

The principle has already been tested by a boiler built for the purpose, and another is nearly completed, by Mr. Allaire, for the Delaware and Hudson Canal Company, to be put in a boat to run on the North River.

Miami Canal.—It was expected that this canal would have been completed to the river, during 1833. The season has been such as to render this impracticable. From Court street, to the River, ten locks are to be constructed. All of them are partly prepared, one only completed. They are built of the most substantial materials, and in the most durable manner. Mr. Laughry, the undertaker, is a practical mason, and has evinced a good stock of mechanical pride, as well as skill, in their construction. It is a pleasant walk, of a dry day, to traverse the line of the canal from where it crosses Main street to the river, and observe the work in its present progress. It cannot fail to excite reflections highly pleasurable to any mind disposed to rejoice at the successful efforts of our almost infant state, and to anticipate with satisfaction the point of greatness to which she may arrive, if she continues as she has commenced in the construction of public works.—[Cincinnati Gazette.]

Navigation of the St. Lawrence.—It may indeed be said of American Enterprize, that it never slumbers nor sleeps. A project of vast importance to our Northern Frontier, begins to be agitated at Ogdensburg, to which, as a matter of course, the attention of the people of this state will be directed. It is no other, than that of making the St. Lawrence river navigable, between the Lake St. Francis and Ogdensburg, at a comparatively trifling expense, and bringing its whole trade within the State of New York, where a transit duty may be levied upon it, that of itself will defray a great part of the expenses of the State Government.

It appears that the Grass river, which is navigable for steamboats to within three miles of Massena Village, is separated at this point from the St. Lawrence, by a deep ravine, and very low land, which at a trifling expense, might be made a navigable channel!

This channel would communicate with the St. Lawrence, half a mile above the Long Sault rapids!

The Canadians have proposed to cut a Canal round these rapids on their side of the river, but this project of our countrymen would effectually divert the carrying trade through our own territory.

The contemplated canal will be but five miles long, and require but two locks!

The nature of the ground is such that the excavation, will be practicable at a small expense. We hope the people of Ogdensburg will have surveys made immediately, in order that the action of the Legislature may be had upon the subject as early as possible.

We should be glad to learn from our friends in that quarter, a more particular account of the capabilities of the Grass river, and also of the natural canal connecting it and the Oswegatchie.

[*From the New-York American.*]

Mad River and Lake Erie Railroad.—The facts and reasonings of the annexed exposé by the Commissioners who are here to superintend the opening of books for subscription to the stock of the *Mad River and Lake Erie Railroad*, cannot, we think, but have the effect of recommending the enterprize to the capitalists of this city:

In presenting this road to the citizens of New York for patronage and support, it will be expected that the Commissioners offer to those who are asked to invest their funds in its stock, some evidence of its probable productiveness; together with its utility and importance to the public, as a thoroughfare of travel and commerce.

The connection of the southern bay of Lake Erie at Sandusky, with the northern head of the Ohio river at Cincinnati, by railroad and canal, has long been looked to with interest and solicitude by the people of the West; and has struck with great force, all intelligent travellers that have passed from one to the other of these points, as a work in every way worthy of the patronage and support of the citizens of New York and Ohio, whose interests it so indissolubly unites. The fertility of the country through which this connection must be made, its uniform soil and even surface, with its admirable adaptation to the construction of a railroad, point to it, as one that in a few years must be as productive as any work of the same character in this or any other country.

Compare this with any other route in the United States, and then ask yourself, where it is that you intercept as large a portion of the travel from the West to the eastern cities, as you do by this contemplated railroad.

Is it not by this route that you tap the great artery of the western travel and western commerce, at its most eligible point, and by that means at once throw your merchandize into the centre of our population, and agricultural wealth at the city of Cincinnati; which is now and must ever continue to be the most important point in the valley of the Mississippi.

Cincinnati at this time concentrates nearly all the travel from the *nine* western and south western States, towards the Atlantic cities, and hence the great importance of uniting New York by easy and expeditious conveyance with that place. Construct this road to lake Erie, and your Utica and other roads, on to Buffalo, and you have accomplished your object by opening an easy line of conveyance, that can never be supplanted, either by a route from Baltimore or Philadelphia, across the Alleghany mountains, nor by any other, connecting lake Erie with the great valley of the Mississippi. And the traveller from the far west, instead of having to pass through Baltimore and Philadelphia to reach New York, as is now the case, will then find it much more easy, and convenient, and cheaper, to pass through New York, in order to reach Baltimore and Philadelphia.

The time required to travel from the principal points in the western and south western States, by the route of the proposed road, (in connection with a Railroad from Buffalo and Albany,) to New York, (and we intend to make ample allowance) will be as follows:

From New Orleans to New York, 13 days; from Natchez to New York 11 days; from St. Louis, via the Great National (McAdamized) Road, which intersects the proposed rail-road at Springfield, 7 days; from Vandalia, the capital of Illinois, by do. 6 days; and from Indianapolis, the capital of Indiana, also by the National Road, 5 days; from Nashville, the capital of Tennessee, 7 days; from Louisville, Kentucky, via Cincinnati, 5 days; from Cincinnati, 4 days; and from Sandusky, 3 days—and here we will remark, that the proposed railroad will present *the most direct route, that can possibly be obtained, from Buffalo to each of the above named places.*

We are unable to form a correct estimate of the amount of merchandize and agricultural productions that will pass and repass over this road, but we appeal with confidence to all who have travelled over the section of country through which the route passes, (and we have been pleased to meet with many of your citizens that have,) if in this, or any other country, they have seen a better soil, with more industrious occupants, or a larger surplus of agricultural productions than is to be found along this very line of inland communication. We have travelled much in both the western and eastern parts of the United States, and without favor to this section of country, or prejudice against any other, we confess that we have yet to see the country capable of yielding the same amount of agricultural productions.

We are not however left entirely to conjecture on this point, but have at our command an official document from which we will make a few extracts.

This road connects with the northern termination of the Miami canal, at Dayton, This canal is a mere indentation from Cincinnati into the country up the Miami valley of only sixty five miles; connecting no important point, but merely operating as a drain to take off a portion of the surplus production along its route, and near its termination.

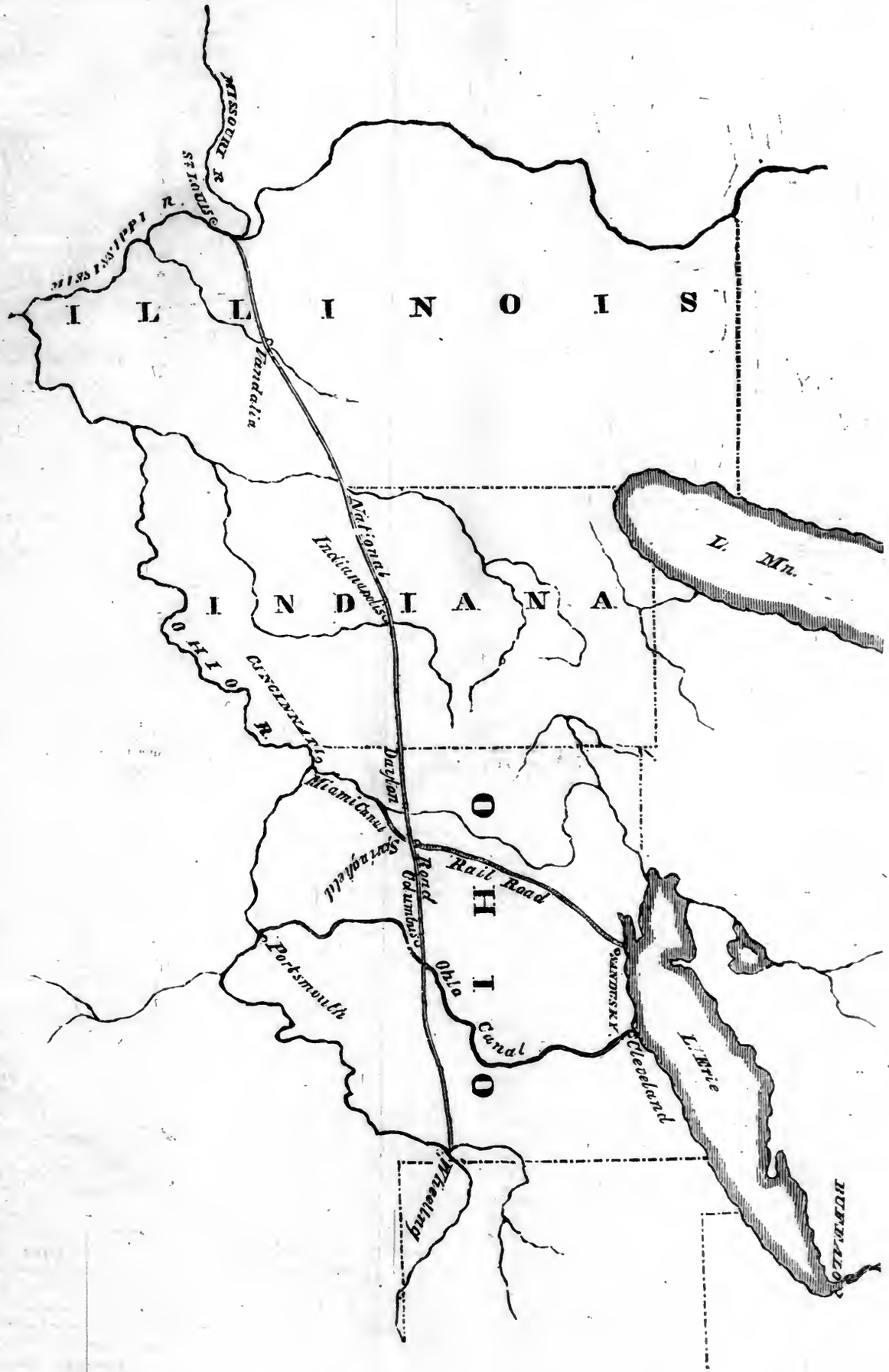
In the Report of the Canal Commissioners to the Legislature of Ohio, which will be found at pages 342, 3 and 4 in the journals of their session, the following facts are stated:

The saving by transportation on the Ohio Canal (which is 310 miles in length) over the ordinary mode of transportation by waggons is $231,004 and 95 cts—and the saving by means of the Miami Canal which is 65 miles in length is, $81,152 and 82 cts. But the parallel in favor of this route does not stop here.—The property that arrived at Cleaveland during the last year by the Ohio Canal was the following—wheat and flour amounting to 112,158 barrels; pork 13,801 barrels; whiskey 2150 barrels. During the same period of time the property that arrived at Cincinnati by the Miami Canal was as follows: flour 97,578 barrels; pork 19,758; whiskey40,425 barrels.—Thus presenting the fact from official documents that in the exports of flour, pork and whiskey, the great staples of Ohio, there passed through the Miami Canal, which is only 65 miles in length, and yet connecting no important commercial point with Cincinnati, 29,662 barrels more than passed through the Ohio canal during the same time.

In the same report we have the following statement of the tools and water rents paid on each of those canals during the last year. On the Ohio canal, there were paid $82,867 42; and on the Miami canal, $40,928 81—still keeping the same relative proportion in favor of the latter, and the productiveness of the country through which it and the anticipated railroad is intended to form a line of communication.

Joseph Vance, } *Commissioners.*
Isaac Mills, }

Note. It is proper for us to state here, that there were but 270 miles of the Ohio canal, to wit: from Cleaveland to Chillicothe, open during the whole of the last season; the balance of the distance, from Chillicothe to the Ohio river, was not opened until towards the latter part of the season.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Springfield
Rail Road
Columbus
Ohio Canal
Portsmouth
Sandusky
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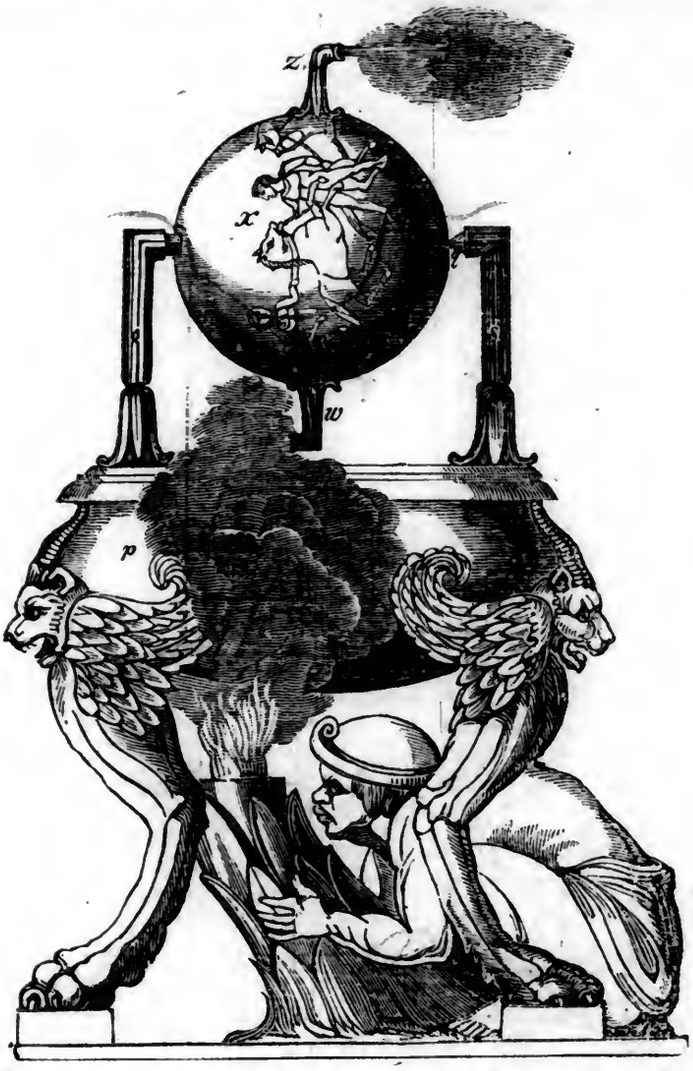


Ancient Greek Steam Engine.—This machine is constructed on a similar principle to that described at page 582: a globe moved on a pivot, by means of steam conducted into it from a boiling caldron.

The caldron or heated vase, *p*, is to be closely covered with a lid; into which a pipe, *o*, is inserted at one side of its circumference. This pipe, after rising vertically for a short distance, is bent at right angles. On its horizontal end is placed a small globe, *x*, kept in its position by a pipe, *s*, also bent at right angles and fixed to the lid opposite to *o*, but terminating in a pivot, *q*, on which the little globe revolves. This globe is furnished with two small pipes, *z*, *w*, bent at their extremities and open. The steam from the boiling water in *p*, rising through the pipe *o*, is admitted at *s* into the globe; and issuing through the bent tubes *z*, *w*, causes the sphere to revolve as if it were "actuated from within by a spirit."*

That so ingenious a people as the Greeks should not have been led, by those direct experiments, to a practical application of the agent so exquisitely moulded by Hero into a mechanic power, may, in all probability, be ascribed to the operation of the same causes as those which have thrown a veil of deep and impenetrable obscurity on so many of the arts of antiquity. "The ancient philosophers," says an excellent mechanic, "esteemed it an essential part of learning to be able to conceal their knowledge from the uninitiated; and a consequence of their opinion, that its dignity was lessened by its being shared with common minds, was their considering the introduction of mechanical subjects into the regions of philosophy a degradation of its noble profession; insomuch, that those very authors among them, who were most eminent for their inventions, and were willing, by their own practice, to manifest unto the world these artificial wonders, were, notwithstanding, so infected by this blind superstition, as not to leave any thing in writing concerning the grounds and manners of these operations; by which means it is that posterity hath unhappily lost, not only the benefit of these particular discoveries, but also the proficiency of these arts in general. For when once learned men did forbid the reducing them to vulgar use and vulgar experiment, others did thereupon refuse those studies as being but empty and idle speculations; and the divine Plato would rather choose to deprive mankind of those useful and excellent inventions, than expose the profession to the ignorant vulgar."—[Stuart.]

* The *Spiritalia* was first edited by Commandine, in 1571. It is also printed in the splendid folio collection of the works of the *Ancient Mathematicians*, published at Paris in 1693. The Greek text is accompanied with a Latin translation. The descriptions of the two machines we have described are in page 202 of that edition.

On the Preservation of Machinery in Working Order. By G. K. O. To the Editor of the Mechanics' Magazine.

Sir,—Observing in your July number an article on the preservation of machinery in working order, I thought it not improper to suggest as a further means of preventing rust, that the several parts of a machine be enveloped in thin plates of zinc, which, by its superior affinity for oxygen, will prevent it from uniting with the iron.

Yours, &c. G. K. O.

Egyptian Egg-Oven.—It is a well-known fact, that eggs may be hatched by artificial means. The Egyptians, as well as those who have tried the experiment in Europe, have succeeded, by means of artificial heat, in hatching eggs without any aid from the mother birds.

According to the best descriptions of the Egyptian *mamal*, or hatching oven, it is a brick structure about nine feet high. The middle is formed into a gallery about three feet wide and eight feet high, extending from one end of the building to the other. This gallery forms the entrance to the oven, and commands its whole extent, facilitating the various operations indispensable for keeping the eggs at the proper degree of warmth. On each side of this gallery there is a double row of rooms, every room on the ground floor having one over it of precisely the same dimensions, namely, three feet in height, four or five in breadth, and twelve or fifteen in length. These have a round hole for an entrance of about a foot and a half in diameter, wide enough for a man to creep through; and into each are put four or five thousand eggs.

When the fires have been continued for eight or twelve days, according to the weather, they are discontinued, the heat acquired by the ovens being sufficient to finish the hatching, which requires in all twenty-one days, the same time as when eggs are naturally hatched by a hen.

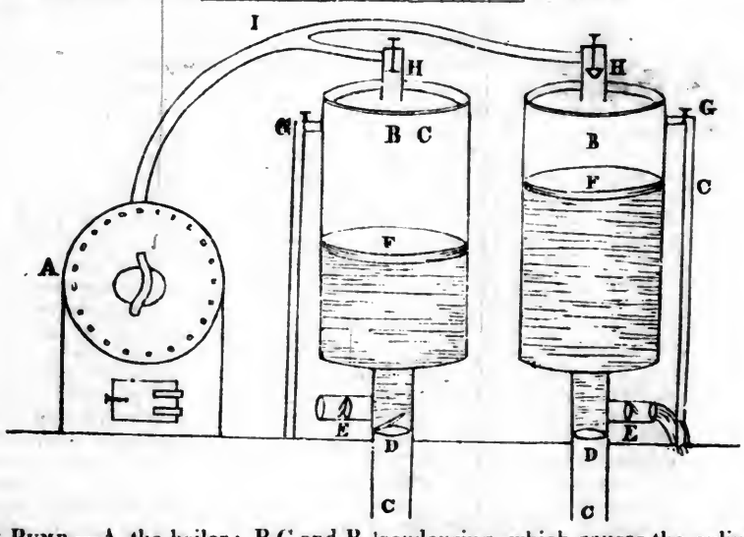
The number of ovens dispersed in the several districts of Egypt has been estimated at 386; and it has been computed that a million of chickens are annually hatched, in this manner, in Egypt.—[People's Mag.]

Natural Wonder.—On the south side of the island (Mauritius) is a point called "the Souffleur" (the Blower), from the following circumstance: A large mass of rock runs out into the sea from the main land, to which it is joined by a neck of rock not two feet broad. The constant beating of the tremendous swell which rolls in has undermined it in every direction, till it has exactly the appearance of a Gothic building, with a number of arches in the centre of the rock, which is about thirty-five or forty feet above the sea; the water has forced two passages vertically upwards, which are worn as smooth and cylindrical as if cut by a chisel. When a heavy sea rolls in, it, of course, fills in an instant the hollow caverns underneath, and finding no other egress, and being borne in with tremendous violence, it rushes up these chimneys, and flies, roaring furiously, to a

height of full sixty feet. The moment the wave recedes, the vacuum beneath causes the wind to rush into the two apertures with a loud humming noise, which is heard at a considerable distance. My companion and I arrived there before high water, and having climbed across the neck of rock, we seated ourselves close to the chimneys, where I proposed making a sketch, and had just begun, when in came a thundering sea, which broke right over the rock itself, and drove us back much alarmed. Our negro guide now informed us that we must make haste to re-cross our narrow bridge, as the sea would get up as the tide rose. We lost no time, and got back dry enough; and I was obliged to make my sketches from the main land. In about three-quarters of an hour the sight was truly magnificent. I do not exaggerate in the least when I say that the waves rolled in long and unbroken, full twenty-five feet high, till, meeting the headland, they broke clear over it, sending the spray flying over to the main land; while from the centre of this mass of foam, the Souffleur shot up with a noise which we afterwards heard distinctly between two and three miles. Standing on the main cliff, more than a hundred feet above the sea, we were quite wet. All we wanted to complete the picture was a large ship going ashore.—[Journal of the Royal Geog. Soc.]

Human Life.—Pliny has compared a river to human life. I have never read the passage in his works, but I have been a hundred times struck with the analogy, particularly amidst mountain scenery. The river, small and clear in its origin, gushes forth from rocks, falls into deep glens, and wantons and meanders through a wild and picturesque country, nourishing only the uncultivated tree or flower by its dew or spray. In this, its state of infancy and youth, it may be compared to the human mind, in which fancy and strength of imagination are predominant—it is more beautiful than useful. When the different rills or torrents join, and descend into the plain, it becomes slow and stately in its movements; it is applied to move machinery, to irrigate meadows, and to bear upon its bosom the stately barge; in this mature state it is deep, strong, and useful. As it flows on towards the sea, it loses its force and its motion, and at last, as it were, becomes lost and mingled with the mighty abyss of waters.

One might pursue the metaphor still further, and say, that in its origin, its thundering and foam, when it carries down clay from the bank and becomes impure, it resembles the youthful mind, affected by dangerous passions. And the influence of a lake in calming and clearing the turbid water, may be compared to the effect of reason in more mature life, when the tranquil, deep, cool, and unimpassioned mind is freed from its fever, its troubles, bubbles, noise, and foam. And, above all, the sources of a river, which may be considered as belonging to the atmosphere, and its termination in the ocean, may be regarded as imaging the divine origin of the human mind, and its being ultimately returned to and lost in the Infinite and Eternal Intelligence from which it originally sprung.—[Davy.]



Steam Pump.—A, the boiler; B C and B, two condensers; C C, large tubes (two), through which the water is drawn into the condensers; D D, valves to prevent the water from returning; E E, valves, which act alternately, to prevent the air from passing in, and allow the water to pass out; F F, two wooden floats, that remain on the surface of the water, to prevent the steam acting on the water; G G, two small pipes, through which cold water passes to condense the steam; H H, steam valves, to admit and shut off the steam; I, steam pipe.

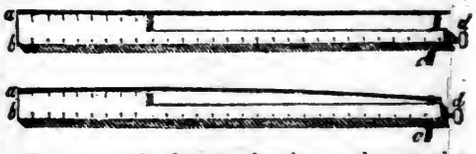
This drawing represents a newly invented machine, which we have witnessed in operation on a small scale. The object of it is to raise water, by forming a vacuum in the cylinders, by admitting a quantity of steam sufficient to supply the place of atmosphere (or rather of atmospheric pressure), and then condensing, which causes the cylinder to fill with water, and is discharged immediately when full; it is then filled with steam again, and the operation repeated, so that a continual water power is thus produced on an economical plan, both as regards the structure of the machinery and the saving in water. We think it important, and should be highly gratified to receive the opinions of any of our scientific correspondents on the subject.

Skin and Stomach.—Let these two important organs be attended to in a proper manner, and all the diseases of summer, cholera inclusive, will be avoided. The kind of attention to the skin consists in daily friction with a coarse towel or flesh brush—the tepid or warm bath twice, or, at least, once a week; or, in lieu of this, daily sponging the surface with salt and water, with the chill taken off it, and then rubbing with a dry coarse towel. The stomach will have justice done it by an avoidance of all alcoholic drinks; the moderate use of tea and coffee, if such be habitually taken; a due proportion of well boiled vegetables, with meat, roasted or boiled; and on occasions, in sanguinary temperaments in a feverish habit of body, a moderate share of ripe cooked fruits, to the exclusion, however, of cherries and plums. In all cases where disease is present in a place, no kind of fruit, nor any new or unaccustomed article of diet whatever, should be taken *in the evening*.—[Journal of Health]

Scale for Graduating Columns. By (?).

To the Editor of the Mechanics' Magazine.

Sir,—If the instrument which I describe below is not already known and in use, (which I am not aware of,) an acquaintance with it may be of advantage to some of your subscribers.



It is a scale for graduating columns, by which they are drawn with more accuracy and expedition than by the usual method.

It is composed of a flexible arm, *a*, and a fixed one, *b*. *a* is united to *b* at one end for about one-third the length of the instrument, and connected with it at the other by a small segment, *c*, which is secured at the desired point by a screw, *d*, in the end of the fixed arm. The screw is thus placed to allow the instrument to be used on either side. (?).

Rational Amusement.—The love of literature has prevailed from very early times among the inhabitants of the remote island of Iceland. There the way in which the evenings of their long winter are spent furnishes a most agreeable contrast to the miserable pot-house debauchery which fills up the leisure of too many uncultivated Englishmen, and proves the value of well regulated knowledge as an auxiliary to virtue. A distinguished traveller, who spent a winter in Iceland, has described a winter evening in an Icelandic family, as rendered instructive and pleasing in the highest degree by the prevailing love of useful knowledge among all ranks. As soon as the evening shuts in, the family assemble, master and mistress, children and servants. They all take their work in their hands, except one, who acts as reader. Though they have very few printed books, numbers write excellently, and copy out the numerous histories of their own island. The reader is frequently interrupted by the head of the family, or some of the more intelligent members, who make remarks and propose questions to exercise the ingenuity of the children or the servants. In this way the minds of all are improved in such a degree, "that," says my informant, "I have frequently been astonished at the familiarity with which many of these self-taught peasants have discoursed on subjects, which, in other countries, we should expect to hear discussed by those only who have devoted their lives to the study of science." Let me not omit to add, that the evening, thus rationally and virtuously begun, is, by these well-instructed peo-

ple, closed with an act of family devotion.—[From an excellent little work just published, "Bullar's Hints and Cautions in the Pursuit of General Knowledge."]

Babbage on the Economy of Manufactures.

[Continued from page 633.]

ON THE DURATION OF MACHINERY.

261. The time during which a machine will continue effectually to perform its work, will depend mainly upon the perfection with which it was originally constructed, upon the care taken to keep it in proper repair, particularly to correct every shake or looseness in the axes, and upon the small mass and slow velocity of its moving parts. Every thing approaching to a blow, all sudden change of direction, is injurious. Engines for producing power, such as wind mills, water mills, and steam engines, usually last a long time.* But machinery for producing any commodity in great demand seldom actually wears out; new improvements, by which the same operations can be executed either more quickly or better, generally supercede it long before that period arrives: indeed, to make such an improved machine profitable, it is usually reckoned that in five years it ought to have paid itself, and in ten to be superceded by a better.

"A cotton manufacturer," says one of the witnesses before a Committee of the House of Commons, "who left Manchester seven years ago, would be driven out of the market by the men who are now living in it, provided his knowledge had not kept pace with those who have been during that time constantly profiting by the progressive improvements that have taken place in that period."

262. The effect of improvements in machinery seems incidentally to increase production, through a cause which may be thus explained. A manufacturer, making the usual profit upon his capital invested in looms or other machines in perfect condition, the market price of making each of which is a hundred pounds, invents some improvement. But this is of such a nature that it cannot be adapted to his present engines. He finds upon calculation, that at the rate at which he can dispose of his manufactured produce, each new engine would repay the cost of its making, together with the ordinary profit of capital, in three years: he also concludes from his experience of the trade, that the improvement he is about to make will not be generally adopted by other manufacturers before that time. On these considerations, it is clearly his interest to sell his present engines, even at half price, and construct new ones on the improved principle. But the purchaser who gives only fifty pounds for the old engines has not so large a fixed capital invested in his factory, as the person from whom he purchased them; and as he produces the same quantity of the manufactured article, his profits will be larger. Hence, the price of the commodity will fall, not only in consequence of the cheaper production by the new machinery, but also by the more profitable working of the old, when sold at a reduced price. This change, however, can be only transient; for a time will arrive when the old machinery, although in good repair, must become worthless. The improvement which took place not long ago in frames for making patent-net was so great, that a machine, in good repair, which had cost £1200, sold a few years after for £60. During the great speculations in that trade the improvements succeeded each other so rapidly, that machines which had never been finished were abandoned in the hands of their makers, because new improvements had superceded their utility.

263. The durability of common watches, when well made, is very considerable. One was produced, in "*going order*," before a committee of the House of Commons to inquire into the watch trade, which was made in the year 1660; and there are many of ancient date, in the possession of the Clock-makers' Company, which are actually kept going. The number of watches manufactured for home consumption was, in the year 1798, about 50,000 annually. If this supply was for Great Britain only, it was consumed by about ten and a half millions of persons.

264. Machines are, in some trades, let out to hire, and a certain sum is paid for their use in the manner of rent. This is the case amongst the frame-work knitters: and Mr. Henson, in speaking of the rate of payment for the use of their frames, states, that the proprietor receives such a rent that, besides paying the full interest for his capital, he clears the value of his frame in nine years. When the rapidity with which improvements succeed each other is considered, this rent does not appear exorbitant. Some of these frames have been worked for thirteen years with little or no repair. But circumstances occasionally arise which throw them out of employment, either temporarily or permanently. Some years since, an article was introduced called "*cut-up work*," by which the price of stocking frames was greatly deteriorated. From the evidence of Mr. J. Rawson, it appears that, in consequence of this change in the nature of the work, *each frame could do the work of two*, and many stocking frames were thrown out of employment, and their value reduced *full three-fourths*.*

This information is of great importance, if the numbers here given are nearly correct, and if no other causes intervened to diminish the price of frames; for it shows the numerical connection between the increased production of those machines and their diminished value.

The great importance of simplifying all transactions between masters and workmen, and of dispassionately discussing with the latter the influence of any proposed regulations, is well exemplified by a mistake into which both parties unintentionally fell, and which was productive of very great misery. Its history is so well told by William Allen, a frame-work knitter, who was a party to it, that an extract from his evidence, as given before the Frame-work Knitters' Committee of 1812, will best explain it.

"I beg to say a few words respecting the frame-rent: the rent paid for lace-frames, until the year 1805, was 1*s*. 6*d*. a frame per week; there then was not any very great inducement for persons to buy frames and let them out by the hire, who did not belong to the trade; at that time an attempt was made, by one or two houses, to reduce the prices paid to the workmen, in consequence of a dispute between these two houses and another great house. Some little difference being paid in the price among the respective houses, I was one chosen by the workmen to try if we could not remedy the impending evil: we consulted the respective parties, and found them inflexible; these two houses, that were about to reduce the prices, said that they would either immediately reduce the price of making net, or they would increase the frame-rent: the difference to the workmen was considerable, between the one and the other; they would suffer less, in the immediate operation of the thing, by having the rent advanced, than the price of making net reduced. They chose at that time, as they thought, the lesser evil, but it has turned out to be otherwise; for, immediately as the rent was raised upon the per-centage laid out in frames, it induced almost every person, who had got a little money, to lay it out in the purchase of frames; these frames were placed in the hands of men who could get work for them at the warehouses; they were generally constrained to pay an enormous rent, and then they were compelled, most likely, to buy of the persons that let them the frames their butcher's-meat, their grocery, or their clothing: the encumbrance of these frames became entailed upon them: if any deadness took place in the work they must take it at a very reduced price, for fear of the consequences that would fall upon them from the person who bought the frame; thus the evil has been daily increasing, till, in conjunction with the other evils crept into the trade, they have almost crushed it to atoms."

265. The evil of not assigning fairly to each tool, or each article produced, its *proportionate value*, or even of not having a perfectly distinct, simple, and definite *agreement* between a master and his workmen, is very considerable. Workmen find it difficult to know the probable produce of their labor; and both parties are often led to adopt arrangements, which, had they been well examined, would have been rejected as equally at variance in the results with the true interests of both.

266. At Birmingham, stamps and dies, and presses, for a great variety of articles, are let out: they are generally made by men possessing small capital, and are rented by workmen. Power also is rented at the same place. Steam engines are erected in large buildings containing a variety of rooms, in which each person may hire one, two, or any other number of horse power, as his occupation may require. If any mode could be discovered of transmitting power, without much loss from friction, to considerable distances, and at the same time of registering the quantity made use of at any particular point, a considerable change would probably take place in many parts of the present system of manufacturing. A few central engines to produce power might then be erected in our great towns, and each workman, hiring a quantity of power sufficient for his purpose, might have it conveyed into his own house; and thus a transition might in some instances be effected, if it should be found more profitable, from the system of great factories back to that of domestic manufacture.

267. The transmission of water through a system of pipes might be employed for the distribution of power, but the friction would consume a considerable portion. Another method has been employed in some instances, and is practised at the Mint. It consists in exhausting the air from a large vessel by means of a steam-engine. This vessel is connected by pipes, with a small piston, which drives each coining press; and, on opening a valve, the pressure of the external air forces in the piston. This air is then admitted to the general reservoir, and pumped out by the engine. The condensation of air might be employed for the same purpose; but it must be admitted that there are some unexplained facts relative to that elastic fluid, which require farther observations and experiment before it can be used for the conveyance of power to any considerable distance. It has been found, for instance, in attempting to blow a furnace by means of a powerful water wheel driving air through a cast-iron pipe of above a mile in length, that scarcely any sensible effect was produced at the opposite extremity. In one instance, some accidental obstruction being suspected, a cat put in at one end found its way out without injury at the other, thus proving that the phenomenon did not depend on interruption within the pipe.

268. The most portable form in which power can be condensed is, perhaps, by the liquefaction of the gases. It is known that, under considerable pressure, several of these became liquid at ordinary temperatures. Carbonic acid, for example, requires a pressure of sixty atmospheres to reduce it to a liquid state. One of the advantages attending the use of these fluids is, that the pressure exerted by them remains constant until the last drop of liquid becomes gaseous. If either of the elements of common air should be found to be capable of reduction to a liquid state before it unites into a corrosive fluid with the other ingredient, then we shall possess a ready means of conveying power in any quantity and to any distance. Probably hydrogen will require the strongest compressing force to render it liquid, and may, therefore, possibly be applied where still greater condensation of power is wanted. In all these cases the condensed gases may be looked

* The return which ought to be produced by a fixed steam engine employed as a moving power is frequently estimated at ten per cent. on its cost.

* Report from the Committee of the House of Commons on the Frame-Work Knitters' Petition, April, 1819.

upon as enormous springs, which have been wound up by the exertion of power, and which will deliver the whole of it back again when required. These springs of nature differ in some respects from the steel springs formed by our art; for in the compression of the natural springs an enormous quantity of latent heat is forced out, and in their return to the state of gas an equal quantity is absorbed. May not this very property be employed with advantage in these applications?

The mechanical difficulty which will remain to be overcome will consist in the valves and packing necessary to retain the fluids under the pressures to which they will be submitted; and the effect of heat on these gases has not yet been sufficiently tried to lead us to any very precise notions of the additional power which its application to them will supply.

The elasticity of air is sometimes employed as a spring instead of steel: in one of the large printing presses the momentum of a considerable mass of matter is destroyed, by making it condense the air included in a cylinder, by means of a piston, against which it impinges.

269. The effect of competition in cheapening articles of manufacture sometimes operates in rendering them less durable. When such articles are conveyed, for consumption, to a distance from the place where they are made, if they are broken, it often happens, from the different price of labor, that it is more expensive to mend the old than to purchase a new article. Such is usually the case, in great cities, with some of the commoner locks, with hinges, and with a variety of articles of hardware.

SINGULAR SPECIES OF CORN.—We have now in our office, (where our citizens and farmers are requested to call and see it,) a most singular species of corn. The history of this rare freak of nature is substantially as follows. About three years ago, Mr. Carrico, living in Gallatin county, Kentucky, planted some of the common Indian corn in the neighborhood of a swampy piece of land, which was grown over with a thick strong grass resembling *sedge* grass. In the fall of the year, when he was gathering his corn, he was surprised to find that ears of corn were growing and ripening upon the grass, and that on the blades of the grass separate grains were growing. Struck by the singularity of the circumstance, he carefully preserved the grains, and planted them in the next spring. The result was extraordinary, producing a growth partaking of the qualities both of the grass and the corn, and superior to both as forming a third article very advantageous to stock farmers. The stalks in our office present most remarkable appearances.

The *tassel* does not bear any resemblance to the *corn tassel*, but is more like the heads of coarse grass, the blades are long and very tender, resembling more of blades of oats than of corn. Upon the extremities of these blades separate grains of corn enclosed in a husk, presenting the appearance of hazel nut burs, are found, and to the bodies of the stalks more perfect ears of corn are attached. The stalks themselves are long and slender, and not unlike the wild rye of the country, only stronger and more substantial. We believe that this grain is at least one new thing under the sun, and, unlike most novelists, it promises to be useful. —[Commonwealth, Frankfort, Ky.]

SILK.—"The Shakers, near Lexington, Ky. have commenced the raising of silk-worms, and the preparing and manufacture of silk. Some of their goods have been received at Philadelphia, and been much extolled. The Shakers are so diligent in application and patient of labor, that, if they take up this business seriously, it will certainly succeed in our country."

We have been permitted, during the past summer, to witness the process of silk culture, through all its varied and progressive stages. And it was truly a delightful privilege, for in no other way have we seen the beauties and perfections of nature's husbandry so wonderfully displayed. Though little is now known of the culture of silk, the time cannot be distant when our country will embark in a business, for the successful prosecution of which we enjoy so many facilities. It is an employment in which females and children may be pleasantly and profitably engaged. The Mulberry is easily cultivated, from indifferent soil, and is highly ornamental. But little capital is required to commence and carry on the manufacture of silk.

In July last, Mrs. Parmentier presented Mr. Cruttenden, of the Eagle, a few Cocoons, each of which produced a miller or moth. These paired, after which the females produce their eggs, and these, having accomplished the purpose of their creation, died! The eggs, after a few days exposure to a warm atmosphere, produce the silk worm, over which tender leaves of the mulberry are laid, and to which they adhere, and soon commence eating. The worm requires fresh leaves three times a day, and continues eating about thirty-two days, when, having become three inches long, it is prepared to spin its cocoon. The last process, that of spinning the cocoon, is beautiful beyond the power of description. The worm mounts upon a bush, and commences the weaving itself into a web of brilliant silken fibres, which, in the course of six or eight days, is completed, and constitutes the cocoon, from which the silk is wound. And thus, in the short space of six weeks, by means which mock all the efforts of art and science, the raw mulberry leaf is converted into rich and durable silk.—[Albany Evening Journal.]

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 24th of September, to the 7th day of October 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Sept'r 24..	10 a. m.	53	30.01	N by W	light	WSW	fair
	10	60	30.02	WSW	..	..	..
	2 p. m.	68	29.97	..	moderate	..	..
	6	64	29.92	..	light		clear
	10	58	29.98				..
" 25..	6 a. m.	55	30.00	WSW—WNW	light		..
	10	64	30.04	SW	..	WSW	fair
	2 p. m.	72	30.00	..	..	..	..
	6	69	30.00	..	..	..	..
	10	66	30.00		..		clear
" 26..	6 a. m.	62	29.99	SW—WSW	..	..	fair
	10	69	29.98	SW by W	..	..	..
	2 p. m.	75	29.90	SW	moderate	..	..
	6	70	29.86	..	..		clear
	10	66	29.86		..		..
" 27..	6 a. m.	63	29.84	WSW	..		..
	10	70	29.89	..	..	.—WNW	fair
	2 p. m.	78	29 88	W—WSW	..	..	.. —with brisk scuds from WNW
	6	76	29·90	WSW	..	NW—WSW	..
	10	73	30.—	..	light	WSW	..
" 28..	6 a. m.	62	30.14	ENE	..	W by S	..
	10	65	30.18	E—SE	moderate	.. / SW	..
	2 p. m.	67	30.15	SE—ESE	..	W by S / SE	.. —cloudy at 5.30
	6	65	30.15	SE	..	W by S / S (brisk)	cloudy
	10	66	30.10	..	..	S by W	..
" 29..	6 a. m.	68	30.08	SSE	..	WSW / SSW	fair
	10	75	30 08	..	..	..	..
	2 p. m.	78	30.04	..	..	SW	..
	6	75	30.02	..	..	WSW	.. —cloudy at W
	10	70	30.06	..	..	..	..
" 30..	6 a. m.	63	30.17	NNW	light—mod.	..	..
	10	70	30.23	..	moderate	..	..
	2 p. m.	74	30.21	..	..	..	..
	6	70	30.21	..	light	..	..
	10	67	30.24	..			..
October 1..	6 a. m.	58	30.27	ENE	moderate	..	hazy —cloudy
	10	64	30.27	..	.. / ENE		cloudy
	2 p. m.	62	30.16	..	fresh	ENE	rainy —rain
	6	57	30.08	..	..	..	rain
	10	60	30.01	—SSE	..	—gale	..
" 2..	6 a. m.	69	29.80	..—S—SSW	moderate	SW—WSW	.. —cloudy —rainy
	10	78	29.80	WSW—W	..	WSW	fair
	2 p. m.	72	29.77	WSW	..	..	..
	6	66	29.81	W by S	..	..	..
	10	60	29.89	..	..		clear
" 3..	6 a. m.	56	29.95	WSW	..		..
	10	63	29.98	..	..	—WSW	.. —fair
	2 p. m.	67	29.98	..	..	..	fair
	6	63	30.01	..	..	..	..
	10	58	30.07	..	..	..	..
" 4..	6 a. m.	51	30.20	NNW	..	..	..
	10	57	30.27	..	..	NNW	.. —small scudt from NNW
	2 p. m.	58	30.28	N by W	..	NW	..
	6	56	30.35	N	light		clear
	10	53	30.40				..
" 5..	6 a. m.	48	30.52	N by W—NE—E	..		..
	10	56	30.52	ESE—NW	faint	ESE	fair
	2 p. m.	62	30.49	SSW—SE	light	SE	..
	6	58	30.48	SSE	..	SSE	..
	10	56	30.45		calm		..
" 6..	6 a. m.	58	30.37		..	SSW	cloudy
	10	64	30.37	SW—S	light	SW	.. —fair
	2 p. m.	68	30.31	SSW	..	..	..
	6	62	30.28	..	..	..	..
	10	61	30.28		..		..
" 7..	6 a. m.	58	30.25	WSW—SSW	faint	WSW	hazy
	10	63	30.24	SSW—ESE	..	SW	fair
	2 p. m.	67	30.22	SE	..	..	cloudy
	6	64	30.19	..	calm	..	..
	10	61				..	..

Maximum height of the barometer for September 30.20 in.—Minimum, 29.84 in.—Range, 0.46 in.

The observations of winds for September result as follows: From the North-Eastern quarter, 25¼—from the South Eastern, 13¼—South-Western, 64¼—and North-Western, 29¼.

The higher currents as observed by the course of the highest clouds, show the following results: From the North-Eastern quarter, 9—from the South-Eastern, 3—South-Western, 89¼—and North-Western, 20¼.

NEW-YORK AMERICAN.

OCTOBER 5, 7, 8, 9, 10, 11—833.

LITERARY NOTICES.

THE NEW ENGLAND MAGAZINE for October.—Boston. J. F. BUCKINGHAM.

THE AMERICAN MONTHLY MAGAZINE for October. —N. Y. *M. Bancroft—J. Wiley, &c.*

THE KNICKERBOCKER for Oct.—N. Y. *Peabody & Co.*

We have named these Magazines in what we conceive to be the order of their merit. The N. E. Magazine, now more than two years old, commenced with vigor, spirit and originality—and it has gathered strength in every department as it went on. The number now before us is very good—the first paper on the ancient Egyptians, and refuting successfully the notion that they were originally Negroes, discusses pleasantly what would seem a somewhat discouraging subject. The inference meant to be derived from the confessedly high state of mental cultivation and science at which the Egyptians had arrived—in favor of the capability of the Negro to receive and profit by instruction must fail, so far as this case goes. The paper supplementary against classical literature, though heterodox, in our judgment, is written with all the force and ingenuity of its precursors. The "Reminiscences of a Rogue" are coarse. The criticism on Mr. Channing's character of Napoleon has considerable merit, though it goes rather to invalidate some of the less important details than the general result of that most eloquent vindication of human rights, and of greatness founded on intellectual, in contradistinction from that founded on physical conquests.

The Am. Mo. Magazine, which has reached its 8th number, is marked by the tone of sound scholarship, matured knowledge, and varied acquirements, which, from its first number, have entitled it to the patronage of all who appreciate such qualities. We intended to have made an extract from Laura Hungerford—to show that the pathetic is not neglected in these pages —but our limits will not permit.

THE KNICKERBOCKER—we know not why the genuine Dutch spelling has been changed—appears for the first time under the auspices of *Timothy Flint*, so well and favorably known by his Geography of the Valley of the Mississippi, and other works.—Mr. Flint thus introduces himself to the readers of the Magazine:—

In assuming the editorship of this periodical, and disavowing having had any agency in it up to this time, I would pass in silence to my duties, as I am not accustomed, nor often tempted to speak of myself, did I not deem a word explanatory of my motives is due to the patrons of the Knickerbocker. Previous to being invited to this charge, I had wished, and been advised to try a change of climate in the hope of re-establishing my health. It offered me a vocation while making the experiment. I shall discharge these duties to the extent of my strength and power, so long as my health admits, and the public sustains me. Failing the one, or the other, dishonor, I hope, will not attach to me, or the periodical, from the abandonment of the undertaking. I cast myself as a stranger on the courtesy of this great community, persuaded that it is too generous and discriminating not to judge me with candor and award me according to my desert.

As I count to be estimated according to my doings, and not my professions, I shall say in a few words, that to foster genuine American literature to the extent of my ability, to put forth my utmost exertions to call out and encourage latent talent, to throw my mite into the scale of true taste, good learning, sound morals, and religion, and the great interests of society, so far as literature may be made to bear upon them, will be the steadfast aim of whatever may appear in this work.

We like the frankness of Mr. Flint, but we hope the indication manifested in more than one place in this number, that as Editor of the *Knickerbocker*, Mr. Flint means to resent or retort the injuries or injustice, which as an author he may, or thinks he may, have sustained from other writers, or periodicals—will not be borne out in future numbers.

From a paper on British travellers in America, we extract Mr. F's. amusing and apparently impartial account, given from personal acquaintance, of the notorious Mrs. Trollope.

In reply then to the question, which has been asked us, we are sure, a thousand times, what sort of person was Mrs. Trollope, and what were her objects in visiting America? We reply, she was in person a short, plump figure, with a ruddy, round, Saxon face of bright complexion, forty-five, though not showing older than thirty-seven, of appearance singularly unladylike, a misfortune heightened by her want of taste and female intelligence in regard to dress, or her holding herself utterly above such considerations, though at times she was as much finer and more expensively dressed than other ladies, as she was ordinarily inferior to them in her costume. Robust and masculine in her habits, she had no fear of the elements, recklessly exposing herself in long walks to the fierce meridian sun or the pouring shower, owing a severe fever, no doubt, to those circumstances. Voluble as a French woman, shrill and piercing in the tones of her voice, piquant and sarcastic in the tenor of her conversation, she was a most accomplished mimic; and as she had travelled in France and Italy, and knew the language and light literature of both those countries, and was, moreover, acquainted as we know from her correspondence, with the most distinguished men and women of genius in England; as she was, in particular, perfectly *au fait* in regard to every thing that concerned theatricals, and play writing, and play going people; as she had seen every body, and knew every body in Europe, of whom we hear, her conversation was remarkably amusing. Religion she considered a mere matter of state, an engin to keep people in awe, though she always spoke respectfully of profession, so far as she deemed it conscientious. There was nothing in her countenance or manner to promise the infinite fund of anecdote and observation, that she could pour forth in an unremitting continuity, from morn to eve. Instead of being a woman of low origin, as has been represented, her father was clergyman of the established church, of some distinction, and himself an author, from whom she inherited a considerable and unalienable annuity. Her husband was a graduate of one of the universities, we believe Oxford, a barrister of the inner temple, and a brother, as we understand, of Admiral Sir John Trollope, distinguished by having gained a most brilliant victory over a French fleet, and possessing a great fortune, which Mr. Trollope, husband of the American traveller, expected to inherit; but in which he failed, from the circumstance that the old Admiral married, somewhere about his eightieth year, and had an heir born to him. Such we have often heard her relate her circumstances, and relations to be; and we have no doubt, from other sources, of their authenticity.—She was in correspondence while in this country, as we know, with Misses Mitford and Landon, and we believe with Campbell the poet, and other names well known to fame. Having been trained to the expectation of inheriting a great fortune, and having views of conventional morals and decorum, not of the severer class, not restrained by religious considerations, and mixing much with the gay and pleasure seeking, she had probably run through the common and allowed range of fashion, and exhausted the common forms of pleasure, and worn it all out to satiety; and though we have every reason to believe, that, while in America, whatever liberty she may have taken with the lesser morals, she was exemplary in her observance of the higher duties: we say this in particular, in reference to the residence of Hervieu, the French artist, in her family, which connexion naturally furnished much tea table conversation. She was amiable in the highest degree in her relations with the people about her in the suburbs of Cincinnati, where she resided, during the greater part of her stay in America, among whom she was very popular, enacting among them *Lady Bountiful*, with a graciousness of distribution, and nursing the sick, which every where gains favor. Besides Hervieu, an amiable and most accomplished French painter, enthusiastically devoted to his profession, her family consisted of one son, now a distinguished member of one of the colleges in England, and two daughters the three nearly arrived at maturity.

She came to this country, induced to the step, as we suppose, by the eloquence of Frances Wright, who was about at that time to bleach out the Ethopian tinge of the negroes, by her own peculiar process change their bumps and make them free, wise, &c., as the French say, *tout de suite* at Nashoba. In Mrs. Trollope's teeming and imaginative brain, we have no doubt, the dreary forest of Nashoba, with its huge tulip trees and sycamores, and its little log cabins, with their dirty and half clad negro tenants, and so poorly roofed, as to require the accomplished lecturer to hold up an umbrella to shield her from a shower, while she was lecturing them within doors, was a sort of splendid hall, with columns and arcades where she could see the aforesaid process of bleaching passing under her eye, and where Hervieu, as Bonaparte said of his campaign when going to lie his rock, could paint it. Arriving here in a steamboat from New-Orleans, after having had her fair and thin skin bitten by some hundred thousand musquitoes at the Balize, after imagining she could smell in early spring yellow fever in every gale, while ascending between the immense marshes to New-Orleans, and after informing herself so well about that city, as to affirm, that she could not purchase a box of paints, in the place, merely because, inquiring along the Levee, she could find none in the shops where they sold pork and lard, she hurried away from the fever doomed city, with the speed and terror with which Lot fled from burning Sodom, to Nashoba. The imagination unhappily awoke to reality. In two days, if we recollect, she fled from the halls and the bleaching process of Nashoba, cutting loose, we apprehend, from her platonic partnership with Miss Wright, whose eloquence and power she used to vaunt, but whose brain she deemed touched, and came, as fast as steam could waft her, to Cincinnati, where she arrived without a line of introduction to any individual, and where our acquaintance with her commenced.

There, visited by her husband, who spent one winter with her, she passed two desultory and aimless seasons, rearing, the while, a huge building called a bazaar, which was no air castle, but a queer, unique, crescented Turkish Babel, so odd, that no one has seen it since, without wonder and a good humored laugh; a building which cost her twenty-four thousand dollars, on which she actually paid some twelve or thirteen thousand, leaving the remainder minus, spending, probably, four or five thousand dollars more in French articles of fancy finery, which she exposed for sale in stalls in this building; and so injudiciously, owing to her total ignorance of the American market, and of the proper place in which to build her Bazaar, and to her entrusting the sales to irresponsible and probably dishonest foreigners, that the establishment ran her in debt, instead of yielding her a revenue. A fact will explain this utter ignorance. When told, that the market could not be transported from the place where people had been accustomed to purchase, she imagined that her Bazaar would tempt the crowd of fashionables a quarter of a mile from their accustomed haunt. When advised to examine the fancy stores in the city, and furnish herself with such articles as they had not, she only conformed to this salutary counsel, after her orders had arrived from France. The consequence was, that in eking out the defects of her store, she visited one of the most ample assortments in the country, holding up her hands in undisguised astonishment, to find that such a large and splendid assortment had found its way there, antecedent to the grand findings of the Bazaar, an assortment of twenty times her capital, and far more rich and expensive. How could such things, she exclaimed, find their way to the United States.

The result of all this is easily seen. As incapable as an infant of such a project in her own country, in America her ruin was more complete than that of infantine lolly. *Hinc illæ lachrymæ.* But this was not the sorest evil. The ladies of the interior overdo the ladies of the Atlantic cities in dress, as imitators generally overreach their model in show and gaudiness. In such a town as Cincinnati, persons are measured by their exterior. It was to no purpose to urge that she was endowed, amusing, and a blue stocking dyed in the wool. None would welcome or receive her, save in four respectable families, and they were not families that gave parties, she was never admitted. Hence the *corn cake* and *dodger cake*, a species which Mrs. Trollope had the honor of inventing, for it was never heard of in Cincinnati before; and hence the pork and hominy, which she found in the parties at Cincinnati. Every person knows that a party is the same thing in every opulent family in the United States; and every one understands with how much truth such an assertion could be made of a party in New York or Philadelphia. She saw nothing of the western country, except what could be seen in coming up in a rapid steamboat between the swamps of the Mississippi and the bluffs of the Ohio, and every one knows, that in such

ascents is just nothing at all, in regard to qualifying a person to speak of the western country. Of the scenery about Cincinnati judge from one circumstance of her competency to describe it. She has represented the immediate environs of Cincinnati to be a dense and disagreeable forest. The fact is, as every one who has seen the place knows, that the improvident axe has despoiled the contiguity of that city of its chief ornament, its beautiful woods, and has left it in the midst of naked hills instead of its original splendid native groves. The walk, where she was so bitten, and stung, and horned, by all sorts of wasps and snap-dragons, and where she sank so deep in the decayed leaves and putrid matter of logs, is one of the cleanest and most open and pleasant shaded promenades in the world, where we have walked twice three hundred times, and have never been stung by wasp or humblebee, never bitten by moscheto, or horned by snap-dragon for the first time; and that this is the true character of the walk, every child in the vicinity is aware, and knows, too, that it is the peculiar and wonderful attribute of the Ohio forest to be singularly clean of all underbrush, and to consist of tall, straight stems, like the trees of an orchard. We pass wholly over her affirmation, that the fruits in the markets of that city are mean. We believe foreigners would generally accord, that it is the best fruit market in America, perhaps in the world. The slang language which she puts into the mouth of her servants, and the common people, has not even the remotest smack of west country dialect. It is entirely woven, warp and woof, from Cockney and Yorkshire. As to the log house, and the lady who saw people but once in a month, we imagine it exists no where but in her brain. In a word, never was person so little capable or so little disposed rightly to describe scenery, country, and the physical circumstances of eating, drinking, building, and living. Manners, when and where she chooses, she describes well, for it is in her line.

We have only room for one extract more, as given from Mrs. Sigourney. The Evening Post finding nothing to admire in the last two stanzas cut them off, in republishing the poem Was it because they spoke of Indian wrongs? and can that Journal never shake off its party chains? Our readers will judge whether the concluding stanzas are less worthy than the rest.

INDIAN NAMES.—By Mrs. L. H. Sigourney.

"How can the red men be forgotten, while so many of our states and territories, rivers and lakes, are designated by their names?"

Ye say they all have past away
That noble race and brave,
That their light canoes have vanish'd
From off the crested wave,
That 'mid the forests where they roam'd
There rings no hunter's shout;
But their name is on your waters,
Ye may not wash it out.

Yes, where Ontario's billow
Like ocean's surge is curl'd,
Where strong Niagara's thunders wake
The echo of the world,
Where red Missouri bringeth
Rich tribute from the west,
And Rappahannock sweetly sleeps
On green Virginia's breast.

Ye say their conelike cabins
That cluster'd o'er the vale,
Have disappear'd as wither'd leaves
Before the Autumn gale:
But their memory liveth on your hills,
Their baptism on your shore,
Your everlasting rivers speak
Their dialect of yore.

Old Massachusetts wears it
Within her lordly crown,
And broad Ohio bears it
Amid his young renown.
Connecticut hath wreath'd it
Where her quiet foliage waves,
And bold Kentucky breath'd it hoarse,
Through all her ancient caves.

Wachusett hides their lingering voice
Within his rocky heart,
And Alleghany graves its tone
Throughout his lofty chart.
Monadnock on his forehead hoar
Doth seal the sacred trust
Your mountains build their monument,
Though ye give the winds their dust.

Ye deem those red brow'd brethren
The insects of an hour,
Forgotten and despis'd, amid
The regions of their power.
Ye drive them from their fathers' lands,
Ye break of faith the seal,
But can ye from the Court of Heaven
Exclude their last appeal?

Ye see their unresisting tribes
With toil-worn step and slow,
Onward through trackless deserts press,
A caravan of wo.
Think ye the Eternal's ear is deaf?
His sleepless vision dim?
Think ye the *soul's blood* may not cry
From that far land to Him?

YOUNG LADIES SUNDAY BOOK.—Philadelphia, Key & Biddle.—A judicious selection of passages from authors of approved taste and judgment, inculcating the duties of practical christianity without touching upon any controverted points, is here presented to the youthful female reader in an attractive form. The book is prettily printed, the selections are not long, and they are applicable to all the duties, feelings, and virtues which make up the excellence of the female character.

OUTLINES OF THE CONSTITUTIONAL JURISPRUDENCE OF THE U. S. by Wm. A. Duer, L. L. D. President of Columbia College—N. Y. Collins & Hannay.—This volume, comprehensive in its subject, but yet of small bulk—containing only 220 pages duodecimo—is intended and is, we think, admirably adapted for a text book for lectures, as a class book for schools, as a general popular manual, and above all as a book of reference and consultation for citizens and strangers. The motto it bears from Cicero—est omnibus necessarium nosse rempublicam—it is essential for *every one* to be acquainted with the republic; that is, to have an accurate general knowledge of its laws and constitution—is most emphatically true of this country, where *every one* may aspire to its highest offices.

THE AMERICAN REVOLUTION.
HISTORY OF NEW ENGLAND.
EARLY HISTORY OF VIRGINIA.
} by Lambert Lilly, Schoolmaster.

A WORD TO TEACHERS—BY WM. A. ALCOTT.

EERLY IMPRESSIONS.

THE BLACK VELVET BRACELET—BY THE AUTHOR OF EARLY IMPRESSIONS &c.

These are all from the press of Allen & Ticknor of Boston, and each in its sphere a contribution to the education of the rising generation. The three historical works first named, aim by short and striking anecdotes, illustrated by wood cuts to excite the attention of young readers and to impart to them in the form of stories, useful and accurate information. The little volume of Mr. Alcott—"a word to teachers," we shall take a separate opportunity to speak of. The two last named are very pretty, the last especially, tales of a religious character.

THE BOYS OWN WEEK DAY BOOK.—Philadelphia; Thomas Ash.—A pretty little book, very well calculated to attract the notice of children, and thus to lead them on by degrees to virtue and knowledge. Like those above mentioned, it is adorned with wood cuts.

LETTERS FROM CAROLINE WESTERLY, forming No. XVI. of the Boy's and girls library of entertaining knowledge. New York, J. & J. Harper.—This is a happy idea. It is in the form of letters from a young lady travelling from Ohio to Albany by the way of the Lake, a description of the country scenery and history of the intermediate points &c.

THE CITY HALL REPORTER, AND NEW YORK LAW MAGAZINE; by John Lomax; No. 1.—We can only mention the title of this new periodical, not having had time to look into it; and add the expression of our conviction, that such a work, if accurately and fairly edited, must succeed.

THE MAN-OF-WAR'S-MAN: by the author of "Tom Cringle's Log," 2 vols.—Carey, Hart & Co., Baltimore.

A SUBALTERN IN AMERICA, 1 vol.—E L. Carey & A. Hart, Chesnut street

We place these two works together here because they both originally appeared in the same place—Blackwood's Magazine—and because their literary merits are about upon a par, and their general political tone of the same character. They treat of battles by sea and land; and like all English works whose subject matter leads the writer to speak of other nations in connection with his own, are charactertised by the manly modesty with which his countrymen are alluded to, and the candor and liberality with which he touches upon foreigners. The author of the first work, for instance, in describing what he calls "the fervid energies displayed by a British seaman in a chase," after giving an account of the usual symptoms of eagerness evinced to be alongside of the enemy, asks:—

"——————————who that has seen that in conjunction with the placid coolness, the lion heart, the determined hand, and utter disregard of every peril before action, combined with the most sovereign contempt of all advantage—the blunt, honest, manly feeling, humanity, and even kindness, displayed after it—in short, the marvellous compound of the lion and the lamb—but must acknowledge, that they are characteristics which, compared with every nation, tribe, and tongue under heaven, whether aquatic or terrene, belong, and *exclusively belong*, to the ocean warriors of this great and glorious empire?

The *exclusive* claim to all these glorious qualities may seem a little extravagant to the American reader; or he may think at least that if the English have the fee simple, we *borrowed* a few of them during the last war. He is mistaken:

For although, it is true, the Americans appeared first on the ground of warfare, and both their ships of war and privateers obtained a temporary triumph over an unsuspecting and inferior force, yet it was notoriously the presumption of a petulant, thoughtless, forward boy, who vengefully raises his arm against his parent, and is severely punished and whipped for his impertinence. Britain rose with redoubled energy as her perils increased; and such was her industry and activity, that in an astonishingly short period of time she swept the American cruizers from the seas.!!!

It is amazing what i norance one may live in in this world. The facts above mentioned are as new to us as if they had occurred in a different planet; for, excepting two American brigs which we now know for the first time from these volumes were taken by an English frigate—(did any one ever hear of this action before?)—we have never read of an American man of war striking to any equal force; but on the contrary indeed, were under an impression that whenever our vessels met with those of the British upon any thing like fair terms, the latter somehow—whether from mere accident, or whether from the wild whim of encouraging the "petulant forward boy" uncle Sam in petting his new toy "the Navy"—*invariably* struck to the former. There is nothing however like correcting false impressions, even at the last moment. We only regret that the "man of war's man," whose statements are so accurate, had not given a little of the rich imagination of which he seems to have the disposal, to the plot of his book, which is miserably defective, instead of lavishing his inventive faculty in the manner already indicated. The sea slang of this work, so far as our knowledge of such *lingo* is concerned, is correct, and may, with some of the scenes described in it, amuse a curious reader.

The "Subaltern," to which we must now turn more particularly, is the work, we believe, of the Rev. Mr. Gleig, formerly an officer of the British army—a very agreeable writer, so far as elegance and vivacity of style are concerned, but unhappily imbued with that spirit of arrogance and misrepresentation, of which it seems impossible for his countrymen to divest themselves, and which, though it cannot destroy the world's respect for them as a great nation, renders them throughout Christendom the most unpopular people that share the benefits of civilization. The national prejudices of other peoples are like the shell of the tortoise, protecting their self love only when assailed: the prejudices of the English are like the quills of the hedgehog, which are showered upon every object with which it comes in contact even before ascertaining that the collision is hostile. They consequentially roll themselves up into a ball upon the world's highway, and dart their missiles indiscriminately upon each passenger that

passes. The wantoness of these attacks as regards our country is perfectly unaccountable, considering the real estimation in which the many excellent and even noble traits of the British character are held among us. It can only be attributed to a constitutional obtusity of feeling, which makes them unconscious of the bitter outrages they offer to the very noblest attribute of our nature—a proper self-respect. As an instance of this, the gross insult offered to a whole nation in the following passage, evidently intended to be complimentary, might be quoted among others from the volume before us:

Yet no apprehensions could be more unfounded than those of that man; *for however unlike civilized nations they may be in other respects*, in the humanity of their conduct towards such English soldiers as fell into their hands, the Americans can be surpassed by no people whatever.

Now the man who flings this gratuitous piece of insolence in our teeth is a *clergyman*, a man of refined education, and at this very moment, from former works he has published, one of the most popular foreign writers among our countrymen. His History of the Bible is incorporated with Harpers' American Family Library, and therefore widely disseminated: his Subaltern in Spain was read every where. He might have travelled thousands of miles on this continent, and the mere mention of his name as the author of the first work would have procured him the kindest attention among the many hundreds of poor people to whom the cheapness of his work has made it known; while for ten readers among his own countrymen he would find twenty among ours. We do not ask how could a person of liberal education, a gentleman, a British officer, put forth a sentiment so offensive to those who, having enjoyed the same advantages here as he has at home, may move with him in the most accomplished circles on the continent? but we do ask, how did that man—that minister of God—that interpreter of the mercies revealed to us in Heaven's written language; how did he dare to outrage the honest pride of the humble readers of his book to whom we have alluded, by uttering a sentiment that would turn the kindness of their feelings to gall? That single sneer from his pen will sink deeper than a thousand random falsehoods put forth elsewhere as facts about the country, and kindle more vindictive feeling than the holy teaching of his life can allay.

It may seem absurd to grow warm upon a theme so hacknied; but we confess it is one that we never approach with patience. The subject, too, though old, is far from worn out. They who first called it into play are forever imparting new vigor to it, even while calling on us to forget its existence. The number of libellous works upon our country have doubled since Washington Irving wrote his much admired paper on conciliation; and now not content with putting forth these professed treatises of calumny, they infuse their venom into works like those before us, where one looks only for amusement. Shall such things go abroad without our indignant disclaimer? Shall our children while seeking harmless amusement be allowed to imbibe a contempt for their country without warning them from these polluted sources? Shall such puppies as Hall and Hamilton be feted and caressed again thoughout the country, and domesticated in our houses as formerly? In a word, shall our countrymen be at once the prey and the scorn of these Ishmaelites forever?

Recrimination is alway an ungrateful task; but there are some poisons so inveterate that recourse to others equally active can alone expel them from the system. *

Outre Mer; A Pilgrimage beyond the Sea; No. 1; *Boston*, Gray & Co.—This is a beautifully printed pamphlet about the size of "The Sketch Book" as originally published, which work it also resembles in its general design. We shall look for the next number with some interest, and prefer making up our opinion then of a work which, though written in a happy and polished style, evinces as yet but little of the originality of the celebrated model upon which it appears to be formed. *

Inquiries concerning the Intellectual Powers, by J. Abercrombie, M. D.; prepared for the use of Academies, by Jacob Abbot: *Hartford*, F. J. Huntington.—The manner in which we have already spoken of the celebrated work of Dr. Abercrombie here, renders it unnecessary to add now any recommendation of it, as admirably adapted to the purposes of education. To such an end, the edition before us, prepared as it is with explanations for the use of pupils, is especially suitable. There is an analysis of each page in the margin, which will be found of great assistance to the teacher, and the well written explanatory remarks in an introduction of some length, may be recommended to every one who would successfully pursue a study which must be salutary to every mind brought within its influence.

The work, in publishing phrase, is very handsomely "got up;" and the two first paragraphs of the editor's introduction will, in the just view they take of the study of Intellectual Philosophy, show how capable was the promoter of the present edition of introducing the work properly into all liberal systems of education. He pretends merely to explain the nature of the science, not to render it easy; rightly arguing that the very difficulties of the study of intellectual philosophy are among the chief sources of benefit to be derived from it: for it is by encountering and overcoming these difficulties that intellectual strength is acquired—just as, to use his own apt illustration, the exertion necessary to perform the feats of the gymnast, is the means by which his physical force is enhanced, and the advantage of such efforts secured. *

The Guardian, a semi-monthly Magazine, No. 3.—This handsomely printed periodical, "addressed to the younger members of society," improves in interest as the publication proceeds. The essays, selections and criticisms in the present number indicate resources in the Editors which promise well for their excellent project. A class of young contributors, whose communications should be subject to the freest supervision on the part of the editors, would perhaps add to the interest of the work and promote its circulation among the readers to which it is particularly addressed. *

FOREIGN INTELLIGENCE.

In *Great Britain*, the King prorogued Parliament in person on the 28th August. His speech on that occasion is characterized by the London Spectator as having "a strong resemblance to those puffing announcements which theatrical managers are wont to make at the foot of playbills, where every piece is declared to have been received with unbounded applause by crowded and fashionable audiences. But as it not unfrequently happens, that, instead of being applauded, the plays have in fact been all but damned; so, many of the measures of the past session, which their authors, and the authors of the royal speech, affect to regard with infinite complacency, have in reality been barely tolerable in the eyes of the British public."

The recognition by England of *Donna Maria* as Queen of Portugal took place at Lisbon on 15th Aug., when Lord Wm. Russell delivered his credentials to *Don Pedro*, as minister to the young Queen.—Active interference in her behalf however was not contemplated; for when Don Pedro asked whether he might depend upon British support in case of an attack upon Lisbon, he was distinctly assured by Lord Wm. Russell, that unless any other foreign Power should interfere in behalf of Miguel, no active assistance could be rendered to the Queen. The moral effect of the recognition, which would moreover be doubtless soon followed by that of France, joined to the prosperous state of the Queen's affairs, must soon, we apprehend, decide the controversy. Don Pedro has summoned the national Cortez to meet, in order to nominate a Regency, and to determine upon a suitable marriage for the Queen. Meanwhile *Saldanha*, by an effective and victorious sortie on the 18th from Oporto, had completely freed that city from the remainder of Bourmont's army left to beleaguer it, and in consequence troops had been despatched thence to aid in the defence of Lisbon in case of attack. Apprehension on that score however had much declined. Bourmont's post was at Coimbra, about 130 miles from Lisbon, and his whole force did not exceed 10,000 men. *Villaflor* with his troops, equal in number and in high heart and hope, had possessed himself of Wellington's famous lines of Torres Vedras in advance of Lisbon, so as to meet there any attack that might be hazarded. The latest Lisbon dates are of the 20th August.

From *Madrid* the dates were to the 21st August at which time the King was still living. A letter we insert from the London Times explains the actual condition of things in Spain. Another war of succession seems inevitable on the demise of the King.

Of France the following account is given by a correspondent of the London Spectator. The facts developed in this letter, of the remarkable increase in the circulation of liberal and republican papers, such as the *National* and the *Tribune*, and of the proportionate falling off in that of the ministerial papers, are very significant indeed.

"Paris, 29th August.

"The public feeling against Louis Philip increases daily. Do not believe the accounts which appear in the French Ministerial Papers, of his popularity.—Nothing can be more contemptible than his party; and be assured, that the moment the present favorable state of commerce takes a turn,—which, in the natural course of things, it must do soon,—these feelings of contempt and dissatisfaction which are now kept under, will be loudly declared. Louis Philip must be aware of this; and is trying to strengthen his interest with England: but the real alliance between England and France, which is becoming daily more intimate, is with the People—not the Governments.

"Among other things now talked of, is a proposal for the next session, to the Chambers to remove the timbre (stamp duty) on Newspapers. Ministers have discovered that their *loi de cautionnement* (the security lodged in the hands of Government before a new paper can start) is not sufficient to prevent new and cheap papers from making their appearance; and as it happens that nineteen out of twenty of these papers are Anti-Ministerial, they will of course endeavor to put them down. But let them beware! The attempt to *bastillize* Paris has hitherto failed, and it has excited public indignation against Ministers. Let them attempt to suppress Newspapers, and the *coup d'état*, although they should even succeed in getting it passed with the sanction of a corrupt and imbecile Chamber, will hurl Philip from his throne. Nothing can stop the Press here; and no paper, to succeed, can be Ministerial. The *Constitutionnel*, by supporting for a time the Juste Milien system, has lost 10,000 subscribers in less than three years. The *Journal des Debats*, which was rapidly rising whilst it was Liberal, can hardly keep its ground, although it is the official paper; and as to the other Ministerial Papers, their circulation has diminished one half. I have just procured, from the Stamp-office, the returns of the daily circulation of some of the papers for 1830 and 1833. It is worth attention—

	In 1830.	In 1833.
Constitutional,	23,333	13,333
Journal des Debats,	14,600	14,000
Temps (this paper fell as soon as it became what is called moderate,)	7,750	4,240
Courrier Français (Liberal, inclining to Republicanism,)	4,000	6,700
National (Republican,)	2,300	4,850
Tribune* (Ultra Republican,)	800	3,600
Gazette (Ministerial,)	9,750	7,500
Quotidienne (Carlist,)	4,430	4,800

* There has been ninety-two prosecutions against this paper, and five of its editors are in prison.

"I have not time to make any reflections on this

statement: you may perhaps, do so; and from your knowledge of French politics, you will be able to do it with effect.

"There is a private letter here from a friend of the Duke de Broglie, now in London, stating that Talleyrand must be speedily replaced, as he is breaking rapidly in health, and sometimes appears to be affected in mind.

"There is no news from Spain worthy of serious attention. A Council was held before the King left Paris, at which it was agreed to do every thing possible to promote Pedro's return to Brazil."

We find nothing authentic and no additional particulars even of the alleged insurrectionary movements at Naples.

The Emperor of Austria and the King of Prussia are holding a conference at the fortress of Thierenstadt, in Saxony. They are said to talk very earnestly together, but no one seems to know what it is all about.

The Russian Government has published a manifesto in defence of the subjugation of Poland. It is a labored, but unsuccessful attempt, to prove that the Treaty of Vienna has not been broken by her late proceedings towards that country.

The papers also contain a Catechism, prepared for the use of the schools and churches in the Polish provinces of Russia, in which the main doctrine inculcated is not only implicit obedience to the Emperor, but the absolute *worship* of him, under all circumstances and in all places. It is a document full of the most impious servility, worthy of the quarter from which it proceeds.

The dissolution of Parliament in England was the signal for the dispersing immediately of Ministers. They have had a long and laborious session of it.—On the last day a series of questions of a good deal of interest, on the foreign policy of England, was put to Lord Althorp, and answered. The treaty between this country and Holland referred to, we have not before heard of. A change is to take place in Ireland, whence Lord Anglesea returns on the plea of ill health, and is succeeded as Lord Lieutenant by the Marquis Wellesley.

The negotiations for the settlement of the Belgian question had again been broken off. The navigation of the Scheldt and the partition of Luxemburg are still the points in dispute.

London, Sept. 3.—We insert in another column a protest of the Duke of Wellington against the bill for the emancipation of the negro slaves in our colonies, in which his Grace has been fortunate to find three other noble lords intrepid enough to join him.

Courier of 28th.—The Paris Papers of Monday, received this morning, contain accounts from Algiers, which describe the French possessions on that coast. to be held on very uncertain tenure. The communication between the town of Mostaganem and Oran had been cut off by the Arabs, who surrounded the former place and threatened an assault.

The German papers received this morning state that Russia has entered into a commercial treaty with the Porte, and the new equipments and arms of the Sultan's army are to be furnished by Russia. Admiral Roussin, the French Ambassador at Constantinople, it is asserted, will shortly be supplanted by General Guilleminot.

[*From the Canton Courier of 4th May.*]

We have the greatest pleasure in announcing the safe arrival of the *Sylph* from the East Coast, after an absence of seven months. Serious apprehensions were entertained latterly for her safety, and her arrival has relieved the friends of those on board from their anxiety. It is reported that the Sylph proceeded as far as Latitude 41° 30 North, where her crew suffered severely from the intense cold, and encountered much tempestious weather, with snow storms, losing four men from the effects of the climate. The Sylph got ashore in the Gulf of *Pe-chele*, and lay 52 hours aground; the sick were landed, the ballast thrown overboard, and the vessel floated without having been materially injured in her hull. We hear that she has brought a large amount of treasure exchanged for her Opium in the course of her cruise.

The Hong merchants Houqua and Mouqua have lately received the decoration of peacock's feathers to be worn dependent from the summit of the cap of ceremony. These honorary insignia have been bestowed by the Emperor in consequence of the contributions of those gentlemen to the fund for defraying the expenses of the late *Leen chow* war. A peacock's feather here is the order of a species of knighthood awarded to meritorious individuals.

SUMMARY.

The Annual Commencement of Columbia College was celebrated on Tuesday, and notwithstanding the storm there was a respectable audience in the Church. We cannot refrain from expressing the gratification we derived from listening to the various orations delivered. They were, as compositions, almost without exception, in good and manly taste, justly conceived and reasoned, and imbued with sound and honorable feeling. They were spoken, several of them, with remarkable talent; and the exhibition as a whole could not, we are quite sure, be surpassed—we a little doubt if it could be equalled—at any College in the United States; and yet, strange to say, Columbia College—which rears such scholars—which has a faculty of admitted ability, and whose scheme of instruction embraces, as will be seen by the various departments to excellence in which special honors are awarded, all that goes to constitute a liberal and classical education—notwithstanding all this, Columbia College, identified in her whole existence and history with the prosperity and character of this city, is coldly looked upon, and her ample halls receive few students as compared with her means of instruction, and with the numbers seeking education. We speak confidently of her means of instruction, because we know them, and because we know too that as compared with those offered by any other collegiate institution, in or out of the State—possibly with the exception of Harvard—they are unequalled.

The Portsmouth (Ohio) Courier of the 25th ult., in copying, and calling the attention of its readers to an article published in this paper some weeks ago, on the great present, and greater future, advantages of the connected line of canal navigation through this State and Ohio, makes this statement, shewing the substantial reason of preferring the Erie and Ohio Canal route to any other for the transportation of goods to the West:—

Though the increase of business on our canal has been vast, and beyond the anticipation of the most sanguine among us, there are many who are not aware of the advantages of the Erie and Ohio and Erie Canals as channels of commercial intercourse between the eastern and western markets; and who consequently have been losers both in money and in time, which is as valuable, by taking other routes possessing unequal facilities. In illustration, we need only mention one fact, communicated by a merchant of Louisville, who passed through Portsmouth a few days since, *along with his goods*. He stated that making all possible allowance for the time necessary between this place and Louisville, and a delay here of two or three days, which seldom occurs now, and never at the usual stage of water, he would arrive at home with his goods in twenty-one days from New York, at the low cost of *two dollars and seventy-five cents* per hundred. It may be proper to state, that this amount includes all expenses, he having exercised no agency in their progress, farther than if he had not been with them. He also stated that tho lowest offer he had for transporting them by the other routes as far as Wheeling, was *two dollars and seventy-five cents* per hundred; to which if we add an estimate of at least 15 days as the time requisite for a keelboat to perform the trip down, and *one dollar* per hundred more for the freight, the reader will be able to appreciate the relative advantages of the routes.

John W. Campbell district Judge of the U. S. for Ohio, died at Delaware (Ohio) on 24th ult.

Emigration—Continues to flow in upon us. Within the last week, not less than one thousand sturdy looking emigrants have been landed in this city. Uncle Sam's land goes off well.—[Detroit Courier.]

We have seen a letter from a gentleman in Quincy, Florida, dated September, which contains the following paragraph:—"There are now several gentlemen here from the West India Islands, for the purpose of ascertaining the fitness of our lands for the cultivation of Sugar. It is their opinion that if the design of the British Government in relation to the emancipation of the slaves is carried into effect, the planters will be driven away from their estates. These gentlemen think that by managing the cane as they do in the Islands, this will prove a fine sugar country."

Charleston, Tuesday October 1.—*Rail Road accident and fire.*—We are indebted to a gentleman passenger, arrived in town yesterday afternoon, for the following information:

On the 29th ult. about six miles this side of the inclined plain, two Cars containing 14 passengers, from some unknown cause, were thrown off the road, and entirely broken to pieces. Among the passengers were several ladies, who escaped with little injury. Mr. C. M. Fuaman, and Mr. Moise, of this City, were seriously injured. A Mr. Wade, and one child, also received serious injury.

Cars and Cotton burnt.

Yesterday, about 2 o'clock, P. M. one mile above Summerville, on the passage down, fire was seen to issue from the pipe by the passengers, and before timely notice could be given to the Engineer, it had communicated to the Cotton, between 30 and 40 bales of which was consumed, together with the Cars Several of the passengers, in attempting to jump from the Car, were seriously injured.—We learn further, that the Camden and Sumter Mail bags were slightly burnt. The Columbia bag is missing, and is supposed to have been burnt with the Cotton.—[Mercury.]

Wheat imported into America from Europe.—A circular from H. Gates & Co. of Montreal, under date of 4th inst., communicates the fact that 40,000 bushels of wheat had arrived in Montreal direct from Archangel, that one or two more cargoes were expected, and consequently that American wheat and flour were depressed in price.

This is a new and unexpected competition with our agriculturists.

Newbern N. C. Oct. 4.—This week, about *one hundred and fifty* bales of cotton have been sold in our market. Prices are somewhat higher than they were last week. Sales have been brisk at *fourteen cents*, and holders are looking higher.

A new post office has been recently established in the eastern part of the town of Chili, Monroe co., in this state, by the name of *O'Connellville*, and John Davis Walsh appointed post-master. This office is located on the river road, nearly equi-distant from Rochester and Scottsville; and is on a daily mail route.—[Argus.]

Earthquake in Cuba.—By arrivals from Havana, we have received papers of that city to Sept. 20th. A letter of the 23d August from Santiago de Cuba contains the following:—

On the 17th inst. at 19 minutes past 10, P. M. several shocks of an earthquake were felt in this city, more severe than usual. At 9 minutes past 11, others still more severe: and at 11 minutes past 5 on the following morning, two others. On the 20th, about half past 8 P. M. another shock, though slight, was felt, and several persons say they perceived two more. These events could not be regarded with indifference by a community which remembered the horrors of the great earthquakes in 1678 and 1766. It was feared they might be the precursors of some dire calamity.

G. M. Davison, Esq. of Saratoga Springs, has been appointed Commissioner of the Utica and Schenectady rail-road in place of Wm. C. Bouck, Esq. who declined the appointment.

We understand says the Argus, that the Hon. C. C. Cambreleng has tendered his resignation as a director of the U. & S. rail-road company.

The Hon. Elias Horry, President of the Rail-road Company, delivered yesterday, before a respectable assemblage of citizens, an address on the occasion of the completion of the rail-road. We had not the pleasure of hearing it, but understand that it was marked by extraordinary research and ability, investigating the origin of railroads, and illustrating the advantages to Charleston, and ultimately, by its extension westwardly, to a very large portion of the country. Mr. Horry dwelt with particular emphasis, we learn, on the advantage of the railroad system, when fully matured in the United States, as a bond of union between the states.—[Charleston Patriot.]

[*From Brockedon's Excursion in the Alps.*]

THE MONASTERY OF THE GREAT ST. BERNARD.

The scene around us was nearly closed in by mountains, peaks, and rocks, which descend even to the hospice; upon the latter of these, bordering the lake, lay large patches of snow, from which it is rarely free throughout the year. The spot was wild beyond imagination, and combined features of the sublime and the beautiful, to which we are impatient to add a third—the *social*—which, even in this wilderness in the clouds, we received from the kind and gentlemanly attentions of the monks of St. Bernard.—They were at their duties in the chapel when we entered: but we were welcomed by a fine, respectable looking servant, Victor, who realized the proverb "like master, like man:" he was one of the fittest precursors to their hospitality that I ever saw. In a few minutes he placed refreshment before us, and said that we should be expected at six o'clock to sup with the brethren. The decent, unpretending kindness of this welcome delighted us. We were soon after greeted by some of the monks; and surprized to see them all young men, at least none were forty.—We learnt that they volunteer into this kind and devoted service at eighteen years of age: their vows are for fifteen years to this duty; but few are robust enough to bear the severities of the winter at this height, without feeling their effects in broken constitutions and ruined health.

In the summer of 1816, the ice of the lake never melted, and not a week passed without snow falling: the severest cold recorded was 29 degrees below the zero of Fahrenheit: it has often been observed at 18 and 20 degrees below. The greatest heat has been 68 degrees of Fahrenheit; but even in the height of summer it always freezes early in the morning. The hospice is rarely four months clear of snow: its average depth around the building is seven or eight feet, and sometimes the drifts accumulate to the height of forty feet against the hospice. The entrance, for this reason, is attained by a flight of steps, which lead to what may be called the first floor: below, are the stables, store rooms for wood, &c. This leads to a corridor, and thence into various offices; on the floor above, another corridor leads to the chapel, the refectory, the separate chambers for the religieux, and extensive accommodation for travellers; in which the neatness and comfort of the arrangements add greatly to an Englishman's enjoyment of his reception. One chamber is devoted to visiters, especially the ladies; it may be considered as the *drawing room* of the establishment. To decorate this room, travellers have presented to the hospice prints and drawings, and even a piano forte has been added to the means of enjoyment here. A cabinet is attached to this chamber, which contains collections made by the monks of the plants and minerals around the Great St. Bernard, and antiquities from the ruins of the Temple of Jupiter, which formerly stood on this mountain. These consist of votive tablets and figures in bronze and other metals, arms, and coins; and are a great resource to the visiters at the hospice, if the weather should be unfavorable enough to detain them within its walls.

The perilous passage of these mountains is more frequently undertaken in the winter than is generally imagined; it is difficult to conceive the necessity or urgency of affairs which can lead persons, at such a season, through such scenes of danger. They are generally pedlars or smugglers, who mount the pass from either side, in defiance of the snows, tourmentes, and avalanches of these high regions. During the severe cold of winter the snow at this elevation forms and falls like dust; it congeals so soon, and so hard, that the particles do not attach and form flakes when they touch, as in lower regions; and, instead of consolidating beneath the traveller's feet, they rise around him in powder, and he sinks to his middle. These snow-storms, when accompanied by violent winds, are called tourmentes, and are often fatal to the poor wretches who encounter them; unable then to trace the path they wander and fall over precipices. The avalanches, too, take their share of their victims. The summer avalanche is caused by the submelting of the snow, which undermines its support; and the mass, once set in motion, descends with great violence. The avalanches of winter are occasioned by the masses of snow accumulating on the slopes of the mountains, where it is too dry to attach firmly: and when the weight of snow exceeds the supporting resistance of the surface of the ground, it slides off into the valley below with a suddenness and violence which the monks who described it compared to the discharge of a cannon-ball: these are the sort of avalanches which in the winter render the approach to the hospice very dangerous. Near the convent the mountains are steep, and the traveller is exposed to almost certain destruction if an avalanche fall whilst he passes; and the poor wretch, buried beneath the mass, is found only when the snow melts, and the summer, which to him never returns, discovers the victim in these regions of winter. Under every circumstance in which it is possible to render assistance the worthy monks of St. Bernard set out upon their regularly appointed duties. Undismayed by the spirit of the storm, and obeying a higher power, they seek, amidst the greatest dangers, the exhausted or overwhelmed traveller,—they are generally accompanied by their dogs. The sagacity of these animals is so extraordinary, that they too, as if conscious of their performing a high duty, will roam alone the day and night through in those desolate regions, discover the victim buried in the snow, and lie on him and lick him to impart warmth. They bear with them some refreshing liqueur around their necks for the poor traveller whom they may find, if he should have still sense enough left to use it; they then bark or howl—their signals for assistance—or, if the distance be too great, return to seek it. These valuable and noble animals have often deserved gold collars from the Humane Society. At present, there are only four of these dogs at the convent. Not long since a mortality prevailed among them, and they had almost become extinct.

The number of resident monks is now twelve:—they all, except the principal, work at the common duties of their establishment; they have five or six resident domestics, besides some at the vacherie, and in several other services of the hospice. The religious order of the monks on the St. Bernard is that of St. Augustin, of which the distinguishing badge is a white narrow band, with an open slit some way along the middle. This is passed over the head, and hangs like a chain from the shoulders; the ends are tucked, before and behind, into a black broad girdle, which is worn round the middle. Their dress is a long cloth tunic, with sleeves which fit close. On the head they wear a pyramid cap with a tuft at the top; the whole dress is gentlemanly and becoming.

At supper we were placed at the head of the table; it was Friday; the soup, though *maigre*, was excellent; the fish—pieces of salt cod, dressed with cream and currants—delicious omelets, cheese, and fruit, completed our repast. The *vin ordinaire* was good, and an extra bottle was served to us of some delicious Italian wine. Their courteous and polite attentions to their guests were those which would indicate more social intercourse with the world than they can have had; and we received this kindness, in regions otherwise inhospitable, from men whose habits might have been monkish and secluded, instead of being the dispensers of such refreshing and unexpected manna as they offered to us in this wilderness. The conversation at table was general and most rational. It had no restraint but in the respect which their characters and conduct commanded.—Their information was more extensive than I had expected to find it upon the state of literature and science in the world they had left. This they derived from the periodical works of some academic bodies which are sent to them; they have a small library, principally composed of theological works. Much of their knowledge is acquired by their intercourse with their visiters, which, during the short summer at the hospice, is extensive; and, among the crowd, many respectable and well-informed travellers furnish them with information. There is a propriety in their inquiries, and an apparent interest in the affairs of mankind in their conversation, which, except that it is entirely free from discontent and affectation, would induce the traveller to imagine that their cells sometimes heard their sighs for a freer intercourse with the world. In reply to some questions which I put to the prior about the state of their funds and the report which had prevailed in England, that the absence of Napoleon from the political world had lessened their resources, he informed me that their finances were now in a flourishing condition, and that Bonaparte rather impoverished than enriched them. It is true that he had assisted them with donations; but his claims upon them for the purveyance of his soldiers had exceeded these benefits—they had had forty men quartered upon them for months together, and 50,000 had passed by the hospice and been assisted in one year. Now, however, the prior said, their resources were increasing: the peace of Europe enabled those strangers to visit the hospice who travelled for pleasure, and could afford to aid their funds. Those who can pay, though no charge is made, usually deposit something in the box in the chapel of the convent, which is rarely less than the parties would have paid at an inn; the poor traveller is always fed and lodged gratis.

After our arrival to-day, not fewer than ten other visiters reached the hospice in three parties. An English young married couple, with two friends, passing the honeymoon in Switzerland and Savoy; an Englishman and his wife, with their children—a son and daughter, about twelve or fourteen years old. These remained in the drawing-room, an apartment particularly appropriated to their visiters, when there were ladies in the party. We did not visit them, as, for once, we preferred the society of the monks. The third party was an intolerable young puppy, an Englishman; he came with his servant, who wore the dress of a courier. This precious specimen of the worst produce of our country, entered the room with vulgar discourtesy, as if he had done the hospice prodigious honor in condescending to come there at all; returned uncivil looks to the proffered kindness of the monks, flung himself into an arm-chair, and, giving to another the honor of supporting his legs, wrapt himself up in his ignorant, or, as he of course thought, dignified silence, until his servant entered to tell him that his room and refreshment were ready, when he ordered a *fire* in his chamber. This almost upset the tranquillity of the kind-hearted principal, who, after the puppy had retired, hinted to us, with more delicacy than the *object* deserved, that the last was the heaviest claim he could make upon their hospitality, as the difficulty of procuring fuel is very great. The whole hospice is warmed by an apparatus which renders particular fires at this season unnecessary in the chambers: it certainly was not needed by the young and healthy coxcomb who had ordered what ought to have been reserved for an invalid, the traveller in winter; or to render more endurable to themselves the severities of the awful situation to which they were generously devoted for the service of others. Not a bush is to be found near the hospice, and the wood for its service is obtained from the forest of Ferret, a distance of nearly four leagues. The consumption of wood is very great; for at the hospice, owing to its great elevation, water boils at a temperature considerably less than on a level with the sea: this is so unfavorable for the concoction of meat, that it requires longer boiling, and, of course, a greater quantity of fuel is consumed.

One of the parties arrived late, between nine and ten o'clock. The night was calm and beautiful, and so warm for this elevation, that we enjoyed looking out of the window upon the still and deep and solemn scene which surrounded us. One of the brethren said, "There is company ascending the mountain on the Swiss side;" but, silent as the grave as every thing was around us, our ears were not susceptible of such nice distinctions of sound: he said that they were very distant. He was right: the party with the children arrived long enough after to astonish us at the perception which he must have had of their approach.

[*From the Churchman.*]

The Opening of the Sixth Seal now exhibiting in Barclay-street, is a painting of which the Christian monitor may speak in terms of unqualified eulogy; no small praise in an age of frivolity and growing licentiousness, when the nobler productions of the art, even with the guarantee of a scriptural subject, are not always of an unquestionable purity, and the panderings to a corrupt taste are every where unblushingly obtruded on the public eye. A visit to the painting sustained the impression of its merit which the high encomiums bestowed on it had previously produced. The conception is sublime, the execution exquisitely fine; nor can any thing, we think, be suggested to heighten the effect, unless it be that the artist might have taken a little more range of canvass, the small size which he has chosen being hardly adequate to express his conception in all its vastness and variety. Several vivid and elaborate descriptions of it have been written, and it would be easy to add another to the number. But what is the use? To those who have not seen the painting no words can convey an idea of its grandeur, and to those who have seen it any description would be tame.

It is more in our province, and, we confess more to our taste, to turn the subject to better account. As the reader gazes on this master-piece of art, and suffers it, for a while, to abstract him from perishable things, to prompt him to secret converse with the deeper sentiments of his soul, and to lift him to holy musings on infinite existence, we would whisper that the scene before him is not merely an exhibition of the sublimity of his faith, but a substantial proof of its verity. Is he not conscious that the deep sentiments which it excites, are one with the soul, partaking of its vitality, and inhering in its essence? Who then but the Creator of the soul could

thus have interwoven them with its fabric? Does he not know that, far from being peculiar to him as an individual, they are common to his kind, part of his nature as man? Who then could have implanted them but the Author of nature? Does he not feel that they are unutterable? And must they not then have sprung from the Infinite? Do they not yield spontaneous homage to Truth and Virtue, and rise in indignant reprobation of falsehood and vice? Do they not cause the soul to glow with the hope of pardon, or tremble at the terrors of judgment? And do they not thus proclaim, with authority, a moral Governor and a righteous Judge? And these profound energies, thus universal, ineffable, divine, what can stir them but congenial Truth? What but the rays of Truth can be the medium of communication between the inward light and the grand Fountain of Illumination? What but divine Truth can call forth a response to feelings which echo only to the voice of God? What but spiritual Truth can thus coalesce with affinities for the world of spirits? By what means but by the Truth can the GOD around and above thus act on the divinity within? What but the heavenborn Truth can thus prompt the lofty aspiration, illume the holy hope, sharpen the secret sting, infuse the awful dread, and, in a word, overwhelm the soul with that throng of indefinite, because partaking of the infinite, emotions which the conception of the Last Day is sure to excite? This, it may be said, is the poetry of religion. Be it so. But who ever heard of the poetry of Infidelity? To what effort of genius has Infidelity afforded a subject?—What sublime conception has Infidelity ever awakened? What deep chords of feeling can it strike?—What thrilling associations can it inspire? None.—Infidelity is at best a negation. It has never added a thought to the stock of human knowledge, nor a particle to the aggregate of human happiness. Rather it is the genius of Destruction. All things in the moral creation wither at her touch: all beings are petrified at her glance. She makes a solitude, and calls it her empire. She has no creation of her own, but lives on the extinction of light and life, and reigns only in darkness and death. It is the Bible with its story of Creation and Redemption, the Resurrection and the General Judgment, in which the poet and the painter have found those sublime conceptions that provoke the efforts of human genius; those infinite conceptions which afford a boundless scope to imagination, and which, because they are infinite, the finite mind essays in vain, and therefore again and again essays, to grasp and embody. To this field of glory the Infidel, if he have genius, is impelled by the very instinct of genius; and is thus driven, by the necessary laws of his being, ignorantly to worship the Unknown GOD whom the Christian seeks to reveal. True it is the poetry of religion which we feel, but such poetry as we can demonstrate with philosophic precision, to be not more the glory of our faith than the seal of its truth.

And who has furnished the materials for these conceptions? Who has thus given the transcript of heavenly scenes, and perpetuated the record of events in the origin, development and consummation of which Time is lost in Eternity? One who outshone his fellows in the splendor of genius? One who was rich in learned lore? One who had explored the mines of philosophy and appropriated the treasures of history? One at whose fane the poet and the orator came to worship, to whose authority the sage deferred, whose name the people idolized, and whom all strove to distinguish by pompous epithets and magnificent monuments? Far otherwise. It was John the Evangelist: one whose highest praise it was to be the disciple whom Jesus loved: one who in Ethics conveyed nothing more sublime than "Little children, love one another!" The princes of this world overlooked him, for he was humble; the learned scorned him for he was simple; the people hated him for they knew him not. He was the victim of the malice of this world, and his star set under a cloud of obloquy. But it has arisen again, and the higher it ascends in the firmament, the more pure and bright the light which it sheds. His works remain; no ponderous tomes, but a few pages; no laboured productions, but artless as the expression of an infant's thoughts. And yet they are a pandect of Truth; above reason in wisdom, above nature in sublimity. The statesman who watches the rise and fall of empires, may take him as his guide; the philosopher who meditates on the laws of spirit and the perfections of Deity, bows to his authority; the philanthropist who seeks to purify and elevate society, diffuses his oracles; while the poet and the painter borrow from his exhaustless treasures, and light their fires of genius by living coals taken from his altar. Shame on the credulity which can believe that in the course of secondary causes and without the special interposition of the Most High, the mental homage of civilized and enlightened man could thus be lavished on the illiterate and ungifted Galilean!

Turn aside, then, reader, from what is vain and voluptuous, and elevate thy taste by the contemplation of a scene at once holy and awful. Yield to the spell which transports thee to the isle of Patmos, where the apocalyptic angel is in the act of opening the Sixth Seal. And, as you behold the sun darkened and the moon like blood; the stars falling, and the heavens departing as a scroll; and the kings of the earth hiding themselves in the dens and saying to the mountains and rocks, "Fall on us, and hide us from the wrath of the Lamb!" remember that the feelings which agitate thy bosom are the spontaneous homage which nature yields to Truth, the inward attestation of thy Maker to the purity of his attributes and thine own accountability, and the involuntary recognition of Conscience of those awful realities, a future Judgment and an Omniscient Judge!

POETRY.

FOR THE NEW YORK AMERICAN.]

To a Young Belle who talked of "giving up the World."

The light of that soul, once so brilliant and steady,
So far can the incense of flattery smother,
That at thought of the world of hearts conquered already,
Like Macedon's madman you weep for another?

You give up the world? Why, as well might the Sun
When sated with drinking the dew from the flowers,
While his rays, like young hopes, stealing off one by one,
Die away with the Muezzin's last note from the towers,
Declare that he never would gladden again
With one rosy smile the young Morn in its birth,
But leave weeping Day, with her sorrowful train
Of Hours, to grope o'er a pall-covered earth.

Yet if, having this poor Earth sufficiently tried,
Some home you would choose more endurable than it,
Let us know but the spot where you next would abide,
And that instant for one I am off for that planet. H.

[*From the Token and Atlantic Souvenir for* 1834.]

WHY DON'T HE COME?—BY H. F. GOULD.

The ship has anchor'd in the bay!
They have dropp'd her weary wings, and some
Have mann'd the boats and come away;
But where is he? why don't he come?

Among the throng, with busy feet,
My eye seeks him it cannot find:
While others haste their friends to greet;
Why, why is he so long behind?

Because he bade me dry my cheek,
I dried it, when he went from us,
I smiled with lips that could not speak;
And now, how can he linger thus?

I've felt a brother's parting kiss,
Each moment since he turn'd from me,
To lose it only in the bliss
Of meeting him—where can he be?

I've read the note he bade me rear—
I've learned the song he bade me learn,
And nursed the bird, that he might hear
Us sing to him, at his return.

I've braided many a lovely flower,
His dear, dear partner to inwreathe,
While dancing fancy, hour by hour,
Has made it smile, and seem to breathe.

I wonder if the flight of time,
Has made the fairness wane, anew;
And if the sea or foreign clime,
Has touched him with a darker hue.

For I have watch'd until the sun
Has made my longing vision dim,
But cannot catch a glimpse of one
Among the crowd, that looks like him.

How slow the heavy moments move,
While thus he stays! where, where is he?
My heart leaps forth—haste, brother! haste!
It leaps to meet and welcome thee!

"Thus lonely cries the mournful tale
That tells why he comes not, will make
Thy heart to bleed, thy cheek look pale:
Death finds no foe too strong to break!

"The bird will wait his master long,
And ask his morning gift in vain:
Ye both must now forget the song
Of joy, for sorrow's plaintive strain.

"The face whose shade thy tender hand
Has wreathed with flowers, is changed! but sea,
Nor sun, nor air of foreign land
Has wrought the change, for where is he?

"Where? ah! the solemn deep, that took
His form, as with their sad farewell
His brethren gave the last, last look,
And lower'd him down—that deep must tell!

"But ocean cannot tell the whole—
The part that death can never chill,
Nor floods dissolve—the living soul,
Is happy, bright, and blooming still.

"And nobler songs than e'er can sound
From mortal voices, greet his ear;
Where sweeter, fairer flowers are found
Than all he left to wither here.

"This, this is why he does not come,
Whom thy fond eye has sought so long:
Wait till thy days have fill'd their sum;
Then find him in an angel throng!"

[*From Brockedon's Excursion in the Alps.*]

THE MONASTERY OF THE GREAT ST. BERNARD.

The scene around us was nearly closed in by mountains, peaks, and rocks, which descend even to the hospice; upon the latter of these, bordering the lake, lay large patches of snow, from which it is rarely free throughout the year. The spot was wild beyond imagination, and combined features of the sublime and the beautiful, to which we are impatient to add a third—the *social*—which, even in this wilderness in the clouds, we received from the kind and gentlemanly attentions of the monks of St. Bernard.—They were at their duties in the chapel when we entered: but we were welcomed by a fine, respectable looking servant, Victor, who realized the proverb "like master, like man:" he was one of the fittest precursors to their hospitality that I ever saw. In a few minutes he placed refreshment before us, and said that we should be expected at six o'clock to sup with the brethren. The decent, unpretending kindness of this welcome delighted us. We were soon after greeted by some of the monks; and surprized to see them all young men, at least none were forty.—We learnt that they volunteer into this kind and devoted service at eighteen years of age: their vows are for fifteen years to this duty; but few are robust enough to bear the severities of the winter at this height, without feeling their effects in broken constitutions and ruined health.

In the summer of 1816, the ice of the lake never melted, and not a week passed without snow falling: the severest cold recorded was 29 degrees below the zero of Fahrenheit: it has often been observed at 18 and 20 degrees below. The greatest heat has been 68 degrees of Fahrenheit; but even in the height of summer it always freezes early in the morning. The hospice is rarely four months clear of snow: its average depth around the building is seven or eight feet, and sometimes the drifts accumulate to the height of forty feet against the hospice. The entrance, for this reason, is attained by a flight of steps, which lead to what may be called the first floor: below, are the stables, store rooms for wood, &c. This leads to a corridor, and thence into various offices; on the floor above, another corridor leads to the chapel, the refectory, the separate chambers for the religieux, and extensive accommodation for travellers; in which the neatness and comfort of the arrangements add greatly to an Englishman's enjoyment of his reception. One chamber is devoted to visiters, especially the ladies; it may be considered as the *drawing room* of the establishment. To decorate this room, travellers have presented to the hospice prints and drawings, and even a piano forte has been added to the means of enjoyment here. A cabinet is attached to this chamber, which contains collections made by the monks of the plants and minerals around the Great St. Bernard, and antiquities from the ruins of the Temple of Jupiter, which formerly stood on this mountain. These consist of votive tablets and figures in bronze and other metals, arms, and coins; and are a great resource to the visiters at the hospice, if the weather should be unfavorable enough to detain them within its walls.

The perilous passage of these mountains is more frequently undertaken in the winter than is generally imagined; it is difficult to conceive the necessity or urgency of affairs which can lead persons, at such a season, through such scenes of danger. They are generally pedlars or smugglers, who mount the pass from either side, in defiance of the snows, tourmentes, and avalanches of these high regions. During the severe cold of winter the snow at this elevation forms and falls like dust; it congeals so soon, and so hard, that the particles do not attach and form flakes when they touch, as in lower regions; and, instead of consolidating beneath the traveller's feet, they rise around him in powder, and he sinks to his middle. These snow-storms, when accompanied by violent winds, are called tourmentes, and are often fatal to the poor wretches who encounter them; unable then to trace the path they wander and fall over precipices. The avalanches, too, take their share of their victims. The summer avalanche is caused by the submelting of the snow, which undermines its support; and the mass, once set in motion, descends with great violence. The avalanches of winter are occasioned by the masses of snow accumulating on the slopes of the mountains, where it is too dry to attach firmly: and when the weight of snow exceeds the supporting resistance of the surface of the ground, it slides off into the valley below with a suddenness and violence which the monks who described it compared to the discharge of a cannon-ball: these are the sort of avalanches which in the winter render the approach to the hospice very dangerous. Near the convent the mountains are steep, and the traveller is exposed to almost certain destruction if an avalanche fall whilst he passes; and the poor wretch, buried beneath the mass, is found only when the snow melts, and the summer, which to him never returns, discovers the victim in these regions of winter. Under every circumstance in which it is possible to render assistance the worthy monks of St. Bernard set out upon their regularly appointed duties. Undismayed by the spirit of the storm, and obeying a higher power, they seek, amidst the greatest dangers, the exhausted or overwhelmed traveller,—they are generally accompanied by their dogs. The sagacity of these animals is so extraordinary, that they too, as if conscious of their performing a high duty, will roam alone the day and night through in those desolate regions, discover the victim buried in the snow, and lie on him and lick him to impart warmth. They bear with them some refreshing liqueur around their necks for the poor traveller whom they may find, if he should have still sense enough left to use it; they then bark or howl—their signals for assistance—or, if the distance be too great, return to seek it. These valuable and noble animals have often deserved gold collars from the Humane Society. At present, there are only four of these dogs at the convent. Not long since a mortality prevailed among them, and they had almost become extinct.

The number of resident monks is now twelve:—they all, except the principal, work at the common duties of their establishment; they have five or six resident domestics, besides some at the vacheric, and in several other services of the hospice. The religious order of the monks on the St. Bernard is that of St. Augustin, of which the distinguishing badge is a white narrow band, with an open slit some way along the middle. This is passed over the head, and hangs like a chain from the shoulders; the ends are tucked, before and behind, into a black broad girdle, which is worn round the middle. Their dress is a long cloth tunic, with sleeves which fit close. On the head they wear a pyramid cap with a tuft at the top; the whole dress is gentlemanly and becoming.

At supper we were placed at the head of the table; it was Friday; the soup, though *maigre*, was excellent; the fish—pieces of salt cod, dressed with cream and currants—delicious omelets, cheese, and fruit, completed our repast. The *vin ordinaire* was good, and an extra bottle was served to us of some delicious Italian wine. Their courteous and polite attentions to their guests were those which would indicate more social intercourse with the world than they can have had; and we received this kindness, in regions otherwise inhospitable, from men whose habits might have been monkish and secluded, instead of being the dispensers of such refreshing and unexpected manna as they offered to us in this wilderness. The conversation at table was general and most rational. It had no restraint but in the respect which their characters and conduct commanded.—Their information was more extensive than I had expected to find it upon the state of literature and science in the world they had left. This they derived from the periodical works of some academic bodies which are sent to them; they have a small library, principally composed of theological works. Much of their knowledge is acquired by their intercourse with their visiters, which, during the short summer at the hospice, is extensive; and, among the crowd, many respectable and well-informed travellers furnish them with information. There is a propriety in their inquiries, and an apparent interest in the affairs of mankind in their conversation, which, except that it is entirely free from discontent and affectation, would induce the traveller to imagine that their cells sometimes heard their sighs for a freer intercourse with the world. In reply to some questions which I put to the prior about the state of their funds and the report which had prevailed in England, that the absence of Napoleon from the political world had lessened their resources, he informed me that their finances were now in a flourishing condition, and that Bonaparte rather impoverished than enriched them. It is true that he had assisted them with donations; but his claims upon them for the purveyance of his soldiers had exceeded these benefits—they had had forty men quartered upon them for months together, and 50,000 had passed by the hospice and been assisted in one year. Now, however, the prior said, their resources were increasing: the peace of Europe enabled those strangers to visit the hospice who travelled for pleasure, and could afford to aid their funds. Those who can pay, though no charge is made, usually deposit something in the box in the chapel of the convent, which is rarely less than the parties would have paid at an inn; the poor traveller is always fed and lodged gratis.

After our arrival to-day, not fewer than ten other visiters reached the hospice in three parties. An English young married couple, with two friends, passing the honeymoon in Switzerland and Savoy; an Englishman and his wife, with their children—a son and daughter, about twelve or fourteen years old. These remained in the drawing-room, an apartment particularly appropriated to their visiters, when there were ladies in the party. We did not visit them, as, for once, we preferred the society of the monks. The third party was an intolerable young puppy, an Englishman; he came with his servant, who wore the dress of a courier. This precious specimen of the worst produce of our country, entered the room with vulgar discourtesy, as if he had done the hospice prodigious honor in condescending to come there at all; returned uncivil looks to the proffered kindness of the monks, flung himself into an arm-chair, and, giving to another the honor of supporting his legs, wrapt himself up in his ignorant, or, as he of course thought, dignified silence, until his servant entered to tell him that his room and refreshment were ready, when he ordered a *fire* in his chamber. This almost upset the tranquillity of the kind-hearted principal, who, after the puppy had retired, hinted to us, with more delicacy than the *object* deserved, that the last was the heaviest claim he could make upon their hospitality, as the difficulty of procuring fuel is very great. The whole hospice is warmed by an apparatus which renders particular fires at this season unnecessary in the chambers: it certainly was not needed by the young and healthy coxcomb who had ordered what ought to have been reserved for an invalid, the traveller in winter; or to render more endurable to themselves the severities of the awful situation to which they were generously devoted for the service of others. Not a bush is to be found near the hospice, and the wood for its service is obtained from the forest of Ferret, a distance of nearly four leagues. The consumption of wood is very great; for at the hospice, owing to its great elevation, water boils at a temperature considerably less than on a level with the sea: this is so unfavorable for the concoction of meat, that it requires longer boiling, and, of course, a greater quantity of fuel is consumed.

One of the parties arrived late, between nine and ten o'clock. The night was calm and beautiful, and so warm for this elevation, that we enjoyed looking out of the window upon the still and deep and solemn scene which surrounded us. One of the brethren said, "There is company ascending the mountain on the Swiss side;" but, silent as the grave as every thing was around us, our ears were not susceptible of such nice distinctions of sound: he said that they were very distant. He was right: the party with the children arrived long enough after to astonish us at the perception which he must have had of their approach.

[*From the Churchman.*]

The Opening of the Sixth Seal now exhibiting in Barclay-street, is a painting of which the Christian monitor may speak in terms of unqualified eulogy; no small praise in an age of frivolity and growing licentiousness, when the nobler productions of the art, even with the guarantee of a scriptural subject, are not always of an unquestionable purity, and the panderings to a corrupt taste are every where unblushingly obtruded on the public eye. A visit to the painting sustained the impression of its merit which the high encomiums bestowed on it had previously produced. The conception is sublime, the execution exquisitely fine; nor can any thing, we think, be suggested to heighten the effect, unless it be that the artist might have taken a little more range of canvass, the small size which he has chosen being hardly adequate to express his conception in all its vastness and variety. Several vivid and elaborate descriptions of it have been written, and it would be easy to add another to the number. But what is the use? To those who have not seen the painting no words can convey an idea of its grandeur, and to those who have seen it any description would be tame.

It is more in our province, and, we confess more to our taste, to turn the subject to better account. As the reader gazes on this master-piece of art, and suffers it, for a while, to abstract him from perishable things, to prompt him to secret converse with the deeper sentiments of his soul, and to lift him to holy musings on infinite existence, we would whisper that the scene before him is not merely an exhibition of the sublimity of his faith, but a substantial proof of its verity. Is he not conscious that the deep sentiments which it excites, are one with the soul, partaking of its vitality, and inhering in its essence? Who then but the Creator of the soul could

thus have interwoven them with its fabric? Does he not know that, far from being peculiar to him as an individual, they are common to his kind, part of his nature as man? Who then could have implanted them but the Author of nature? Does he not feel that they are unutterable? And must they not then have sprung from the Infinite? Do they not yield spontaneous homage to Truth and Virtue, and rise in indignant reprobation of falsehood and vice? Do they not cause the soul to glow with the hope of pardon, or tremble at the terrors of judgment? And do they not thus proclaim, with authority, a moral Governor and a righteous Judge? And these profound energies, thus universal, ineffable, divine, what can stir them but congenial Truth? What but the rays of Truth can be the medium of communication between the inward light and the grand Fountain of Illumination? What but divine Truth can call forth a response to feelings which echo only to the voice of GOD? What but spiritual Truth can thus coalesce with affinities for the world of spirits? By what means but by the Truth can the GOD around and above thus act on the divinity within? What but the heavenborn Truth can thus prompt the lofty aspiration, illume the holy hope, sharpen the secret sting, infuse the awful dread, and, in a word, overwhelm the soul with that throng of indefinite, because partaking of the infinite, emotions which the conception of the Last Day is sure to excite? This, it may be said, is the poetry of religion. Be it so. But who ever heard of the poetry of Infidelity? To what effort of genius has Infidelity afforded a subject?—What sublime conception has Infidelity ever awakened? What deep chords of feeling can it strike?—What thrilling associations can it inspire? None.—Infidelity is at best a negation. It has never added a thought to the stock of human knowledge, nor a particle to the aggregate of human happiness. Rather it is the genius of Destruction. All things in the moral creation wither at her touch: all beings are petrified at her glance. She makes a solitude, and calls it her empire. She has no creation of her own, but lives on the extinction of light and life, and reigns only in darkness and death. It is the Bible with its story of Creation and Redemption, the Resurrection and the General Judgment, in which the poet and the painter have found those sublime conceptions that provoke the efforts of human genius; those infinite conceptions which afford a boundless scope to imagination, and which, because they are infinite, the finite mind essays in vain, and therefore again and again essays, to grasp and embody. To this field of glory the Infidel, if he have genius, is impelled by the very instinct of genius; and is thus driven, by the necessary laws of his being, ignorantly to worship the Unknown GOD whom the Christian seeks to reveal. True it is the poetry of religion which we feel, but such poetry as we can demonstrate with philosophic precision, to be not more the glory of our faith than the seal of its truth.

And who has furnished the materials for these conceptions? Who has thus given the transcript of heavenly scenes, and perpetuated the record of events in the origin, development and consummation of which Time is lost in Eternity? One who outshone his fellows in the splendor of genius? One who was rich in learned lore? One who had explored the mines of philosophy and appropriated the treasures of history? One at whose fane the poet and the orator came to worship, to whose authority the sage deferred, whose name the people idolized, and whom all strove to distinguish by pompous epithets and magnificent monuments? Far otherwise. It was John the Evangelist: one whose highest praise it was to be the disciple whom Jesus loved: one who in Ethics essayed nothing more sublime than "Little children, love one another!" The princes of this world overlooked him, for he was humble; the learned scorned him for he was simple; the people hated him for they knew him not. He was the victim of the malice of this world, and his star set under a cloud of obloquy. But it has arisen again, and the higher it ascends in the firmament, the more pure and bright the light which it sheds. His works remain; no ponderous tomes, but a few pages; no labored productions, but artless as the expression of an infant's thoughts. And yet they are a pandect of Truth; above reason in wisdom, above nature in sublimity. The statesman who watches the rise and fall of empires, may take him as his guide; the philosopher who meditates on the laws of spirit and the perfections of Deity, bows to his authority; the philanthropist who seeks to purify and elevate society, diffuses his oracles; while the poet and the painter borrow from his exhaustless treasures, and light their fires of genius by living coals taken from his altar. Shame on the credulity which can believe that in the course of secondary causes and without the special interposition of the Most High, the mental homage of civilized and enlightened man could thus be lavished on the illiterate and ungifted Galilean!

Turn aside, then, reader, from what is vain and voluptuous, and elevate thy taste by the contemplation of a scene at once holy and awful. Yield to the spell which transports thee to the isle of Patmos, where the apocalyptic angel is in the act of opening the Sixth Seal. And, as you behold the sun darkened and the moon like blood; the stars falling, and the heavens departing as a scroll; and the kings of the earth hiding themselves in the dens and saying to the mountains and rocks, "Fall on us, and hide us from the wrath of the Lamb!" remember that the feelings which agitate thy bosom are the spontaneous homage which nature yields to Truth, the inward attestation of thy Maker to the purity of his attributes and thine own accountability, and the involuntary recognition of Conscience of those awful realities, a future Judgment and an Omniscient Judge!

POETRY.

FOR THE NEW YORK AMERICAN.]

To a Young Belle who talked of "giving up the World."

The light of that soul, once so brilliant and steady,
So far can the incense of flattery smother,
That at thought of the world of hearts conquered already,
Like Macedon's madman you weep for another?

You give up the world? Why, as well might the Sun
When sated with drinking the dew from the flowers,
While his rays, like young hopes, stealing off one by one,
Die away with the Muezzin's last note from the towers,
Declare that he never would gladden again
With one rosy smile the young Morn in its birth,
But leave weeping Day, with her sorrowful train
Of Hours, to grope o'er a pall-covered earth.

Yet if, having this poor Earth sufficiently tried,
Some home you would choose more endurable than it,
Let us know but the spot where you next would abide,
And that instant for one I am off for that planet. H.

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They have dropp'd her weary wings, and some
Have mann'd the boats and come away;
But where is he? why don't he come?

Among the throng, with busy feet,
My eye seeks him it cannot find:
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Why, why is he so long behind?

Because he bade me dry my cheek,
I dried it, when he went from us,
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Each moment since he turn'd from me,
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Then find him in an angel throng!"

☞ I have been frequently asked, since the notice in the last number was published, if I really intended to discontinue the Journal at the end of the present number—in reply to which I have uniformly answered: *not if sufficient patronage should be received to pay its expense;* and, in order to do that, I must have sale for 250 copies of the *past* and *present*, and an equal number of subscribers to the *next* volume; and I therefore again put the question, ☞ *Would it not be well for the numerous Railroad Companies to order 5 to 10 copies, bound, for the use of such of their Engineers as may not already have it?* Would they not probably find it a matter of *economy*, as in the Journal they will find some account, or description, of almost every *improvement* in, or *new suggestion* relative to, Railroads, by which *hundreds*, and perhaps *thousands* of dollars, may be saved in the location and construction of their road? I am willing to superintend its publication without compensation, even for another year, but I cannot longer *afford* to do that and also be in advance to it to the amount of *several hundreds* of dollars.

MARRIAGES.

On Tuesday evening last, by the Rev. Mr. Geissenhainer, Edw'd L. Mathews, to Adelia E., daughter of Benj. Birdsall, Esqr.

On Wednesday evening, by the Rev. C. W. Carpenter, L. D. Sims, of the U. S. Army, to Miss Catharine D. S. Banoker, of this city.

At New Haven, Conn. on Monday morning, October 7, by the Rev. Mr. Merwin, William R. Cone, Esq. of Hartford, to Miss Rebecca D., daughter of James Brewster, Esq. of the former place.

At Norfolk, (Va.) on Sunday the 6th instant, by the Rev. Dr. Dalcachet, Lieut. W. Fenn Hopkins, of the Army, to Miss Frances L., daughter of Wright Southgate, Esq. of Norfolk

At Troy, on Monday last, by the Rev. Mr. Butler, Alfred Brooks, Esq., of the house of Brooks, Brothers & Co. of New York, to Miss Lydia Warren, daughter of the late Esais Warren, Esq. of the former place.

DEATHS.

On Thursday afternoon, after a short and painful illness, Mr. Sylvester Phillips, in the 35th year of his age.

In this city, on the 5th of October instant, Sarah H. Dering, daughter of the late Gen. Sylvester Dering, of Shelter Island. Her remains have been taken to Shelter Island for interment.

Wednesday afternoon, in the 16th year of his age, Cornelius Ray Lott, son of Henry Lott.

Wednesday afternoon, 9th inst., of a protracted illness, Julia Mary, eldest daughter of the late Daniel and Mary Scannell, aged 19 years.

Near Fort Gibson, Mississippi, on the 28th of August last, Mr. Edward Cronly, of Lullamore, Kings County, Ireland, in the 40th year of his age.

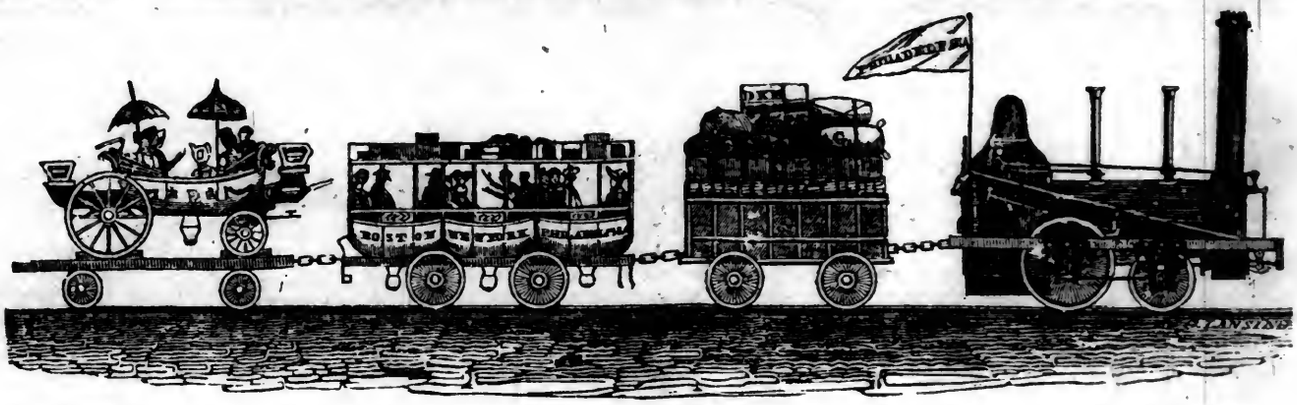
In Springfield, on the 18th ult. of bilious fever, Gen. Peter W. Becker, of the city of New-York. He had been appointed to examine the Land Offices in this State, and three weeks since, in the performance of his duties, he arrived in this town, in a bad state of health. His illness increasing, he was removed to the residence of Wm. L. May, Esq. where he received all the attentions which his case required, but all did not avail to preserve his valuable life.

At New Orleans, of the yellow fever, Oscar Wendell, son of John L. Wendell, Esq. of Albany.

At the same place, on 27th Aug. at Bankston's Springs, Hinds county, Mississippi, of liver complaint, the Rev. G. D. Murphy, Pastor of the Presbyterian Church at Amsterdam, Miss.

At Lancaster, Ohio, Mr. John Herman, formerly Editor of the Ohio Eagle.

At Washington City, on Tuesday last, in the 43d year of her age, Mrs. Anne Maria T. Washington, wife of Bushrod C. Washington, Esq. of Jefferson county, Virginia.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, OCTOBER 19, 1833. [VOLUME II.—No. 42.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 19, 1833.

Undulating Railways.—This subject seems to have attracted much attention in England: so much, indeed, that an experiment upon a large scale is about to be made. We therefore shall continue the discussion, from the London Mechanics' Magazine, in the Journal; and we do so with the greater pleasure on account of the very proper temper with which it is carried on.

South Carolina Railroad.—We are informed that the Governor and suite, together with the Committee of the Railroad Directors and the Augusta mail, which left town on Thursday morning at a quarter before 6 o'clock, arrived at Aiken, 120 miles, at 5 P. M. The car with the mail and passengers was let down the inclined plane, and arrived at Hamburg at 8 P. M. The distance from the Inclined Plane to Hamburg was performed by hand power. The morning papers of this place were thus received in Augusta on the evening of the same day on which they were issued.

The above is from the Charleston Patriot of the 5th October. It announces, we believe, the first arrival at Hamburg of a train of cars and the mail by the Railroad, and it may be deemed as the commencement of a new era in the history and *prosperity* of South Carolina. It is the longest continuous line of railroad in the world now in use. It is, however, we hope, *only the commencement* of a still longer line, which will ere long extend through Georgia, Alabama, and Tennessee, to the junction of the Ohio and the Mississippi, which will open to those fertile states another and a very important communication with the Atlantic, and one which will neither be obstructed in summer by want of water, nor in winter by fetters of ice.

Roads in England.—The account (at p. 660) of the great benefits that have accrued to the English nation from their good Roads, will, we are sure, be perused with interest by every person who is anxious that internal improvements should go on prospering in this country. The great facilities that good roads afford the people of that country, for transporting rapidly their manufactures, as well as the produce of the soil, within the last few years, has had a very salutary effect in lowering the price of provisions, and enabling the merchant and manufacturer to find a ready market for their goods. The husbandman, instead of setting off to the nearest market at midnight, in his ponderous broad-wheeled waggon, travelling at the rate of two and a half miles an hour, can now, with a light caravan, travel at the rate of seven or eight miles. Good Roads have also effected a very efficient reform in the Post Office department: individuals have been induced to enter into contracts, in nearly every county, to carry the mail ten miles, and in several cases twelve miles an hour. A few years since, seven miles was considered very expeditious. As a proof of the excellent state the roads are kept in, we will just mention that, about two years ago, Lord John Russell was invited to a public dinner, sixty miles from London: the dinner was about five o'clock: the speeches occupied the time until ten o'clock, and were taken down by Mr. Wood, one of the short-hand reporters to the "Morning Chronicle," and filled several columns of that paper. He transcribed every line for the compositor *on his way to London in a post-chaise*. The paper was printed in London, and dispatched by the 4 o'clock morning coaches to the very town where the entertainment had been given, and was there in sufficient time for the breakfast tables, at 9 o'clock.

To the Editor of the American Railroad Journal:

Sir,—I have one favor to ask of the readers of the Railroad Journal, through this medium, which is, that they would inquire as to the truth of Mr. Bulkley's assertions in his last reply to me, before they admit any thing there advanced to be true. There is nothing wanting to make the truth or falsehood of these assertions evident, but a reference to our former communications on a subject which is too stale to be again mentioned.

Uriah A. Boyden.

As the discussion to which the preceding refers is now closed, we hope to hear from the gentlemen on other subjects.—[Ed. R. R. J.]

Petersburg Railroad.—Transportation on the Petersburg railroad for the week ending October 12: 736 bales of cotton, 13 hogsheads tobacco, 140 boxes do., 600 bushels of wheat, 100 barrels flour, 5500 lbs. seed cotton, 3000 pipe staves, 100 bushels corn, 5 veals, 14 barrels of brandy, 16500 lbs. iron, 1380 packages goods and all other articles, 416 passengers.

The transportation on the railroad would have been more considerable, if the company had received all the locomotives which were ordered several months ago. It is understood that a large quantity of cotton and other produce remains at the various depots, which will arrive this week.—[Petersburg Intelligencer.]

Alexandria, D. C., Oct. 14.—Whilst we are writing the waters of the Potomac, above Harper's Ferry, are silently flowing into the Chesapeake and Ohio Canal. Passing the long contested Point of Rocks into the long finished part to the Seneca, they will connect the tide water of this district to the fertile region of the Shenandoah and the upper part of Virginia and Maryland, watered by the Potomac and its tributary streams.

This part of the Canal is the most expensive of the Eastern section. The difficulties have been surmounted in a manner which reflects the highest degree of credit on those who directed and those who have executed the work. Early in the ensuing season, more than one hundred miles will be completed, passing Shepherdstown and Williamsport in its route.

The hopes of the people of this district have been raised to the expectation of its continuance to the bituminous coal region above Cumberland, and we hope they will not be disappointed.

In the mean time, however, we have the extreme gratification of feeling an assurance that the supply of coal will not depend on this event. We have before us a favorable specimen of Anthracite Coal, found about five feet below the surface of the ground, near the line of Berkley and Morgan counties, in Virginia, and about fifteen miles from the Potomac. There is every reason to believe that it will be found much nearer to the canal, and that the supply of this article of necessity will be abundant in quantity and excellent in quality.

Those who are the believers in the goddess of good fortune, may congratulate us on this lucky hit. As we could not arrive at the Coal Banks as soon as we wished, the Coal Banks have kindly met us half way.—[Gazette]

[From the Long Island Star.]

RAILROADS.—The railroad, the working of which has just commenced between Stonington, Conn., and Providence, R. I., forms an important part of the route between Boston and New-York. The distance of the entire line of railroad, when connected at Providence with the present line, will be about 80 miles. The public generally are not aware that a Long Island railroad of less than one hundred miles, might reduce the time of travelling between Boston and New-York to about 12 hours, thereby obviating the hazard of passing Long Island Sound, and of the lines of steamboats.

It is less than 100 miles from Brooklyn ferry to Greenport, formerly called Sterling, in the town of Southold. Greenport is a fine harbor, situated between Shelter Island and the main island, and has good depth of water—easy of access—never troubled with ice. There is already a considerable village, where two whaling ships are annually fitted out, and many smaller vessels are owned and employed.

It is probable the railroad between Brooklyn and Jamaica will be made next season, embracing 12 miles of the proposed route. The remaining distance to Greenport is over a level country, having many facilities for constructing a cheap railroad. A steamboat could pass between Greenport and Stonington in 2 hours, during the whole year.

We have no doubt that many persons who have occasion to travel between New-York and Boston, would at this time take the route through Long Island, were they aware of the fact that lines of stages pass three times a week between Brooklyn and Sag Harbor, and that three fine packets are passing every day between Sag Harbor and New-London.

(From the Hunterdon Gazette, N. J.)

THE NORTH-WESTERN RAILROAD.—The extension of the Elizabethtown and Somerville Railroad, so as to form one continuous line of railroad from Jersey City, through Elizabethtown, Somerville, Clinton, Belvidere, the Delaware Water Gap, and Stroudsburg, to Pittston, on the Susquehanna, may well be considered one of the most useful public improvements now in contemplation. The fact that it is calculated to open the shortest and best practicable communication from the city of New-York to the anthracite coal regions of Luzerne county, to extensive deposits of bituminous coal and inexhaustible bodies of iron ore, in Bradford and Tioga counties, in Pennsylvania, on and near to the north branch of the Susquehanna, is sufficient to render this improvement highly important; but its importance is greatly enhanced by farther discoveries, recently made, of the mineral wealth of this interesting section of country.

The facts stated in the following extract of a letter from Dr. Smith, a gentleman of high respectability residing in Kingston, Pennsylvania, to H. W. Drinker, Esq. of Luzerne county, may be confidently relied on:

"Agreeably to the promise made to you, I proceeded to make inquiries relative to copper. A mine has been opened by Col. White, on the south-east side of the Mahoopeny creek, seven miles above its mouth or entrance into the Susquehanna river. The vein here appears about one foot in thickness, and is at present exposed for about sixty feet in length along the creek. It is imbedded in a bluff of rocks very much resembling in appearance the common lime-stone. The bluff as now exposed is about fifteen feet in height, and the vein of ore about three feet above the bed of the stream. This strata of rock makes its appearance upon the Susquehanna a little below the mouth of the creek. It is also found extending up the creek for several miles above the vein opened by Col. White. Copper ore has been taken from this strata of rocks at the river, and at several other places along the Mahoopeny creek. In a deep ravine made by a small branch of Bowman's creek, coming into the stream from the north-west, distant about five miles nearly east from Col. White's mine, the same strata of rocks and vein of copper ore has been discovered. This is the only place on the waters of Bowman's creek, so far as I know, where discovery of copper ore has been made. The copper taken from any part of this vein is of the purest kind. My informant states that he has smelted the ore in a crucible, and afterwards hammered the button found at the bottom, as thin as the paper on which I am now writing, without its cracking, and without any further refining. From these facts it cannot be doubted that there is an inexhaustible quantity of copper in the mountain between the Mahoopeny and Bowman's creek, and that very extensive operations will shortly be carried on in mining and smelting the ore, &c."

W. Henry, Esq. of Oxford Furnace, through whose politeness the above extract was received, very justly remarks:

"This extensive body of one of the most useful metals, being discovered *in the immediate vicinity* of extensive deposits of bituminous coal, renders it the more important and certain for profitable investments, and must necessarily have a considerable influence on the trade and prospects of the great leading highways now about being opened down the Susquehanna river, and into the anthracite coal deposits on the Lackawanna, from whence diverge several chartered and proposed roads; one of which, (the Susquehanna and Delaware Railroad,) being on the nearest and best route to the great commercial emporium, New-York, must be greatly benefitted."

Situated as are these mines of wealth, so convenient to come at, so abundantly supplied with the best of fuel in their neighborhood, convenient to extensive and fertile agricultural districts, and on a railroad, when it shall be completed, leading directly to the best mart in the Union, nothing apparently can prevent their early occupation to a great extent, by an industrious and thriving population. We are warranted in this belief as we know that many of the copper mines of England and Ireland, from whence America is chiefly supplied, are now worked at a very great depth, and, of course, at a very heavy expense. And moreover, several of the most important in Ireland are supplied with fuel from England, transported over land a very considerable distance; yet even *they* are considered a source of great wealth.

On Railroads. By J. HAWLEY. [From Goodsell's Genesee Farmer.]

MR. NYMAN GOODSELL: Dear Sir,—I was well entertained with the communication of Mr. John Hartman's, which you copied into your Genesee Farmer, [from the Railroad Journal,] on the very simple and economical construction of railroads, *entirely with timber*, even with wooden rails only, dispensing altogether with the more costly materials of iron and stone.

Elisha Johnson, Esq. (who has shown himself a very practical *matter-of-fact man*, in the building of the Rochester Railroad, and more especially in the construction of the *towing path* along the eastern bank of the Genesee, from the foot of that railroad onward to the mouth of the river, as well as generally in the various improvements contributing to the growth of Rochester,) lately communicated to the Commissioners of the Tonawanda Railroad his opinion of the unnecessary expense of sinking the foundations of the road into the earth, below the reach of frost, as derived from his experience on the Rochester Railroad; that after grading the road to the desired level, then to lay the framing timbers on the surface, without any expensive precautions against frost, merely omitting to use the road during the few days the frost is coming out of the ground in the spring; and giving the road time to settle back to its bed again, and a few dollars would repair the damages incurred.

That one thousand dollars would grade a mile of road, where the excavations did not require more than an average of three feet of embankment; that two thousand dollars would import the iron rails, and lay them down on wooden sills, on the surface, for a mile; making a mile of railroad to cost only three thousand dollars on fair lying and even ground; and allowing two thousand dollars a mile for extra deep cutting and embankments, and bridging small streams, would give an average of five thousand dollars per mile, for an ordinary good route, with a single track.

Both the Liverpool and Manchester, and the Albany and Schenectady Railroads, are said to have cost over fifty thousand dollars per mile. Mr. Johnson's manner of *simplifying* the expenses by omitting to guard against the frost of winter, reduces the cost of a railroad from tens of thousands to units of thousands; and Mr. Hartman's extension of Mr. Johnson's economy reduces it from thousands to hundreds, for the use of common waggons.

These Yankee improvement, on the English system in the construction of railroads portends a great revolution in the facilities of land transportation, and a vast acquisition to the internal commerce of our country; and their cheapness and simplicity will render them too frequent and common among us to let in those monopolies which have grown up under their excessive costs in England; and even already in the United States where they have been partially introduced. And these, with a double track, could be made to be used by common farmers' waggons, like turnpikes.

Mr. Hartman recommends "*good locust, cedar, or oak, for the cross sills and rails of the road, and to char or burn them, instead of taking off the bark.*"

It is known among our carpenters and joiners that *red beech* is even a more durable kind of timber than oak, for ground sills or sleepers lying on or near the ground, in buildings, and is, therefore, worth an experiment, for the cross sills of a railroad. If the common red beech timber of our country could be so made to answer the purpose of *locust, cedar, and oak*, for making railroads, it would be the means of bringing into value a very common and abundant article of our forest, which at present is worth but little more than for fire-wood and potash, and it would be the means of using up an article of home production, and saving the importation of iron railing from England, with the *duties off*. And for the rails of the road, it would probably endure and wear as smooth under the friction of the carriage wheels as any other kind of timber, and would make all, the sills, rails, and grooves of red beech.

Mr. Hartman, (or the printer for him,) has made some mistake in estimating the expense of a "double track, from 8 to $120* a mile." If we allow the cross sills to be eight feet long, and laid eight feet apart, their lineal measure would be 5280 feet, the same length as a mile; then allow the rails to be made of round sticks, sawed through

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* The error is of the printer—it should be 8 to $1200 per mile. See Railroad Journal, of 29th July, 1833, p. 450.

the middle lengthwise, they would make 5280 feet more, which, with the wastage, would require 12,000 feet of timber, running measure, which, at the value of one cent the foot, standing in the forest, would cost the $120. Then to saw the rails, (if it should not be found that hewing and squaring them would be cheaper,) as saw mills could not be had conveniently, they would have to be sawed by hand in a moveable saw pit, or portable saw horse, for raising the logs at $2.50 the 100 feet, running measure; which would cost $130 a mile, allowing the two halves of the log to make the pair of rails for a single track. The 3 by 3 inch scantling, for forming the grooves of the rail, would be equal to 8000 feet of board measure, at $6.25 is $50. Then the cutting, drawing, preparing, laying, and fastening the timbers in their places, and filling up the spaces C C C C with earth between the timbers, would cost, say $200, making $500 a mile for the railing of a single track, after the road was graded, and of the cheapest kind of timber found in our forests.

The question for experience to determine is, whether the interest on the capital that *iron rails* cost will build *wooden rails* and keep them in constant repair.

J. Hawley.

Note by the Editor.—As the communication above refers to the use of beech timber for constructing railroads, a short description of this forest tree may be acceptable at this time.

The beech belongs to the twenty-first class and seventh order of L. Monoecia, Pollyandria, genus Fagus.

This species is divided by most botanists into two species, *Sylvatica* and *Ferraginea*. The one is put down in Loudon as the common beech of Europe, the other as the American.

Brown, in his Sylva Americana, has made the same specific difference, under the same names.

Loudon says the "*Fagus ferruginea* is distinguished by the Americans from the common kind by the name of red beech, the wood being of a darker color."

Brown observes, "the flowers are similar to those of the white beech, though smaller, and put forth in May."

As Loudon has given but one species of European beach, we are led to conclude that we have but one in America, and that is the same as the *Sylvatica* of Europe. So far as we have observed, the color of the wood depends much upon the age and growth of the tree. In selecting the timber from the forest, we have never found any particular characteristic that was sufficient to point out trees of red beech. We have never found young thrifty trees growing in open ground having much red wood in the centre, but, on the contrary, have found those trees which we call red beech in thick forests, where the trees were old, and often dead at the top, giving evidence that they had passed their prime. Upon examining trees where they were cut, we have found that the white wood which surrounded the red was not of uniform thickness, neither does it always contain the same number of grains. The greatest thickness of white wood will be found upon that side of the tree which is in the most growing condition, and from which the most vigorous roots extend.

From these observations, we have been led to conclude that the red color of the inner part of many beech trees was owing to the stagnation of the sap, which, for the want of circulation, had undergone an active fermentation, and that the acid so produced had caused the color of the wood. Red beech, when submitted to destructive distillation, gives off a large quantity of vinegar, or pyralyneous acid.

The particular operation which the active fermentation has upon different kinds of timber is not sufficiently understood to enable us to give it a minute description, but the fact is well known, that a portion of a tree which has become red is more durable than that which remains white, and indicates a free circulation of sap.

For durability we would recommend the following kinds of timber, as suitable for the construction of the Tonawanda Railroad, and which may all be procured either on the line or in the immediate vicinity.

1st. Red Cedar, *Juniperus virginiana L.* This can be procured from the islands in Lake Ontario. It is the most durable of any timber in this section of country.

2d. Yellow Locust, *Robina pseudo acacia L.* This timber is considered as nearly equal to the first in durability, and far superior in strength, but cannot be procured in sufficient quantity, at this time, for the main timber for a road. It would be valuable for pins when they were required.

3d. White Cedar, of the northern States, or American Arbor Nita, *Thuja occidentalies L.* This is a soft but durable timber, and may be found in most of the swamps on the line of this road. Perhaps this is better calculated for the under work of a railroad than any other timber in this vicinity, as a stick twelve inches in diameter would in all probability endure half a century.

4th. White and Swamp Oak, *Quercus, alba and primus.* Both these varieties of the oak are to be found upon this line of the road, and are more durable than the other varieties. All things considered, these are the most valuable trees of our country. In addition to those, Chesnut, White and Yellow Pine, Larch, or Tamarack, may be advantageously used, and where Chesnut, of what is generally termed second growth, can be obtained, it will be found as durable, or more so, than White Oak.

List of New Patents granted between the 22d of March and the 22d of April, 1833.

[From the London Mechanics' Magazine.]

Joshua Horton, of Taylor's Dock, Birmingham, boiler manufacturer, for an improvement in the manufacture of wrought iron chains, applicable to various purposes. To enrol within six months from the 23d of March.

John Joyce, of South-row, New-road, St. Pancras, gentleman, for improvements in machinery for making nails communicated to him by a foreigner. Six months; March 28th.

John White, of Southampton, engineer, and iron founder, for certain improvements in machinery to be worked by steam or other power, applicable to raising water, and to other purposes. Six months; March 28.

Charles Terry, of Shoe-lane, London, merchant, for improvements in producing leather from hides and skins. Six months; March 28.

John Obadiah Newell Rutter, of Lymington, county of Southampton, wine merchant, for an improved process for generating heat, applicable to the heating of boilers and retorts, and to other purposes for which heat is required. Six months; March 30.

William Shilton, of Birmingham, machinist, for an improved apparatus, or machine, for cutting files and rasps. Six months; April 3.

Edward Boys, jr. of Rochester, gentleman, for a machine or apparatus for preventing accidents with carriages in descending hills, or in other perilous situations. Six months; April 4.

George Rogers, of Sheffield, merchant, and John Tatam, of Hilton, county of Derby, gardener, for an improved button. Six months, April 4.

Joseph Gibbs, of the Kent-road, Surrey, engineer, for improvements in the means, apparatus, and machinery, for exhibiting scenery, paintings, or certain descriptions of pictures. Six months; April 4.

John Ericsson, of Albany-street, Regent's-park, civil engineer, for an engine for producing motive power, whereby a greater quantity of power is obtained from a given quantity of fuel than heretofore. Six months; April 4.

Claude Marie Hilaire Molinard, of Bury-street, St. Mary Axe, London, merchant, for certain improvements in looms or machinery for weaving fabrics, being a communication from a foreigner. Six months; April 9.

George Washington Wildes, of Coleman-street, London, merchant, for certain improvements in machinery for cutting marble and other stones, and cutting or forming mouldings in grooves thereon. Six months; April 15.

James Smith, jr. and Francis Smith, both of Radford, near Nottingham, mechanics, for certain improvements in certain machinery for manufacturing lace, commonly called bobbin-net lace. Six months; April 15th.

Mr. Hancock's Steam Omnibus. [From the London Mechanic's Magazine.]

Sir,—More than six years have elapsed since I began my experiments on steam locomotion; and I have followed it with an ardor that did not admit of any diversion from the grand object which I kept steadily in view. During the past week I have exhibited daily on the Paddington road a steam omnibus, the result of my experience; and having hitherto carefully steered clear both of extravagant anticipations and exaggerated statements, I should be sorry if any such should find their way into the public prints. In order to prevent this, as far as I am able, I beg to hand you for insertion in your wide spreading miscellany, the following results of the first six days:

April 22—Started from Cottage lane, City road, to Paddington, and from Paddington to London wall, and back to Cottage lane—9¼ to 10 miles—1 hour 8 minutes. Delays, 18 minutes—travelling, 50 minutes.

April 23—From Cottage lane to Paddington, and back to Cottage lane—8½ miles—1 hour 11 minutes. Delays, 9 minutes—travelling, 62 minutes.

April 24—Same ground—1 hour 4 minutes. Delays, 11½ minutes—travelling, 53 minutes.

April 25—Same ground, and back as far as St. James' Chapel—piston broke.

April 26—Same ground, and back to Cottage lane—49 minutes. Delays, 5 minutes—travelling, 44 minutes.

April 27—Same ground—50 minutes. Delays, 5½ minutes—travelling, 44½ minutes.

Average quantity of coke, 1 sack to each trip.

It is not intended to run this carriage more

than about a week longer; partly because it was only intended as a demonstration of its efficiency, and partly because my own occupations will not admit of my personal attention to the steering, which I have hitherto performed myself, having no other person at present to whose guidance I could with propriety entrust it. During the time that it will require to build two more carriages for the Paddington Company, I shall have one or two others of my own running, which will afford me an opportunity for training steersmen, &c., for this road, which, of all others I am acquainted with, requires the greatest steadiness and attention.

I am, sir, your obedient servant,

W. Hancock.

Stratford, May 1, 1833.

N. B.—I would just observe, that your correspondent "Candidus" has, I think, stated the number of journeys rather too high. From the manner, also, of wording his letter, it would almost seem to imply that the "Enterprize" was built in the City road, and that other carriages were in progress of building there; but I have no establishment in London, and the "Enterprize' was built at my own place at Stratford, and had its first trials on that road. I took it to town merely to avail myself of the assistance of London artists in its decoration, &c., after which, and before its delivery, I ran it over its intended road, &c., as stated by "Candidus." Thus much for steering clear of all mistakes.

The Great North Road in England. [From the Monthly Supplement of the Penny Magazine.]

Our island, it is true, still "stands where it did" a century ago; but in almost all other respects it is as much changed since then as an old house that had been almost wholly rebuilt. All our accommodations within "this little world" are metamorphosed since the days of our fathers and grandfathers. Turn to which side we may, where shall we find things in any thing like the same state in which they were even sixty years since? All commodities consumed, it may almost be said without exception by all classes of the people, are of improved manufacture and better quality. Look to the clothing that is now worn by men and women, even of the poorest order of our population: nearly every article of it is of a quality such as formerly was not generally used, even by the most opulent. The same thing is true of their food. Throughout England, at least, inferior substitutes for bread made of wheaten flour are now nearly every where discarded: the people will live upon nothing, or at least will take nothing for the main basis of their subsistence, except that best and costliest of all the generally cultivated productions of the earth. Other articles of consumption, again, such as tea, for example, and sugar, have, from being the luxuries of the few, become almost universal necessaries. The houses inhabited by persons of every degree are equally changed and improved. So is every article of furniture, every thing intended either for use or ornament, which they contain. It would be an endless task to attempt to enumerate the many things which but a generation ago were rare, and are now possessed, in greater or small measure, almost by every body; the many other things that were then hardly ever seen, and are now common and plentiful everywhere; and the many others still that absolutely did not exist then, and are now enjoyed either by the whole community or by a large portion of it.

But that which lies at the root and beginning of all these things, and is indeed the foundation of a country's civilization, is a system of good roads. Without this the national resources and energies remain, in nearly their sum total, unawakened and useless. Roads are the veins and arteries by means of which the circulation of the social body is carried on. Where they do not exist, there can hardly be said to be a community. The people have nothing in common. They are not one people in any thing but the name. No commerce, nor intercourse of any kind, mixes them up together into one mass. The inhabitants of a country entirely without roads would, of necessity, be savages.

No country on the face of the earth is so well provided with roads as our own; and that is one of the chief of the causes which places this country, beyond all rational dispute, at the head of the civilization of the world. The greater part of England is now intersected in all directions, not only by paths by which persons may pass on foot from one place to another, but by broad highways for the movement of wheel carriages, and the transference of the heaviest loads that can be dragged by the power of horse or of machinery. Formerly vehicles drawn along the public roads were not allowed to carry above a very small weight. In 1629, Charles I. issued a proclamation commanding that no common carrier, or other person whatsoever, should travel with any wain, cart, or carriage, with more than two wheels, nor with a load of above twenty hundred weight, for fear of injuring the roads; and penalties continued to be exacted under this regulation for many years after. Our present roads, as compared with those which then existed, are not more multiplied than they are improved in quality. Of their number and extent, the latest complete account which has appeared is that given in the appendix to the report of a Select Committee of the House of Commons, which sat on the subject of turnpike roads and highways in 1820. From this document it appears that the length of all the paved streets and turnpikes in England and Wales was then 17,725 miles, and that of other public highways 95,104 miles, making the total length of travelling road 114,829 miles. Assuming all the turnpike roads to be of the statutable breadth of 60 feet, and the others on an average 30 feet broad, the space covered by the whole would be not less than 482,000 acres, or about 752 square miles. In the years 1812, 1813, and 1814. (the latest for which there are any returns,) this extent of road was kept in repair at an annual expense of £1,404,842, being at the rate of £12 6s. 8d. per mile. But notwithstanding all that has already been done in this way, the business of opening additional lines of road is constantly going forward. Some idea of the rate at which this species of improvement proceeds may be gathered from the fact, that in the six years from 1827 to 1832 inclusive, the number of acts of parliament which were passed for the formation of new, and the repair or alteration of old roads, amounted to 388, or nearly 65 on an average per annum.

If the whole surface streaked and cut into by these roads, and our other channels of communication, could be taken in by the eye at once, what an extraordinary display of national enterprize and national wealth it would present! So large an accumulation of the conquests of energy and the constituent elements of riches, it may be safely said, was never before collected within the same compass. These roads are often the noblest exemplifications of art subjugating and triumphing over the opposition of natural difficulties. Many of them are carried through the air over considerable rivers by bridges of more or less cost and magnificence. Others are supported across depths and hollows on stupendous embankments. Some are driven under ground through mountains. Some terminate in piers that extend far into the sea. There is no hostile force that their daring engineers have not faced and vanquished. And then to our common highways are to be added our railroads, and canals, and rivers made navigable, or otherwise improved by art, as all entering into the aggregate of those channels of communication which our ancestors and ourselves have created, and which contribute in so eminent a degree to make England what it is.

The advantages, however, which we thus enjoy are, in by far the greater part, only of comparatively recent acquisition. The Baron Dupin, in the introduction to his work on the "Commercial Power of Great Britain," writing in 1822, remarks, that fifty years before that time France was generally as far ahead of this country in all that concerns public utility, as we had since got before his own countrymen. Imperfectly supplied with roads as France now is, compared with England, the Baron's statement is probably true, if confined even to this particular. If we turn back at least to times somewhat, though not very much, more remote, we find that there were hardly any roads on which travelling could be conveniently performed, except in the immediate vicinity of the capital, and not even always there. In the appendix to the "Results of Machinery," a passage is quoted from an historical work, according to which it appears that Prince George of Denmark, having in December, 170?, to make the journey from Windsor to Petworth, was 14 hours in accomplishing that distance of forty miles in his coach, the last nine miles having taken six hours to get over them. "We did not get out of the coaches," says the narrator, one of the Prince's attendants, ("save only when we were overturned, or stuck fast, in the mire,) till we arrived at our journey's end.

. . . We were thrown but once, indeed, in going, but our coach, which was the leading one, and his highness's body coach, would have suffered very much, if the nimble boors of Sussex had not frequently poised it or supported it with their shoulders." In those days, indeed, and long after, the common mode of travelling was on horseback; and in country parts goods were almost universally conveyed on pack-horses. We gave, in our 61st number, a relation extracted from Dr. Cleland's "Statistical Account of Glasgow," of a journey made in this manner by two inhabitants of that city to London, in the year 1739, in which it is stated that they found no turnpike road until they came to Grantham, in Lincolnshire, 110 miles from the English metropolis. Up to that point they had to make their way along a narrow path, raised in the middle of an unmade soft road, into which latter they had to descend whenever they met one of the gangs of pack-horses carrying goods, the raised causeway not being broad enough to allow the two parties to pass each other. "We, who in this age are accustomed to roll along our hard and even roads at the rate of eight or nine miles an hour," says a writer in the Quarterly Review, (xxxi. 353,) with much truth, "can hardly imagine the inconveniences which beset our great grandfathers when they had to undertake a journey—forcing their way through deep miry lanes; fording swollen rivers; obliged to halt for days together, when the 'waters were out;' and then crawling along at a pace of two or three miles an hour, in constant fear of being set in some deep quagmire, of being overturned, breaking down, or swept away by a sudden inundation."

The Romans formed several excellent roads in Britain, as they did in every other country which they subjected to their arms: but the ages of confusion and misery that followed their departure from the island obliterated these, with nearly every other vestige of their domination. For a long period, instead of our roads being improved, they probably continued to grow worse and worse. About the time of the Norman Conquest, the principal streets of London appear to have been little better than ditches or marshes. It is related that in the year 1090, on occasion of a storm of wind blowing down the roof of St. Mary-le-Bow church, in Cheapside, four of the rafters, each twenty-six feet long, were pitched so deep into the street that scarcely four feet of them remained above ground. Holborn* was not paved till the beginning of the fifteenth century. In the year 1417, the king, Henry V, ordered two vessels, each of twenty tons burden, to be employed at his expense in bringing stones for this purpose, by reason that the highway in question was so deep and miry, that many perils and hazards were thereby occasioned, both to the king's

* A long street in the centre of the metropolis.

carriages passing that way, and to those of his subjects. The western end of Holborn, however, appears not to have been paved till 1541, in which year both it, Gray's Inn lane, Chancery lane, and other streets now in the heart of the city, are described as very foul and full of pits and sloughs, very perilous and noisome, as well for the king's subjects on horseback as on foot, and with carriages."

[*To be continued.*]

DANSVILLE AND ROCHESTER RAILROAD.—At a meeting of the stockholders of the Dansville and Rochester Railroad, at Caledonia, on the 3d instant, the following gentlemen were chosen Directors, viz:

Jonathan Childs, Frederick Whittlesey, Simon P. Allcott, Ebenezer S. Beach, Thomas Kempshall, Silas O. Smith, A. M. Schermerhorn, Jacob Gould, Frederick Bushnell, of Rochester; John R. Murry, of Mount Morris; William Lyman, of Moscow; Charles H. Carroll, of Groveland; Samuel W. Smith, of Dansville.

The Directors then proceeded to Rochester, and the board was organized by choosing Charles H. Carroll, President, Silas O. Smith, Vice-President, A. M. Schermerhorn, Treasurer, and Frederick Whittlesey, Secretary.

Measures, we understand, are to be adopted at the next meeting of the Directors, which will take place in a few days, for the prosecution of the work as soon as practicable. Whether the survey of the route and location of the road will be made this fall remains to be decided on. Should the directors deem it to the interest of the company it will be done, otherwise it will be deferred till the opening of spring.

We learn that the utmost harmony and good feeling prevailed during the meeting of the stockholders, as also at the subsequent meeting of the directors, and that all expressed a conviction of the importance of commencing the work at the earliest period practicable.—[Dansville Chronicle.]

McADAM ROADS.

To the Editor of the New York American:

SIR: Your prompt insertion of my first communication upon the subject of *McAdam Roads* or *Streets*, induces me to trouble you again. I will not, however put forth, or occupy the space in your valuable paper with, speculations of my own; as I am aware, that, in order to have much influence with those who have the management of such matters, theory must be well supported by practical experience. I may however, perhaps, be permitted to bring forward the views of able and experienced road makers, and then show by comparison, that the "experiment" now being made in this city, is *any* thing but *McAdamized*—or, in other words, it is not after the plan of JNO. LOUDON MCADAM.

The grand secret, Sir, in making road, consists in constructing it in such a manner as to keep the *road bed dry*, or, if it becomes wet, so that it shall not *remain* wet; and in order to do this, the covering must be made to turn the water off on the surface; but, as this is a rather difficult matter, the bed should be so formed, if the water should pass through the covering, to turn it off from that part of the road on which carriages pass, into the ditches at the sides, where it is conducted away from the road, and *not* to make a ditch of the *road bed* to receive and *retain* the water, to destroy the foundation of the road where all the weight of travel passes.

Is it hardly necessary for me to tell you, Sir, that the natural soil, if it cou'd be kept *perfectly dry*, would, of itself, form the very best road that could be made; yet it may not be amiss to observe to those who are not so well informed upon the subject, that, if a road were made of earth, except in a sandy soil—by being raised a few inches in the centre and covered with a shingled roof so as to prevent water from falling or running upon or near it—a covering of stone would be *entirely* unnecessary.

The *natural* soil, in a *dry state*, is ample to carry any load that is ordinarily put on wheels; and the only object of covering the natural soil is to keep it *dry*. Hence the importance of carrying off from, instead of *retaining* the water *in* the road bed. You will therefore see the great error committed by those who have the management of the "experiment" in Broadway, by digging a *trench* in which to put the broken stone, of which they propose to form the covering, which serves also as a reservoir for rain water in no small quantities. It could not have been less than *ten* or *twelve* inches deep on Tuesday last at 10 o'clock after the shower was over. Can you tell me, Sir, what becomes of that water? Is it conducted off by a secret or private passage? or does it find its way *into the earth* under the broken stone? If, as I suppose, the latter, what condition must that *road-bed* be in for sustaining heavy loaded carts and carriages? It must settle into the earth, and of course keep it wet and soft a long time after the surface shows no appearance of moisture. Will not the inevitable consequence be a continual settling and breaking up of the covering? It cannot be otherwise; and I am sure that the system is to be brought into disrepute by those who have undertaken to adopt it, without sufficient information. But I beg pardon; I have already far exceeded my limits, although I have not yet made a single extract from the document to which I referred in my last:

[*Extracts from McAdam's Report to the Board of Agriculture of Great Britain.*]

"During the late winter, and particularly in the month of January, 1820, when the frost was succeeded by a sudden thaw, accompanied by the melting of snow, the roads of the kingdom broke up in a very alarming manner, and to an extent that created great loss and inconvenience by the interruption of communication, and the delay of the mails, and also occasioned a very heavy extra expenditure by the Post Office.

The obvious cause of this defect of the roads, was the admission of water from the loose and unskilful method of their construction. Previous to the severe frost, the roads were filled with water, which had penetrated through the ill prepared and unskilfully laid materials: this caused an immediate expansion of the whole mass during the frost, and upon a sudden thaw, the road became quite loose, and the wheels of carriages penetrated to the original soil, which was also saturated with water, from the open state of the road. By this means, many roads became altogether impassable, while the whole were rendered deep and inconvenient to be travelled upon. * *

Of all the roads which have been thoroughly remade, according to the directions which I had the honor to submit to your honorable board last spring, not one has given way, nor has any delay taken place through the severity of the late season.

As every winter has, in some degree, presented such inconveniences, and as it has been observed that very severe winters occur in England every six or seven years, it is of great consequence to consider of the means of constructing the roads of the Kingdom in such a manner as shall prevent their being, in future, affected by any change of weather or season.

And roads can never be rendered thus perfectly secure, until the following principles be fully understood, admitted, and acted upon: namely, that it is the native soil which really supports the weight of traffic; that while it is preserved in a dry state, it will carry any weight without sinking, and that it does in fact carry the road and the carriages also; that this native soil must previously be made quite dry, and a covering impenetrable to rain must then be placed over it, to preserve it in that dry state; that the thickness of a road should only be regulated by the quantity of material necessary to form such impervious covering, and never by any reference to its *own* power of carrying weight.

The erroneous opinion so long acted upon, and so tenaciously adhered to, that by placing a large quantity of stone under the roads, a remedy will be found for the sinking into wet clay, or other soft soils, or in other words, that a road may be made sufficiently strong, *artificially*, to carry heavy carriages, though the sub-soil be in a wet state, and by such means to avert the inconveniences of the natural soil receiving water from rain, or other causes, has produced most of the defects of the roads of Gt. Britain.

At one time I had formed the opinion that this practice was only a useless expense, but experience has convinced me that it is likewise positively injurious.

It *is well known to every skilful and observant road maker, that if strata of stone of various sizes be placed as a road, the largest stones will constantly work up by the shaking and pressure of the traffic, and that the only mode of keeping the stones of a road from motion, is to use materials of a uniform size from the bottom.* In roads made upon large stones as a foundation, the perpetual motion, or *change of the position of the materials, keeps open many apertures through which the water passes.*

It has also been found, that roads placed upon a hard bottom wear away more quickly than those which are placed upon a soft soil. This has been apparent upon roads where motives of economy, or other causes, have prevented the roads being lifted to the bottom at once; the wear has always been found to diminish, as soon as it was possible to remove the hard foundation. It is a known fact that a road lasts much longer over a morass than when made over rock. The evidence produced before the Committee of the House of Commons showed the comparison on the road between Bristol and Bridgwater to be as five to seven in favor of the wearing on the morass, where the road is laid on the naked surface of the soil, against a part of the same road made over rocky ground.

The practice common in England, and universal in Scotland, on the formation of a new road, is to dig a trench below the surface of the ground adjoining, and in this trench to deposite a quantity of large stones; after this a second quantity of stone, broken smaller, generally to about seven or eight pounds weight; these previous beds of stone are called the bottoming of the road, and are of various thickness, according to the caprice of the maker, and generally in proportion to the sum of money placed at his disposal. On some new roads made in Scotland, in the summer of 1819, the thickness exceeded three feet.

That which is properly called the road is then placed on the bottoming, by putting large quantities of broken stone or gravel, generally a foot or eighteen inches thick, at once upon it.

Were the materials of which the road itself is composed properly selected, prepared, and laid, some of the inconveniences of this system might be avoided; but in the careless way in which this service is generally performed, the road is as open as a sieve to receive water; which penetrates through the whole mass, is received and retained in the trench, whence the *road is liable to give way in all changes of weather.*

A road formed on such principles has never effectually answered the purpose which the road maker should constantly have in view, *namely, to make a secure, level flooring, over which carriages may pass with safety, and equal expedition, at all seasons of the year.*

If it be admitted, as I beleive it is now very generally, that in this kingdom an artficial road is only required to obviate the inconvenience of a very unsettled climate: and that water, with alternate frost and thaw, are the evils to be guarded against, it must be obvious *that nothing can be more erroneous than providing a reservoir for water under the road, and giving facility to the water to pass through the roadinto this trench, where it is acted upon by frost to the destruction of the road.*

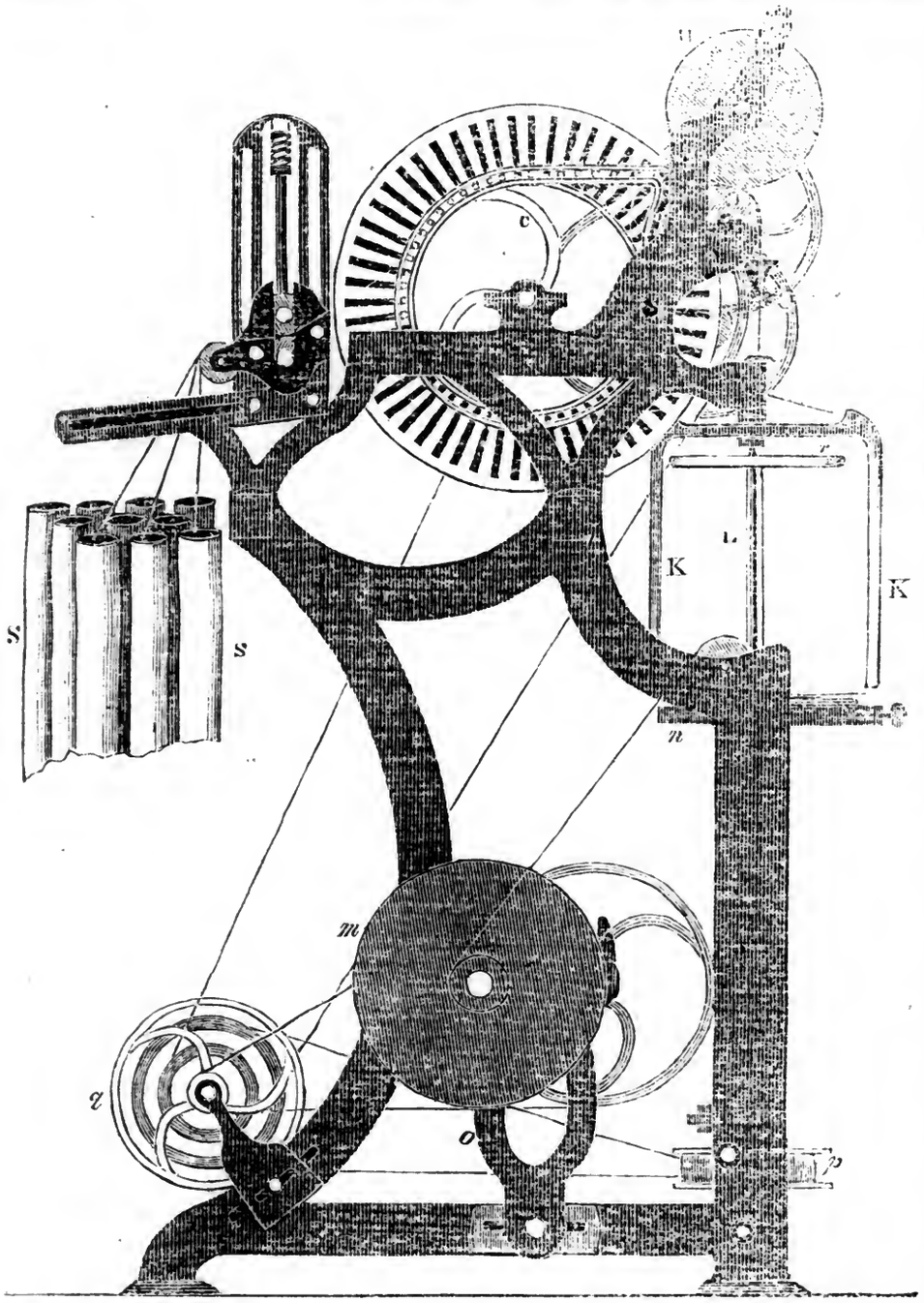
As no artificial road can ever be made so good and so useful, as the natural soil in a *dry state*, it is only necessary to procure and preserve this dry state of so much ground as is intended to be occupied by a road.

The first operation in making a road should be the reverse of digging a trench. The road should *not be sunk below*, but *rather raised above*, the ordinary level of the adjacent ground; care should at any rate be taken, that there be a sufficient fall to take off the water, so that it should always be *some inches below the level of the ground upon which the road is intended to be placed;* this must be done, either by making drains to lower grounds, or if that be not practicable, from the nature of the country, then the soil upon which the road is proposed to be laid, must be raised by addition, so as to be some inches above the level of the water.

Having secured the soil from *under* water, the road maker is next to secure it from rain water, by a solid road, made of *clean, dry stone, or flint, so selected, prepared, and laid, as to be perfectly impervious to water: and this cannot be effected, unless the greatest care be taken, that no earth, clay, chalk, or other matter, that hold or conduct water, be mixed with the broken stone;* which must be so prepared and laid, as to unite by its own angles into a firm, compact, impenetrable body.

The thickness of such road is immaterial, as to its *strength for carrying weight; this* object is *already* obtained, by providing *a dry surface, over which the road is to be placed as a covering, or roof, to preserve it in that state:* experience having shown, that if water passes through a road, and fills the soil, the road, *whatever may be its thickness*, loses its support, and goes to pieces.

The preceding extracts will, I trust, satify those who do me the favor to read them, that *whatever* may be the result of the "experiment" of our Corporation, the system of road making introduced by Mr. McAdam should not be affected thereby. M.



Westerman's Machine for Spinning Hemp.—The annexed drawing represents an end view of this *labor saving machine*; of its utility there cannot be a doubt. It has been in practical operation for some time past. We have seen rope-yarn made from it, and have no hesitation in saying that it is much superior to any we have ever seen produced by hand-spinning. To show the advantages it offers to those capitalists who will embrace an economical method of manufacturing rope, we cannot do better than insert the annexed letter from the patentee.

References—C, the comb plate; H, the top or pressure roller; K, the flyer; L, the spindle; *m*, the mangle wheel, which lifts the bobbin up and down; *n*, the lifting plate; *o*, the frame that supports the lifting motion; *p*, the pulley that drives the spindle; *q*, the driving pulleys; *r*, the bobbin; S S, boxes. —The process is begun at S S; is carried over the combs C, which cleanses and dresses the hemp, and lays the fibres in straight lines through the upper roller H, and under roller H, and afterwards through the rubber immediately under the roller H, as shown in the engraving, through the top of the spindle, where an aperture is made to receive it, and then through the flyer and round the bobbin. —[Ed. M. M.]

To the Editor of the Mechanics' Magazine:

Sir,—I take the liberty of laying before you an exact detail of what my machines are capable of performing in ten hours' work, for your immediate information, and for that of your numerous readers:

Machinery to spin one ton of rope-yarns per day—Four machines called breakers, $2,000; 6 machines called finishers, $2,400; two spinning frames of 16 threads, $1,600; three doubling frames, $400; total, $6,400.

Manual labor per day—Two men to prepare the material, $2.50; ten boys or girls as tenders, $5.00; total, $7.50.

A shop 50 feet by 25 will be sufficient for the above machinery, placed at the head of a railroad, which will be the most advantageous, as the yarns will be laid in the walk the same as hand-spun yarns. The rent of such a room will vary according to situation, say, however, one dollar per day.

A four-horse power, steam or water, will be sufficient. The price of this will also vary according to situation, whether steam or water; however, say steam, which, including fireman, oil, coals, &c. will, I presume, be five dollars. When water-power can be had, it will be much cheaper. The cost price of such an engine, including mill gear, &c. &c. will be at *high rate*, $1,800.

Sundry other articles—Straps, tin boxes, and other unforeseen expenses, say $800.

Total expenses—Machinery, $6,400; steam engine, $1,800; sundry expenses, $800; total, $9,000,—which, at 6 per cent. per annum, is equal to $1.50 per day.

Daily expenses—Hand labor, $7.50; rent, $1.00; interest of $9,000, at 6 per cent. per day, $1.50; oil for machinery, 25 cts.; repairs, 75 cts.; expenses of engine, $5.00; insurance on $10,000, at 3 per cent. per day, $1.00: making the total cost of *one ton* $17.

The above prices are rated according to New-York rates. In other places the expenses will not be so great; situation makes all the difference. I do not pretend to know the true price of hand-spinning, as none of the workmen will inform me; however, upon the lowest scale, there is 40 per cent. in favor of machine-spinning on the above calculation. Where water power and manual labor is cheap, yarns may be manufactured for something near half price. From all I have been able to learn, the waste in hand-spinning is from 8 to 10 per cent. which added to the price of hand-spinning makes a very considerable augmentation in the price of yarns. In my plan I can *warrant* not more than 3 per cent. *loss*. My machine will, I am satisfied, bear a strict examination. I am, sir, yours, truly,

J. Westerman.

Mechanical Invention.—The writer of this, while on a visit to the penitentiary, near the city of Trenton, New-Jersey, a few days ago, witnessed the operation of a machine for punching holes in bars of iron, which worked with extraordinary effect. It is a simple machine, easily constructed, at very little expense, and capable of being moved about and used in any position. It was employed in punching the holes for the perpendicular bars which are inserted through the flat cross bars for the iron grating to be used in the windows and doors of the new State Penitentiary. We noticed that in the space of one minute and a quarter, seven holes were perforated through a bar half an inch thick, each hole being one and a quarter inches in diameter—the bar being perfectly cold at the time. This effect is produced by the application of a lever power, and two or three rapid blows with a sledge hammer. This is certainly an important discovery in this branch of mechanics, and is the invention of some of the gentlemen engaged in the erection of the new Penitentiary.—[Emporium.]

Patent Radiator, or Globe Stove.—A stove, with the above name, has recently been invented by Mr. Walter Hunt, of this city, one of which was in operation a short time since at the Exchange. The main part of the stove where the coal is deposited is of a globular form, and from its peculiar construction, produces a greater quantity of heat from a given quantity of fuel than any other stove now in use. After repeated trials, the inventor informs us that it requires a very small quantity of fuel in comparison with

many others now in use, and from what we witnessed we are disposed to entertain the same opinion. This article is well calculated for halls, churches, counting rooms, &c.; and, when once proved, will no doubt be generally sought after.

NEW SAW.—A machine has recently been constructed by a Mr. Job White of Belfast, Maine, by which a saw, of the proper form is made to operate lengthwise of the log, cutting round it, and approaching the centre in a spiral direction, in such a manner as to cut the log into one continuous board. The board unwinds from the log, like the cloth from a weaver's beam.

This invention will be of great value to carriage makers, who use bass-wood boards for pannels, as they may be cut from much smaller, or even hollow logs.—[Northern Farmer.]

Babbage on the Economy of Manufactures.

[Continued from page 649.]

ON COMBINATIONS AMONGST MASTERS OR WORKMEN, AGAINST EACH OTHER.

270. There exist amongst the workmen of almost all classes, certain rules or laws which govern their actions towards each other, and towards their employers. But besides these general principles, there are frequently others peculiar to each factory, which have derived their origin, in many instances, from the mutual convenience of the parties engaged in them. Such rules are little known, except to those actually pursuing the several trades; and as it is of importance that their advantages and disadvantages should be canvassed, we shall offer a few remarks upon some of them.

271. The principles by which such laws should be tried are—

First, That they conduce to the general benefit of the whole of the persons employed;

Secondly, That they prevent fraud;

Thirdly, That they interfere as little as possible with the free agency of each individual.

272. It is usual in many workshops, that, on the first entrance of a new journeyman, he shall pay a small fine to the rest of the men. It is clearly unjust to insist upon this payment; and when it is spent in drinking, which is unfortunately too often the case, it is injurious. The reason assigned for the demand is that the new comer will require some instruction in the habits of the shop, and in the places of the different tools, and will thus waste the time of some of his companions until he is instructed. If this fine were added to a fund, managed by the workmen of the establishment, and divided at given periods, or destined for their relief in sickness, it would be less objectionable, since its tendency would be to check the too frequent change of the men from one shop to another. But it ought, at all events, not to be compulsory; and the advantages to be derived from the fund to which the workman is invited to subscribe ought to be his sole inducement.

273. In many workshops, the workmen, although employed on totally different parts of the objects manufactured, are yet dependent in some measure upon each other. Thus, a single smith may be able to forge in one day work enough to keep four or five turners employed during the next. If, from idleness or intemperance, the smith neglects his work, and does not furnish the usual supply, the turners (supposing them to be paid by the piece) will have their time partly unoccupied, and their gains consequently diminished. It is reasonable, in such circumstances, that a fine should be levied, in order to prevent their recurrence; but it is desirable that the master should have concurred with his workmen in establishing such a rule, and that it should be shown to each individual previous to his engagement; and it is very desirable that such fine should not be spent in drinking.

274. In some establishments it is customary for the master to give a small gratuity whenever any workman has exercised a remarkable degree of skill, or has economized the material employed. Thus, in splitting horn into layers for lanterns, one horn usually furnishes from five to eight layers; but if a workman split the horn into ten layers or more, he receives a pint of ale from the master. These premiums should not be too high, lest the material should be wasted by the workman in unsuccessful attempts; but such regulations, when judiciously made, are beneficial, as they tend to promote skill amongst the men, profit to the masters, and diminished cost to the consumers.

275. In some few factories in which the men are paid by the piece, it is usual, when any portion of work delivered in by a workman is rejected by the master on account of its being badly executed, to fine the delinquent. Such a practice tends to remedy one of the evils attendant upon that mode of payment, and greatly assists the master, since his own judgment is thus supported by competent and unprejudiced judges.

276. Societies exist amongst some of the larger bodies of workmen, and there are also others formed by the masters engaged in the same branches of trade. These have different objects in view; but it is very desirable that their effects should be well understood by the individuals who compose them; and that the advantages arising from them, which are certainly great, should be separated as much as possible from the evils which they have unfortunately too frequently introduced. Associations of workmen and of masters may with advantage agree upon rules to be observed by both parties, in the estimation of the proportionate value of various kinds of work executed in their trade, in order that time may be saved, and disputes between them may be prevented. They may also be most usefully employed in acquiring accurate information of the number of persons working in the various departments of any manufacture, their rate of wages, the number of machines in use among them, and other statistical details. Information of this nature is extremely valuable, both for the guidance of the parties who are themselves most interested, and also to enable them, on any application to government for assistance, or with a view to legislative enactments, to supply those details, without which the propriety of any proposed measure cannot be fitly decided upon. Such details may be collected by men actually engaged in any branch of trade at a much smaller expense of time than by persons less acquainted with and less interested in it.

277. One of the most legitimate and most important objects of such associations as we have just mentioned is to agree upon ready and certain modes of measuring the quantity of work done by the workmen. For a long time a difficulty upon this point existed in the lace trade, which was justly complained of by the men as a serious grievance; but the introduction of the "*rack*," which counts the number of holes in the length of the piece, has entirely put an end to the most fertile cause of disputes. This was adverted to by the Committee of 1812, and a hope expressed that the same contrivance would be applied to stocking frames. It would, indeed, be of great mutual advantage to the industrious workman and to the master-manufacturer in every trade, if the machines employed in it could register the quantity of work done, in the same manner as a steam engine does the number of strokes it makes. The introduction of such contrivances gives a greater stimulus to honest industry than can readily be imagined, and removes one of the sources of disagreement between parties whose real interests must always suffer by any estrangement between them.

278. The effects arising from combinations amongst the workmen are almost always injurious to the parties themselves. There are numerous instances in which the public suffer by increased price at the moment, but are ultimate gainers from the permanent reduction which results; whilst, on the other hand, the improvements which are often made in machinery, in consequence of "a strike" amongst the workmen, most frequently do an injury of greater or less duration to that particular class which gave rise to them. As the injury to the men and to their families is almost always greater than that which affects their employers, it is of the utmost importance to the comfort and happiness of the former class that sound views should be entertained by them upon this question. For this purpose a few illustrations of the principle which is here maintained will probably have greater weight than any reasoning of a more general nature, though drawn from admitted principles of political economy. Such instances will, moreover, present the additional advantage of appealing to facts known to many individuals of those classes for whose benefit these reflections are intended.

279. There is a process in the manufacture of gun barrels, for making what, in the language of the trade, are called *skelps*. The *skelp* is a piece or bar of iron, about three feet long, and four inches wide, but thicker and broader at one end than at the other; and the barrel of a musket is formed by forging out such pieces to the proper dimensions, and then folding or bending them round into a cylindrical form, until the edges overlap, so that they can be welded together.

About twenty years ago, the workmen, employed at a very extensive factory in forging these skelps out of bar iron, "struck" for an advance of wages, and as their demands were very exorbitant, they were not immediately complied with. In the mean time, the superintendant of the establishment directed his attention to the subject; and it occurred to him, that if the circumference of the rollers between which the bar iron was rolled were to be made equal to the length of a *skelp*, or of a musket barrel, and if also the grooves in which the iron was compressed, instead of being equally deep and wide, were cut gradually deeper and wider from a point in the rollers until it returned to the same point, then the bar iron passing between such rollers, instead of being uniform in width and thickness, would have the form of a *skelp*. On making the trial, it was found to succeed perfectly; a great reduction of human labor was effected by the process, and the workmen who had acquired peculiar skill in forming it ceased to derive any advantage from their dexterity.

280. It is somewhat singular that another and a still more remarkable instance of the effect of combination amongst workmen should have occurred but a few years since in the very same trade. The process of welding the *skelps*, so as to convert them into gun barrels, required much skill; and after the termination of the war, the demand for muskets having greatly diminished, the number of persons employed in that line was very much reduced. This circumstance rendered combination more easy; and upon one occasion, when a contract had been entered into for a considerable supply to be delivered on a fixed day, the men all struck for such an advance of wages as would have caused the completion of the contract to be attended with a very heavy loss. In this difficulty, the contractors resorted to a mode of welding the gun barrel, according to a plan for which a patent had been taken out by them some years before this event. It had not then succeeded so well as to come into general use, in consequence of the cheapness of the usual mode of welding by hand labor, combined with some other difficulties with which the patentee had had to contend. But the stimulus produced by the combination of the workmen for this advance of wages induced him to make new trials, and he was enabled to introduce such a facility in welding gun barrels by rollers, and such perfection in the work itself, that, in all probability, very few will in future be welded by hand labor. The process consisted in turning a bar of iron, about a foot long, into the form of a cylinder, with the edges a little overlapping.

It was then placed in a furnace, raised to a welding heat, and taken out, when a triblet, or cylinder of iron, being placed in it, it was passed quickly through a pair of rollers. The effect of this was that the welding was performed at a single heating, and the remainder of the elongation necessary for bringing it to the length of the musket barrel was performed in a similar manner, but at a lower temperature. The workmen who had combined were of course no longer wanted; and instead of benefitting themselves by their combination, they were reduced permanently, by this improvement in the art, to a considerably lower rate of wages: for as the process to which they had been habituated required peculiar skill and considerable experience, they had hitherto been in the habit of earning much higher wages than other workmen of their class. On the other hand, the new method of welding was far less injurious to the texture of the iron, which was now exposed only once, instead of three or four times, to the welding heat: so that the public derived advantage from the superiority, as well as from the economy of the process. Another advantage has also arisen from its introduction: for the new process is now applied to the manufacture of iron tubes, which can thus be made at a price which renders their employment very general. They are now to be found in the shops of all our larger ironmongers, in various lengths, and of different diameters, with screws cut at each end; and are in constant use for the conveyance of gas for lighting, or of water for warming, our houses.

281. Similar examples must have presented themselves to those who are familiar with the details of our manufactories, but these are sufficient to illustrate one of the results of combinations. It would not, however, be fair to push the conclusion deduced from these instances to its extreme limit. Although it is very apparent that, in the two cases which have been stated, the effects of combination were permanently injurious to the workman, by almost immediately placing him in a lower class (with respect to his wages) than he occupied before, yet they do not prove that *all* such combinations have this *effect*. It is quite evident that they have all this *tendency*; it is also certain that considerable stimulus must be applied to induce a man to contrive a new and expensive process; and that in both these cases, unless the fear of pecuniary loss had acted powerfully, the improvement would not have been made. If, therefore, the workmen had in either case combined for only a small advance of wages, they would in all probability have been successful, and the public would have been deprived for many years of the inventions to which these combinations gave rise. It must, however, be observed, that the same skill which enabled them to obtain, after long practice, higher wages than the rest of their class, would prevent many of them from being *permanently* thrown back into the class of ordinary workmen. Their diminished wages will continue only until they have acquired, by practice, a facility of execution in some other of the more difficult operations: but a diminution of wages, even for a year or two, is still a very serious inconvenience to any person who lives by his daily exertion. The consequence of combination has then, in these instances, been to the workmen who combined—reduction of wages; to the public—reduction of price; and, to the manufacturer—increased sale of his commodity, resulting from that reduction.

282. It is, however, important to consider the effects of combination in another and less obvious point of view. The fear of combination amongst the men whom he employs will have a tendency to induce the manufacturer to conceal from his workmen the extent of the orders he may at any time have in hand; and, consequently, they will always be less acquainted with the extent of the demand for their labo than they otherwise might. This is injurious to their interests: for instead of foreseeing, by the gradual falling off in the orders, the approach of a time when they must be unemployed, and preparing accordingly, they are liable to much more sudden changes than those to which they would otherwise be subject.

In the evidence given by Mr. Galloway, the engineer, he remarks that, "When employers are competent to show their men that their business is steady and certain, and when men find that they are likely to have permanent employment, they have always better habits and more settled notions; which will make them better men and better workmen, and will produce great benefits to all who are interested in their employment."

283. As the manufacturer, when he makes a contract, has no security that a combination may not arise amongst the workmen, which may render that contract a loss instead of a benefit, besides taking precautions to prevent them from becoming acquainted with it, he must also add to the price at which he could otherwise sell the article, some small increase, to cover the risk of such an occurrence. If an establishment consist of several branches, which can only be carried on jointly,—as, for instance, of iron mines, blast furnaces, or a colliery, in which there are distinct classes of workmen,—it becomes necessary to keep on hand a larger stock of materials than would be required, if it were certain that no combinations would arise. Suppose, for instance, the colliers were to "strike" for an advance of wages: unless there were a stock of coal above ground, the furnaces must be stopped, and the miners also would be thrown out of employ. Now, the cost of keeping a stock of iron ore, or of coals, above-ground, is just the same as that of keeping in a drawer, unemployed, its value in money, (except, indeed, that the coal suffers a small deterioration by exposure to the elements.) The interest of this sum must, therefore, be considered as the price of an insurance against the risk of combination amongst the workmen; and it must, so far as it goes, increase the price of the manufactured article, and consequently limit the demand which would otherwise exist for it. But every circumstance which tends to limit the demand is injurious to the workmen; because the wider the demand, the less is it exposed to fluctuation. The effect to which we have alluded is by no means a theoretical conclusion: the proprietors of one establishment in the trade which has been mentioned think it expedient always to keep above-ground a supply of coal for six months, which is, in that instance, equal in value to about £10,000.

284. That combinations amongst workmen are productive of serious inconveniences to themselves, is admitted by all parties; and it is equally true, that, in many cases, a successful result does not leave them in as favorable a position as they were previous to the "strike." The little capital they possessed, which ought to have been hoarded with care for days of illness or distress, is exhausted; and frequently, in order to gratify a pride, at the existence of which we cannot but rejoice, even whilst we regret its misdirected energy, they will undergo the severest privations rather than return to work at their former wages. With many of the workmen, unfortunately, during such periods, habits of idleness are formed which it is difficult to eradicate; and, in all those engaged in such occurrences, the kinder feelings of the heart are chilled, and passions are called into action injurious to the happiness of the individual, and destructive of those sentiments of confidence which it is equally the interests of the master-manufacturer and of his workman to maintain. If any of the trade refuse to join in the "strike," the majority too frequently forget, in the excitement of their feelings, the dictates of justice, and endeavor to exert a species of tyranny, which can never be permitted to exist in a free country. In conceding, therefore, to the working classes, that they have a right, if they consider it expedient, to combine for the purpose of procuring higher wages (provided always, that they have completed all their existing contracts,) it ought ever to be kept before their attention, that the same freedom which they claim for themselves they must allow to others, who may have different views of the advantages of combination: and whilst every effort which reason and kindness can dictate should be made to show them the true consequences which will result from their conduct, the strong arm of the law, backed, as in such cases it ever will be, by public opinion, should be instantly and unhesitatingly applied, to prevent them from violating the liberty of a portion of their own, or of any other class of society.

285. Amongst the evils which ultimately fall heavy on the working classes themselves, when, through mistaken views, they attempt to interfere with their employers, in the mode of carrying on their business, may be mentioned the removal of factories to other situations, where the proprietors may be free from the improper control of their men. The removal which took place in consequence of the combinations in Nottinghamshire, of a considerable number of lace frames, to the western counties, has already been mentioned. Other instances have occurred, where the injury has been still greater, by the removal of a portion of the skill and capital of the country to a foreign land. Such was the case at Glasgow, as stated in the fifth Report, respecting artizans und machinery. One of the partners in an extensive cotton factory, disgusted by the unprincipled conduct of the workmen, removed to the state of New-York, where he re-established his machinery, and thus afforded, to rivals already formidable to our trade, at once a pattern of our best machinery, and an example of the most economical modes of employing it.

286. One of the remedies employed by the masters against the occurrence of combinations is to make engagements for long periods with the men, and to arrange them in such a manner that they shall not all terminate together. This has been done in some cases at Sheffield, and also in other places.

287. A system of paying the wages of workmen in articles which they consume has been introduced into some of our manufacturing districts, which has been called the "*truck system*." As in many instances it has almost the effect of a combination of the masters against the men, it is a fit subject for discussion in the present chapter. It should, however, be separated from another system of a very different tendency, which will be first described.

The principal necessaries for the support of a workman and his family are few in number, and are usually purchased by him in small quantities weekly. Upon such quantities, sold by the retail dealer, a large profit is generally made; and if the article is one whose quality, like that of tea, is not readily estimated, then a great additional profit is made by the retail dealer selling an inferior article.

In such circumstances, where the number of workmen living on the same spot is large, it may be thought desirable that they should unite together, and have an agent, to purchase wholesale such articles as tea, sugar, bacon, &c. in most demand, and to retail them out at prices which will just repay their wholesale cost, and the expense of the agent they employ. If this be wholly managed by a committee of workmen, aided perhaps by advice of the master, and if the agent is paid in such a manner as to be interested in procuring good and reasonable articles, it may be a benefit to the workmen; and if the plan succeed in reducing the cost of articles of necessity to the men, it is clearly the interest of the master to encourage it. The master may indeed be enabled to afford them facilities in making their wholesale purchases; but he ought never to be in such a position as to have the least interest in the profit made by the articles sold. The men, on the other hand, who subscribe to set up the shop, ought not, in the slightest degree, to be compelled to make their purchases at it: the goodness and cheapness of the article ought to be their sole inducements.

It may perhaps be objected, that this plan is

only employing a portion of the capital belonging to the workmen in a retail trade; and that, without it, competition amongst small shopkeepers will reduce the articles to nearly the same price. Perhaps there would be less reason to have recourse to it, if the objects of consumption required no *verification*; but combining what has been stated on that subject in the preceding pages of this work, on price, with the present argument, the plan seems liable to no serious objections.

288. The *truck system* is quite different in its effects. The master-manufacturer keeps a retail shop for articles in demand by his men, and either pays their wages in goods, or compels them by direct agreement, or incidentally by unfair means, to expend the whole or a certain part of their wages at his shop. If the manufacturer kept this shop merely for the purpose of securing good articles at fair prices to his workmen, and if he offered no inducement to them to purchase at his shop, except the superior cheapness of his articles, it would certainly be advantageous to the men. But, unfortunately, this is not always the case; and the temptation to the master, in times of depression, to reduce in effect the wages which he pays, (by increasing the price of articles at his shop,) without altering the nominal rate of payment, is frequently too great to be withstood. If the object be solely to procure for his workmen better articles, it would be more effectually accomplished by supplying a small capital, at a moderate rate of interest, and allowing the details of the shop to be conducted by a committee of workmen, in conjunction with his own agent, and allowing the books of the shop to be audited monthly by the men.

289. Wherever the workmen are paid in goods, or are compelled to purchase at the master's shop, the evils are very great; much injustice is done to the men, and much misery results from it. Whatever may have been the intentions of the master in such a case, the real effect is to deceive the workman as to the amount he receives in exchange for his labor. Now, the principles on which the happiness of that class of society depends are sufficiently difficult to be thoroughly understood, even by those who are blessed with far better opportunities of investigating them: and the importance of being acquainted with those which relate to themselves, is of more vital consequence to the workman than to many other classes. It is therefore highly desirable to assist them in comprehending those principles, by rendering all the relations in which they stand to each other, and to their employers, as simple as possible. Workmen should be paid entirely in money; their work should be measured by some unbiassed, some unerring piece of mechanism; the time during which they are employed should be definite, and punctually adhered to. The payments they make to their benefit societies should be fixed on such just principles as not to require extraordinary contributions. In short, the object of all who wish to promote their happiness, should be to give them, in the simplest form, the means of knowing before-hand the sum they are likely to acquire by their labor, and the money they will be obliged to expend for their support: thus putting before them, in the clearest light, the certain result of persevering industry.

290. The cruelty which is inflicted on the workman, by the payment of his wages in goods, is often very severe. The little purchases necessary for the comfort of his wife and children, perhaps the medicines he occasionally requires for them in illness, must all be made through the medium of barter, and he is obliged to waste his time in arranging an exchange, in which the goods which he has been compelled to accept for his labor are invariably taken at a lower price than that at which his master charged them to him. The father of the family, perhaps, writhing under the agonies of the tooth-ache, is obliged to make his hasty bargain with the village surgeon, ere he will remove the cause of his pain; or the disconsolate mother is compelled to sacrifice her depreciated goods in exchange for the last receptacle of her departed offspring. The subjoined evidence from the Report of the Committee of the House of Commons on Frame-Work Knitters' Petitions, shows that these are not exaggerated statements:

"It has been so common in our town to pay goods instead of money, that a number of my neighbors have been obliged to pay articles for articles, to pay sugar for drugs out of the druggist's shop; and others have been obliged to pay sugar for drapery goods, and such things, and exchange in that way numbers of times. I was credibly informed that one person paid half a pound of ten-penny sugar and a penny to have a tooth drawn; and there is a credible neighbor of mine told me, that he had heard that the sexton had been paid for digging a grave with sugar and tea; and before I came off, knowing I had to give evidence upon these things, I asked this friend to inquire of the sexton whether this was a fact: the sexton hesitated for a little time, on account of bringing into discredit the person who paid these goods; however, he said at last, 'I have received these articles repeatedly—I know these things have been paid to a great extent in this way.'"

Machine for cutting Grain.—[The Union, a paper published at Lexington, Vir., gives the subjoined account of an 'important invention.' We should like to have further particulars from Mr. McCormick—the price, &c.—and, if convenient, a drawing.]

We have omitted until now to furnish our agricultural friends with an account of a machine for cutting grain, invented by one of our ingenious and respectable county-men, Mr. Cyrus H. McCormick, and which we witnessed in operation in a field of grain during the late harvest in the neighborhood of this place. A large crowd of citizens were present at the trial of it, and although the machine (it being the first) was not as perfectly made as the plan is susceptible of, yet we believe it gave general satisfaction. We have been furnished with some certificates from several of our intelligent farmers, which we have appended to the following description of the invention.

This machine is so constructed as to leave a long or a short stubble, to operate alike well on tall or short grain. It is drawn by one horse walking by the side of the grain in shafts—just behind is a wheel about 2 feet 3 inches in diameter, which runs on the ground, by which the machinery is operated—having a cog-wheel with 40 cogs screwed to it. There is a small wheel (with 9 cogs) working in that, having another on the same shaft with 28, which works another small one, turning a small crank, behind the wheel, and from this crank the knife receives a vibratory motion. It is about 4½ feet long, with an edge somewhat like that of a sickle (having teeth,) straight and projecting into the grain at right angles to the horse. Behind the knife is an apron 5 or 6 feet long, of thin plank: and this frame connects with and is made fast to the frame which supports the main wheel—having a slide, or small wheel, under it, to support it, say about 5 feet from the main wheel. Along side the apron, by the point of the knife, and extending some distance before the knife, is raised a partition of cloth for the purpose of dividing and keeping separate the cut grain from that which is left standing. Then is a reel, as it is termed, which is about 6 or 7 feet in diameter, and the same length of the knife. This is made by framing arms in each end of a shaft, say 8, the points of which are joined together by pieces, called ribs, parallel to the shafts. The reel is revolved as the machine advances, by a band from the main wheel to one on its shaft, the object of which is to draw the grain back to the knife, which will be done whether straight or tangled, upright or leaning, unless below an angle of 45 deg., and to throw it on the apron. When a sufficient quantity shall have been collected for a sheaf, the hand who attends it draws it off the apron with a rake. The grain is prevented from slipping with the edge of the knife by pieces of wire projecting before it within 1 or 2 inches of each other.

I certify that, having used one of Mr. McCormick's Reaping Machines on my farm, I can assert that the Machine performs well on level and on steep land which is smooth, and that it will cut one acre per hour.

Arch'd. Walker.

July 18, 1833.

I certify that Mr. Cyrus McCormick's Reaping Machine, with a horse, was employed by me in the late harvest, and though I did not work it much, I was satisfied with its work. I tried it for an hour, and calculated what it would do for a day, and found that it would cut in a day about 12 acres. I done so more than once. The present year was unfavorable for the trial, as the wheat was lodged in the field. I was so satisfied that I bought one. This preparation was necessary: the ground must be clean—free from stumps and large stones.

James McDowell.

July 18, 1833.

I have seen Mr. Cyrus H. McCormick's Grain-cutting Machine in operation for two seasons—it cut for me this season. I think it will perform well, where the ground is clear of locks and stumps; and will be a great saving of hand labor, and can be so constructed as to cut much wider than at present, and I think it well worth the attention of the public. I think it will cut about twelve acres per day, by being well attended.

John Weir.

A Wych Elm, in Sir Wm. Baggott's Park, in the county of Staffordshire, as Sir Henry Capell told me, employed two men five days to fell it. It lay forty yards in length, the stool was five yards two feet across, fourteen loads of wood brake in the fall, forty-eight loads in the top, eighty pair of naves were made of it, besides eight thousand six hundred and sixty feet of boards and planks. It cost £10 17s. in sawing, and the whole was conceived to weigh ninety-nine tons. It was felled in 1674.—[Horticultural Register.]

Canada Cotton.—In the New-England Farmer, No. 17, vol. 10, page 131, it is mentioned in an article under the above head, that the lads of Dr. Stewart Chisholm, of Glengary, in Upper Canada, had spun a large quantity of this wild Cotton, and had it woven into cloth. The discovery of the capability of this article being converted into cloth is attributed to the above lads, and it is very probable that they had not known of the experiment being made before. But I find, by reference to the Domestic Encyclopædia, article Swallow Wort, and Milkweed, (other names for the plant,) that the American Editor of that work, Dr. Mease, mentions, on the authority of Dr. Guthrie, (Manchester Memoirs, vol. 5,) that "the plant is cultivated extensively in Germany, and that stuffs have been made of it which vied in lustre with the animal silk."

The botanical name of the plant is *Asclepias Syriaca*. It abounds throughout N. America, but especially in New-York, and further north, near rivers and streams; and I have often wondered that it has not been applied for the purpose of filling bed-spreads, as a substitute for the expensive article, eider-down, for which it would answer admirably; probably it might require quilting. This might be ascertained by experiment: the ingenuity of our women would doubtless find out the best way of using it.

I should suppose that the addition of some cotton to the silk of the plant would facilitate the spinning of it into thread.—[New-England Farmer.]

Superior Composition for Trees. Extract of a letter from the Hon. J. K. Guernsey, of Pittsford, to Wm. Prince and Sons. [From the New-York Farmer.

Recipe.—One part, say one quart, com-

mon tar. Two parts, say two quarts, chalk, finely pulverized, and sifted. Put the tar into an iron kettle; heat it, and whilst hot, stir in the chalk. Care should be taken not to boil it too much, either when first made or when using it, as that will make it too hard and brittle. Should it by accident become so, add tar, till sufficiently soft. When to be used, heat it over either an earthen or iron portable furnace, or fire made on the ground on or near the place where wanted, so as to boil, or to be sufficiently soft, which a little experience will show, and apply it with a small wooden or iron spatula, covering the wood entirely with a thin coat, and leaving no place for the water to get under the composition. It will remain on for years, but may be taken off whenever the bark shall have grown over the wood. It will be found upon examination that there is no dead wood under it. Any one who delights in seeing fine healthy trees, after having once fairly tried the experiment, will never abandon its use. It is particularly valuable for covering the stumps when old trees are headed down. This composition was invented, and an account of it published, by some gentleman, either of England or of Scotland, I think Sir Arthur St. Clair, soon after Forsyth first published the account of his composition for healing wounds in fruit trees, which is very troublesome to make, and still more so to use. It is, probably, known to many horticulturists, but ought to be known to all who cultivate fruit trees; and if you think the publication of these remarks will be useful, they are at your service.

NEW-YORK AMERICAN.

OCTOBER 12, 14, 15, 16, 17, 18—1833.

LITERARY NOTICES.

NORTH AMERICAN REVIEW, No. LXXXI. *Boston:* CHARLES BOWEN.—The opening article of this number is devoted—unworthily certainly as to the individual traveller, if not as to the whole tribe—to exposing the errors, absurdities and misrepresentations of the *Rev. Isaac Fidler's* book. It is not one that called for such grave interposition as that of our oldest Quarterly. As, however, the thing was to be done, we are well pleased to see it done so effectually. We have little taste, we confess, for this perpetual harping on the calumnies of British travellers, and agree very much with the opinion expressed by a correspondent in our paper, that these very calumnies derive their chief venom and effect from the sensibility evinced on our part. The following observations however, referring to the popular effervescence now going on in England, and to the influence—in favor of the greater happiness of the greater number—of American mind, as illustrated in American institutions, are of deeper reach than any thing connected with all the Fidlers that ever travelled:

It will hardly be disputed by intelligent observers at a distance, however some of the immediate actors may still disguise the fact from themselves, that this struggle is at bottom a war between American and British principles of government,—between Representative Democracy, with its equality of personal rights, its universal suffrage and its elective magistracies on the one hand, and the British Constitution with its privileged orders, and established church, its packed House of Commons, and its hereditary King and House of Lords on the other. We say not at present whether the American principles are better or worse in themselves than the British, nor whether it is or is not expedient to attempt to introduce them into England; we only affirm, that these American and British principles are respectively the real watch words of the two contending parties; and that, if the reformers ultimately obtain complete success, the British Constitution will go down, and the banner of pure representative democracy wave in triumph on the towers of Westminster Hall. It is needless to enlarge on this view of the subject, which we have already set forth very fully in two preceding articles, the general strain of which had the fortune to meet the assent of the most intelligent members of both the political parties in England. The present struggle in the mother country considered under this point of the view, is, therefore, a warfare betwen the American and English minds; or rather between the English mind as expanded, developed, invigorated, *reinforced* by exercising itself in untrammelled freedom for more than two centuries in the boundless field of action presented by the New World, and the same mind as modified by being to a certain extent 'cabined, cribbed, confined, bound in,' to the narrower sphere of the little old fast-anchored isle and the British Constitution. This struggle, so considered, is the third in which the same antagonist forces have appeared in hostile array, contending with each other for the ascendancy on different fields, and in different forms; but thus far always with the same success. In the first, which was the War of Independence, the American mind disputed with the British, by physical force, for the possession of its own territory,—in fact, for its existence; for with the loss of its scene of action, the spirit itself must have soon become extinct. In the second, which was the War of 1812, the battle-field was the ocean; and now the struggle, assuming for the present the form of a merely political and moral controversy has been carried home to the head-quarters of the enemy. The comparative strength of the two antagonist forces was pretty well tested in the two former trials, and the opinion on that head, to which their results would naturally lead, is not, from present appearances, very likely to be contradicted by that of the pending one. The American mind appears to have already achieved an entire victory over that of England, even on English ground. The whole British community,—the living, thinking, feeling, moving, acting mass, denominated *the Public* is thoroughly penetrated, imbued, *saturated*,—if we may use the expression,—with American principles. They have already swept down the Test and Corporation acts;—the restraints on the Catholics;—the Chinese monopoly, and above all, the old constitution of the House of Commons.

———Proximus ardet
Ucalegon.———

They are now fast undermining the Bank;—the national debt;—the Church;—the Peerage and the Throne. They already carry all before them in the House of Commons, the real seat of the Government,—occupy the ministerial benches, and thence issue their decrees in the name of the king. The great modern engine for maintaining political influence, which has been well described as a *Fourth Estate*, more important and powerful than the other three put together,—the Press,—is almost wholly with them. The adversary still presents a feeble show of resistance in the House of Lords, and a few journals hang out here and there the grand hailing signs of distress. It is even rumored that the conqueror of Waterloo is buckling on his rusty armor, and dreaming of a new career of domestic conquest. But what can a few gouty old gentlemen effect, against the almost unanimous will of the people? Even Wellington, though backed by the redoutable Christopher North,—and no one can estimate the talent and efficiency of either of these champions of legitimacy more highly than we do,—would find himself as powerless, in such a contest, as the renowned Knight of La Mancha and his squire in their encounter with the windmills. Mr. Fidler may call it infatuation:—possibly it is so:—but whether for good or for evil, the decree has gone forth and it must be executed.

The paper that next attracted our attention is a capital one on the Homeric poems—written with taste and much scholar-like research—in the course of which Coleridge's Introduction to the Classics is liberally praised and quoted. We are sure all readers will unite in admiring the annexed extract from that work:

'I am not one who has grown old in literary retirement, devoted to classical studies with an exclusiveness which might lead to an overweening estimate of these two noble languages, (the Greek and Latin.) Few, I will not say evil, were the days allowed to me for such pursuits; and I was constrained, still young and an unripe scholar, to forego them for the duties of an active and laborious profession. They are now amusements only, however delightful and improving. Far am I from assuming to understand all their riches, all their beauty, or all their power; yet I can profoundly feel their immeasurable superiority to all we call modern; and I would fain think that there are many, even among my readers, who can now, or will hereafter, sympathize with the expression of my ardent admiration.

'Greek,—the shrine of the genius of the old world; as universal as our race, as individual as ourselves; of infinite flexibility, of indefatigable strength, with the complication and distinctness of nature herself; to which nothing was vulgar, from which nothing was excluded; speaking to the ear like Italian, speaking to the mind like English; with words like pictures, with words like the gossamer film of the summer; at once the variety and picturesqueness of Homer, the gloom and intensity of Æschylus; not compressed to the closest by Thucydides, not fathomed to the bottom by Plato, not sounding with all its thunders, nor lit up with all its ardors, even under the Promethean touch of Demosthenes! And Latin,—, the voice of empire and of war, of law and of the state; inferior to its half-parent and rival in the embodying of passion and in the distinguishing of thought, but equal to it in sustaining the measured march of history, and superior to it in the indignant declamation of moral satire; stamped with the mark of an imperial and despotising republic; rigid in its construction, parsimonious in its synonymes; reluctantly yielding to the flowery yoke of Horace, although opening glimpses of Greek-like splendor in the occasional inspirations of Lucretius; proved, indeed, to the uttermost by Cicero, and by *him* found wanting; yet majestic in its barreness, impressive in its conciseness; the true language of History, instinct with the spirit of nations, and not with the passions of individuals; breathing the maxims of the world, and not the tenets of the schools; one and uniform in its air and spirit, whether touched by the stern and haughty Sallust, by the open and discursive Livy, or by the reserved and thoughtful Tacitus.

'These inestimable advantages, which no modern skill can wholly counterpoise, are known and felt by the scholar alone. He has not failed, in the sweet and silent studies of his youth, to drink deep at those sacred fountains of all that is just and beautiful in human language. The thoughts and the words of the master-spirits of Greece and Rome are inseparably blended in his memory; a sense of their marvellous harmonies, their exquisite fitness, their consummate polish, has sunken forever in his heart, and thence throws out light and fragrancy upon the gloom and the annoyances of his maturer years. No avocations of professional labor will make him abandon their wholesome study; in the midst of a thousand cares he will find an hour to recur to his boyish lessons, to re-peruse them in the pleasureable consciousness of old associations, and in the clearness of manly judgment, and to apply them to himself and to the world with superior profit. The more extended his sphere of learning in the literature of modern Europe, the more deeply, though the more wisely, will he reverence that of classical antiquity; and in declining age, he will retire, as it were, within a circle of his school-fellow friends, and end his studies, as he began them, with his Homer, his Horace and his Shakspeare.'

The article on the History of Maine, by Mr. Wm. D. Williamson, and that on Dante, are both well done. That on Maine concludes with a statement, in the nature of a recapitulation of a paper in a former number, of the merits of the boundary question still pending between Maine and New Brunswick. We have only room for one more extract; and that relates to that excellent publication, *Woodbridge's Annals of Education.* At this moment, when the public mind is alive to the importance of both extending and improving common education, there is no work more likely than this to lead opinion in the right channel, or to afford accurate information of what has been done and is doing in other countries as well as our own, in this most important matter. It is thus spoken of by the Reviewer:

The work before us, is, we believe, the only one of the kind in this country, and we regret to learn that the patronage which it has hitherto received is not sufficient to justify its continuance. We sincerely hope, that efforts will immediately be made, with all the necessary vigor and spirit, by the friends of education, throughout the country, for placing it upon a better footing. We consider it entitled, not less

by the manner in which it is conducted, than by the nature of the subject, to the support and encouragement of all who are really interested in the cause. Few persons in the United States unite so many qualifications for carrying on such a work as Mr. Woodbridge; and no one could employ them with a truer and more disinterested zeal for the object. After devoting several years to the business of practical education at home, and making himself known to the public by elementary works of acknowledged value and great popularity, Mr. Woodbridge travelled extensively in Europe, examined on the spot the most approved and celebrated institutions for education;—became acquainted with their directors, and made himself familiar with the literature of the subject. On his return, he brought with him a large collection of the most valuable books and journals, that treat of it, mostly in the German language, and wholly unknown to the public, both here and in England. Provided with this rich stock of materials, and wishing to turn them to the best possible account for the good of the cause, he determined to publish them in a periodical form; and became the proprietor and editor of the *Journal of Education*, which had just before been established in this city; and to which, in order to mark the commencement of a new series, he gave the title of *American Annals of Education and Instruction*. In this form the work has been continued for nearly three years; and in the value and variety of its contents has fully realized the highest expectations that had been formed of it. We should regard its discontinuance as a serious public misfortune.

There are two large octavo volumes now formed by the numbers heretofore published of this magazine, and in no way possibly could more substantial aid be afforded to Mr. Woodbridge's meritorious efforts, or more just notions acquired within the same limits, than by purchasing these two volumes, and continuing the subscription to it for the future. We are sure no one interested in education would regret the expenditure occasioned by such purchase and subscription.

Polynesian Researches, Vols. III and IV; by Wm. Ellis. New York: J. & J. Harper.—This publication, now completed, is creditable in every way to the press of the Messrs. Harpers. It was well selected, as a work fitted to interest all classes of readers, and it is got up in excellent style.

Travels in America; by Geo. Fibbleton, Esq., Ex-Barber to the King of Great Britain. New York: Wm. Pearson.—This is intended for a satire on the misrepresentations, hasty judgments, and sweeping conclusions of British travellers. The idea is not a bad one; but in carrying it out, there is so much exaggeration as to defeat the object in view. There are a few good hits, but as a whole it lacks wit and invention.

History of Priestcraft in all Ages and Nations; by Wm. Howitt. Edited by a clergyman of New York, and *reprinted for the booksellers!*—Such is the title-page of this work—"reprinted for the booksellers!" as though in this land, too, of entire freedom from all religious establishments, there were yet so much of the spirit of the craft among us, as to render it hazardous to the interests of a publisher to be known as connected with a book attacking and exposing the vices and crimes of priests, vested with the authority of law to force or punish converts. The writer is the Quaker poet Howitt. The object is avowed to be, to aid "in the grand modern employment, to turn the world upside down;" and it is manifestly written under a still smarting sense of the wrong and insult heaped upon the Quakers, in the origin of that sect, and of the enormities of the system of the English Hierarchy which compels all faiths to contribute to swell its already overgrown temporalities. It may too be allowed, without seeming to enter upon an indiscriminate crusade against all established religions and their ministers, that there is enough in the past history of the persecutions of the Romish and English church, to rouse the sensibilities and excite the resentments of even lamb-like natures. But in drawing a fair conclusion, the benefits conferred in various ways by the Priesthood—the virtues, the devotedness, the learning, and the abilities, which have illustrated the lives and career of so many of its members in all countries—should be taken into the account; and though the decision then might, as we think it should, be against any priesthood invested with temporal authority, it would at the same time be found that the institution has not been one, all of evil, as this book would establish. Mr. Howitt has brought to the research much learning, and certainly the freest and boldest spirit of inquiry. It is a plea against all forms, ceremonies and establishments, connected with church worship, and is of course ex-parte; and this should be borne in mind by those who read it.

The Right Moral Influences of Liberal Studies: a Discourse delivered at the Annual Commencement of Geneva College, Aug. 7th, 1833, at the request of the Alpha Phi Delta and Englossian Societies, by Gulian C. Verplanck: New York, J. & J. Harper; 12mo. pp. 47.—Like almost every thing else from the same accomplished pen, this Discourse is distinguished by a liberal and elevated tone of thinking, by scholarlike illustration conveyed in a pure and polished style, and by an immediate moral and national tendency. We have marked a number of passages for extracts which speak for themselves; but the reader, to appreciate their force and application, should read the context to which. The following striking quotations will prove a stronger recommendation than any thing we can here add: *

The creative genius of the most original of the writers of our own day, even of those who are commonly thought self-taught men, must have borrowed the groundwork of its inventions or speculations from past events, and doubtless owed much of its elevation, excitement, and splendour, to the poets, authors, or orators of former ages.

The inspiration of the master-spirits of other times, glides like the electric fluid from man to man, until its flame lights up in some distant but congenial breast, where, probably, their own words and thoughts have never directly reached. Burns, for instance, original and fresh from nature's mint, as his glowing lay confessedly is, could scarcely have been what he was, had Homer and Horace never lived,—had not the common mind of his age and nation and thus, incidentally, his own, been influenced and modified, been exalted and refined, by the warlike and trumpet tongued muse of Homer and the laughing wisdom of Horace. Now the poems of Homer and Horace are but the product and the proof of a fore-gone and multitudinous activity of thought, passion, and action, in successive generations of men who were once interested and agitated by plans, schemes, and contests, by emotions, rivalries, strifes, ambition, and pleasures, which have long been stilled for ever; like the waves that in those days broke over the rocks of the Egean or foamed in the stormy Adriatic. Thus the fathers of poetry and eloquence owed the education of their minds and drew the aliment of their thoughts from men and deeds now hidden in the dark domains of that mysterious and unrelenting Past, where, in the solemn strains of one of the poets of our own land;

> Far in thy realms withdrawn
> Old empires sit in sullenness and gloom,
> And glorious ages gone
> Lie deep within the shadow of thy womb.
> In thy abysses hide
> Beauty and excellence unknown. To the
> Earth's wonder and her pride
> Are gathered, as the waters to the sea.
> Full many a mighty name
> Lurks in thy depths, unuttered, unrevered,
> With thee are silent Fame,
> Forgotten arts and wisdom disappeared.
> * * * * * *

The object of all scientific inquiry is Truth. The severe analysis of Reason leads us step by step to the laws of universal and necessary Truth. Physical observation and experiment enable the Philosopher to infer the general truth of nature from millions of individul instances. Virtue, and Right, and Duty, are the great objects of moral and metaphysical science and of legal ethics; yet these are but other names for moral Truth. Nay, that literature which lies within the immediate domain of the imagination, has its origin and the source of its charm in Truth alone. It is from nature only that the poet, the author, the orator, who pleases or who rules widely and long, must obtain the materials of his invention, the airy forms of his fancy and the torrent-like excitement of his impassioned fervour. Human sympathy is the source of their charms, their interest, and their control; but that sympathy can be awakened only by the truth of feeling and the reflection of nature. The study of truth then, not as modified by accident, not as limited and narrowed in particular and individual instances, but of Truth, either universal and general, is the business of the scholar. Can then the noblest exercise of the reason, the most excellent gift of heaven, be designed for any but worthy uses? Can man's misuse, make vain the precious gift and turn it into a curse?

The sacred light of day which rises sweet and pleasant to mortals, chasing away darkness and unhealthy vapours, and pouring floods of warmth and gladness upon the earth, may aid the wicked in their craft, gild the tyrant's pomp, or beam brightly upon fields of carnage. Still its ethereal stream flows on pure and bounteous, shining upon the evil and the good; undiminished and untainted by earth's ingratitude or corruption. Even so it is with the holier light of Truth.

Philosophical Conversations; by Fred. C. Bakewell; 1 vol.: Carter & Hendee, Boston.—These Conversations explain in a familiar way the causes of many daily occurring natural phenomena, which from the familiarity pass unregarded, or are deemed too abstruse to be examined by persons not particularly devoted to scientific inquiries. The subjects, though occasionally naturally suggested by each other in something like methodical order, and consequently so treated, are selected from those only which come within the range of daily observation; and are set forth in the best manner to excite a taste for scientific inquiry, while they impress themselves forcibly upon the mind of the student.

The work, we should think, would prove both useful and agreeable to the young student of nature, especially as the present edition is furnished with notes and questions for review, which will tend much to facilitate and systematize the information conveyed. *

New Publications.—We are happy to close our notices of this week, (though necessarily omitting some till another day,) with the promise of one of the most excellent and approved undertakings in the publishing way, that has claimed public attention in a long time. We allude to the

Library of Standard Literature, now in course of publication, by Mr. George Dearborn of this city. The works of Edmund Burke, in three volumes, with engravings and a memoir, are, we presume, from the elegant specimen we have seen, already finished, the first that will appear. Among those that are to follow, we find enumerated the works of Mackenzie, the poems of Dryden, Lady Montague's works, the writings of Crabbe, and Milton's poetical and prose works, &c.; forming one of the most valuable collections of the best works in British literature that could be chosen. We like the idea much—in the prevailing rage for getting up new "Libraries" of treatises upon every subject, written to order in a given time—of returning to those old authors, who, having stood the test of opinion through all the fluctuations of taste and fashion, like ancient gems, only require a new setting to make their superior value acknowledged everywhere. Mr. Dearborn,—who, we have before had occasion to say, when noticing the editions of Byron, Johnson, and other elegant works from his press, is one of the most tasteful publishers in this country,—is the one of all others to have entered upon the present undertaking. His previous publications are amongst the few issued in New York, which, for typography and correctness, can compete with the Boston press; and from the specimen of printing and paper in Burke's works, above alluded to, we are confident that the extensive undertaking now in hand, will be executed as it ought. Though not altogether agreeing with that Hibernian friend of the palette, who thought that the frame is the *heart* of the picture, it must be considered that to one who purchases books to be preserved in a library after their first reading, it is no little recommendation to have them in a dress worthy of the thoughts they perpetuate. *

SUMMARY.

Joseph Lancaster.—This individual—from whom the Lancasterian scheme of instruction takes it name—is now in poverty in this city, after some [thirty-five] years spent in efforts to improve the education of the rising generations. To him, and to the impulse which his efforts gave to the public mind and public purse in the cause of education, hundreds of thousands, nay millions, owe it, that they are not still degraded by ignorance; and yet he, the benefactor of so many, is in want. On this head we can say nothing so strongly, as the annexed paragraph from a recent number of the New Monthly Magazine:

The Reward of Merit.—The following paragraph has (as the phrase is) gone the round of the newspapers:—

"Joseph Lancaster, the celebrated founder of the new system of education, is residing in poverty at Montreal, in Canada, labouring for his living, and the maintainance of a wife and family."

Here, indeed, is an illustration of the march of intellect, for in this case intellect has been obliged to *march* to Canada, because it found no reward in its native country. It has been, indeed, truly said that "we pay least of all to those who instruct us," since the founder of a system of education is obliged to resort to manual labour abroad, because at home he did not meet with adequate encouragement. An Italian fiddler who plays upon one string, (so well is the English character known to foreigners,) visits our country with the professed object of taking away away from it so many thousand pounds. He observes, "I know John Bull has got them for me," and the result proves him to be right. Had Mr. Lancaster been able to play the overture to "Tancredi" upon a single string of a piano, or to stand upon his little finger for a quarter of an hour, without fatigue, he might have counted on making a rapid fortune at home, the only drawback then being the fact of his being an Englishman. Could he contrive, instead of consulting his intellect, to *stand upon his head*, in the literal sense of the words, he would be more likely to prosper than he is at present, with no other claims than that of being the founder of a system for the instruction of his species.

An annuity is raising in England which will, it is hoped and believed, provide for the future wants and comforts of Joseph Lancaster; but mean time he and his family must live; and to that end he needs the aid of those among whom he is now resident. An inconsiderable sum will enable him to publish a book containing his latest views and plans of Education; from the sale of which he hopes to derive the means of existence till the projected annuity becomes available. Such a sum, he cannot fail, we are sure, to obtain.

Dr. Dekay, in his "Sketches of Turkey," bears the following testimony to the generous philanthropy of the American and other Missionaries:

The efforts of the physicians at Smyrna during the fearful season of cholera were nobly seconded by many of the foreign missionaries. Among these I heard the labors of Mr. Brewer every where spoken of in terms of admiration. Furnished with the requisite remedies, he scoured every lane and alley, proclaiming his benevolent intentions, and distributing even food to the needy. Let history, when it repeats the story of the good bishop of Marseilles, who, after all, was merely a soldier at his post, also record the benevolence and the contempt of danger and of death evinced by an American stranger within the pestilential walls of Smyrna.

The New Orleans Bee of the 27th ultimo says, "whether the epidemic is abating or not, we cannot tell, as we have no official report from our Board of Health; but the certainty is that the number of deaths daily diminishes." The number of interments on the 25th was thirty, and on the 26th, twenty-two.

Heavy Loss.—We learn from the Maysville Eagle of the 26th ult. that on the 16th of September, a flat boat loaded with merchandize, ran foul of a snag, about twenty miles above Maysville, and sunk in forty or fifty minutes, in about five feet water. The greater part of the cargo, consisting of dry goods, groceries, hardware, books, stationery, &c. and variously estimated at from sixty to seventy-five thousand dollars, could not be removed until after the boat sunk, and were thoroughly immersed in the water. They were landed at Maysville, thoroughly dried and re-packed. The loss is estimated at 50 per cent. upon cost. It was not known what amount of insurance, if any, was effected upon them.

Mr. Editor: I had the pleasure of seeing the *Portrait* of Judge Howell, as mentioned in yesterday's *American*, while painting at Messrs. *Waldo & Jewett's* studio, which I learn is placed in the Court Room in Canandaigua as the foundation of a Legal Portrait Gallery—an idea which confers much credit on the western Bar of our State. We recommend them also to add to their collection those of *Oliver Phelps* and *Nathl. Gorham*, who were the purchasers and pioneers of that county, in 1787, at *eight cents!* per acre. Amicus.

The engineer on board the St. George has just applied a very useful piece of machinery for supplying water to the boilers of that boat, when the engines are not at work, at any time that there is steam in the boilers. Hitherto, when the engines have been stopped, a portion of steam has been blown off, and the water supplied by means of a manual forcing pump. Now, by the addition of a small cylinder and piston, with a pipe connected with the main steam channel of the large engine, the steam usually discharged by the safety valve is usefully expended in keeping up the required supply of water, thus saving a waste of labor, and securing at the same time a more certain and steady supply of water than it generally otherwise furnished. If this experiment is successful, as the machinery is simple, and requires but a small space, it will, doubtless, be pretty generally adopted by the boats on the river.—[Montreal Daily Adv.]

We copy the following from a Buffalo paper:—

Loss of the Steam Boat George Washington.—Capt. Walker.—This new and splendid boat went ashore in the gale on Wednesday last, about ten o'clock in the morning, on the beach two miles above Long Point, on the Canada side of Lake Erie. We learn from some of the passengers that after riding at anchor for some hours, the gale increasing and the engines from the strain of the ship becoming unmanageable, it was determined for the safety of the passengers and crew, amounting to about seventy souls, to run in shore, where she now lies, twenty rods from the waters edge, broken in two. All the individuals on board were saved, except one, a Mr. Millerd of Lodi, Seneca county, who, notwithstanding the expostulations of Capt. Walker, ventured to swim to the shore; he sunk a short distance from the vessel.—The Washington was not insured. Loss about $60,000. She belonged to the Huron Steam Boat Company. The stock was owned in this city, Detroit, Huron, Ohio, &c.

[*From the New Bedford Mercury.*]

To Navigators.—It appears by an advertisement in the Boston papers, signed by the President and Secretary of the Boston Marine Society, that a new edition of Norris' Chart of the North American Coast, published in London, May 1, 1832 is materially incorrect. Some of the principal head-lands in Boston Bay and vicinity as laid down in said Chart, are more than thirty miles from their true position according to the latest edition of Blunt's Tables and Chart of 1832, which is deemed the best authority now in print. The longitudes of a few of the most prominent points, as laid down in the two charts referred to, are subjoined:—

	Blunt's,	*Eng. Ch't,*	*Errors of Eng. Chart.*
Block Island Light,	71 37	71 23	14 miles.
Gay Head,	70 52	70 27	25 "
Sandy P't, Nantucket,	70 03	66 26	36 "
Chatham,	69 57	69 17	40 "
Cape Cod,	70 04	69 32	32 "
Boston,	70 54	70 20	34 "
Thatcher's Island,	70 34	70 03	31 "
Mount Desert,	68 07	67 59	8 "

The latitudes of the above places by the English Chart are more correct, the greatest variation from Blunt's being only three miles.

The ninth ascension of Mr. Durant from Baltimore was made successfully on Monday last. After being in the air an hour and 47 minutes in which time he travelled 23 miles, descending occasionally so near the earth as to converse with persons on it, and then rising again, this skilful Aeronaut landed, if we may so express it, on board the steam boat Independence in the Chesapeak bay, over which he had been sometime hovering, and secured his baloon and its accessories without wet or danger of any kind on the deck of the boat.

FOREIGN INTELLIGENCE.

Compendium of Varieties.

[*From late foreign papers received at the office of the New York American.*]

Great interest, it is said, is making to obtain the new appointments of magistrates in the West India islands; though the smallness of the salary (£300 a year) does not seem to hold out any very tempting allurement.—Considerable surprize was excited among the middle orders in the neighbourhood of Chichester, by the spectacle of ladies of high rank (visiters at the Goodwood races) frequenting the E. O. booths on the course! We adverted to the same fact in noticing the Ascot races of last year. What may have been originally attempted as a frolic appears to have become a confirmed habit.—A portion of the City capitalists, and that an important one, is at this moment deeply engaged in speculation in the articles of indigo, sugar, pepper, coffee, wool, and cotton, by which their prices have been very materially enhanced, in some cases equivalent to a rise of fifty per cent. or more.—A railway communication is proposed between Edinburgh and Leith, the cost of which is estimated at £120,000; the estimate of revenue £28,000 a year, or twenty per cent. on capital sunk.—By the new stamp act, every dealer in stamp is to be made subject to domiciliary visits, and to giving bond with two sureties, for such amount as the Commissioner of Stamps requires, with a view of improving the Stamp revenue.—The heir to Sir Harry Goodricke's Irish estates, exceeding £20,000 a year, derived from his late uncle, Lord Clermont, is a minor, eldest son of the late Chichester Fortescue, Esq., formerly Lieutenant-Colonel of the Louth Militia.—At one of the London Police-offices, a simple looking countryman complained that a woman whom he had lately married under the belief that she was a maiden, had brought him home five children, born at Devizes, in Wiltshire, and "when he remonstrated, she gave him a blow on the nose." The magistrate said he must apply to the authorities at Devizes.—The gas lamps of London alone consume not less than 38,000 chaldrons of coals in the year. The gas pipes of the metropolis were, in 1830, of the total length of upwards of 1000 miles.—The Earl of Dundonald (Lord Cochrane) is among the arrivals in the Isle of Wight. It is said the object of the noble earl's visit is to give instructions for the building of a steam-vessel on a new principle.—Thursday morning, about 7 o'clock, as three boys, named Mullins, Wason, and Mills, the sons of fishermen, residing in Floodgate street, Greenwich, were proceeding down the Thames in a boat, they were run down opposite Bugsby's Marshes, Blackwall-reach, by a lighter that had escaped from its moorings, and all three perished.—It has been stated that a noble duke (Wellington?) intends to break up his establishment and retire to the Continent. The noble duke alluded to has for some months past reduced his domestic establishment to the lowest scale, retaining a single attendant. Rumor states the same noble duke to be about to reenter the matrimonial state, and the lady named as the object of the noble duke's attraction has disposed of her town residence.—In the year 1732, the revenue of the Society for Promoting Christian Knowledge was about £6000, the number of its members 460, and the issue of its publications about 16,000. In the year 1832 the revenue of the society amounted to £66,000, the members to 15,000, and its publications to nearly a million and three-quarters. Thus, in the course of a century, its operations have increased a hundred fold.—The celebrated race-horse Birmingham, formerly the property of Mr. Beardsworth, and afterwards of the late Thomas Scarisbrick, Esq., of Scarisbrick-hall, has been purchased by private contract, by General Lounin, for the purpose of being sent to Russia. The price was £1,000.—Sir Francis Burdett gave a grand entertainment lately to the members of the Bonaparte family, at his mansion in the Green Park.—The rumour that Mr. O'Connell is about to take office is gaining ground, although denied by his friends. The Conservatives, however, maintain that he is, and that Lord Anglesey and he are making up their old quarrels.—Mr. John Sheehan, one of the proprietors of the *Comet* weekly paper, was convicted last spring of a libel on the clergy, and sentenced to 12 months' imprisonment in Kilmainham, has been liberated by order of Government. This act of clemency has been accompanied by a curious condition, namely, that Mr. Sheehan shall not appear in the city of Dublin until the 11th of January next. This prohibition has puzzled the *quids*.—By a return made to Parliament, it appears that Catholics have, since 1829, been admitted to the following Irish corporations: Athlone, Athy, Callan, Cashel,

Wexford, and Youghal. No Roman Catholics have been admitted to the other corporations.—The Russian Consul General, Mr. Banckhausen, left town on Saturday week for St. Petersburgh. He is said to have been the bearer of important despatches for the Russian Government.—A loan of £4,000,000 sterling is understood to have been lately negotiated for the Austrian Government, by an eminent capitalist in the city. The terms have not yet transpired, nor is it, we believe, intended to bring it into market at present.—The Temps states that the number of young men who have already given their names to undertake the pilgrimage to Pragne amounts to 4000, all of whom, it is said, have engaged to mount the white cockade as soon as they have passed the frontier of France.—The German papers state, that the King of Naples has determined to dissolve the monasterial establishments in Sicily, and to sequestrate their property to the use of the state, giving the ecclesiastics who shall be sufferers by the transaction an indemnity in the shape of annual pensions. The Sovereign Pontiff objects to this interference with the rights of the Church, as an act of disobedience to his authority. The King of Naples is said to plead in vindication of his own proceeding an ancient convention between the two Courts, by which the King is enabled to alienate eclesiastical property in Sicily in time of need, with the special permission of the Holy See.—It is now confessed, that the orders given to reinforce the Austrian troops in the Tyrol are not to be attributed merely to local circumstances, but that the present state of Switzerland has partly given occasion to them. Probably a corps of Austrian troops will be stationed on the Swiss frontiers.—The Sultan is now said to be making preparations for attacking, perhaps in order to retake, the places which he had ceded to Ibrahim Pacha, who, upon his side, is not inactive in his measures of defence.—The latest accounts received in Paris from Algiers are of a very melancholy character. It appears that the French have had some sharp work with the Arabs at Oran.—The Duchess de Berri arrived at Rome on the 13th instant, and it is said that her husband had been appointed Major Domo by the King of Naples.—The meeting of the Emperor of Austria and King of Prussia took place at Toeplitz on the 16th instant; but whether any consequences are likely to result from it must be left to that class of politicians who only speculate the more boldly for the want of data to go upon.—The King of the French, accompanied by his sons the Duc de Nemours and the Prince de Joinville, and attended by the Minister of Marine and a brilliant staff, left St. Cloud for Cherbourg on Monday.—All the private letters lately received from Spain (without exception) speak of a sanguinary civil war as inevitable in that country on the death of Ferdinand. The only hope that remained to qualify that melancholy anticipation rested on the success of the cause of Donna Maria in Portugal before the demise of King Ferdinand; an event which would deprive the absolute party in Spain of the support of Don Miguel, to which they looked with confidence.—Letters received through Italy state, that the positive evacuation of Greece by the French had commenced on the 3th ult.—The departure of her Majesty Donna Maria from the French capital for Havre took took place at ten o'clock in the forenoon of Tuesday last. Her Majesty was accompanied by the Duchess of Braganza and the Marquis de Loule, and attended by the Marquis de Rezende, and indeed every individual of her suite and household.—Considerable agitation still exists in Germany. The senate of Frankfort held an extraordinary sitting on the 22d instant, in consequence of an intimation from the German Diet, that it was expedient that the seat of Government should be garrisoned by federal troops, and that, in consequence, 1,000 additional Austrian soldiers would be quartered at Sachenhausen, and 1,000 Prussian troops at Frankfort. The Senate, having no alternative, submitted to the decree of the Diet and directed that the old convent of the Dominicans should be fitted up as a barrack for those soldiers.—It is said that the French Government feels indignant at the proposed marriage of Queen Donna Maria and the Duke of Leuchtenberg, son of the late Eugene Beauharnois.—Order appears to be pretty generally re-established in Switzerland.—Mr. Charles Kemble and Miss Fanny Kemble realized upwards of £11,000 the first season for their theatrical exertions in the United States. They have now commenced a second season, and are not expected in England until next year.—By advices from Peru, we learn that Col. J. O'Brien had quitted Lima, in order to explore the extensive Indian country between Cusco and La Paz, which has not been travelled over by any European since the conquest of it by Pizarro.—The Head money, or pecuniary gratuity Drogheda, Galway, Kells, Kilbeggan, Kilsane, Limerick, Monaghan, Tuam, Waterford, Wicklow, awarded for captured slaves, during 1827, was £61,548. 10s.; 1828, £29,273. 14s. 3d.; 1829, £66,047. 10s.; 1830, £74,239. 18s. 1d.; 1831, £17,683. 15s.; 1832, £20,242. 10s.; and 5th January, 1833, to the 5th July, 1833. £5,837. 10., making a total of £274,973 7s. 4d.—Mrs. C. Kemble is in Paris, superintending the education of her daughter, a lady of great promise in a department of the theatrical profession quite distinct from the line adopted with so much success by her sister.—The *Frankfort Journal* says, "We learn, by a letter from Chelthain, in Saxony, that, on the 21st instant, a flock of between 600 and 800 storks alighted near that town, and afterwards resumed their flight towards the south. As the migration of these birds uniformly takes place in the autumn, this early passage must be considered as arising from some unusual natural cause."—We can state, from the most undoubted authority, that the King of France will sanction the formation of a railway from Paris to Dieppe, with a branch to Havre, on the French side, so as to cause a more rapid communication with London, by way of Shoreham. The English Engineer, Mr. Vignolles, has personally received the assurances of the support of the French King and the royal family of France. M. Thiers, the celebrated French Engineer, will immediately accompany Mr. Vignolles to England, to survey our railroads, for the promotion of the plan, which is confidently considered as likely to be successful.—A new writing-paper has just been introduced, which by means of a chemical preparation it undergoes, has the singular property of becoming perfectly black whenever it is touched with any fluid. It is only necessary, therefore, to write on this paper with a pen dipped in clean water, to produce a distinct and legible communication.—The state of Zacatecas, in South America, has passed a law, making it capital to oppose the actual form of Government, by speech or writing, or the individual independence of the States!—On the 11th of last month there was a fall of snow at Rottenham, near Nuremburg.—Last week an old servant of King Leopold, who had been his coachman for 16 years, walked out at a window whilst in a state of somnambulism, and was killed on the spot.—A band of 27 thieves have been detected at Naples, consisting principally of coachmen and grooms belonging to wealthy foreign families.—In the report of the commissioners for auditing Irish accounts, just printed there is the following item in the Belfast Ballast-office return: "*Pumping water* out of *dry* docks £89."—Sir Andrew Agnew was at the Opera recently. A person, in a waggish mood, shouted loudly and lustily, it being *One* on the Sunday morning, "*St. Andrew Agnew's carriage stops the way!*"—"How is this?" said O'Connell to one of the tail on a late occasion, when even his relatives would not vote with him, "How is this? did you not promise me if I had you returned you would vote with me through '*thick and thin*?'" "Be aisy, be aisy, and so I did," replied the honest patlander; "but you did not tell me that it was to be *all thick!*"

The Emperor of Russia has appointed his son, the Grand Duke Constantine, aged six years, Grand Admiral of the Empire, and presented him as such to the fleet assembled at Cronstadt.

Donna Maria was expected in England, having been invited to Windsor by the King. She was at Havre at the last dates, and according to a paper of that place "the Duke of Leuchtenberg had repaired thither, incognito, for the purpose of meeting his sister, the Duchess of Braganza, and the Queen Donna Maria. Intimation of his being there having been received by the Sub-Prefect, an order was sent to the Duke to the effect that he should quit Havre immediately."

From Carthagena, via Martinique.—The French ship *Minerva*, Capt. L'ami, arrived at Charleston on the 6th instant, in 16 days from Fort Royal, (Martinique.) Capt. L informs the editors of the Courier that a French government schr. arrived at Fort Royal the day the *Minerva* left, in 30 days from Carthagena, bringing information that a disturbance had occurred in that place, in which most of the English residents there had been massacred. The French Consul having interfered to quell the riot, was taken up and confined in the jail, and afterwards killed by the rioters. The Governor of Martinique had despatched two French frigates for the purpose of protecting the foreign inhabitants of Carthagena.

Liberia.—To illustrate the business of the Colony, we make the following extracts from a late No. of the Liberia Herald:

Commission Business.—The subscriber respectfully informs his friends and the public, that he has built on Water street, No. 320, a large Stone Ware House, convenient to the water's edge, where he intends carrying on the Commission Business; and is now ready to accept of any vessel or vessels, whose masters wish to have their business done.—The said house is quite convenient for storing Tobacco, Flour, Beef, Pork, Lard, Butter, Molassee, Sugar, &c. And on the upper floor, Dry Goods and Crockery Ware. And withal is a licensed Auctioneer. Henry S. Nelson.

Monrovia, August 5th, 1833.

Here is an other, and we are glad to see no *ardent spirit* mentioned either in this or the price current:

Dailey & Russwurm offer for sale the cargo of the schooner William Tompkins, from Norfolk, Virginia, consisting of

23 hhds. dark leaf Tobacco, of superior quality;
350 bbls. Provisions, consisting of Mess Prime Pork, Beef, do. Mackerel, No. 2; Shad and Herrings and Lard;
125 bbls. Superfine Family Flour;
199 Springfield Hams;
425 kegs assorted Nails;
200 boxes Yellow Soap.

Monrovia, Liberia, August 5th, 1833.

The Herald always contains notices like the following:

The fast sailing coppered and copper-fastened schr. Rebecca, Hall, master, will sail alternately from this port for Windward and Leeward, and will take freight on moderate terms; for which, or passage, apply to Dailey & Russwurm.

One more must suffice:

General Orders.—Commanders of the different Corps of Monrovia, will cause their companies to parade on the Saturday preceding the second Monday in August, in Broad street, precisely at 9 o'clock, A. M.

N. B. A battalion Court Martial will be held at the Town House, at 10 o'clock, A. M. on the second Monday in August. By order of the Major.

Jacob W. Prout, A. M. F. L.

The Keeper of the Colonial Hotel advertises, we see, that one of his rooms is used for a Dry Goods Store; and that he has two Blacksmith's Forges and a Cabinet-making business, in operation, besides acting as merchant, tailor, lumber merchant, and licensed auctioneer. Well done, Randolph Cooper! Enough certainly for one man.—[Boston Journal.]

MISCELLANY.

Travelling in the olden Time.—The following curious advertisement is extracted from the Caledonian Mercury of July 10, 1721: "Whereas it has been reported that the stage coach (from Edinburgh) to London hath not performed in nine days, as was promised in their bills. Now this may satisfie, that the badness of the weather and roads beat down the horses of a sudden, which could not be prevented by the undertaker; but for the future will be punctually performed in nine days, at least till Michaelmas; one of the owners being now down to put in fresh horses."

Effects of Electricity on Plants.—Many experiments in electrifying plants have been made by M. Nuneberg and the Abbe Nollet. According to the reports of the former, most of them increased in height, and flourished far beyond others not electrified. Some bulbous roots, he says, which had been frequently electrified, grew eighty-two lines and a half, whilst others of the same species, not electrified, grew only fifty-two lines and two-thirds. But the report of Abbe Nollet is not so favorable; he found that the plants electrified by him made vigorous shoots at first, but he thought the perspiration being, by these means, too much increased, their juices were too quickly dissipated. Hence the plants became gradually weaker, and at length prematurely perished. We yield due credit to both these reports, though they seem in some measure incompatible with each other. It is possible the experiments were made on various plants, at different seasons.—[Horticultural Register.]

A Curiosity.—A citizen of Portsmouth brought to our office yesterday, a silver coin, which he informed us was brought up from a depth of 26 feet below the surface of the earth, in the process of boring for water, on High street. It was about the size of an English shilling, but of an oval shape. Our antiquraian researches being extremely limited, we are unable to identify it with the age or country in which it was coined. The effigies are prominent and distinct, representing on one side a head, having an uncommon elongation of the *occiput*, which supports a rim with five points projecting upwards, perhaps intended for a crown. The profile of the face might pass for that of Black Hawk, without much help of the imagination, and the chin as well as the head is bare of hair. The inscription around theedge is too indistinct to make any thing of it. The letters, however, are Roman, and the most legible part of the inscription presents this appearance:—MILIPPVS; the rest of the letters are entirely undefinable. On the reverse side is the full length figure of a warrior, or hunter, bare-headed, habited in a sort of tunic, holding a spear, the point of which is elevated to a level with his head, while the handle is grasped by the right hand which is thrown considerably back for the purpose, and the left leg advanced, with a small curvature of the knee, as if coming to the charge. This figure is also surrounded by an inscription, but the letters are entirely illegible. How this memento of remote time found its way to the spot whence it was thus accidentally brought to light, it is not for us to say; the probability that it came there through the agency of any of the present race of inhabitants of the country, is destroyed by the fact that no excavation has ever been made within the town to so great a depth, since it was first settled. We must therefore suppose that it is a relic of a people inhabiting this country of whom the world now knows nothing, or that it was swept there by the alluvial formation of the earth, where it was found, among the wrecks and treasures which in all time have been "in the deep bosom of the ocean buried." We leave it to the geologist and the numismatologists to solve the problem."

In this age, and this country of universal elementary instruction, new facilities at once, and new inducements are constantly given for the extensive diffusion of good knowledge. Much of practical science, physical, moral and political, to be useful at all must be made the common property of the people.—It must, as it were, be taken up into the system of the body politic, and mix with its whole circulation. The means are at our command. Through well-devised common school systems, through our numerous and extensively circulating journals, through conversation, domestic instruction, public discourses, lectures, books of education, and popular reading, the laws and conclusions of science, and not unfrequently its processes and reasonings, may be made familiar to all classes. Those doctrines and opinions that in the last generation were admitted slowly and cautiously, perhaps doubtingly, by some few learned speculative men on the conviction of their understandings, in opposition to the strong bias of their early impressions, can now be made elementary propositions, familiar maxims, household words to a whole people. This is to be accomplished almost entirely by the agency of well-instructed men scattered thro'-out society, who according to their several stations, occupations and capacities, act as conductors of knowledge, leading it off from its accumulated stores and spreading and pouring it through the general mind of ten thousand channels.

Here let me remark, that the fitness of well-governed colleges and higher seminaries of learning to promote this most important end, is the strong and unanswerable republican argument for their patronage in a free state. They are incorporated and endowed, not for the sake of the comparatively very few who can be taught there, but in the design and hope, that those few may be the instruments of good and the means of instruction to many, either by example or by actual teaching, writing or speaking; thus making the most finished education, if not in itself, yet in its effects, uses and consequences, as broad and general as the light of heaven. Should that intent prove abortive, should these instructions minister only to learned pride, conducing nothing to the common good or the elevation and illumination of the public mind—if they become mere reservoirs of stagnant learning, instead of fresh springing fountains of living knowledge, they will disappoint the hopes of their truest friends and are no longer worthy the countenance and aid of a free people.—[Verplanck's Discourse at the Annual Commencement of Geneva College.]

Travelling in England a century ago.—In December, 1703, Charles III., King of Spain, slept at Petworth on his way from Portsmouth to Windsor, and Prince George of Denmark went to meet him there by desire of the Queen. The distance from Windsor to Petworth is about forty miles. In the relation of the journey given by one of the Prince's atttendants, he states—"We set out at six in the morning by torch light, to go to Petworth. and did not get out of the coaches (save only when we were overturned or stuck fast in the mire) till we arrived at our journey's end. 'Twas a hard service for the Prince to sit fourteen hours in the coach without eating any thing, and passing through the worst way I ever saw in my life. We were thrown but once indeed in going, but our coach which was the leading one, and his Highness's body coach would have suffered very much, if the nimble boors of Sussex had not frequently poised it, or supported it with their shoulders from Godalming almost to Petworth. and the nearer we approached the Duke's house the more inaccessible it seemed to be. The last 9 miles of the way cost us 6 hours time to conquer them; and indeed we had never done it, if our good master had not several times lent us a pair of horses out of his own coach, whereby we were enabled to trace out the way for him." Afterwards writing of his departure on the following day from Petworth to Guildford, and thence to Windsor, he says—"I saw him (the Prince) no more, till I found him at supper at Windsor; for there we were overturned (as we had been once before the same morning) and broke our coach; my lord Delaware had the same fate, and so had several others."—[Annals of Queen Anne, Vol. ii, Appendix No. 3.

Superiority of the Right Hand over the Left.—In speaking of the arteries which go to the hand, it may be expected that we should touch on a subject, which has been formerly a good deal discussed, whether the properties of the right hand, in comparison with those of the left, depend on the course of the arteries to it. It is affirmed that the trunk of the artery going to the right arm, passes off from the heart so as to admit the blood directly and more forcibly into the small vessels of the arm. This is assigning a cause which is unequal to the effect, and presenting altogether, too confined a view of the subject: it is a participation in the common error of seeking in the mechanism the cause of phenomena which have a deeper source. For the conveniences of life, and to make us prompt and dexterous, it is pretty evident that there ought to be no hesitation which hand is to be used, or which foot is to be put forward; nor is there, in fact, any such indecision. Is this taught, or have we this readiness given to us by nature? It must be observed, at the same time, that there is a distinction in the whole right side of the body, and that the left side is not only the weaker, in regard to muscular strength, but also in its vital or constitutional properties. The developement of the organs of action and motion is greatest upon the right side, as may at any time be ascertained by measurement, or the testimony of the tailor or shoemaker; certainly, this superiority may be said to result from the more frequent exertion of the right hand; but the peculiarity extends to the constitution also; and disease attacks the left extremities more frequently than the right. In opera dancers, we may see that the most difficult feats are performed by the right foot. But their preparatory exercises better evince the natural weakness of the left limb, since these performers are made to give double practice to it, in order to avoid awkwardness in the public exhibition; for if these exercises be neglected, an ungraceful preference will be given to the right side. In walking behind a person, it is very seldom that we see an equalized motion of the body; and if we look to the left foot, we shall find that the tread is not so firm upon it, that the toe is not so much turned out as in the right, and that a greater push is made with it. From the peculiar form of the woman, and the elasticity of her step resulting more from the motion of her ancle than of the haunches, the defect of the left foot when it exists is more apparent in her gait. No boy hops upon his left foot, unless he be left handed. The horseman puts the left foot in the stirrup and springs from the right. We think we may conclude, that every thing being adapted in the conveniences of life to the right hand, as for example the direction of the worm of the screw or of the cutting end of the augur, is not arbitrary, but is related to a natural endowment of the body. He who is left handed is most sensible to the advantages of this adaptation, from the opening of the parlor door to the opening of the penknife. On the whole, the preference of the right hand is not the effect of habit, but is a natural provision, and is bestowed for a very obvious purpose: and the property does not depend on the peculiar distribution of the arteries of the arm—but the preference is given to the right foot, as well as to the right hand.—[Bell's Bridgewater Treatise.]

An English Country Gentleman.—Sir Harry Hargrave is an English gentleman; his conscience is scrupulous to the value of a pin's head; he is benevolent, hospitable, and generous. Sir Harry Hargrave is never dishonest nor inhumane, except for the best possible reasons. He has, for instance, a worthless younger son; by dint of interest with the Bishop of ——, he got the scapegrace a most beautiful living: the new rector has twenty thousand souls to take care of; and Sir Harry well knows, that so long as pointers and billiard-tables are to be met with, young Hopeful will never bestow even a thought on his own. Sir Harry Hargrave, you say, is an excellent gentleman; yet he moves heaven and earth to get his son a most respectable situation, for which he knows the rogue to be wholy unfit. Exactly so; Sir Harry Hargrave applauds himself for it: he calls it—*taking care of his family.* Sir Harry Hargrave gives away one hundred and two loaves every winter to the poor; it is well to let the laborer have a loaf of bread now and then for nothing: would it not be as well, Sir Harry, to let him have the power always to have bread cheap? Bread cheap! what are you saying? Sir Harry thinks of his rents, and considers you a revolutionist for the question. But Sir Harry Hargrave, you answer, is a humane man, and charitable to the poor. Is this conscientious? My dear sir, to be sure; he considers it his first duty to take care of the landed interest.—Sir Harry Hargrave's butler has robbed him; the good gentleman has not the heart to proceed against the rascal; he merely discharges him.—What an excellent heart he must have! So he has; yet last year he committed fifteen poachers to jail.—Strange inconsistency! Not at all:—*what becomes of the country gentleman if his game is not properly protected?* Sir Harry Hargrave is a man of the strictest integrity; his word is his bond—he might say with one of the Fathers, "that he would not tell you a lie to gain heaven by it;" yet Sir Harry Hargrave has six times in his life paid five thousand pounds to three hundred electors in Cornwall, whom he knew would all take the bribery oath, that they had not received a shilling from him. He would not tell a lie, you say; yet he makes three hundred men forswear themselves! Precisely so; and when you attempt to touch this system of perjury, he opposes you to his last gasp: but he is not to be blamed for this—*he is only attached to the venerable constitution of his fore-fathers!*—Sir Harry Hargrave is an accomplished man, and an excellent scholar; yet he is one of the most ignorant persons you ever met with. His mind is full of the most absolete errors; a very Monmouth-street of threadbare prejudices; if a truth gleam for a moment upon him, it discomposes all his habits of thought, like a stray sunbeam on a cave full of bats. He enjoys the highest possible character among his friends for wisdom and virtue: he is considered the most consistent of human beings: consistent!—yes, to his party.—[Bulwer's England and the English.]

Every Nerve appropriated to its Function.—From this law of our nature, that certain ideas originate in the mind in consequence of the operation of corresponding nerves, it follows—that one organ of sense can never become the substitute for another, so as to excite in the mind the same idea. When an individual is deprived of the organs of sight, no power of attention, or continued effort of the will, or exercise of the other senses, can make him enjoy the class of sensations which is lost. The sense of touch may be increased in an exquisite degree; but were it true, as has been asserted, that individuals can discover colonrs by the touch, it could only be by feeling a change upon the surface of the stuff and not by any perception of the colour. It has been my painful duty to attend on persons who have pretended blindness: and that they could see with their fingers. But I have ever found that by a deviation from truth in the first instance, they have been entangled in a tissue of deceit; and have at last been forced into admissions which demonstrated their folly and weak inventions. I have had pity for such patients when they have been the subjects of nervous disorders which have produced extraordinary sensibility in their organs—such as a power of hearing much beyond our common experience; for it has attracted high interest and admiration, and has gradually led them to pretend to powers greater than they actually possessed. In such cases it is difficult to distinguish the symptoms of disease, from the pretended gifts which are boasted of. Experiment proves, what is

suggested by Anatomy, that not only the organs are appropriated to particular classes of sensations, but that the nerves, intermediate between the brain and the outward organs, are respectively capable of receiving no other sensations but such as are adapted to their particular organs. Every impression on the nerve of the eye, or of the ear, or on the nerve of smelling, or of taste, excites only ideas of vision, of hearing, of smelling or of tasting; not solely because the extremities of these nerves, individually, are suited to external impressions, but because the nerves are, through their whole course and wherever they are irritated, capable of exciting in the mind the idea to which they are appropriate, and no other. A blow, an impulse quite unlike that for which the organs of the senses are provided, will excite them all in their several ways; the eyes will flash fire, while there is noise in the ears. An officer received a musket-ball which went through the bones of his face—in describing his sensations, he said that he felt as if there had been a flash of lightning, accompanied with a sound like the shutting of the door of St. Paul's. On this circumstance, of every nerve being appropriated to its function, depend the false sensations which accompany morbid irritation of them from internal causes, when there is in reality nothing presented extrenally; such as flashes of light, ringing of the ears, and bitter taste or offensive smells. These sensations are caused, through the excitement of the respective nerves of sense, by derangement of some internal organ, and most frequently of the stomach.—[Bell's Bridgewater Treatise.]

M. Cuvier and the Barber.—During he absencet of the valet, M. Cuvier sent for a barber to shave him. The operation being finished, he offered to to pay the requisite sum; but the enlightened operator, who happened to be a Gascon, bowed, and positively refused the money, saying, with his comic accent, "he was too much honored, by having shaved tho greatest man of the age, to accept any recompense." Hardly suppressing a smile, M. Cuvier felt bound to give him the honor to its full extent, and engaged to perform his function every day while he remained in London. It is scarcely necessary to add, that the barber, in a short time, felt it a still higher duty to consult prudence rather than empty honor, and pocketed the amount due for the exercise of his calling.—[Mrs. Lee's Memoirs of Baron Cuvier.

Advice to the Young.—I would advise you to read with a pen in your hand, and enter in a little book short hints of what you find that is curious, or that may be useful; for this will be the best method of imprinting such particulars in your memory, where they will be ready, either for practice on some future occasion, if they are matters of utility, or at least to adorn and improve your conversation, if they are rather points of curiosity. And as many of the terms of science are such as you cannot have met with in your common reading, and may therefore be unacquainted with, I think it would be well for you to have a good dictionary at hand to consult immediately when you meet with a word you do not comprehend the precise meaning of. This may at first seem troublesome and interrupting; but it is a trouble that will daily diminish, as you will daily find less and less occasion for your dictionary, as you become more acquainted with the terms; and in the mean time you will read with more satisfaction, because with more understanding.—[Franklin's Familiar Letters.]

The Heroic Standard.—Admiral Lord Duncan, who was six feet four inches in height, and perfectly proportioned, was considered one of the finest figures, as a man, in the naval service; his father and grand father are both of them reported to have exceeded that height, enjoying, at the same time, every possible natural advantage of symmetry and just proportion.—[Sharpe's Peerage.]

Last Moments of Cuvier.—At two o'clock in the day, the accelerated respiration proved that only a part of the lungs was in action; and the physicians, willing to try every thing, proposed to cauterize the vertebræ of the neck: the question, Had he a right to die? rendered him obedient to their wishes; but he was spared this bodily torture, and leeches and cupping were all to which they had recourse. During the application of the former, M. Cuvier observed, with the greatest simplicity, *that it was he who had discovered that leeches possessed red blood*, alluding to one of his Memoirs, written in Normandy. The consummate master spoke of science for the last time, by recalling one of the first steps of the young naturalist. He had predicted that the last cupping would hasten his departure; and when raised from the posture necessary for this operation, he asked for a glass of lemonade, with which to moisten his mouth. After this attempt at refreshment, he gave the rest to his daughter-in-law to drink, saying, it was very delightful to see those he loved still able to swallow. His respiration became more and more rapid; he raised his head, and then letting it fall, as if in meditation, he resigned his great soul to its Creator without a struggle. Those who entered afterwards would have thought that the beautiful old man seated in his arm chair, by the fireplace, was asleep; and would have walked softly across the room for fear of disturbing him; so little did that calm and noble countenance, that peaceful and benevolent mouth, indicate that death had laid his icy hand upon them; but they had only to turn to the despairing looks, the heart rending grief, or the mute anguish of those around, to be convinced that all human efforts are unavailing, when Heaven recalls its own.—[Mrs. Lee's Memoirs of Baron Cuvier.]

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 8th to the 14th day of October 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
October 8..	6 a. m.	64	29.90	SE—SSE	fr'h—strong	SSE	rain —rain scuds from SSE
	10	66	29.83	S by E	..—mod.	..	..
	2 p. m.	67	29.75	S—SW—WSW	mod.—fresh	S / SSW	fair
	6	62	29.77	WSW	strong	SW	..
	10	57	29.75	..	..	..	cloudy
" 9..	6 a. m.	60	29.84	SW—WNW	mod.—fresh	NW b W—brisk	fair
	10	66	29.91	NNW	fresh	..	..
	2 p. m.	69	29.91	NW	moderate	..	..
	6	66	29.91	NNW	light		clear
	10	61	29.97		calm		..
" 10..	6 a. m.	58	29.91	—SW	..—faint	SW	fair
	10	64	29.90	SW	light	..	..
	2 p. m.	69	29.80	WSW	mod.—fresh	WSW	..
	6	66	29.80	WNW	fr'h-str—gale	W—	cloudy and squally —fair
	10	49	29.98	..	gale—mod.		fair
" 11..	6 a. m.	42	30.18	..	moderate	—NW	clear —fair
	10	48	30.21	..	..	..	..
	2 p. m.	52	30.20	NW—WNW	..	—W by S	.. —fair —haze from W by S
	6	55	30.20	NNW	light	..	hazy
	10	51	30.21		calm		cloudy
" 12..	6 a. m.	48	30.14	ENE—E—SE	light	SW by W	..
	10	54	30.15	ESE & SE	mod.—fresh	SW — SE	..
	2 p. m.	63	29.93	SE—ESE	strong	..—..	.. —rainy
	6	60	29.79	ESE	—gale		rain
	10	63	29.57		..—		..
" 13..	6 a. m.	55	29.30	NNW	—gale	WNW slow / NNW brisk	rainy —cloudy —rain —cloudy
	10	55	29.40	WNW—W	..	WNW / NW	fair —cloudy —fair
	2 p. m.	56	29.50	W by S—WSW	strong—fr'h	WNW	fair —cloudy
	6	58	29.62	WSW	fr'h—strong	W by N	cloudy —fair
	10	52	29.72	WNW	strong		fair
" 14..	6 a. m.	49	29.94	WSW—WNW	mod.—fresh	..—NNW	..
	10	55	30.03	WNW	fresh	..	..
	2 p. m.	58	30.04	..	..	..	..
	6	56	30.08	..	light		.. —haze at SW
	10	52	30.15		calm		.. do. do. N

Average temperature of the week ending Monday, October 14, 55°.00.

As it should be. *Our List of Subscribers.*—While almost every paper with which we exchange is complaining of the slackness of their subscribers, and while so many paragraphs are in circulation respecting the same subject, we cannot forbear bestowing a compliment upon our subscribers for their promptness—a promptness so unusual in newspaper affairs, and therefore so unexpected.

Our list of subscribers during the whole period of the publication of this paper has averaged 1200, and there is now due us from these subscribers but FIFTY DOLLARS! We challenge any newspaper establishment in the United States to produce so punctual a list; and so far as we are concerned, we are inclined to form a very favorable opinion of that class of individuals who subscribe for newspapers.

There are a few however who owe us for last year, and did they know how their names appear by the side of these punctual men, they would immediately send us the amount of their subscription, and remove from our minds those unpleasant feelings with which we always regard the man who neglects, year after year, to ☞ "*pay the printers.*"—[N. H. Bap. Reg.]

☞ The same cannot be said of all readers of newspapers.—[Ed. R. R. J.]

STATISTICS OF TENNESSEE.

Population.

Whites	535,741
Slaves	141,603
Free colored persons,	4,555
Total,	681,902

Square Miles.

According to the most accurate estimate, there are about 42,000 square miles—equal to 26,880,000 acres.

Exports.

The annual exports can only be estimated by reference to particular sections of the country, and their average there.

Cotton 120,000 bales	$4,000,000
Corn and live stock	1,000,000
Tobacco 4,000 hogsheads,	120,000
Iron and castings,	800,000
Other articles not enumerated,	200,000
	$6,120,000

Public Debt.

The state is entirely free from public debt, other than that created for stock in the Union Bank—$500,000.

Annual Expenditures.

The annual expenses of the Government amount to $71,243.

Revenue.

The amount and sources of the state revenue are as follows to wit:

Tax on Land	$23,190
" " Town lots	2,096
" " White polls	8,880
" " Black polls	12,384
" " Stud horses	3,372
" " Pleasure carriages	1,091
" " Law proceedings	8,769
" " Conveyances	1,008
" " Taverns	1,110
" " Merchants	31,563
Total	$93,383

Public Lands.

The estimated value of the public lands to which the Indian title is not extinguished is $500,000.

MARRIAGES.

On Thursday morning, by the Rev. Dr. Krebs, Mr. George W. Sumner, to Miss Mary Brown, daughter of Charles Porter, Esq. all of this city.

Last evening, by the Rev. Mr. Bayard, Mr. L. Lincoln, of New Orleans, to Miss Catharine Ann Rutgers, second daughter of Henry Brdlow, Esq. of this city.

This morning, by the Rev. Wm. Jackson, Edward W. Tiers, of Philadelphia, to Christiana T., daughter of Foster Nostrand, of this city.

Last evening by the Rev. Dr. Brownlee, Mr. David Webb to Miss Mary L. Primrose, all of this city.

On Tuesday morning, the 15th inst. at Chatham, Columbia County, Robert W. Murphy, Esq. of Rensselaerville, Albany, county, to Miss Romelia, daughter of Wm. Wheeler, Esq. of the former place.

DEATHS.

This morning, after a short but painful illness, Mary Ann, aged six years and five months, only daughter of Henry J. Egan Painter.

On Saturday morning, after a short illness, Capt. Charles Hall.

At Washington, N. C. on the 9th inst., of the billious fever, Wm. R. Swift, Esq., a native of Virginia, and formerly of this city, in the 46th year of his age.

At New Orleans, on the 23d ult. Mrs. Ann Haly, wife of Dr. Dazet Senac.

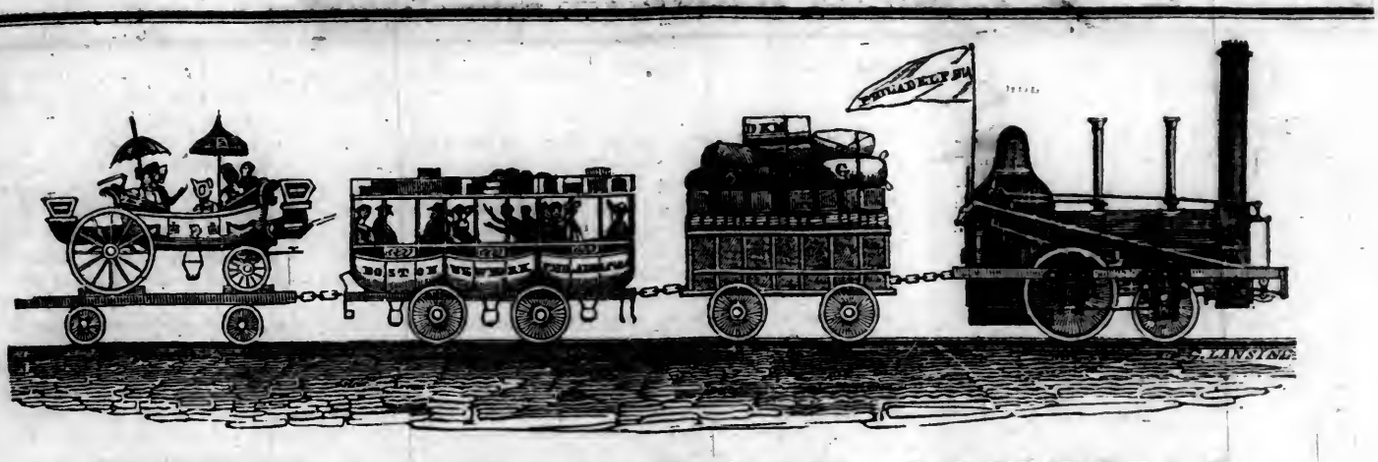
At the same place, on the 28th, of yellow fever, Daniel Gilbert, formerly of Portland, Me. aged about 26.

At the same place, on the 25th, of the prevailing epidemic, Albert D. Overton, a native of Southhold, New York.

At the same place, on the 27th, James Y. Walton, a citizen of New York, but for a long time a resident of this city.

At Alexandria, (La.) on the 17th ult. J. C. Jackson, merchant, late of New Orleans.

At New-Orleans, on the 22d ult. of the prevailing epidemic, Mr. G. Phillipi, a native of Italy.; yesterday afternoon, Mr. Joseph Goldsmith; on the 18th ult. of the prevailing epidemic, Mrs. D. L. Curtis, aged 26 years, a native of Boston, (Mass.); on the 19th ult. of yellow fever, Mr. J. B. Fuller, a native of Rock Hill, (Conn.) aged about 21 years.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, OCTOBER 26, 1833.** [VOLUME II.—No. 43.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, OCTOBER 26, 1833.

☞ In the Journal of the 5th inst. it was stated that the title page and list of contents for the three first parts, or *half* volumes, would be forwarded to subscribers in the course of the *then* ensuing week—they have been unavoidaly delayed, but will now be forwarded in a few days, as they are nearly printed.

Baltimore and Ohio Railroad.—We have received and read with much pleasure the *Seventh* Annual Report of the President of the above named road, as published in the Baltimore papers, which we intended to publish in this number of the Journal, but on reading it we find it refers to interesting documents, which ought also to be published with the report, and, therefore, we shall delay its publication for a short time, in the hope that some of our Baltimore friends will furnish us with the report and documents in pamphlet form. In the mean time, however, we would observe that the work on the road between the Point of Rocks and Harper's Ferry is progressing, and that it is believed the road will be completed in the course of the ensuing year as far as the latter place, and be there connected with the Winchester railroad—a work, by the by, which will not long terminate at Winchester.

Chicago.—We have had the pleasure of a conversation with Mr. Frederick Stahl, of the firm of Johnson & Stahl, of this place, who returned from Chicago on Tuesday last. He informs us that he ordered goods from New-York, which were shipped on the 10th, and arrived at Chicago on the 30th August. The charges for transportation from New-York to Chicago, including commissions and storage, is only one dollar sixty-three cents per hundred pounds. Insurance ¾ per cent. in the fall, and ½ per cent at other seasons of the year. The country from Dixon's ferry, on Rock River, to Chicago, is smooth and level, and with little improvement, an excellent road may be made. An ox team could make a trip from thence to Galena, with great ease, in ten days. Thus we see, that merchandize can be brought from New-York to Galena in thirty days, and at an expense merely nominal.

Mr. Stahl left Chicago on the 19th inst. The commissioners appointed to treat with the Potawatomies were there, and Indians to the number of 5 or 6000 had assembled. Several *talks* had been held with them by the commissioners, in which the Indians manifested a very great disinclination to sell their land. A host of Indian traders were there, who, it was understood, were creditors of the Indians to large amounts, and who would exert all their influence to prevent the consummation of any treaty, till their claims were secured.

The above is from the *Galenian* of 27th September last, which came to hand on the 24th instant. It is another among the many proofs of the vast importance of *internal improvements* to this country. It shows, by actual demonstration, the value of canals. The writer of this recollects the period when, in 1810, 23 years since, it cost *ten dollars per hundred* to transport merchandise from New-York to Buffalo. This statement shows a very different result. Goods carried to Chicago—more than *three* times the distance—in one third of the time, and for one *sixth* of the cost! Such are the results of internal improvements by canals. What, then, will they be when the country is intersected by railroads? In point of *time*, at least, the improvement will be in an equal ratio, if not in other respects. The completion of the New-York and Erie Railroad, and a Railroad across Michigan, to the mouth of the St. Josephs, will enable merchants to land goods at Chicago in *seven days* —and this will be done in a *little* over seven years.

We understand (says the Miner's Journal) that an experiment was made a few days since on an inclined plane of the Danville and Pottsville Railroad, on the Broad mountain, to ascertain its practical operation; the length of the plane being 800 feet, and perpendicular height 200 feet. The ascending car, which was raised by means of a descending one, passed up in the short space of ninety seconds, and without any thing to interrupt the smoothness of its ascent. It is understood that water power will be made use of on these inclined planes, which is attended with far less expense than that which is incident to steam machinery.

Susquehanna and Delaware Railroad. A meeting of the stockholders was held on the 1st inst. at Stroudsburg, in Northampton county, for the purpose of organizing the Company. Henry W. Drinker, Esq. was duly elected President of the Company for the ensuing year —William Henry, Treasurer—and John Jordan, Secretary. The names of the Managers we have not learned. A more judicious choice of officers, probably, could not have been made. —[Montrose Herald.]

To the Editor of the American Railroad Journal:

Sir,—I beg leave, through your valuable Journal, to suggest what I think would be a valuable improvement of the application of horse power to propelling railroad cars. Let the horse, or horses, be put on a moveable platform, (like that in the starch manufactory in Dutch street,) which shall roll on two shafts of say 8 inches diameter, which shall be fixed in railroad wheels, of 32 inches diameter; thus for every three miles the horse moves the platform under his feet, the car will be propelled twelve miles on the railroad. The advantage gained by this arrangement will be, that the power of the horse will be applied in such a manner as to move the car with any given rapidity, far beyond the motion of a horse. It is obvious, too, that when a horse moves rapidly, his strength is expended in procuring the velocity of his own movement—or, to speak more scientifically, in overcoming the inertia of his own body; he exerts more force, therefore, in the draught, when his motion is slow, say 3 to 4 miles per hour. By increasing the difference between the size of the shaft and the wheels, a very great velocity may be procured with a slow steady draught of the horse. The wheels should be fixed firmly on the ends of the shafts, through the centre of which a strong iron rod should be passed, the ends of which should move in an iron bar, placed fore and aft, to keep the shafts at the proper distance from each other. Would not this make a very simple *horse locomotive*, sufficiently well adapted to the purpose to supercede steam?

Yours, &c. Speed.

The Undulating Railway. By JUNIUS REDIVIVUS. [From the London Mechanics' Magazine.]

SIR,—Since I last wrote to you I have seen Mr. Badnall's treatise on railway improvements; but I must confess I see therein no statement which tends to shake my incredulity on the subject of hill and valley locomotion. I still prefer the level, and doubt not of its being the most economical railway. In the way of argument I have nothing to add to my former letters on the subject. I did, indeed, wish to ask one or two questions, which I had intended to put when I read your review, and the extract, stating that the moving power of the experimental carriage was a steel spring coiled round a barrel; but I have since found that a writer in the Magazine edited by the Messrs. Cobbett has forestalled me. It is by him stated that the experiments were unfair; that in the case of both the level and the curve, the carriage was traversed backwards along the whole line, and that on the curved line the distance traversed was considerably greater than on the horizontal line, consequently that the spring was wound up to a greater amount of tension. He states further his belief, that if the carriage were wound up on the level road, and then placed in motion on the curve, that it would stop half way from want of power. Whether his statement be correct or not I cannot pronounce, not having seen the trials, but the winding up of a spring is assuredly a matter of considerable importance, when we consider that half a turn of the barrel, when nearly wound up gives more power than several turns at commencement.

Badnall says, p. 74, "In allusion to the relative difference in the speed between curved railways, in the preceding statement and in the statement at p. 67, I confess an difficulty." At p. 77 he says, "The advantage gained over a common horizontal railway will be in proportion to the length and depth of cent" Now, supposing the moving power a coiled spring, it is quite clear that the tension would increase, and consequently the power would increase, in proportion to the number of turns, and in a compound ratio. If this be the case, the "difficulty" will be solved without accounting for it by the "vibration."

From the letter of Mr. Stephenson, quoted in Mr. Badnall's book, I take the following extract:

"This sort of force (*periphugal force*) perhaps not being thoroughly understood, you will allow me to compare it to a man on horseback, riding at full speed, and the animal stopping himself with all the power he is master of; we should in such a case naturally expect to see the rider thrown forward, taking along with him both bridle and stirrups."

With all deference to the opinion of Mr. Stephenson, I beg to remark that I have been for some years in the habit of studying the laws of "forces," in this very species of involuntary experiment. I have seen numerous riders thus shaken out of their saddles—technically called "purchasing an estate"—and with nearly the result he has described: but invariably their future progress was arrested by friction, both on levels and up hill, the momentum being absorbed by the material on which the falling body impinged, and sometimes so rapidly that it dragged life along with it. Down hill, it is true, the momentum has occasionally been of considerable avail, unless a thicket or patch of aloes, or spiry larch-thistle, happened to intervene as a recipient. Even thus I suspect the "periphugal force" would impinge upon and be absorbed by the upward ascent of an undulating railroad.

At page 84 Mr. Badnall talks of having given a *limited* power to his spring, winding it up ten feet and six feet. Why was this small power selected? The experiment seems on too small a scale to justify any reliance on the result. I will state an experiment, which, if it give a result in favor of undulation, when accurately tried, I shall think that there is more in Mr. Badnall's scheme "than is dreamt of in my philosophy."

Make two railroads side by side, with the ends and beginnings parallel. Let one be an horizontal road, say two hundred feet in length. Let the other be increased in actual length, by means of any undulating form Mr. Badnall may choose, till it measures two hundred and twenty-five or fifty feet. Then let a barrel spring be adapted to a carriage, so that, when traversed backwards on the horizontal road, it may just have power enough to reach the extremity again Then take the carriage, thus wound up, and place it on the undulating road, and if it reach the extremity of that also, I shall be ready to acknowledge the triumph of Mr. Badnall's *principle*. But, even then, unless it perform something more, there will be no gain in point of economy, but, on the contrary, a considerable loss, by the extra expense of material consumed in the road. And here I leave the matter for the present.

I remain, yours, &c.

JUNIUS REDIVIVUS.

P. S.—Illness, and the pressure of occupation have, hitherto prevented me from answering "R."

The Undulating Railway. By S. D. [From the London Mechanics' Magazine.]

SIR,—If you examine the author's account of his invention as exhibited in your extracts, you will find that in paragraph 3, he says, "that throughout the ascent the pressure upon the rails, and consequently the amount of friction, is precisely the same as it was down the descent A B, viz., as much less than it was on the horizontal line E A as the line C D to D C." Now, surely the amount of friction is proportional to the lines representing the pressure upon the rails, which are C P and C G, not C D and D C. But even with this understanding, let us see if the inference be correct.

In paragraph 5 we find it stated, "that although the disposable power of gravity in opposition to pressure is only as C D to C P, yet this is no criterion of the extent of advantage gained in speed; in fact, C D may as properly be stated to represent the saving in friction."

If C D may be stated to represent the saving in friction, throughout the whole descent, it may also be stated to represent an augmentation of friction upon the whole ascent; so that C P being the measure of the former, C P + C D will be that of the latter quantity. With this in mind, let us see what the author says farther on, that if "the power employed upon the ascending part of the undulation were only just sufficient to overcome the friction and resistance of atmosphere, the carriage would naturally, as proved by the action of the pendulum, rise the ascent B E in the precise time it occupied in traversing from A to B."

Now, on the horizontal railway the friction is represented by the C G, but upon the ascent of the undulating railway by C P + C D, which being greater than the other, it would oppose more force to the progress of the carriage, and it would require more power to overcome it.

In thus examining the author's explanation I am led to think that the amount of friction is not less on the undulating than on the horizontal railway.

I am, sir, your obedient servant,

S. D.

May 20.

The Great North Road in England. [From the Monthly Supplement of the Penny Magazine.]

(Continued from page 661.)

The first notice which has been discovered of the collection of a toll for the repair of roads in England occurs in the year 1346, in the reign of Edward III. In that year it was ordered that tolls should be exacted for two years to come, from all carriages passing along Holborn, Gray's Inn lane, and the highway called Charing, "which roads," says the commission, "are, by the frequent passage of carts, waine, and horses, to and from London, become so miry and deep as to be almost impassable."

As for the country roads, little or no attention seems to have been paid to them till towards the middle of the sixteenth century. In the course of the reign of Henry VIII. four statutes connected with this subject were passed: two for altering certain roads in the Weald of Kent, and in Sussex; a third for mending a lane near the city of Chester; and a fourth for the repair of bridges. The first general act for keeping the roads in repair was passed in 1555, in the reign of Mary. It imposed that duty upon the parishes, and was followed by many others to the same effect in the reigns of Elizabeth and James I. The first toll-bar was erected in 1663, on the northern road leading through Hertfordshire, Cambridgeshire, and Huntingdonshire: "which road," says the act, "was then become very bad, by means of the great loads of barley, malt, &c. brought weekly to Ware in waggons and carts, and from thence conveyed by water to London." Three toll-gates were erected, one for each of the above-named counties; and it is said that the people were so prejudiced against the innovation, that they rose in a mob and destroyed them.

Coaches are said to have been first introduced into England in 1580, by the Earl of Arundel, and by the commencement of the next century they had become common in London. They were brought to Edinburgh in the suite of the English ambassador in 1598. The historians of that city tell us, that coaches for the use of the public generally were established there in 1610. Hackney coaches were first introduced in London in 1625.

As yet there was but little intercourse between these two capitals. In London, Scotland and Edinburgh were considered as foreign parts. In 1635 a proclamation was issued by Charles I. to the effect, that, "whereas to this time there hath been no certain intercourse between the kingdoms of England and Scotland, his majesty now commands his postmaster of England for foreign parts to settle a running post or two, to run night and day between Edinburgh and London." It was a considerable time after the commencement of the last century before there was more than one despatch of letters in the week from London to Scotland. In the year 1763, the London coach set off from Edinburgh only once in the month, and was from 12 to 16 days on the road. The vehicle which accomplished this adventurous achievement was at that time the only stage-coach in the northern capital, except two which ran to the neighboring port of Leith. A journey to or from Edinburgh was in those days a doubtful and hazardous expedition—something like setting out in quest of the north-west passage. It is said, that, in Scotland, when a person determined upon attempting the achievement, he used, with the laudable prudence of that country, to make his will before setting out.

The change that has since taken place is immense. The journey between London and Edinburgh is now performed by the mail-coach, at all seasons and in all weathers, in little more than forty-three hours and a half. The person who undertakes it exposes himself to scarcely any more danger than he does when he walks along the street in which he lives. Even in Scotland, a man seldom now thinks of making his will merely because he is about to visit London. These changes, and the countless others of which they are examples or indications, are due to the existence of a good road between the two capitals. This road, more than the compact of the year 1707, is the true union of the kingdoms.

Within the last thirty years this Great North Road, as it is commonly called, has been extended to the remotest extremity of the island—to a point still farther beyond Edinburgh (at least by the line taken) than Edinburgh is distant from London. This latter portion espe-

cially, and also parts of that extending to the south of Edinburgh, have recently undergone some material alterations and improvements. Those that have been effected within the last three years alone are well fitted to raise the admiration of all who are qualified to appreciate their importance. They afford an evidence which is extremely gratifying, of the exertions that continue to be made in order to uphold and extend one of the chief foundations of our national prosperity and greatness. We have been fortunate enough to obtain very complete accounts of the principal of these improvements, in most instances, from persons having access to the best sources of information; and abstracts of these we now propose to lay before our readers, interspersed with such explanations as may convey a full and correct view of the whole course of this great highway,—the longest continued line of road in the United Kingdom.

Improvements in the North.—So greatly does the northern portion of our island incline or lean over to the west, that Edinburgh, while it is about 320 miles to the north of London, is also above 100 miles to the west of it—although the two capitals stand at about equal distances from the east coast. Edinburgh, on the east coast of Great Britain, is, in fact, rather further west than Liverpool, which stands on the west coast. What is called the Great North Road from London, therefore, diverges considerably from a line drawn due north. The wide level country which generally prevails as far as to the heart of Yorkshire enables it to pursue up to that point a course nearly perfectly straight. The first formidable obstacle, indeed, which it meets with to prevent it from following the shortest line to the Scottish metropolis, is interposed by the Chevoit hills, which form the north-west boundary of Northumberland. These hills, at their northern extremity, approach so close to the sea as to leave only a pass of a few miles broad, through which the road at this part of its course can be carried. Hitherto the town of Berwick, which is on the coast, and at a short distance beyond the termination of the Chevoit range, has been assumed as the point which should determine the direction of the first part of the road between the two capitals. This has made the deflection of the line to the west less than it otherwise would have been: for Berwick, although far west of London, is still considerably to the east of Edinburgh.

The direction of the southern portion of this road, then, may be considered as necessarily regulated, not by the relative positions of London and Edinburgh, but of London and Berwick, or another point but a few miles to the westward of the latter town. The route followed by the mail at present, in fact, is very nearly the shortest line between London and Berwick, subject merely to such slight deviations as are required in order to make it touch certain great towns. The length of this portion of the road, which passes through Huntingdon, Stamford, Doncaster, York, Darlington, Durham, and Newcastle, is 342 miles; the whole distance from London to Edinburgh being 399.

The first improvements which it falls within the plan of the present article to notice are those which have been recently made on the northern portion of this line of road between London and Berwick. We shall begin by merely adverting to the magnificent approaches which now lead to the town of Durham, the elevated situation of which formerly rendered it of such difficult access. The new entrances, which have in a great degree overcome the obstacles presented by the nature of the ground, are excellent specimens of engineering skill, and do honor to the local trusts. They would probably, however, have remained unexecuted but for the stimulus given to these bodies by a committee of the House of Commons, which had under its consideration the defective state of the communication between London and Edinburgh. We may here also mention, as having originated in the recommendations of the same committee, the handsome new bridge over the North Tyne at Morpeth, constructed by Mr. Telford, after the model of the bridge of Neuilly, near Paris.

But the most important improvements in this quarter, and those to which we would particularly direct attention, are the alterations which have recently been effected, or are in progress of execution, on the portion of the road to Edinburgh immediately beyond Morpeth. Here the Chevoit hills run almost parallel to the coast, to which they at the same time approach so closely, that what we may call their roots stretch across the intervening space in the shape of so many successive elevations, while the hollows between are occupied by rivers more or less considerable, all having a direction at right angles to the line of the road. This extreme inequality of surface has hitherto, as already intimated, forced the road close upon the sea: but even while thus retiring as far as possible from the mountains, it has still not been able to avoid a remarkable steep ridge called Birnside Moor. The gentlemen of Northumberland, however, have at last, aided by the great exertions of Sir John Marjoribanks, of Leeds, effected the union of several of the local trusts into one, and thereby enabled themselves to raise the sum of £12,000, which they are now in the course of expending in carrying the road through a series of vallies lying farther to the west, in place of this elevated moorland. The whole of this improvement will be completed during the present year; and although much still remains to be done to make the road what it ought to be in the more immediate vicinity of Morpeth, the alteration effected here will deserve to be accounted one of the most valuable works of public utility which have been recently accomplished in these islands.

The road, following the new direction thus given to it, will now leave Berwick to the right, and, instead of running along the coast, as it does at present, by Dunbar, and thence turning around in a due west direction by Haddington, will proceed by Wooler and Coldstream in very nearly a straight line to Edinburgh. The saving by this route we believe, will be above 10 miles, the distance from Edinburgh to Morpeth being reduced from 104 miles to about 93½. It is only lately, however, that the road by Coldstream, which passes through a very hilly country, has been brought to such a condition as that the mail could travel on it. The exertions of the gentlemen of Berwickshire and Midlothian, by which this important object has been at last accomplished, rather preceded those of the Northumberland trustees to which we have just adverted, their operations having commenced in January, 1828.

From a report now before us, by the clerks of the Berwickshire trust, it appears that the improvements effected on what is called the Greenlaw Turnpike Road embrace the reduction of numerous severe pulls of from one foot in six to one foot in twelve, occurring between Deanborn, the northern extremity of the trust, and Coldstream, to gentle ascents of from one foot in twenty-five to one in forty; besides the repair of the bridge over the Blackadder, at the east end of Greenlaw, and of that over the Tweed, at the east end of Coldstream. Including £2,100 expended on the Coldstream bridge, the whole cost of these improvements, up to the 8th of March last, had amounted only to £23,145. Of the adjoining portion of the road in the Edinburgh direction, which is under the care of the trustees of the Dalkeith district, a line of about eight miles, extending from the south-east boundary of the county of Mid Lothian to the north end of Fordel Bank, near Dalkeith, has within the same period been shortened, and the passage on it rendered much more safe and easy, by altering the course of the road in some places, by cutting down and banking over some difficult and dangerous passes, and by building several new bridges.

The principal bridges are the bridge over Cranstown Dean, and the bridge over the Tyne, at the north end of the village of Ford Pathhead, called the Lothian bridge. Cranstown Dean bridge is forty-six feet in height, and consists of three semi-circular arches of seventeen feet span: the whole building is of ashler, and the piers being only three feet in thickness, the bridge has a very light appearance.

Lothian bridge is eighty-two feet in height, and consists of five semi-circular arches of fifty feet span, surmounted by ten segments arches of fifty-four feet span and eight feet of rise. The piers are eight feet thick by twenty-eight feet broad, and hollow in the centre, as are also the abutments.

The whole building is of ashler, thereby presenting a happy combination of durability and lightness, and adding much to the ornament of the adjoining grounds. The embankments at the ends of the bridges are planted up with evergreens.

Of the embankments, that at Cotterburn is of the length of five hundred yards, and will contain 200,000 cubical yards of earth. The extreme depth of cutting in the line of the road will be thirty-two feet. Besides the general improvement of the line of road, these operations have opened many fine prospects of the neighboring beautifully wooded and highly cultivated country. The expense has amounted to between £20,000 and £30,000, besides a large sum of money which was previously expended on the improvement of that part of the line which is situated between this district and Edinburgh.

The city of Edinburgh stands within two miles of the great arm of the sea called the Frith of Forth, which, at the part immediately north of the Scottish capital, is about seven or eight miles broad. Steamboats and other vessels put across this estuary at all hours from Leith, the port of Edinburgh, and from Newhaven, about a mile to the west of that town, both to Burnt Island, Pettycur, and Kinghorn, which are directly opposite, and to Kirkaldy, Dysart, Leven, Ely, Pittenweem, and Anstruther, which lie farther to the east. The common passage for travellers to the north is from Newhaven, (where there is a chain pier,) to Pettycur. As this passage, however, is subject to be occasionally interrupted, (though since the introduction of steam navigation that is a circumstance which has very rarely happened,) the mail, instead of crossing here, proceeds along the coast of the river to Queensferry, about twelve miles farther west, where the channel is contracted to the width of about a mile and a half. But before leaving Edinburgh we cannot help noticing, although not upon any of the great lines of road leading from that capital, the magnificent bridge, called the Dean bridge, which has lately been thrown across the chasm formed by the river or water of Leith to the north of the city. The reader will find a notice of this structure, which was only finished about the beginning of the last year, in the "Companion to the Almanac" for 1832. This bridge, which has been erected after a design by Mr. Telford, almost at the sole expense of John Learmouth, Esq. (late Lord Provost,) to whose property it forms a communication, consists of two series of four arches each, the one surmounting the other. The span of each of the upper arches is 96 feet, and the road-way passes at the height of more than 120 feet above the level of the water below.

From Queensferry the present route of the mail is directly north by Kinross to Perth, from which point, crossing the Tay by a bridge, it takes its way along the northern banks of that river in an eastern direction to Dundee, and from thence to Arbroath on the coast. The common road, however, from Edinburgh to Dundee, runs in nearly a straight line from Pettycur through the county of Fife, and across the Frith of Tay, which at Dundee is about two miles in breadth. There is on this passage an excellent steamboat of a peculiar construction, the paddles being placed in the middle, as if there were two boats joined, and the form be-

ing such that it moves equally well with either end foremost. The distance from Edinburgh to Dundee by this road is not quite 43 miles, whereas, by that which the mail takes, for the sake principally of avoiding the two ferries over the Forth and the Tay, it is not less than 69 miles. From Dundee to Arbroath is 17 miles more, so that the whole distance by this circuitous route from Edinburgh to the latter place is 86 miles; the distance in a straight line being only about 50. In getting from Berwick to Arbroath, again, the mail travels about 143 miles, while a straight line drawn between these two points would not measure 60. The voyage by sea from the one place to the other does not exceed the last mentioned distance.

The road between Edinburgh and Montrose, which is 12 miles to the north of Arbroath, has been constructed at a cost of not less than £100,000, reckoning only the outlay since the commencement of the present century; but as only a small portion of this sum has been expended within the last three or four years, the consideration of the improvements which it has effected does not fall within the scope of our present remarks. We pass on, therefore, to notice the bridge which has just been carried over the South Esk at Montrose. This town stands on the north bank of the river called the South Esk, which here falls into the German ocean; and we cannot better explain its singular situation than by extracting the description given of it in a report made in 1823 by Mr. Buchanan:

"The river South Esk, at Montrose, is remarkable for its broad, depe, and very rapid stream. But the great width of the river, and the current, deep and rapid beyond example indeed in this country, are not owing to the magnitude of the South Esk river itself, but to the singular manner in which the discharge of its waters into the sea is here combined with the action of the tides and the configuration of the adjacent ground.

"The town stands on a gently rising ground, in one of those low sandy flats which occur so frequently on the shores of the German ocean, and which, from their slight elevation above the sea level, and other circumstances, appear to have been once overflowed by the water. It has the German ocean on the east, at the distance of about half a mile, and to the west is a tract of low and level sands, above four square miles in extent and nine miles in circumference, through which the South Esk winds its way to the sea, passing close to the town on its south side. These sands lie below the level of high water, and above the level of low water; and the river opening a communication with the sea, it necessarily happens, that every rising tide rushes up the channel of the river, and inundates the whole of this sandy flat to the west of the town, which is again left uncovered by the reflux of the tide. The channel through which this great body of water is alternately poured in and discharged is suddenly contracted, at the south end of the town, to the breadth of 700 feet at high water, and 400 feet at low spring tides; and in consequence of this the stream rushes in or out with great violence, according as the tide is either flowing or ebbing. This low land, over which, at each return of the tide, are spread the waters of the ocean, after they have made their way through the narrow channel of the South Esk, is called the Basin, which forms a striking object in the scenery of the place, appearing, when the tide is full, a large and beautiful lake, and in a few hours afterwards, when the waters have retired, a desolate and sandy marsh."

Between the basin and the sea, the river is at one place divided into two channels, by a small island called the Inch; but the two streams again unite into one before they arrive at the sea. About thirty years ago, when the road from Edinburgh to Aberdeen was first constructed, a wooden bridge was erected across the most northern of these channels, which is by far the broadest; the other being crossed by a stone bridge of one arch, which is so narrow that, says Mr. Buchanan's report, "it has contracted the channel of the river to at least one-fourth of its original breadth." At the same time the channel of the northern stream had been greatly contracted by the faulty construction of its wooden bridge. The effect of this unnatural confinement of so violent and rapid a stream has been to deepen the channel on the northern side, not less than five or six feet in many parts; so that the original bottom having been carried away, the foundations on which the piers rested were in danger of being undermined. To prevent this result wooden piles were driven in, which served as a sort of wall to repel the current. But, notwithstanding this expedient, the bridge was still found to labor under the incurable defects of its original construction. In particular, the wood was so damaged by the ravages of sea worms, of the genus designated *Oniscus*, that the expense of keeping it in repair was very great. It was accordingly determined a few years ago to remove this wooden structure altogether, and to supply its place by a suspension bridge. Such a bridge has been accordingly erected, after a design by Captain Samuel Brown, of the Royal Navy.

The distance between the towers at the two extremities of this bridge, measured from the centre of each, is 432 feet. The height of each tower is seventy-one feet, namely, twenty-three feet and a half from the foundation to the roadway, forty-four feet from the roadway to the top of the cornice, and three feet and a half forming the entablature. The breadth of each tower, at the termination of the cut-waters, is forty feet and a half, and thirty-nine and a half at the roading. The archway by which each is perforated is sixteen feet in width by eighteen in height. The four counter-abutments for securing the chains are respectively 115 feet distant from the towers, (reckoning from the centre of the tower to the face of the farthest wall of the chambers,) and consist each of an arched chamber, a strong counterfort or abutment, a tunnel, and lying spandrel arch. The width of the bridge is twenty-six feet within the suspending rods. The bars of which the main chains consist, measure eight feet ten inches from centre to centre of the bolt-holes, five inches broad between the shoulders, and one inch thick throughout. All the main links or bars are of the same thickness, except those in the towers, which are a sixteenth of an inch thicker, and of length to suit the curve of the cast iron saddles. Each main suspending chain, of which there are two on each side of the bridge, one over the other, placed one foot apart, consists of four lines of chain bars. The joints of the upper main chains are over the middle of the long bar in the lower chain; and the suspending rods which support the beams on which the roadway is laid, are five feet distant from each other. The chains are of wrought cable iron; the beams are of cast iron, formed with open spaces, twenty-six feet eight inches long, ten inches deep at the neck of the tenons, and one inch thick in every part between the flanges. The whole cost has been a little above £20,000.

To this account we have only to add, that the centre of the arch of the stone bridge which crosses the southern stream has also been taken down, and a revolving drawbridge erected in its stead, by which vessels are allowed to pass and repass. The communication across the South Esk at Montrose, therefore, may now be considered to be as perfect as it can be rendered or desired.

From Montrose the road follows the line of the coast by Bervie and Stonehaven to Aberdeen, a distance of thirty-seven miles. The situation of New Aberdeen is extremely similar to that of Montrose, standing as it does on the north side of the large and rapid river Dee. Until lately, the only bridge across this river was the magnificent old bridge erected by Bishop Elphinstone in the early part of the sixteenth century. Within the last three years, however, a suspension bridge has been erected between the town, and a road made at great expense, to communicate with the old one.

In this bridge the width between the stone piers is 200 feet; the breadth of the roadway is 22 feet, and its height above high water is 18 feet. It is within the recollection of many persons now alive, that the whole of the land at present in cultivation around Aberdeen was one brown heathery moor. Such is still the case with the whole district through which the above mentioned new road has just been completed; but from this operation we may probably date the commencement of a course of improvements, which will ere long transform this hitherto bleak and sterile tract into cultivated and productive fields. And here, while speaking of New-Aberdeen, we cannot help adverting to the small expense, both of money and of time, with which, thanks to steam navigation, a person residing even at so distant a point as London, may now accomplish a visit to this handsome northern city, remarkable for its rapid increase, the industry of its inhabitants, and the fine granite buildings of which it is entirely constructed. The voyage by sea is very little, if any thing, longer than to Edinburgh, and is usually performed by the steamboats in little more than fifty hours.

As New-Aberdeen is situated on the north side of the Dee, so Old Aberdeen stands on the south side of the Don. The Don, until within these few years, was crossed at Old Aberdeen by a very ancient bridge, called the *Brig of Balgownie*. We refer the reader to an interesting passage in Sir Thomas Dick Lauder's volume, entitled "An Account of the Great Floods of August, 1829, in the Province of Moray and adjoining Districts," for some curious particulars regarding this structure.

The new bridge of Don, which was built by Mr. Gibb, after a design by Mr. Telford, is about 520 feet in length, and consists of five arches, each of seventy-five feet span, and twenty-four feet rise. The total expense of the erection was £14,000. The effect of this improvement is to shorten the road by about half a mile, and to avoid three steep hills over which it was formerly carried. This structure, although in an unfinished state when the great flood of 1829 occurred, escaped on that occasion without injury. It was completed towards the end of the following year.

At Aberdeen the mail road leaves the coast, and proceeds across the country in nearly a straight line by Inverury, Huntley, Keith, and Fochabers, to Elgin, the county town of Morayshire. The whole distance from Aberdeen to Elgin is sixty-seven miles. The road is throughout excellent; and notwithstanding that it passes over a great deal of hilly country, is so artfully conducted that hardly a single heavy pull is encountered the whole way. Immediately beyond Fochabers, it is met by the impetuous and formidable river Spey, forming the boundary of the province of Moray, which notwithstanding its northern situation is one of the fairest portions of the island, and one of those in which vegetation is earliest. It used, however, to be in a manner separated and cut off from the rest of the country by this dangerous mountain torrent, until about twenty-five years ago, when a bridge was first built across it at Fochabers. It consisted of four arches, of which two were of ninety-five and two of seventy-five feet span each, the total length of water-way being 340 feet. But this bridge, during the floods of August, 1829, which destroyed or damaged nearly one hundred others, had the two arches next the left bank carried away, of which Sir Thomas Dick Lauder has given a striking account.

Various bridges over the river Findhorn, which bounds Morayshire to the west, and over the stream of the Lossie, on which the town of Elgin stands, were swept away on the same occasion, so that the country was at once cut off from all communication with the surrounding parts. Active measures, however, have since

been taken to repair the ruin produced by this visitation, and new bridges have already been erected in the line of the great road over all the three rivers.

The bridge at Elgin over the Lossie, of 80 feet span, is partly of cast metal and partly of timber.

From Elgin the mail proceeds along the coast of the Moray Frith to Inverness, and from thence westward to the termination of that estuary, when it crosses the Beauly Water, and ascends northwards to Dingwall, on the Frith of Cromarty. Pursuing for some time the direction of the northern coast of that Frith, it then arrives at Tain, on the Dornoch Frith, which it crosses by Meikle Ferry; after which the road runs along the coast for seventy miles, till it leaves it at Wick, and cuts across the country to Thurso on the Northern Ocean. This is the farthest point to which the London mail proceeds. Thurso, by the road which has been described, is 783 miles distant from London; and the journey is now accomplished by the mail, all stoppages included, in four days and fifty minutes.

The portion of the road which has just been described from the Beauly Water to Thurso has been constructed and is maintained in repair by the commissioners appointed under the act of parliament for superintending Highland roads and bridges. The works conducted by the parliamentary commissioners from the year 1803, when they commenced their operations, have done more to advance the civilization of the Highlands than all the other attempts of government for that purpose in the course of the preceding century. Speaking of what had been done up to 1817, Mr. Telford, the engineer, asserts, in a statement which will be found quoted at greater length in the "Results of Machinery," chap. vii, that the money then expended "had been the means of advancing the country at least one hundred years." The report made by the commissioners in 1828 (the fourteenth) contains an interesting communication, addressed to the late Lord Colchester, by Mr. Joseph Mitchell, on the improved state of the Highlands since the commencement of the works executed by the commissioners; with an abstract of a few of the statements presented in report which we may fitly conclude the present paper.

So little communication was then wont to be between the northern counties of Scotland and the south, owing to the want of roads, that, until of late years, the counties of Sutherland and Caithness were not required to return jurors to the circuits at Inverness. "Before the commencement of the present century, no public coach, or other regular vehicle of conveyance, existed in the Highlands. It was not till 1806 and 1811 that coaches were regularly established in these directions, being the first that ran on roads in the highlands. Since the completion of the parliamentary works, several others have successively commenced; and during the summer of last year, no less than seven different stage coaches passed daily to and from Inverness, making forty-four coaches arriving at, and the same number departing from, that town in the course of every week. * * * Post-chaises, and other modes of travelling, have, during the same period, increased proportionably; and, instead of five post-chaises, which was the number kept in the town of Inverness about the year 1803, there are now upwards of a dozen, besides two establishments for the hire of gigs and riding horses. * * * The number of private carriages in Inverness and its vicinity has likewise increased remarkably during the last 25 years, and no less than 160 coaches may now be seen attending the Inverness yearly races; whereas, at the commencement of that period, the whole extent of the Highlands could scarcely produce a dozen; and at no very distant date previously, a four-wheeled carriage was an object of wonder and veneration to the inhabitants. In 1715, the first coach or chariot seen in Inverness is said to have been brought by the Earl of Seaforth. In 1760 the first post-chaise was brought to Inverness, and was for a considerable time the only four-wheeled carriage in the district. There are at present four manufactories for carriages at Inverness."

Formerly there were no inns; inns are now built, except in one instance, along the roads constructed by the commissioners, extending in length to upwards of 900 miles. The mails, which used to be carried only on runner's backs, are now sent to all the considerable towns in coaches, and three or four times a week to places off the direct line of road, to which they used to come only once. Finally, agriculture has received a prodigious impulse from these improvements; the value of property has been greatly increased; trade has been promoted; and the general condition of even the poorest of the inhabitants has been ameliorated by numerous accommodations and comforts which were formerly entirely out of their reach.

Steam Carriage.—On Wednesday last, our townsmen, Messrs. Heaton, (brothers,) made another experiment with their steam coach, to ascend the hill at Broomsgrove Lickey, which is a loose sandy surface, so much so, that the wheels of their machine (about fifty hundred weight) carried a hill of sand before them about three inches deep. The hill is about seven hundred yards long, and rises on an average one yard in nine, and in some places one yard in eight, and is declared by eminent surveyors to be the worst piece of road in the kingdom. This hill was mounted by their machine, with a stage coach attached, fifteen hundred weight, and nine persons, in nine minutes, in the presence of about two hundred spectators. They then took up their friends, twenty in number, they had brought from Birmingham, with five in addition, making twenty-five, and proceeded on to Groomsgrove, as far as the Market place; there they turned the machine round, and returned to the Crab Mill Inn, about fifteen miles; this was accomplished in two hours and twenty-two minutes, including all stoppages. Having staid a considerable time at the Crabb Mill Inn, they returned home, calling at the various places on the road where they had before called in the morning, and receiving the congratulation of their friends at having accomplished the greatest undertaking in the history of steam locomotion on the common road. They arrived in Birmingham, bringing with them up Worcester street, an ascent of one yard in twelve, thirty-two persons.—[Birmingham Journal, 2d Sept.]

The Warrenton, N. C. Reporter, in announcing that a railroad meeting had been held in that place, makes the following remarks, from which we are pleased to learn that the Petersburg road has been the means of checking, in some measure, the tide of emigration from the section of country along its route: "The Roanoke and Oxford railroad, when completed, would be of incalculable advantage to this section of country. It would vastly increase the value of property. It would diminish considerably the cost of transportation, and would render many articles marketable which are now not worth the expense and trouble of sending them to market. Proprietors of large landed estates have every inducement to subscribe for stock, even if that stock should not realize extravagant profits, because upon the completion of the road their real estate would probably be doubled in value. They, however, are not the only persons interested in this matter. Every individual in Warren county who makes a bale of cotton, a few bushels of wheat, or indeed any thing of any description for market, would immediately feel the advantages of the railroad. Let no man in this part of the world suppose for a moment that he is not personally interested in the projected improvement. We have been informed by persons entitled to credit, that before the commencement of the Petersburg Railroad, many planters along the route were anxious to remove to the west, but could not dispose of their lands on any terms. Since the railroad has been finished, their land has become valuable: they could now sell it with ease upon liberal terms, but have no disposition to do so. Such are the advantages of this work, that the people alongside of it are contented to remain where they are, although before it commenced they were anxious to emigrate. They are now willing to cultivate and improve their patrimonial estates, and spend their lives within their native Virginia. If commercial auxiliaries dispense these blessings in Virginia, would they be productive of contrary effects in North Carolina? The people of this State cannot adopt such an absurd and ridiculous opinion. We earnestly hope, and confidently believe, that the Petersburg and Roanoke Railroad, the product of the enlightened enterprize of a sister State, will be the great pioneer in the march of southern improvement."—[Petersburg Intel.]

Accident.—On Thursday last, while two men were employed in the mines of Mr. McIntyre, near the West Branch Railroad, an immense body of rock and slate suddenly gave way, and before the miners had time to think of making their escape, the gangway was completely blocked up, and they found themselves buried alive. In this awful situation they remained until three o'clock on Friday morning, at which time, through the unremitted exertions of their friends, who worked without interruption throughout the night, they were taken out in a state of great debility and exhaustion, but strong enough to warrant the hopes of speedy recovery. Great praise is due to those who exerted themselves with such persevering industry in behalf of these individuals, by which alone their miraculous preservation was effected. A horse which was in the mines was killed, being crushed to atoms by the overwhelming mass.—[Miner's Journal.]

Canal Tolls.—We learn from the Albany Argus that the amount of Tolls received upon the State Canals in the month of September, was $203,685,82; being an increase of $52,634, as compared with the receipts of the same month last year. Receipts of the year to 30th September, $998,176,20; exceeding the receipts of last year, down to the same date, more than $210,000.

[*From the Charleston Courier of 9th October.*]

Another Accident on the Railroad.—We have the unpleasant duty of recording another accident upon the Rail Road, from fire, which occurred yesterday about 2 o'clock, at Cypress Swamp, about five miles above Summerville. The Locomotive had five freight and two passage cars attached; at the place above named, the cotton in the last of the freight cars was discovered to be on fire—as soon as it was possible to do so, the passage cars, and the freight car which had taken fire, were detached from the train, but there being no water near, it was found impossible to extinguish the flames, and the car with its contents, consisting of 21 bales of cotton, were entirely consumed. The Road also took fire, and several lengths were burnt. A rope was attached to the Locomotive, and passed to the first passage car, by means of which it was drawn through the fire; and the passengers were thus enabled to reach the city, after a detention of two or three hours.

We are informed by passengers, that fire had caught previously in the cotton on one of the freight cars, but, being discovered in time, was extinguished without any damage; and that another time, the car in which the passengers were seated took fire. It is stated that the canvass used for covering the cotton is too small, and not well secured. The ends of the bales of cotton project out, and from the velocity with which the cars proceed, the canvass flies up, and exposes the cotton to the sparks which are emitted from the Locomotive. This should be looked to by those who have the management of the Road, as we understand that the cotton would be effectually protected from fire if the canvass completely covered it.

The passengers all agree in stating that every possible exertion was made by those who were employed in the management of the cars.

We regret to learn that Mr. Benneville Brobst, at the Plymouth Locks, on the Schuylkill Canal, was drowned a few days since. The body has not yet been found.—[Miner's Journal.]

Cryptography: the art of transmitting secret information by means of writing, which is intended to be illegible, except by the person for whom it is destined. The ancients sometimes shaved the head of a slave, and wrote upon the skin with some indelible coloring matter, and then sent him, after his hair had grown again, to the place of his destination. This is not, however, properly secret writing, but only a concealment of writing. Another sort, which corresponds better with the name, is the following, used by the ancients. They took a small stick and wound around it bark, or papyrus, upon which they wrote. The bark was then unrolled and sent to the correspondent, who was furnished with a stick of the same size. He wound the bark again, round this, and thus was enabled to read what had been written.

This mode of concealment is evidently very imperfect. Cryptography properly consists in writing with signs, which are legible only to him for whom the writing is intended, or who has a key or explanation of the signs. The most simple method is to choose for every letter of the alphabet some sign, or only another letter. But this sort of cryptography (*chiffre*) is also easy to be deciphered without a key. Hence many illusions are used. No separation is made between the words, or signs of no meaning are inserted among those of real meaning. Various keys, likewise, are used, according to rules before agreed upon. By this means, the decyphering of the writing becomes difficult for a third person, not initiated; but it is likewise extremely troublesome for the correspondents themselves; and a slight mistake often makes it illegible, even by them.

Another mode of communicating intelligence secretly, viz. to agree upon some printed book, and mark the words out, is also troublesome and not at all safe. The method of concealing the words which are to convey the information intended in matter of a very different character, in a long letter, which the correspondent is enabled to read, by applying a paper to it, with holes corresponding to the places of the significant words, is attended with many disadvantages: the paper may be lost; the repetition of certain words may lead to discovery; and the difficulty of connecting the important with the unimportant matter, so as to give the whole the appearance of an ordinary letter, is considerable. If this is effected, however, this mode has the advantage of concealing the fact that any secrecy is intended.

Writing with sympathetic ink, or milk, lemon juice, &c. is unsafe, because the agents to make the letters visible are too generally known. Hence the *chiffre quarre*, or *chiffre indechiffrable*, so called, has come very much into use, because it is easily applied, difficult to be decyphered, and the key may be preserved in the memory merely, and easily changed. It consists of a table, in which the letters of the alphabet, or any other signs agreed upon, are arranged under one another, thus:

z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a
b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b
c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c
d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d
e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e
f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f
g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g
h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h
i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i
k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l
m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n
o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q
r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r
s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s
t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u
v	w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v
w	x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w
x	y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x
y	z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
z	a	b	c	d	e	f	g	h	i	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z

Any word is now taken for a key: *Paris*, for example. This is a short word, and, for the sake of secrecy, it would be well to choose for the key some one or more words less striking. Suppose we wish to write in this cypher, with this key, the phrase "We lost a battle;" we must write *Paris* over the phrase, repeating it as often as is necessary, thus:

ParisParisPar
We lost a battle

We now take, as a cypher for *w*, the letter which we find in the square opposite *w*, in the left marginal column, and under *p* on the top, which is *m*. Instead of *e*, we take the letter opposite *e*, and under *a*, which is *f*; for *l*, the letter opposite *l*, and under *r*, and so on.

Proceeding thus, we should obtain the following series of letters:

m f c x l i b t k m i m w

The person who receives the epistle writes the key over the letters: as,

ParisParisPar
m f c x l i b t k m i m w

He now goes down in the perpendicular line, at the top of which is *p*, until he meets *m*, opposite to which, in the left marginal column, he finds *w*. Next, going in the line of *a*, down to *f*, he finds on the left *e*. In the same way, *r* gives *l*, *i* gives *o*, and so on. Or you may reverse the process: begin with *p*, in the left marginal column, and look along horizontally till you find *m*, over which, in the top line, you will find *w*. It is easily seen that the same letter is not always designated by the same cypher; thus, *e* and *a* occur twice in the phrase selected, and they are designated respectively by the cyphers *f* and *w*, *b* and *k*. Thus the possibility of finding out the secret writing is almost excluded. The key may be changed from time to time, and a different key may be used with each correspondent. The utmost accuracy is necessary, because one character, accidentally omitted, changes the whole cypher. The correspondent, however, may ascertain this with considerable trouble.—[British Cyclopædia.]

The Anglo-Chinese Kalendar for the Year of the Christian Era 1833.—We have before us a copy of a publication, with the above title, bearing to be printed in China, at the Albion press, and to be on sale "at Markwick and Lane's, Canton, and Macoa;" "where also," it is added, "may be obtained, A Companion to the Anglo-Chinese Kalendar for 1832, containing various commercial and other tables, many of which continue applicable to the present time." The price of the Companion is one Spanish dollar, that of the Kalendar half as much, or 50 cents. We regard this production as a very great curiosity, and as one of the most interesting signs of the times. The printing press may be said to take a decided part in the regulation of human affairs, when it begins to throw off newspapers and almanacs. Up to this point literature is the luxury of a few; thenceforth it becomes a necessary of life to all, and exercises the power appertaining to that character. The present is, over all the globe, the age of this its new and more mighty manifestation. It is some years since a newspaper, printed partly in the native tongue of the tribe, was established among the Cherokees of North America. There is more than one newspaper now published in the popular dialect of India. Even the Turks now have their printed newspaper; and here we have an Almanac and Companion printed in China, where we believe an English newspaper has also been for some time published. This country, indeed, is the native land of the art of printing, which was practised here many centuries before it was known in Europe; but yet, all circumstances considered, the appearance of an English Almanac from the press of Canton is perhaps more remarkable than any of the other novelties we have mentioned.

The Anglo-Chinese Kalendar commences by some introductory remarks on the Chinese year, which is luni-solar—that is to say, is regulated by the motions of the moon, but is accommodated also, in a rude and imperfect way, to that of the sun, by the insertion, or intercalation, as it is called, of an occasional thirteenth month, when requisite. The year 1833 of our reckoning corresponds to the Chinese year *Kwei-sze*, or the thirtieth of the 75th cycle of sixty, which commenced on the 20th of February, and is the thirteenth of the reigning Emperor Taoukwang. The Chinese week consists, like our own, of seven days, one of which is kept as a holiday or sabbath.

The present Kalendar is drawn up according to the European form, and contains, besides notices of anniversaries, a list of festivals and remarkable days, comprehending most of those observed either in China or Christendom. Some notes are appended,

explanatory of the Chinese festivals, from which we shall give one or two extracts. The following is the note on the festival of Spring, or the Leih-chun term-day, being the 15th day of the 12th moon, which this year fell on the 4th of February: "This day, the period of the sun's reaching the 15th degree in Aquarius, is one of the chief days of the Chinese Kalendar, and is celebrated with great pomp, as well by the government as by the people. In every capital city there are made, at this period, two clay images, of a man and a buffalo. The day previous to the festival, the chefoo, or chief city-magistrate, goes out to *ying chun*, meet spring; on which occasion children are carried about on men's shoulders, each vying with his neighbor in the gorgeousness and fancifulness of the children's dresses. The following day, being the day of the festival, the chefoo again appears as priest of spring, in which capacity he is, for the day, the first man in the province. Hence the chief officers do not move from home on this day. After the chefoo has struck the buffalo with a whip two or three times, in token of commencing the labors of agriculture, the populace then stone the image till they break it in pieces. The festivities continue ten days."

The 20th of February, as already mentioned, was this year the new-year's day of the Chinese. It is called by them Yuen tan, or "the first morning." "The period of new year," says the Kalendar, "is almost the only time of universal holiday in China. Other times and seasons are regarded only by a few, or by particular classes, but the new year is accompanied with a general cessation of business. The officer, the merchant, and the laborer, all equally desist from work, and zealously engage in visiting and feasting,—occasionally making offerings at the temples of those deities whose peculiar aid they wish to implore. Government offices are closed for about ten days before, and twenty days after new year; during which period none but very important business is transacted. On the last evening of the old year, all tradesmen's bills and small debts are paid. This is perhaps the reason why it is called *choo seih*, the evening of dismissal."

We may add the account of the festival of dragon boats, called in Chinese Twan-woo or Twang-yang, and also Teen-chung, falling this year on the 22d of June. "On this day many people race backwards and forwards, in long narrow boats, which being variously painted and ornamented, so as to resemble dragons, are called *lung chuén*, 'dragon boats.' From the narrowness of the boats, and the number of persons on board, there being sometimes from sixty to eighty oars, or rather paddles, it frequently happens that several of the boats break in two; so that the festivities seldom conclude without loss of several lives. Tradesmen's accounts are cleared off at this period."

The Chinese, we find, have their immortal Francis Moore as well as ourselves. The 5th of July, being the eighteenth day of the fifth moon, is the birth-day of the astronomer Chang, of whom the following account is given: "This individual, who formerly superintended the making of the Chinese Kalendar, is supposed still to exist, and to predict eclipses, and other astronomical, as well as astrological, phenomena."

The most interesting part of this Kalendar, however, is its account of the Chinese seasons, given in the form of notices at the head of each month. It may be presumed that, prepared as they are in the country to which they refer, the correctness of these descriptions may be depended on; and we shall therefore give the whole.

"*January.*—The weather during the month of January is dry, cold, and bracing; differing but little, if at all, from the two preceding months, November and December. The wind blows generally from the north, occasionally inclining to north-east or north-west. Any change to south causes considerable variation in the temperature of the atmosphere.

"*February.*—During this month the thermometer continues low; but the dry, bracing cold of the three preceding months is changed for a damp and chilly atmosphere. The number of fine days is much diminished, and cloudy or foggy days are of more frequent recurrence in February and March than in any other months. At Macao the fog is often so dense as to render objects invisible at a very few yards distance.

"*March.*—The weather in the month of March is also damp and foggy, but the temperature of the atmosphere becomes considerably warmer. To preserve things from damp, it is requisite to continue the use of fires and closed rooms, which the heat of the atmosphere renders very unpleasant. From this month the thermometer increases in height until July and August, when the heat is at its maximum.

"*April.*—The thick fogs which begin to disappear towards the close of March are in April seldom if ever seen. The atmosphere, however, continues damp, and rainy days are not unfrequent. At the same time the thermometer gradually rises, the nearer approach of the sun rendering its heat more perceptible. In this and the following summer months, south-easterly winds generally prevail.

"*May.*—In this month summer is fully set in, and the heat, particularly in Canton, is often oppressive; the more so from the closeness of the atmosphere, the winds being usually light and variable. This is the most rainy month in the year, averaging fifteen days and a half of heavy rain; cloudy days without rain are, however, of unfrequent occurrence; and one half of the month averages fair sunny weather.

"*June.*—June is also a very wet month, though, on an average, the number of rainy days is less than in the other summer months. The thermometer in this month rises several degrees higher than in May, and falls but little at night. It is this circumstance, chiefly, which occasions the exhaustion often felt in this country from the heat of summer.

"*July.*—This month is the hottest in the year, the thermometer averaging eighty-eight in the shade at noon, both at Canton and Macao. It is likewise subject to frequent heavy showers of rain; and, as is also the month of August, to storms of thunder and lightning. The winds blow almost uninterruptedly from south-east or south.

"*August.*—In this month the heat is generally as oppressive, and often more so, than in July, although the thermometer usually stands lower. Towards the close of the month the summer begins to break up, the wind occasionally veering from south-east to north and north-west. Typhons seldom occur earlier than this month, or later than the end of September.

"*September.*—In this month the monsoon is entirely broken up, and northerly winds begin to blow, but with little alleviation of heat. This is the period most exposed to the description of hurricanes called Typhons, the range of which extends southwards, over about one half of the Chinese sea, but not far northward. They are most severe in the Gulf of Tonquin.

"*October.*—Northerly winds prevail during the month of October, occasionally veering to the north-east or north-west; but the temperature of the atmosphere is neither so cold nor so dry as in the following months. Neither does the northerly wind blow so constantly, a few days of southerly wind frequently intervening. The winter usually sets in with three or four days of drizzling rain.

"*November.*—This month and the following are the pleasantest in the year, to the feelings, at least, of persons from more northern climes. Though the thermometer is not often below forty, and seldom so low as thirty, the cold of the Chinese winter is often intense. Ice sometimes forms about one-eighth of an inch thick, but this is usually in December or January.

"*December.*—The months of December and January are remarkably free from rain; the average fall in each month being under one inch, and the average number of rainy days being only three and a half. On the whole, the climate of Canton, but more especially of Macao, may be considered very superior to that of most other places situated between the tropics."

The following table presents a view of the range of the thermometer at Canton:

	Average, Noon.	Average, Night.	Highest.	Lowest.
January . . .	64	50	74	29
February . .	57	49	78	38
March . . .	72	60	82	44
April . . .	77	68	86	55
May	78	72	88	64
June	85	79	90	74
July	88	81	94	79
August . . .	85	78	90	75
September . .	83	76	88	70
Ootober . . .	77	69	85	57
November . .	67	57	80	40
December . .	62	52	70	45

[Penny Magazine: C. Knight, London.]

Babbage on the Economy of Manufactures.

[Continued from page 665.]

ON COMBINATIONS OF MASTERS AGAINST THE PUBLIC.

291. A species of combination occasionally takes place amongst manufacturers against persons having patents; and these combinations are always injurious to the public, as well as unjust to the inventors. Some years since, a gentleman invented a machine by which modellings and carvings were cut in mahogany and other fine woods. The machine resembled, in some measure, the drilling apparatus employed in ornamental lathes; it produced beautiful work, at a very moderate expense; but the cabinet-makers met together, and combined against it, and the patent has consequently never been *worked*. A similar fate awaited a machine for cutting veneers by means of a species of knife. In this instance, the wood could be cut thinner than by the circular saw, and no waste of it was incurred; but "the trade" set themselves against it, and, after a heavy expense, it was given up.

Similar examples of combination seem not to be unfrequent, as appears by the Report of the Committee of the House of Commons on Patents for Inventions, June, 1829. See the evidence of Mr. Holdsworth.

292. There occurs another kind of combination against the public, with which it is difficult to deal. It usually ends in a monopoly, and the public are then left to the discretion of the monopolists not to charge them above the "*growling point*"—that is, *not to make them pay so much as to induce them actually to combine against the imposition.* This occurs when two companies supply water or gas to consumers by means of pipes laid down under the pavement in the streets of cities: it may possibly occur also in docks, canals, railroads, &c. and in other cases where the capital required is very large, and the competition very limited. If water or gas companies combine, the public immediately loses all the advantages of competition; and it has generally happened, that, at the end of a period during which they have undersold each other, the several companies have agreed to divide the whole district supplied into two or more portions, and that each company has removed its pipes from all streets but those in its own portion of the district. This removal causes great injury to the pavement, and when the pressure of increased rates induces a new company to start, the same inconvenience is again produced. Perhaps one remedy to evils of this kind might be, when a charter is granted to such companies, to restrict, to a certain amount, the rate of profit to be divided on the shares, and to direct that any profits beyond shall accumulate for the repayment of the original capital. This has been done in several late acts of Parliament, establishing companies. The maximum rate of profit allowed ought to be liberal, to compensate for the risk, and the public ought to have auditors on their part, and the accounts should be annually published, for the purpose of preventing the object of the limitations from being defeated. It must, however, be admitted that this is an interference with capital, which, if allowed, should be examined with great circumspection in each individual case, until some general principle is established on well admitted grounds.

293. An instrument, called a gas-meter, which ascertains the quantity of gas used by each consumer, has been introduced, and furnishes a satisfactory mode of determining the payments to be made by individuals to the gas companies. An instrument somewhat similar in its nature might be contrived for the sale of water; but, in that case, a difficulty is to be apprehended, arising from the diminished quantity which would then run to waste: the streams of water running through the sewers in London are largely supplied from this source; and if the quantity of water flowing through them were diminished, the drainage of the metropolis might be injuriously affected.

294. A powerful combination has long existed amongst the coal owners in the north of England, by which the public has suffered in the payment of increased price. The late examination of evidence before a Committee of the House of Commons has explained its mode of operation, and the Committee have recommended that, for the present, the sale of coal should be left to the competition of other districts.

295. A powerful combination of another kind exists at this moment to a great extent, and operates upon the price of the very pages which are now communicating information respecting it. A subject so interesting to every reader, and still more so to every manufacturer of the article which the reader consumes, deserves an attentive examination.

We have previously shown, (at page 44,) the component parts of the expense of each copy of the present work; and we have seen that the total amount of its cost of production, exclusive of any payment to the author for his labor, is 2*s.* 3½*d.*

Another fact, with which the reader is more practically familiar, is that he has paid, or is to pay, his bookseller six shillings for the volume. Let us now examine into the distribution of these six shillings, and then, having the facts of the case before us, we shall be better able to judge of the merits of the combination, and to explain its effects.

Distribution of the profits on a six-shilling book:

	Buys at.	Sells at.	Profit on capital expended.
	s. d.	*s. d.*	
No. I. The *Publisher*, who accounts to the author for every copy received,	3 10	4 2	10 pr ct.
No. II. *Bookseller*, who retails to the public, -	4 2	6 0	44 "
——. Or, - - -	4 6	6 0	33⅓ "

No. I, the Publisher, is a bookseller: he is, in fact, the author's agent. His duties are to receive and take charge of the stock, for which he supplies warehouse room; to advise the author about the times and methods of advertising; and to insert the advertisements. As he publishes other books, he will advertise lists of those sold by himself; and thus, by combining many in one advertisement, diminish the expense to each of his principals. He pays the author only for the books actually sold, consequently he makes no outlay of capital, except that which he pays for advertisements; but he is answerable for any bad debts he may make in disposing of them. His charge is usually ten per cent. on the returns.

No. II is the Bookseller, who retails the work to the public. On the publication of a new book, the publisher sends round to the trade to receive subscriptions from them for any number of copies not less than two. These copies are usually charged to the subscribers, on an average, at about four or five per cent. less than the wholesale price of the book: in the present case they pay 4*s.* 2*d.* for each copy. After the day of publication, the price charged by the publisher to the booksellers is 4*s.* 6*d.* Different publishers offer different terms to the subscriber; and it is usual, after intervals of about six months, for the publisher again to open a subscription list, so that if the work be one for which there is a steady demand, the trade avail themselves of these opportunities of purchasing, at the reduced rate, enough to supply their probable demand.

296. The volume thus purchased of the publisher at 4*s.* 2*d.* or 4*s.* 6*d.* is retailed by the bookseller to the public at 6*s.* In the one case he makes a profit of forty-four, in the other of thirty-three per cent. Even the smaller of these two rates of profit, on the capital employed, certainly appears to be too large. It sometimes happens that when a purchaser inquires for a book, the retail dealer sends across the street to the wholesale agent, and receives for this trifling service one-fourth part of the money the purchaser pays; and perhaps the retail dealer also takes six months credit for the price which the volume actually cost him. It is stated that all retail booksellers allow to their customers a discount of ten per cent. upon orders above 20*s.*, and that, therefore, the nominal profit of forty-four or thirty-three per cent. is considerably reduced. If this is the case, it may fairly be inquired why the price of £2, for example, is printed upon the back of a book, when every bookseller is ready to sell it at £1 16*s.*; and why those who are unacquainted with that circumstance should be made to pay more than others who are better informed? Another reason has been assigned for the great profit charged upon books, namely, that the purchasers take long credit. This is probably a fact; and, admitting it, no reasonable person can object to a proportionate increase of price. But, certainly, it is equally clear that gentlemen, who do pay ready money, should not be charged the same price as those who defer their payments to a very remote period. In the country, there is a greater appearance of reason for a considerable allowance between the retail dealer and the public, because the profit of the country bookseller will be diminished by the expense of the conveyance of the books from London; but, even in this case, it appears to be too large when compared with the rate of interest which capital produces in other trades.

297. That the profit in retailing books is really too large is proved by two circumstances: First, That the same nominal rate of profit has existed in the bookselling trade for a long series of years, notwithstanding the great fluctuations in the rate of profit on capital invested in every other business. Secondly, That, until very lately, a multitude of booksellers in all parts of London were willing to be satisfied with a much smaller profit, and to sell, for ready money, or at short credit, to persons of undoubted character, at a profit of only ten per cent., and, in some instances, even at a still smaller per centage, instead of that of twenty-five per cent. on the published prices. It cannot be pretended that this high rate of profit is necessary to cover the risk of the bookseller having some copies left on his shelves, because he need not buy of the publisher a single copy more than he has orders for; and even if he do purchase more at the subscription price, he proves, by that very purchase, that he himself does not estimate that risk at above from four to eight per cent. It should also be remarked, that the publisher is generally a retail, as well as a wholesale, bookseller; and that, besides the profit which he realizes on every copy sold by him in his capacity of agent, he is allowed to charge the author as if every copy had been subscribed for at 4*s.* 2*d.*, and of course he receives the same profit as the rest of the trade for those retailed in his shop.

298. Now, a certain number of the London booksellers have combined together. One of their objects is to prevent any bookseller from selling a book at less than ten per cent. under the published price; and in order to enforce this principle, they refuse to sell books, except at the publishing price, to any bookseller who declines signing their agreement. By degrees, many were prevailed upon to join this combination; and the effect of the exclusion it inflicted, left the small capitalist no option between signing or having his business destroyed. Ultimately, nearly the whole trade, comprising about two thousand four hundred persons, have signed the agreement.

As might be naturally expected from an agreement so injurious to many of the parties to it, disputes have arisen: several booksellers have been placed under the ban of the combination, who allege that they have not violated its rules, and who accuse the opposite party of using spies, &c. to entrap them.

299. The origin of this combination has been explained by Mr. Pickering, of Chancery lane, himself a publisher, in a printed statement, entitled "*Booksellers' Monopoly.*"

The following list of booksellers has been copied from that printed at the head of each of the cases published by Mr. Pickering, of the booksellers who form the committee for conducting this combination: J. Allen, 7 Leadenhall street—J. Arch, 61 Cornhill—R. Baldwin, 47 Paternoster row—J. Booth—J. Duncan, 37 Paternoster row—J. Hatchard, Piccadilly—R. Marshall, Stationers' Court—J. Murray, Albemarle street—O. Rees, 39 Paternoster row—J. M. Richardson, 23 Cornhill—J. Rivington, St. Paul's Church-yard—E. Wilson, Royal Exchange.

300. In whatever manner the profits are divided between the publisher and the retail bookseller, the fact remains, that the reader has paid for the volume in his hands 6*s.*, and that the author will receive only 3*s.* 10*d.*, out of which latter sum the expense of printing the volume must be paid: so that in passing through two hands this book has produced a profit of forty-four per cent. This excessive rate of profit has drawn into the book trade a larger share of capital than was really advantageous; and the competition between the different portions of that capital has naturally led to the system of underselling, to which the committee above-mentioned are endeavoring to put a stop.*

* The Monopoly Cases, Nos. 1, 2, and 3, of those published by Mr. Pickering, should be consulted; and, as the public will be better able to form a judgment by hearing the other side of the question, perhaps the Chairman of the Committee (Mr. Richardson) would print those Regulations respecting the trade, —a copy of which, Mr. Pickering states, is refused by the Committee even to those who sign them.

There are two parties who chiefly suffer from this combination—the public and authors. The first party can seldom be induced to take an active part against any grievance; and, in fact, little is required from it, except a cordial support of the authors, in any attempt to destroy a combination so injurious to the interests of both. Many an industrious bookseller would be glad to sell for 5*s*. the volume which the reader holds in his hand, and for which he has paid 6*s*.; and, in doing so for *ready money*, the tradesman who paid 4*s*. 6*d*. for the book would realize, without the least risk, a profit of eleven per cent. on the money he had advanced. It is one of the objects of the combination we are discussing, to prevent the small capitalist from employing his capital at that rate of profit which he thinks most advantageous to himself; and such a proceeding is decidedly injurious to the public.

301. Having derived little pecuniary advantage from my own literary productions, and being aware that, from the very nature of their subjects, they can scarcely be expected to reimburse the expense of preparing them, I may be permitted to offer an opinion, which I believe to be as little influenced by any expectation of advantage from the future as it is by any disappointment at the past. Before, however, we begin to sketch the plan of a campaign against Paternoster row, it will be fit to inform the reader of the nature of the enemy's forces, and of his means of attack and defence. Several of the great publishers find it convenient to be the proprietors of Reviews, Magazines, Journals, and even of Newspapers, The *Editors* are paid, in some instances very handsomely, for their superintendance; and it is scarcely to be expected that they should always mete out the severest justice on works by the sale of which their employers are enriched. The great and popular works of the day are of course reviewed with some care, and with deference to public opinion. Without this, the journals would not sell; and it is convenient to be able to quote such articles as instances of impartiality. Under shelter of this, a host of ephemeral productions are written into a transitory popularity; and by the aid of this process, the shelves of the booksellers, as well as the pockets of the public, are disencumbered. To such an extent are these means employed, that some of the periodical publications of the day ought to be regarded merely as *advertising machines*. That the reader may be in some measure on his guard against such modes of influencing his judgment, he should examine whether the work reviewed is published by the bookseller who is the proprietor of the review: a fact which can sometimes be ascertained from the title of the book as given at the head of the article. But this is by no means a certain criterion, because partnerships in various publications exist between houses in the book trade, which are not generally known to the public: so that, in fact, until Reviews are established in which booksellers have no interest, they can never be safely trusted.

302. In order to put down the combination of booksellers, no plan appears so likely to succeed as a counter-association of authors. If any considerable portion of the literary world were to unite and form such an association, and if its affairs were directed by an active committee, much might be accomplished. The objects of this union should be to employ some person well skilled in the printing, and in the bookselling trade; and to establish him in some central situation as their agent. Each member of the association to be at liberty to place any, or all of his works, in the hands of this agent for sale; to allow any advertisements, or lists of books published by members of the association, to be stitched up at the end of each of his own productions: the expense of preparing them being defrayed by the proprietors of the books advertised. The duties of the agent would be to retail to the public, for *ready money*, copies of books published by members of the association; to sell to the trade at prices agreed upon any copies they may require; to cause to be inserted in the journals, or at the end of works published by members, any advertisements which the committee or authors may direct; to prepare a general catalogue of the works of members; to be the agent for any member of the association in treating respecting the printing of any work. Such a union would naturally present other advantages; and as each author would retain the liberty of putting any price he might think fit on his productions, the public would still have the advantage of reduction in price produced by competition between authors on the same subject, as well as of that arising from a cheaper mode of publishing the volumes sold to them.

303. Possibly one of the consequences resulting from such an association would be the establishment of a good and an impartial Review, a work whose want has been felt for several years. The two long established and celebrated Reviews, the unbending champions of the most opposite political opinions, are, from widely differing causes, exhibiting unequivocal signs of decrepitude and decay. The Quarterly advocate of despotic principles is fast receding from the advancing intelligence of the age; and the new strength and new position which that intelligence has acquired for itself demands for its expression new organs, equally the representatives of intellectual power and of its moral energies; whilst, on the other hand, the sceptre of its Northern rival has passed from the vigorous grasp of those who established its dominion into feebler hands.

A difficulty has been stated that those most competent to supply periodical criticism are already engaged. But it is to be observed that there are many who now supply literary criticisms to journals whose political principles they disapprove; and that if once a respectable and well supported Review* were established, capable of competing, in payment to its contributors, with the wealthiest of its rivals, it would very soon be supplied with the best materials the country can produce.†

* At the moment when this opinion as to the necessity for a new Review was passing through the press, I was informed that the elements of such an undertaking were already organized.

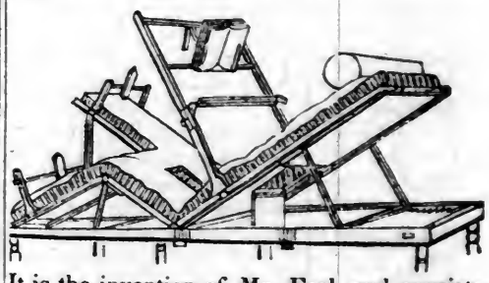
† It has been suggested to me, that the doctrines maintained in this chapter may subject the present volume to the opposition of that combination which it has opposed. I do not entertain that opinion; and for this reason, that the booksellers are too shrewd a class to supply such an admirable passport to publicity. But should my readers take a different view of the question, they can easily assist in remedying the evil, by each mentioning the existence of this little volume to two of his friends.

New Saw.—A machine has recently been constructed by a Mr. Job White, of Belfast, Maine, by which a saw, of the proper form, is made to operate lengthwise of the log, cutting round it, and approaching the centre in a spiral direction, in such a manner as to cut the log into one continuous board. The board unwinds from the log, like the cloth from a weaver's beam.

This invention will be of great value to carriage makers, who use bass-wood boards for pannels, as they may be cut from much smaller, or even hollow logs.—[Northern Farmer.]

Chloride of Soda.—A singular case of a severe burn cured by the use of a solution of the chloride of soda, is recorded in the London Lancet. An attorney, in attempting to put out the flames that had attacked the curtains of his bed, had got his hands burned—blistered, but not broken. He sent for a couple of quarts of the lotion, (4 oz. of the solution to a pint of water,) had it poured into soup plates, wrapped his hands in lint, as no skin was broken, and so kept them for some time. Next morning he was so perfectly well that only one small dried patch of burn remained; yet an hour and a half had elapsed before the application. The same solution has been equally effectual in scalds and bruises. It never fails almost immediately to heal a "black eye." When the chloride is used for scalds, it is necessary to use with it in the after applications some spermaceti oil.—[Philadelphia Sentinel.]

Invalid Bed.—There are many contrivances under this name, but the one represented beneath seems the best mechanical arrangement for the purpose.



It is the invention of Mr. Earl, and consists of a strong frame supporting a jointed bedstead. The situation of the pillow points out the part of the apparatus which supports the upper portion of the body. The mattress should be either of horse-hair or wool, and nailed round its edges to the upper division of the moveable frame.

Another form of bed for an invalid has been suggested by Dr. Arnott. (See page 37, Vol. II.) It consists of a trough containing water, and covered with a cloth composed of cotton coated with Indian rubber. This forms one of the softest and most flexible beds that has ever been devised.—[Partington.]

Sauerkraut, or Salted Cabbage.—It is only ten or fifteen years since this article was introduced on board British ships of war, as an article possessed of valuable antiscorbutic properties. Experience proving it to be valuable for the above mentioned qualities, it is still retained in their supplies. It has long been in use on board of German and Dutch national vessels, as well as merchant ships, the crews of which, even during the longest voyages, remain perfectly free from scorbutic complaints. From time immemorial it has formed a favorite standing dish to the robust inhabitants of the north of Europe, during their long and rigorous winters It is recommended by cheapness, savor, salubrity, and simplicity of preparation. Cabbage should be taken that has sustained two or three white frosts previous to being gathered. Sound compact heads should be chosen; the green and imperfect leaves should be carefully removed, each head divided, and the stalk cut out, then sliced fine with an instrument made for the purpose: a suitable tub, barrel shaped, should be prepared. After cutting, it should be salted with the proportion of a pint of fine salt to the bushel of cabbage, well intermingled, which may then be gradually packed in the tub, pressing it continually with an appropriate wooden rammer. It should then be covered with a circular board, two inches less in diameter than the tub, and a weight of 20 or 30 lbs. placed on it. In two weeks it will undergo the acetous fermentation, when it will be fit for use. Attention should be paid to it every week, to skim the froth from the brine, to wash the board, stone, and sides of the tub. When Sauerkraut is taken out of the tub to cook, it should always be washed with fresh water, and cooked without the addition of any other vegetable. A piece of fat pork, beef, or a fat goose, enclosed with the Sauerkraut, in a close tin vessel, and stewed three hours, forms an excellent dish, and is the more valuable as it can be had at the seasons of the year, and under circumstances, that vegetables cannot be procured.—[Daily Chronicle.]

EDUCATION.—The following beautiful extract is from an address delivered before the Zelosophic Society of the University of Pennsylvania, by Hon. Joseph Hopkins, LL. D., page 26:

"The American parent does an injustice to his child which he can never repair, for which no inheritance can compensate, who refuses to give him a full education because he is not intended for a learned profession. Whatever he may intend, he cannot know to what his son will come; and if there should be no change in this respect, will a liberal education be lost upon him because he is not a lawyer, a doctor, a divine? Nothing can be more untrue or pernicious than this opinion. It is impossible to imagine a citizen of this commonwealth to be in any situation in which the discipline and acquirements of a *liberal* education, however various and extended, will not have their value. They will give him consideration and usefulness, which will be seen and felt in his daily intercourse of business or pleasure; they will give him weight and worth as a member of society, and be a never-failing source of honorable, virtuous, and lasting enjoyment, under all circumstances, and in every station of life. They will preserve him from the delusion of dangerous errors, and the seductions of degrading and destructive vices. The gambling table will not be resorted to to hasten the slow and listless step of time, when the library offers a surer and more attractive resource. The bottle will not be applied to to stir the languid spirit to action and delight, when the magic of the poet is at hand to rouse the imagination and pour its fascinating wonders on the soul. Such gifts, such acquirements, will make their possession a true friend, a more cherished companion, a more interesting, beloved, and loving husband, a more valuable and respected parent."

CHAIN SAW.—P. P. Quimby, of Belfast, (Me.) has invented a saw for cutting lumber, &c. which is believed to be an important improvement. The power may be supplied by horse, steam, or water. The Belfast Journal says: It is put together much like a watch chain. The teeth are separate, and new ones are added as easily as teeth can be set in the common saw. It runs over two cylinders with grooves, and saves more than one half of the time and labor of the straight saw, as it is constantly operating, and it moves like the circular saw. It saws back and forth, and thus saves all the time occasioned by the necessity of carrying back the carriage of the common saw. It unites most completely all the advantages of both the straight and circular saw, and promises to make a rapid and complete revolution in the whole business of sawing wood, marble, &c. We have seen the model, or rather the miniature, in successful operation, doing its office with surprizing precision and beauty. A patent, we hear, has been secured, and a saw on a large scale will shortly be put into action. It has attracted much attention from many curious and practical observers of its principle and work, and will well reward the trouble any one may take to call and examine it.

NEW OVEN.—We have lately examined a model of an oven on a new construction, invented and patented by Mr. Joseph C. Carlisle, of Chesterville. It is built of brick, like any oven, but below the hearth is a vacancy for the fire; and the flue runs spirally around the outside of it—so that it is heated from the outside. It requires no sweeping or wetting of the hearth, and of course is exempt from the cracking which is often occasioned thereby. It may be kept constantly hot, if necessary, as the fire does not communicate at all with the inside of it.—[Maine Farmer.]

NEW-YORK AMERICAN.

OCTOBER 19, 21, 22, 23, 24, 25—1833.

LITERARY NOTICES.

UNITED STATES MILITARY AND NAVAL MAGAZINE, Nos. 5 and 6 of Vol. I, and 1 and 2 of Vol. II; *Washington*, BENJ. HOMANS.—Accidental circumstances have prevented our noticing in succession, as they appeared; and as, while periodicals are not yet fully established, it is our wish to do—the numbers of this magazine, till they have now largely accumulated on our hands. The delay, however, has enabled us, by instituting a sort of comparative examination among many of them, to ascertain, as we have done to our satisfaction, the progressive character of the work, and consequently to recommend it the more confidently to the support of the two services to whose interest and honor it is especially devoted, as well as to the patronage of the public generally. War is not the whole business of military life, nor the only topic which can give zest to its annals. In our service particularly, both by land and sea, our small but well educated and well disciplined forces, have a constant field before them of peaceful adventure, and curious and interesting research, which may and should be advantageously cultivated, and the result of which might both profitably and agreeably be communicated through the pages of this magazine. There seems, too, a peculiar fitness, that, in a country so extensive as ours, there should be a common repository for the thoughts, the feelings, and the achievements of those who are vowed to its defence, but very many of whom may yet pass through long, long years of service without ever being brought into personal communication with each other. In such a magazine as this they may, however widely separated, still speak to each other, and thus cultivate that mutual harmony and pride of profession which is summed up in the French phrase of *Esprit de Corps*.

Of the manner in which the work is sustained—while expressing upon the whole a favorable opinion in regard to it—we must yet say, that there is to our knowledge, both in the army and navy, talent to render it more forcible and attractive than it has yet been. The editor and publisher does his part fairly and impartially, and it concerns the honor of both services that a miscellany, bearing their title and superscription, should not be abandoned too entirely to the pens of unpractised juniors for its supplies.

THE PEOPLE'S MAGAZINE, Parts I and II.

PETER PARLEY'S MAGAZINE, Part I and II. *Boston, Lilly, Wait & Co.; N. York, Mahlon Day*, and *John Wiley* Agent.

The first of these publications appears semi-monthly in numbers, each one containing many engravings or wood cuts, and treating in a brief but intelligent manner, every variety of subject calculated to interest or inform the reader: the whole at the price of *one dollar per annum*. The two parts before us contain thirteen numbers, or about half a year's issue; and when we look at them, and think that for fifty cents, every family may possess themselves semi-annually of such an amusing and really instructive miscellany, we cannot but think those the losing parties who fail to avail themselves of so cheap a gratification—particularly where there are young persons in the family.

What we have thus said of the *People's Magazine*, applies also to *Peter Parley's Magazine*, from the same publishers' office; except that Peter Parley addresses himself rather to young children than to adults or those passed the age of childhood. The price is the same; it is issued also semi-monthly; and the selection of matter and ornament appears to be quite happy.

THE PRINCIPLES OF THE ART OF MODERN HORSEMANSHIP; by M. Lebeaud: Translated from the French, by D. J. DESMOND, Esq. Philadelphia, E. I. CAREY & A. HART.—Equitation, like all other arts has its principles, both in respect of the rider and the horse. They are are well laid down and explained in this little treatise, which, however, we must say, seems to have been translated with dictionary in hand, and without any great knowledge of the original tongue. The following note by the translator, gives good reasons for taking the left, instead of, as is the custom, the right side of a lady on horseback:

When a gentleman accompanies a lady on horseback, he should take the left side of her horse. The custom of taking the right side, is derived from the English mode of riding. The law of England directs the left hand of the road to be taken; the gentleman therefore takes the right, to protect the lady from vehicles, &c. which pass on that side. Here the law directs the right hand of the road to be taken, consequently the gentleman should take the left side of the lady's horse. It seems to be best adapted to afford efficient assistance, whatever may occur. The right hand of the gentleman is perfectly free, and may be used to stop the horse, or rescue the lady from danger. He can on this side aid her in disentangling her dress, disengaging her foot from the stirrup, adjusting her reins, and lifting her off her seat, without exposing her to the accidents which might occur to him, if he attempted to give her assistance from the other side. It is not so easy to afford assistance to the lady with the left hand, nor is it so easy for the rider to command his own horse with the right hand.

AN ESSAY ON THE SPIRIT AND INFLUENCE OF THE REFORMATION; by C. VILLERS, *some time Professor of Philosophy at Gottingen*—translated from the French, with an Introductory Essay, by SAMUEL MILLER, D. D., Professor in the Theological Seminary at Princeton, N. J.—*Philad.* KEY & BIDDLE.—This Essay obtained the prize on the following question, proposed by the National Institute of France:—"What has been the influence of the Reformation by Luther on the political situation of the different States of Europe, and on the progress of knowledge."—Such a question, allowing immense range and involving the deepest interests, required not only great learning and research for the adequate discussion of it, but an unprejudiced and well-disciplined mind. The author, who in this essay seems to have brough to the work all these requisites, was a soldier of the army of *Condé* at the outbreak of the French revolution—a Frenchman and an emigrant, his talents procured for him the station of Professor at Gottingen; and, not himself an ecclesiastic, he entered for and bore away the prize proposed for the discussion of a subject on which ecclesiastics chiefly might have been expected to write. They who have read Moore's Travels of an Irish Gentleman in search of a Religion, will find causes and effects stated in this work which that volume certainly does not view in the same light; and all Protestants will be gratified by this exposition of the benefits which have resulted to the world at large—to freedom, to industry, and to the spread of knowledge—from that Reformation whence they derive their distinctive name.

The preliminary remarks of the Rev. Dr. Miller, are well fitted to prepare the reader for the Essay, by recalling briefly the state of superstitious vassalage enforced by usurped temporal authority, under which Europe groaned when Luther broke the bonds of the church.

Of a work like this no idea can well be communicated by quotations. We annex, therefore, only a short extract concerning our own country, from that portion of the book which discusses *the influence of the Reformation* upon various Christian countries :—

United States of America.—It is sufficient to name this new state, which is wholly European upon the soil of America, to bring to mind that it was created by the partisans of reform and of liberty, flying from the oppression and intolerance of parties. If the English emigrants who had sought shelter on the continent of Europe, during the course of the troubles which have been spoken of, brought back with them the seeds of discord and of hatred, those who took refuge in the solitudes of Pennsylvania, acquired peace and toleration there. They founded Philadelphia, *the city of brothers;* certainly the most pleasing name that ever was borne by the residence of man. Escaped from the tempests to this distant coast, restored to nature and the primitive destination of the human race, these colonists, who had taken their knowledge with them, had leisure to reflect on the origin and rights of societies; on the respective duties of governments and nations. Having besides an entirely new political body to organize, the elements of legislation must necessarily engage their attention first. We have consequently received from thence some admirable precepts, and still more admirable examples. It is known that after having returned under the dominion of the mother country, this association of free and energetic men, of almost all countries, afterwards determined to resume the rights of governing themselves. Louis XVI. seconded them in this enterprise, and sent an army thither. The French who composed it came as friends among these republicans, were admitted into their confidence, and, for the first time, saw this spectacle to them so surprising, of simplicity of manners, of evangelical peace, among men who supported their rights. Reflection arose with them; they compared the principles and the government of their own country, with what they observed among the descendants of Penn, and it is notorious how eminently these Frenchmen, who were thus made soldiers of liberty by a monarch, showed themselves to be so in effect, during the first years of the revolution. Among the great number of proximate and remote causes which contributed to it, the American republic, and the reformation from which it sprang, must not be forgotten.

This state, still weak, at a distance from Europe, has not hitherto had much direct influence, on the political system. But who can calculate that which it may one day acquire on the colonial and commercial system so important to Europe? Who can foretell all that may result in the two worlds, from the seductive example of the independence conquered by the Americans? what new position would the world assume, if this example was followed? and without doubt it will be in the end. Thus two Saxon monks will have changed the face of the globe. The Dominican Tetzel, came impudently to preach indulgences at the gate of Wittemberg; the open and vehement Luther was indignant at it; he raised his voice against the indulgences, and all Europe was affected, put into a ferment, and inflamed. A new order of things was the result; powerful republics were founded. Their principles, still more powerful than their arms, were introduced into all nations. Hence arose great revolutions, and those which may yet arise, are, doubtless incalculable.

This essay was written twenty years ago; and what was then prophetic only, as to the future influence of American independence and American institutions upon the political and social systems of Europe, has already become historical.

Traits and Stories of the Irish Peasantry: 2 vols. *Philadelphia: E. L. Carey & A. Hart.*—According to the declaration of the author in his preface, this book is of genuine Irish manufacture, by one "born amidst the scenes he describes, reared as one of the people, whose situation and characters he sketches, and who can cut and dress a shillelah as well as any man in his Majesty's dominions—aye, and use it too: so let the critics beware." The stories relate chiefly to the northern Irish, whose resentment against, and hatred of, their English invaders, are deep-seated, and possibly inextinguishable. There is certainly much power of delineating character, displayed in these pages; and the peculiarities both of dialect and feeling, are hit off, we are persuaded, with great truth. From the tale of *the party fight and funeral* in the second volume, we make an extract, which exemplifies the powers of the writer. *Vengeance* is the name of an Orange farmer, who had taken a farm which was under the interdict of the misguided Catholic peasantry of the neighborhood :

Vengeance, braving all their threats, removed to the farm, and set about its cultivation with skill and vigor. He had not been long there, however, when a notice was posted one night on his door, giving him ten days to clear off from this interdicted spot, threatening, in case of non-compliance, to make a bon-fire of the house and offices, inmates included. The reply which Vengeance made to this was fearless and characteristic. He wrote another notice, which he posted on the chapel door, stating that he would not budge an inch—recommending, at the same time, such as intended paying him a nightly visit to be careful that they might not chance to go home with their heels foremost. This, indeed, was setting them completely at defiance, and would, no doubt, have been fatal to Vesey, were it not for a circumstance which I will now relate :—In a little dell below Vesey's house lived a poor woman called Doran, a widow; she inhabited a small hut, and was principally supported by her two sons, who were servants —one to a neighboring farmer, a Roman Catholic, and the other to Dr. Ableson the Rector of the parish. He who had been with the Rector lost his health shortly before Vengeance succeeded the M'Guigans as occupier of the lands in question, and was obliged to come home to his mother. He was then confined to his bed, from which, indeed, he never rose.

This boy had been his mother's principal support —for the other was unsettled, and paid her but little attention, being, like most of those in his situation, fond of drinking, dancing, and attending fairs. In short, he became a Ribbonman, and consequently was obliged to attend their nightly meetings. Now it so happened that for a considerable time after the threatening notice had been posted on Vengeance's door, he received no annoyance, although the period allowed for his departure had been long past, and the purport of the paper uncomplied with. Whether this proceeded from an apprehension on the part of the Ribbonmen of receiving a warmer welcome than they might wish, or whether they deferred the execution of their threat until Vengeance might be off his guard, I cannot determine; but the fact is, that some months had elapsed, and Vengeance remained hitherto unmolested.

During this interval the distress of Widow Doran had become known to the inmates of his family, and his mother—for she lived with him—used to bring down some nourishing food to the sick boy. In these kind offices she was very punctual; and so great was the poverty of the poor widow, and so destitute the situation of her sick son, that, in fact, the burthen of their support lay principally on Vengeance's family.

Vengeance was a small thin man, with fair hair, and fiery eyes; his voice was loud and shrill, his utterance rapid, and the general expression of his countenance irritable. His motions were so quick, that he rather seemed to run than walk. He was a civil, obliging neighbor, but performed his best actions with a bad grace; a firm, unflinching friend, but a bitter and implacable enemy. Upon the whole he was generally esteemed and respected—though considered as an eccentric character, for such, indeed, he was. On hearing of Widow Doran's distress, he gave orders that a portion of each meal should be regularly sent down to her and her son; and from that period forward they were both supported principally from his table.

In this way some months had passed, and still Vengeance was undisturbed in his farm. It often happened, however, that Doran's other son come to see his brother; and during these visits it was but natural that his brother and mother should allude to the kindness they daily experienced from Vesey.

One night, about twelve o'clock, a tap came to Widow Doran's door, who happened to be attending the invalid, as he was then nearly in the last stage of his illness. When she opened it, the other son entered, in an evident hurry, having the appearance of a man who felt deep and serious anxiety. 'Mother,' said he, 'I was very uneasy about Mick, and just started over to see him, although they don't know at home that I'm out, so I can't stay a crack; but I wish you would go to the door for two or three minutes, as I have something to say to *him*.'

'Why, thin, Holy Mother!—Jack, a-hagur, is there any thing the matther, for you look as if you had seen something?"

'Nothing worse than myself, mother,' he replied; 'nor there's nothing the matther at all—only I have a few words to say to Mick here, that's all.'

The mother accordingly removed herself out of hearing."

'Mick,' says the boy, 'this is a bad business—I wish to God I was clear and clane out of it.'

'What is it said Mick, alarmed.

'Murdher, I'm afeard, if God does'nt turn it off them, some how.'

'What do you mane, man, at all?' said the invalid, raising himself, in deep emotion, on his elbow, from his poor straw bed.

'Vengeance,' said he—'Vengeance, man he's going to get it. I was out with the boys on Sunday evening, and *at last* it's agreed on to visit him to-morrow night. I'm sure and sartin he'll never escape, for there's more *in* for him than taking the farm, and daring them so often as he did—he shot two fingers off of a brother in-law of Jem Reilly's one night that they war *on* for threshing him, and that's coming home to him along with the rest.'

'In the name of God, Jack,' inquired Mick, 'what do they intend to do to him?'

'Why,' replied Jack, 'it's agreed to put a coal in the thatch, in the first place; and although they were afeard to name what he's to get besides, I doubt they'll make a spatch-cock of *himself*. They won't meddle with any other of the family, though—but *he's down* for it.'

'Are *you* to be one of them?' asked Mick.

'I was the third man named,' replied the other, 'bekase, they said, I knew the place.'

'Jack,' said his emaciated brother, with much solemnity, raising himself up in the bed, 'Jack, if you have act or part in that bloody business, God in his glory you'll never see. Fly the country—cut off a finger or a toe—break your arm, or do something that may prevent you from bein' there. Oh, my God!' he exclaimed, while the tears fell fast down his pale cheeks—'to go to murder the man, and lave his little family widout a head or a father over them, and his wife a widow! To burn his place, widout rhime, or rason, or offince. Jack, if you go, I'll die cursing you, I'll appear to you—I'll let you rest neither night nor day, sleeping or waking, in bed or out of bed. I'll haunt you, till you'll curse the very day you war born.'

'Whisht, Mickey,' said Jack, 'you're frightening me: I'll not go—will that satisfy you?'

'Well, dhrop down on your two knees, there,' said Mickey, 'and swear before the God that has his eye upon you this minute, that you'll have no hand in injuring him or his while you live. If you don't do this, I'll not rest in my grave, and maybe I'll be a corpse before mornin'.

'Well, Mickey,' said Jack, who, though wild and unthinking, was a lad whose heart and affections were good, 'it would be hard for me to refuse you that much, and you not likely to be long wid me—I will;' and he accordingly knelt down and swore solemnly, in words which his brother dictated to him, that he would not be concerned in the intended murder.

'Now, give me your hand, Jack,' said the invalid; 'God bless you—and so he will. Jack, if I depart before I see you again, I'll die happy. That man has supported me and my mother for near the last three months, bad as you all think him. Why Jack, we would both be dead of hunger long ago only for his family; and, my God! to think of such a murdering intention, makes my blood run cowld——'

'You had better give him a hint, then,' said Jack, 'some way, or he'll be done for, as sure as you're stretched on that bed; but don't mintion names, if you wish to keep me from bein' murdhered for what I did. I must be off now, for I stole out of the barn;* and only that Atty Laghy's gone along wid the master to the —— fair, to help him to sell the two coults, I couldn't get over at all.'

'Well, go home, Jack, and God bless you, and so he will, for what you did this night.'

Jack accordingly departed, after bidding his mother and brother farewell.

Boys and Girls' Library, No. XVII; *N. York*, J. & J. Harper.—A collection of stories, which may be almost called tracts, is furnished in this volume. They are "the Clergyman's Orphan," a tale founded on fact, by a clergyman of New York; "The Infidel reclaimed;" and "Jane the Orphan." They are well intentioned, but not very skilfully executed.

* Laboring servants in Ireland, usually sleep in barns.

FOREIGN INTELLIGENCE.

[*From the New-York American of Tuesday.*]

LATE FROM EUROPE.—The north-easterly storm of the last three days, has brought very many homeward bound vessels into port. Among these are, the packet ship *York*, Nye, from London, with papers to 11th September; the Liverpool packet, *North America*, Macy, with London papers to 16th September; the Havre packet *Havre*, Stodard, with Paris papers to 8th September; and the transient merchant vessels, *Warsaw*, Soule, from Bordeaux, and *Mary Jane*, M'Kinstry, from Rochelle, with Paris papers to the 17th September.

The news they bring, which relates chiefly to Portugal, is important. The young Queen Donna Maria had been acknowledged by France and Sweden. She herself, with the wife of Don Pedro, was in England, and had passed some days at Windsor, received and treated with all the honors of royalty. Meanwhile her capital, Lisbon, had been attacked by Bourmont, but without success. This attack was made on the 5th September, and there are accounts in the Paris papers to the 7th inclusive, which speak of preparations by Bourmont for a renewed attack—both armies being in presence. A Spanish courier, however, from Madrid for Paris, spread a report on his route that Lisbon had been again attacked and captured by Bourmont *on* the 7th. This report, however, unless there be error in the date, must be erroneous. We shall not, nevertheless, be surprized to hear by the next short arrival, that the capital has again fallen into the hands of the Miguelite forces, which are undoubtedly numerically stronger than those of the Queen. Lisbon is entirely open on the land side, and though temporary works may have been thrown up by Villa Flor, they would hardly resist a determined attack led by a skilful and now desperate soldier like Bourmont.

The meeting of the Sovereigns of Russia, Prussia and Austria, gives rise to abundant comment in both the English and French papers. The London Spectator seems to think it not improbable that—inspired by the success he has so recently met with in Poland and Turkey, and acting under the conviction that the two antagonist principles of popular liberty and despotic rule are now struggling for the ascendancy in Europe and that those therefore, who, as Frederick says, are "sovereigns by profession," must vindicate at all hazards their privileges—the Emperor of Russia may be seeking to put down in France, as the focus of all Europe's troubles, the government sprung from the revolution of the three days. In this sense the recognition by Sweden of Donna Maria is looked upon as an indication that in such a contest Bernadotte and his people will be on the side of France and England: these three, if firmly united, are more than a match for all Europe besides.

The Cholera had broken out in Seville and Granada with great malignity.

Private letters from Russia states that the cholera has again broken out in Russia, and particularly in the Governments of Saratof and Woronesh, and at Orel and other places in the neighborhood of Moscow.

Mrs. Hannah Moore died on the 7th, at her residence in Windsor Terrace, Clifton, in the 80th year of her age. Few persons have enjoyed a higher degree of public esteem and veneration than this excellent and distinguished lady.

PARIS, SEPT. 15.—The United States ship Delaware, of 80 guns, which sailed from New York on the 11th ult., arrived at Cherbourg on the evening of the 12th inst. This ship has on board Mr. Livingston, Envoy of the United States to the French Government.

LIVERPOOL, SEPT. 16.—The packet ship Virginian, Capt Harris, which arrived on Wednesday, in 17 days from New York, made the run from land to land in 14. So pleasant was the weather that her royals were never once taken in during the passage.

The number of vessels which arrived at this port, from Wednesday to Sunday, amounted to 96 from foreign ports, and 130 coastwise and from Ireland, making 226 in five days. On Wednesday alone 104 vessels arrived, namely 45 from foreign ports and 59 coastwise.

LONDON, Sept. 15.—*Smuggling through the French Embassy.*—A seizure of considerable importance was made on Monday last at the custom house, Dover, consisting of silks, blonde lace, veils and ribbands, of the estimated value of £1,500, under the following circumstances:—A person, described in his passport as "Le Baron Franceschi, se rendent en Courier a Londres," landed from the Crusader, Calais packet, and, on his carriage being brought to the custom house, in the usual way for examination, there were found in it 26 paper packages sealed with the seal of the French Foreign Office, and directed to Prince Talleyrand, in London. The examining officer suspecting the packages not to contain despatches, declined to pass them, and the collector of the customs being appealed to, detained the whole with the Baron's carriage. In addition to the 26 packages, there were found a large leathern bag full of packages of the same description, and a portmanteau, which being locked, was sent under seal of office to the King's warehouse; and the whole transaction was communicated to the Board of Customs in London, who, it is believed, lost no time in bringing the same under the notice of Prince Talleyrand, in order to afford his Excellency the earliest opportunity of repudiation of all connection with so disgraceful an affair.

[*From the New-York American of Wednesday.*]

By the Philadelphia, from London there are papers to the 20th, which, however, do not furnish dates later from Portugal than those received yesterday.

By the ship Empress from Bordeaux, there are later Paris dates, but they too only communicate details of what we learned yesterday. Up to the morning of the 8th, no new attack had been made on Lisbon. The report however that *Belem*, which is the suburb on the Tagus, of Lisbon, was in the possession of the Miguelites, and the more alarming one still, that the supply of water for which that city is mainly indebted to the noble aqueduct of Alcantara, had been cut off by the assailants, render the position of the capital very critical.

The young Queen had sailed from England. It would be a sad mockery of the regal honors she had received in that country, to find on arriving in her own, that she had lost her kingdom.

The French have equipped a new and large expedition for Algiers, with the purpose of consolidating and possibly of extending their conquests and settlements in Africa. One would think that the overthrow of the predatory and piratical hordes which have so long condemned the whole Mediterranean coast of Africa to sterility and barbarism, while they exercised a degrading and injurious dominion over the commerce of other nations, could not be looked upon with jealousy by England or any other civilized nation; yet, if the article we extract given in Bell's Weekly Messenger be a fair expression of English opinions, such would nevertheless seem to be the fact.

VERSAILLES—NO LONGER ROYAL.—The following paragraph is from a late number of *Galignani*:

We understand that it is decided to convert the magnificent Palace of Versailles into a museum for receiving collections of paintings and sculptnre, illustrative of the progress of these arts in France, and representing all the most celebrated victories gained by the national armies. The civil list, it is said, has appropriated between two and three millions of francs to this great work, which will be begun immediately.

ENGLISH EMANCIPATION BILL.—As soon as the Slave Emancipation Bill had passed the House of Peers, Sir Bethell Codrington addressed a letter of which the following is a copy, to his Majesty's Colonial Secretary:—

SIR—As the bill, more fatal in my opinion to the slave than even to the West Indian planter, whose property is to be wrested from him, and which must make every West India proprietor desirous of realizing as much as he can from the wreck of that property which is as yet left him, is now about to become a law, I beg to offer the immediate manumission of every slave on the island of Barbuda (upwards of 500,) on the receipt of my proportion of that sum so inadequately termed compensation.

I have the honor to be, &c. &c

C. BETHELL CODRINGTON.

The Berlin State Gazette of the 11th inst. says—The Emperor of Russia, in consequence of a slight indisposition, left Schewdt for Bohemia, only at half past seven o'clock, on the morning of the 9th. It appears that the Crown Prince will accompany his Imperial Majesty as far as Frankfort-on-the-Order. The Emperor will thence proceed to Gorlitz where his august sister the Grand Duchess of Saxe Weimar and consort have arrived to meet him. Among the arrivals at Berlin are the Crown Princess, the Princess William, Charles, and Albert of Prussia, with their consorts, the hereditary Grand Duke and Duchess of Mecklenberg Scherwin, and M. de Ribeaupierre, from Schwedt, Count de Witt, Military Governor of Warsaw, has left Berlin for Warsaw."

Extract of a letter of the 13th inst. from Antwerp: "All the fortifications of the citadel are now under repair. A great number of workmen are engaged in re-constructing the rampart destroyed by the breach battery. M. Dubosh, major of the engineer corps, has received orders from the Minister of War to hasten the repair and armament of all the forts on the Scheldt.

The London Herald, in giving the following letter from Brussels, remarks, that Europe at present is full of combustible materials.

BRUSSELS, SEPT. 17.—We have received to-day some important news from the Congress in Bohemia. Our correspondent states, that a long and circumstantial note was addressed by the King of Holland to the Monarchs, detailing the origin and progress of the Belgian rebellion; laying great stress on the reliance which he placed on the treaties of Vienna. He then states that the majority of the Belgians took no part in the revolution, and that the greater portion of the wealth and respectability of the nation would gladly see a return of the Nassau family. His Dutch Majesty, after protesting against the determination of a portion of the Conference assembled in London, to act as arbitrators instead of mediators, demands that the treaties of Vienna be put in force, and that he be assisted in recovering his lost kingdom. Previous to the forwarding of this note to the Congress, a copy was submitted to the Courts of Austria and Prussia; and it is positively asserted that these Powers promised to support the pretensions of the writer. The King of Prussia, who has hitherto acted a double part, is now convinced that he must make a decided choice in his future politics, and either link himself with the Liberal party, or support the Emperors of Austria and Russia in their political crusade. On the authority of the writer above alluded to, it appears certain that Frederick has at length decided on joining the Northern Powers, and entering seriously into their plans. The Dutch note having been taken into consideration, it was resolved to support the King of Holland, and, in the event of an intervention by any Power, to consider such an act a declaration of war against all the parties whose signatures were attached to a treaty offensive and defensive to be formed on this basis.

This question having been well considered previous to the meeting of the Monarchs, and all the preliminary articles have been agreed to, the Emperor of Russia sent from St. Petersburg despatches to Prince Lieven, with instructions in conformity with the intended arrangement. And I know for certain that the Belgic Government received this day at noon despatches from London of so unpleasant a nature, that a Minister of the Crown declared "a general war inevitable." Our accounts from Holland fully corroborate all that I have stated. "Never," says a Correspondent from the Hague, "were we so soon certain of the powerful assistance of the Cabinets of St. Petersburg and Vienna as at this moment."

The increased force of cavalry which Austria continues to pour into the Tyrol, particularly near the frontiers of Switzerland, will not fail to attract the notice of the political world. I feel certain that Austria has long been preparing for a general movement; and last year, I gave it as the opinion of the best informed that the close of the year 1833 would bring forth some decided plans from the Northern Powers.

IRELAND.

The New Lord Lieutenant.—The Marquis Wellesley is expected in Dublin on the 26th instant, with full powers to resume the reins of Vice-Regal Government.

Retirement of the Lord Lieutenant.—The Marquis of Anglesea reached Dublin on Tuesday, having made the journey for the express purpose of receiving the new Lord Lieutenant, and personally resigning into his hands the government of his lands. This act of courtesy completed, the Noble Marquis passes to Naples and winters at Rome, his physicians having declared that a change of air is absolutely necessary for the preservation of his health.

THORN, Aug. 27.—The late disturbances in various parts of Poland have subsided Such of the insurgents as have not made their escape across the frontier, have fallen into the hands of the Russians, who, relieved from their fears, now give themselves up to vengeance. More than four thousand persons, the greater part of them belonging to the most distinguished families, gorge the prisons of Poland: the mere suspicion of an insurgent having touched the estate of a proprietor, is sufficient for the latter to be treated as a criminal; and many whose innocence is fully established are still detained in confinement; among them are many old men and even women. Their number increases daily, and the only diminution it experiences, is by those who undergo the capital punishment to which they are condemned, and which has been inflicted upon a great many. The most inquisitorial measures are resorted to in order to extort from the prisoners confessions as to their relations with the inhabitants, and as to the means by which the insurrection was excited and upheld. The Prussian Government vies in cruelty with the Emperor Nicholas. Mr Flotvel came to Posen, in April last, with a pretended amnesty for such of the Polish subjects of Prussia as during the late war for independence joined the ranks of their brethren; but this, after all, was nothing less than a confirmation of the doom denounced against them, for it did not abolish the pain of imprisonment inflicted upon minors, nor the confiscation of property; men who were free from military duty on account of their age or the state of their health have been enrolled as private soldiers. It is announced that the Prussian Government is about to make forced purchases of estates to a great extent, and transfer them to Prussians, in order by degrees to extirpate the Poles from the province. The prisoners confined for political offences are treated with great rigor."

SUMMARY.

The Commissioners under the Treaty of Indemnities with France met on Monday at Washington, pursuant to adjournment—present, Messrs. Campbell and Kane. Mr. Saunders, the other Commissioner, was expected in a few days.

Latest from Capt. Back.—On Thursday last, four bark canoes belonging to the Hudson's Bay Company, arrived at La Chine, near Montreal, from the interior, with passengers belonging to that concern.

The latest accounts of Captain BACK, by these arrivals, are up to the 10th of July, from Cumberland House, reporting favorably of the health and progress of the whole expedition. Capt. Back and Dr. King were proceeding in a light canoe, followed by two boats, the last bearing their luggage, provisions, and other appointments. His despatches for England were to go by Hudson's Bay.

A COMPLIMENT.—Some beautiful blue cloth manufactered by P. H. Schenck & Co. at Glen's falls, having obtained the premium at the Fair, Messrs. *Lynde & Jennings of* 116 *Broadway*, made from it a suit of clothes in the best style, which they presented to Mr. Clay. It was a liberal and well imagined compliment.

[*From the Buffalo Journal, Extra, Oct.* 19.]

GALE ON LAKE ERIE.—On Thursday last, at about 11 o'clock, A. M. a strong breeze sprung up from the west, and soon hauled to the northward and westward, followed immediately by a heavy storm of rain, increasing to the greatest gale ever experienced on the Lake, and continuing with unabated fury until 2 o'clock yesterday morning blowing down chimneys and sweeping off roofs of buildings. The fine block of brick stores of Bennett, Macy and Williams, just finishing on the Terrace, were stripped of their heavy tin roofs, or rather, they were torn up and thrown into a confused mass; the heavy tin roofs of the two large stores being finished on the Flats, belonging to Richard Sears were lifted off and fell with a tremendous crash, upon Main street.

The water flooded the Flats, and vast quantities of wood, staves, lumber generally, &c. were floating in confusion about the canals, slips and creeks, and a number of docks torn up.

Considerable damage was done amongst the shipping, &c. which we have not room to publish.

[*From the Gazette.*]

The steamboat Marco-Bozzaris, which sailed from this port last Monday, for Buenos Ayres, is under command of Capt. Richard Sutton, formerly a ship master in the New England States, and more recently merchant at Buenos Ayres. Several years since this gentleman conceived the idea of navigating the Rio de la Plata by steam power, and for that purpose he has obtained from that government the exclusive privilege for ten years. He intends to leave the ports of Buenos Ayres and Montevideo every other evening, and there is very little doubt that his enterprizing project will be liberally patronized. The distance is 110 miles, and the fare will be $10. By making the passage in the night, great facilities will be offered to the merchants of those two cities. The average passage in the present packet is three days, and the accommodations are very inferior.

Fire near Mobile.—Colonel Gadhold's Steam Saw Mill about 18 miles North of Mobile, was entirely destroyed by fire on the 8th inst, with about 200 000 feet of valuable lumber ready for market. The loss is estimated at $12,009. No part of it was insured. —[N. O. Courier.]

WHEELING, Oct. 16—The River is now in a fine navigable state, and from the present prospects we may expect that the navigation of steamboats will not be interrupted again this season.

There have been 6 arrivals and 6 departures of steamboats since our last. The water is 6 feet in the channel, and rising.

[*From the Globe of yesterday.*]

APPOINTMENTS BY THE PRESIDENT.—*Benjaman Tappan*, of Ohio, to be a Judge of the United States for the district of Ohio, in the place of John W. Campbell, deceased.

William M. Gwin, of Mississippi, to be Marshal of the United States for the District of Mississippi, in the place of Samuel W. Dickson, appointed Receiver of Public Moneys at Clinton, in the said State.

Joseph Balestier, of Massachusetts, to be Consul of the United States for the port of Rhio, in the Island of Bintang, in the Malayan Sea.

Thomas H. Barker, of New York, to be Consul of the United States for the port of Elsineur, in the Kingdom of Denmark.

W. M. Haxton, of New York, to be Consul of the United States for the port of Bathurst, in the Island of St. Mary's in the river Gambia.

Robert Grieve, of Leith, to be Consul of the United States for the port of Leith, in Scotland, in the Kingdom of Great Britain, in the place of Joel Nart.

Thomas Wooldrige, of Mississippi, to be Consul of the United States, for the port of Brazoria, in the Province of Texas, in Mexico.

Austin J. Raines, of Missouri, to be Consul of the United States at the port of Monterey, in North California, in Mexico.

We are sorry to learn from the United States Gazette that the U. S. schooner Shark, bound to the Mediterranean, has returned leaky, and is at the Philadelphia Navy Yard, undergoing an examintion.

The Havana.—This beautiful ship was launched Thursday, and it is due to her builders, Messrs. Webb & Allen, to say that for beauty of model, strength and accommodation, she has no superior of her size. Her commander, Capt. Correjo, is well known as an old and successful ship master, and none stands higher at insurance offices. The Havana is to be commanded by this gentleman, as a regular packet between this port and Havana: and as she was built under Capt. C's immediate inspection, no one will doubt her adaptation, in all respects to the trade.—[Gaz.]

The process of inserting the tubes into the rock recently bored at Holt's Hotel was performed with perfect success the present week. The manner was exceedingly simple, but it required great care and skill. The tubes are brass, tinned inside and out, and made in the most substantial manner. They were manufactured by an artist in Broadway, and weighed, in the aggregate 1800 pounds. The pump will shortly be finished, and the proprietor's wishes will, it is believed, be fully realized.—[Gazette.]

[*From the Galenian of 27th September.*]

Capt. Law, of the U. S. Army, who passed through this place last week, informed us that the Winnebago Indians, of Rock river, who were removed by Col. Dodge north of the Wisconsin, or a great part of them, have returned to their old camping ground, near the four lakes, and are engaged in gathering rice and hunting as formerly. They say there is no game north of the Wisconsin, and they cannot live there. They talk of planting corn next season on Rock river. We have since conversed with other gentlemen, who confirm the above statement.

What will our sympathetic brethren 'away down east,' think of these 'poor Indians' now? They have sold their land, and received their pay, so far as the same is payable. They have been removed in pursuance of their treaty, but they will not *stay removed*. If some efficient, decisive and energetic measures are not speedily adopted, and enforced, we have every reason to anticipate a renewal of the scenes which were acted under the guidance of Black Hawk for the last two or three summers, which kept the country in a continual state of suspense and alarm, and retarded the settlement and improvement of the whole north western frontier. Have not the Winnebagoes as many inducements to disturb the peace of our citizens as had the Sacs and Foxes? They cannot, nor do they expect to wage a successful war with us. Nor did Black Hawk. But they have chiefs as *savage* and *ambitious* as he, who would not regard the lives of a few of their warriors for the sake of a *triumphant entre* into the presence of the rulers of our nation; and the *greetings, cheers*, and *caresses* of the mistaken, misguided, and misplaced philanthropy of the great cities of the East.

There are other causes, which may produce the same effect, and determine those Indians to remain where they are, until forced away, and kept away at the point of the bayonet: namely there may be traders and others among them, who are interested in their stay, and who advise them to that course. This may not be the case at present, but we believe it has been the case on many other occasions.

The troops at Fort Winnebago would be amply adequate, it is believed, to keep those Indians off the ceded land. But we are informed that they have no *instructions* to that effect;—that matter being confided, exclusively to Col. Dodge, and the dragoon corps under his command. We have reason to suppose, that so soon as these facts are made known, that a speedy remedy will be supplied.

[*From the Cherokee Phœnix, October 5th.*]

We are informed from an authentic source, that a Special Agent under authority from the President of the United States, clothed with full powers, for entering into a treaty with the Cherokees, has arrived at the Cherokee Agency, awaiting the session of the General Council, which convenes at Red Clay, on the 2d Monday of this month. We expressed our opinion sometime since, of the difficult position in which the President had placed himself in regard to the Cherokee case, and had adopted a system of operations to enroll the Cherokees, by appointing three agents for that purpose, and finding the progress of this measure, upon the whole, unprofitable, we may safely presume, gave rise to the appointment of the fourth. The disposition of the Cherokees with regard to a new treaty, has been unalterably fixed, from which they will not move, while justice has been loudly complaining of the flagrant violations of the seventeen existing treaties. The Cherokees have been placed by circumstances in a novel and peculiar situation. They have purchased fairly the protection of their rights from the General Government, whose interposition at this crisis, has been refused. The great principles involved, and the value of the property, have compelled the Cherokees, however humiliating it may be, to entreat the Government to reinstate them in their original rights. But in the meantime oppression and agents have increased to enable the Government to force a treaty, while the former is pleading for relief, the latter has likewise made it its object to beg and tease for a treaty. This is the disgusting fruits of the humane policy, and we hope the Commissioner may have full authority to remove the great encroachment on the Cherokees, to the honor of the Government.

Died in this town, last Sunday, the Hon. Edward Savage, father of the present Chief Justice of this state, in the 88th year of his age. At an early period he served in the army of the revolution, under a lieutenant's commission. He held, at different times, the important office of representative in both branches of our state legislature, surrogate, judge of the county courts, and was, in 1824, one of the electors of President and Vice President. His character as a soldier, legislator and magistrate, is without spot or blemish. As a christian, he was exemplary in his piety, and he officiated for nearly half a century as an officer in the church of which he was a member. His virtues as an estimable citizen are widely known, and his memory will long be cherished.—He died, at a ripe old age, after having been triumphantly sustained, throdgh all the sufferings and trials incidents to a weight of years, by the consolation of his christain faith. His interment took place on Monday afternoon, in the presance of a large concourse of lelations and friends.—[Washington county Post.]

KENYON COLLEGE, OHIO.—Bishop *M'Ilvaine*, on his return to his diocese, met the Convention thereof and delivered an address, from which we take the following account of his mission here in order to raise funds for the College in Ohio:

Having seen the immense importance of Kenyon College, particularly of the Theological department, connected with it, to the supply of Ministers of the Gospel, for the swelling population of the West, and especially for the destitute, and multiplying parishes of Ohio; having seen also the the great necessity of that institution, and how entirely it must fail of accomplishing its great purposes, unless means should be raised to erect additional buildings for students, and instructors, I considered that I could in no way employ the time, before my family could be moved to the West, so advantageously to the Diocese, as by an effort to raise the required contributions.—Under authority from the Board of Trustees of the College, I undertook to raise as the least sum that would answer the purpose, $30,000, in two annual payments. Beginning with my own affectionate people, in Brooklyn, I proceeded to New York, Boston, Providence, Norwich, Conn., and New London; then to Philadelphia and Baltimore; in all which places, the object was entertained with the greatest kindness and interest, by various religious denominations, as one in which all that desire the advancement of useful learning and pure and undefiled religion in the West, should feel themselves concerned. It was delightful to see how sectarian views were kept out of sight by Christians of different names, and nothing regarded in the application but in connexion with the glory of God and the promotion of his kingdom. The whole amount of actual subscriptions from the above cities, aided by a few names from other places, irrespective of promises and expectations, and inclusive of $1000 from P. G. Stuyvesant, Esq. of New York, for the library, (the same gentleman having previously subscribed $400 to the buildings) is $28,520. It is due to the great kindness and confidence of my friends in Brooklyn and the city of New York, to say, that in the former $5547, and in the latter $18,907 of the whole amount were subscribed. The whole expense incurred by the col ege in my agency in this work, exclusive of a bill for the printing of an address to the public, which has not been received, will not exceed $70. As soon as the collections shall have been sufficiently received, a minute statement of all the subscriptions and receipts will be printed, and a copy forwarded to every subscriber.

I have been thus particular on this topic, because there is nothing in which the Church in Ohio and in all the western States is more deeply concerned than in whatever relates to the efficiency of our College; especially, its bearing upon the preparation of ministers of the Gospel.

In addition to the subscriptions above stated, is the loan I obtained by authority of the Board of Trustees, of $15000, for 10 years, for the purpose of paying off a number of miscellaneous debts contracted during the past transactions of the college. This was effected chiefly through the great attention and the affectionate interest of Samuel Ward, Esq. of New York.

Case of Miss Crandall.—It is well known that an information was recently filed in the Superior Court of Connecticut against Miss Prudence Crandall, for an alleged violation of an act of that State, which prohibits the establishment of any institution, for the instruction of colored persons, not inhabitants of the State, as well as the instruction of any existing institution, or the harboring or boarding, for the purpose of instruction, of any colored persons, not inhabitants of the State, without the consent of a majority of the Selectmen of the town where such institution is situated. The defence rested on the ground, that the statute was in contravention of that portion of the Constitution of the United States, which gives the citizens of each State, all the privileges and immunities of citizens in the several States. In the Brooklyn Advertiser of the 10th, we find a sketch of the charge delivered by Chief Justice Daggett to the Jury, in which he declares, that if slaves, free blacks, or Indians, were citizens, he is not sure that the law would be unconstitutional; but expresses his opinion with the utmost emphasis, that they are not citizens, and of course, are not entitled to the benefit of this constitutional provision. In the first place, he quotes the description of a citizen of the United States, given by Dr. Webster, viz a person, native or naturalized, who has the privilege of exercising the elective franchise, and of purchasing and holding real estate. He proceeds to show, that Indians and slaves are not citizens, and then comes to the same conclusion in regard to free blacks. In respect to the last, we wish that the sketch of the charge had been a little more particular. The argument appears to rest upon the authority of Chancellor Kent; who declares that there is a broad distinction in most of the states, in respect to privileges, between free whites and free colored persons, and the fact, that when the constitution of the United States was adopted, every State, except Massachusetts, tolerated slavery. We perceive no reference to any legislation of Connecticut on the subject of these persons.—[Boston Adv.]

Lander's Niger Expedition.—Mr. Richard Lander, whose fate so generally and deeply interests his country, arrived at Fernando Po on the 1st of May, from the Quorra steamboat, which he left afloat in deep water near the river Tchadda. From her, he descended the Niger in a native canoe; and arrived on board the brig Columbine, which was lying in the Nun River, having been thirteen days on his passage. During this period our gallant traveller stopped to sleep at a native village on the banks of the Niger.

At Fernando Po, Mr. Lander was evidently very ill, though he was rapidly recovering from an attack of dysentery; with which he had been afflicted for some months. His object in returning alone to this place was to procure medicines, as well as tea and other condiments, for the use of the invalids on board the steamboats. We lament to have to confirm the reports of the grievous mortality which had prevailed; the number of deaths on board the vessels of which the expedition is composed had been, indeed, frightfully great. No fewer than twenty-five had perished before Mr. Lander undertook his journey to the coast, including, we regret to add, most of the officers and engineers.

We now have to relate what chiefly led to this lamentable result. The vessels were unfortunately detained at a place called Attah—why, we are not able to ascertain—until Mr. Lander, accompanied by one or two of his associates, went to see the king. They were very hospitably received by his sable majesty, who was equipped in silk velvet, and attended by about three hundred well dressed youths; all of them eunuchs, and forming a kind of body-guard to their prince.

This delay was followed by another still more vexatious. The largest steamboat was forced, by the strength of the current, on a sand-bank, where she was fixed for several weeks, till lifted into deep water (as we have stated) by the swelling of the river. Here she was examined, and found to have sustained no damage; but owing to this unseasonable accident, as well as to the detention at Attah, and, above all, to the deplorable loss of life which had ensued on board the vessels, the party had it not in their power to cultivate their mercantile speculations either to the extent or so successfully as they wished, or as their friends anticipated.

Indian Mode of Education.—Whatever the child learns, he learns for the most part from observation of his elders and his comrades. He soon finds, *pride* is the spur of his exertions. He soon finds, that success as a hunter will make him respected by his tribe, while awkwardness subjects him to intolerable ridicule. He listens to every thing that is said of hunting and trapping at home, and eagerly goes abroad with the view of earning some praise for himself. Thus it takes him but few years to acquire a considerable degree of experience; and his reputation always corresponds to his merit. The same feeling just mentioned is appealed to with equal success in regard to most other branches of an Indian education. It is true, to a great extent, of numerous tribes, as Heckewelder observes respecting the Delawares, that a father need only to say in the presence of his children, "I want such a thing done; I want one of my children to go upon such an errand; let me see who is the *good* child that will do it!" This word *good* operates, as it were, by magic, and the children immediately vie with each other to comply with the wishes of their parent. If a father sees an old decrepit man or woman pass by, led along by a child, he will draw the attention of his own children to the object by saying, "What a *good* child that must be, which pays such attention to the aged! That child, indeed, looks forward to the time when he himself will be old!" or he will say, "May the Great Spirit, who looks upon him, grant this *good* child a long life?" In this manner of bringing up children, the parents, adds Heckewelder, are seconded by the whole community. If a child is sent from his father's dwelling to carry a dish of victuals to an aged person, all in the house will join in calling him a *good* child. They will ask whose child he is, and, on being told, will exclaim, "What! has the *Tortoise*, or the *Little Bear* (as the father's name may be) so excellent a child?" If a child is seen passing through the streets leading an old decripit person, the villagers will, in his hearing, and to encourage all the other children who may be present to take example from him, call on one another to look on and see what a *good* child that must be. And so, in most instances, this method is resorted to for the purpose of instructing children in things that are good, proper, or honorable in themselves; while, on the other hand, when a child has committed a *bad* act, the parent will say to him, "Oh! how grieved I am that my child has done this *bad* act! I hope he will never do so again." This is generally effectual, particularly if said in the presence of others. The whole of the Indian plan of education tends to elevate rather than depress the mind, and by that means to make determined hunters and fearless warriors.—[Thatcher's Indian Traits.]

Antediluvian Animals.—The animals of the Antediluvian world were not monsters; there was no luxus or extravagance. Hideous as they appear to us, and like phantoms of a dream, they were adapted to the condition of the earth when they existed. I could have wished that our naturalist had given the inhabitants of that early condition of the globe names less scholastic. We have the plesiosaurus, and plesiosaurus dolichodeirus, we have the ichthyosaurus and megalosaurus and iguanodon, pterodactyles, with long and short beaks, tortoises, and crocodiles; and these are found among the reeds and grasses of gigantic proportions, algæ and fuci, and a great variety of mollusca of inordinate bulk, compared with those of the present day, as ammonites and nautili. Every thing declares, that these animals inhabit shallow seas, and estuaries, or great inland lakes: that the surface of the earth did not rise up in peaks and mountains, or that perpendicular rocks bound in the seas; but that it was flat, slimy, and covered with a loaded and foggy atmosphere. There is, indeed, every reason to believe that the classes mammalia and birds were not then created; and that if man had been placed in this condition of the earth, there must have been around him a state of things unsuited to his constitution, and not calculated to call forth his capcities. But looking to the class of animals as we have enumerated them, there is a correspondence; they were scaly; they swam in water, or crept upon the margins; there were no animals possessed of rapidity of motion, and no birds of prey to stoop upon them; there was, in short, that balance of the power of destruction and self preservation which we see now to obtain in higher animals since created, with infinitely varied instinct and powers for defence or attack.

It is hardly possible to watch the night and see the break of day in a fine country, without being sensible that our pleasantest preceptions refer to the scenery of nature, that we have feelings in sympathy with every sucessive change, from the first streak of light, until the whole landscape is displayed in valleys, woods, and sparkling waters: and the changes on the scene are not more rapid than the transitions of the feelings which accompany them. All these sources of enjoyment, the clear atmosphere and the refreshing breezes, are as certainly the result of the several changes which the earth's surface has undergone, as the displaced strata within its crust are demonstrative of these changes. We have every reason to conclude that these revolutions, whether they have been slowly accomplished and progressively, or by sudden, vast, and successive convulsions, were necessary to prepare the earth for that condition which should correspond with the faculties to be given to man, and be suited to the full exercise of his reason, as well to his enjoyment. If he contemplate the common objects around him—if he observe the connexion between the qualities of things external and the exercise of his senses, between the senses so excited, and the condition of his mind, he will perceive that he is in the centre of a magnificent system, and that the strictest relation is stablished between the intellectual capacities and the material world.—[Bell's Bridgewater Treatise.]

Cuvier on National Education.—Give schools before political rights; make citizens comprehend the duties that the state of society imposes on them; teach them what are political rights before you offer them for their enjoyment. Then all ameliorations will be made without causing a shock; then each new idea, thrown upon good ground, will have time to germinate, to grow, and to ripen, without convulsing the social body. Imitate Nature, who, in the development of beings, acts by gradation. The infant remains nine months in the body of its mother; man's

physical perfection only takes place at twenty of thirty, and his moral completion from thirty to forty. Institutions must have ages to produce all their fruits witness Christianity, the effects of which are not ye; accomplished, notwithstanding a thousand years of existence.—[Memoirs of Baron Cuvier.]

Anecdote of Marshal Ney.—When Napoleon marched, in the summer of 1800, to bring back victory to the eagles of France, a division of his army, as it hastened to the scene of action, halted within sight of the little town of Sarre-Louis, on the borders of German Lorraine, and the general who led it, pointing with his sword, said with emotion, "Gentlemen and fellow soldiers, this is my birthplace: I am the son of a cooper, and thirteen years ago, on the spot where I now stand, I parted in tears with my father and mother to become a soldier: I bid you welcome to my native town." This leader was the celebrated Marshal Ney.—[Athenæum.]

In the committee on the factory bill, the following sensible question was put to a witness named Peter Smart, the overseer of a factory at Dundee:—

Ques, When do your girls marry?
Ans. Whenever they can get an offer!

A FRAGMENT.

She comes in vision as she came
When heavenly beauty filled her frame—
When, in a mould of mortal birth,
Heaven flung its charms o'er those of earth
But oh! it is in midnight dreams
That I behold those radient gleams
Of vanished brightness come and go,
Like sunshine on the mountain snow.
Her quivering lips may not unroll
The hidden transports of her soul;
But straight before my tranced eye
She stands, a vision of the sky—
A child of Heaven, that may not brook
The ardour of a waking look.—[Fraser's Magazine.]

AN INTERESTING AND USEFUL MAP.

A friend of ours has now in a state of forwardness, a Map upon which will be delineated nearly all the Railroads now chartered in the U. States. It is designed to show the *present* contemplated connexion of the different lines, as well as where others may hereafter be constructed to connect with them. It will be completed in a few weeks, and may be had either in sheets, or put up in morocco for pocket maps, in any quantity, by applying to the subscriber.

D. K. MINOR,
35 Wall street.

New-York, August 14, 1833.

WINCHESTER AND POTOMAC RAILROAD.

☞ TO CONTRACTORS FOR EXCAVATION AND MASONRY.—Proposals will be received by the undersigned at Taylor's Hotel, in Winchester, Va. *on the 7th day of November next*, for the Grading and Masonry of *Twenty-seven miles* of the Winchester and Potomac Railroad, commencing near the town of Winchester, and ending at the Shenandoah River The above work will be divided into sections of convenient length; and plots and profiles of the line, and drawings of the requisite constructions, will be exhibited at Winchester, for one week previous to the letting.

Proposals will be received at the same time and place, for delivering, on the line of the Railroad, *Four hundred thousand lineal feet* of Heart Yellow Pine or White Oak Rails, the dimensions of the rails to be five inches wide, by nine inches deep, and in lengths of fifteen and twenty feet.

Any further information in relation to the above work will be given on application, verbally or by letter, to William H. Morell, Principal Assistant Engineer, Winchester, Va. or to the Assistant Engineers on the line.

MONCURE ROBINSON, C. E.

Sept. 27th, 1833. o5 tn7.

NOTICE TO MANUFACTURERS.

☞ SIMON FAIRMAN, of the village of Lansingburgh, in the county of Rensselaer, and state of New-York, has invented and put in operation a Machine for making Wrought Nails with square points. This machine will make about sixty 6d nails, and about forty 10d nails in a minute, and in the same proportion larger sizes, even to spikes for ships. The nail is hammered and comes from the machine completely heated to redness, that its capacity for being clenched is good and sure One horse power is sufficient to drive one machine, and may easily be applied where such power for driving machinery is in operation Said Fairman will make, vend and warrant machines as above, to any persons who may apply for them as soon as they may be made, and on the most reasonable terms. He also desires to sell one half of his patent right for the use of said machines throughout the United States. Any person desiring further information, or to purchase, will please to call at the machine shop of Mr. John Humphrey, in the village of Lansingburgh.—August 15. 1833. A29 tf RM&F

INCOMBUSTIBLE ARCHITECTURE.

☞ INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIGNIS, or Incombustible Varnish, at one dollar per lb.

Apply to C. S. RAFINESQUE, Professor of Hist. and Nat. Sciences, Chemist, Architect, &c. in Philadelphia, No. 39 North 6th street. A pamphlet given gratis.

References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by them persons. s1 R J M M & F

GRACIE, PRIME & CO. having this day taken into co-partnership JOHN CLARKSON JAY, will continue their business under the same firm.—New-York, 1st October, 1833

FOR SALE,

☞ ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c. dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

MEDICAL FLORA OF THE UNITED STATES, in 2 vols. with 100 plates, containing also the economical properties of 400 genera of American plants. $3.

MANUAL OF AMERICAN VINES, and Art of Making Wines, with figures. 25 cents.

FISHES AND SHELLS OF THE RIVER OHIO. 1 dollar.

AMERICAN FLORIST, with 36 figures—price 36 cts.

*** Orders for these works, or any other of Professor Rafinesque's, received at this office. A9 tf J M & F

TO STEAMBOAT COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, offers his services to render steamboats incombustible, and not liable to sink, even by the bursting of boilers, or striking against snags, sawyers and rocks. This will save many boats, much property, and the lives of hundreds every year. Those who neglect this easy improvement, deserve to be neglected and deserted by the public as unmindful of safety. Apply, post paid. S1 R J M M & F

TO RAILROAD COMPANIES.

☞ PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office Apply, post paid. S1 R J M M & F of

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee, May & Co.* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the United States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co, Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne county, Pennsylvania.

Hudson, Columbia county, New-York, January 29, 1833. } F3 tf

SURVEYORS' INSTRUMENTS.

☞ Compasses of various sizes and of superior quality, warranted.

Leveling Instruments, large and small sizes, with high magnifying powers with glasses made by Troughton, together with a large assortment of Engineering Instruments, manufactured and sold by E. & G. W. BLUNT, 154 Water street, corner of Maiden lane. J31 6t

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely new among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street, Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing coloscope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later al angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norriet. Railroad

m1 1y

STEPHENSON,

Builder of a superior style of Passenger Cars for Railroads,
No. 264 Elizabeth street, near Eleecker street,
New-York.

☞ RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlæm Railroad, now in operation. J15 tf

RAILROAD CAR WHEELS AND BOXES,

AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.

Also, Flange Tires turned complete.

J8 ROGERS, KETCHUM & GROSVENOR.

NOVELTY WORKS,

Near Dry Dock, New-York.

☞ THOMAS B. STILLMAN, Manufacturer of Steam Engines, Boilers, Railroad and Mill Work, Lathes, Presses, and other Machinery. Also, Dr. Nott's Patent Tubular Boilers, which are warranted, for safety and economy, to be superior to any thing of the kind heretofore used. The fullest assurance is given that work shall be done well, and on reasonable terms. A share of public patronage is respectfully solicited. m18

INSTRUMENTS
SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25

[*From the Journal of Commerce.*]

THE TWENTY-THIRD CONGRESS.

Annexed we present to our readers a list of the members of both Houses of the twenty-third Congress. In the Senate there are four vacancies, viz: one in Mississippi, one in Louisiana, one in Missouri, and one in Pennsylvania. In the House of Representatives, three vacancies, viz:—one in Massachusetts, one in Louisiana, and one in Mississippi. The figures opposite the names of the Senators, indicate the year when their respective terms of service will expire. Those marked in italics are opposition members; those marked * were not members of the last Congress.

SENATE.

Maine.		*North Carolina.*	
Peleg Sprague	1835	Bedford Brown	1835
*Ether Shepley	1839	Wm. D. Mangum	1837
New Hampshire.		*South Carolina.*	
Samuel Bell	1835	John C. Calhoun (c)	1835
Isaac Hill	1837	Stephen D. Miller	1837
Massachusetts.		*Georgia.*	
Nathaniel Silsbee	1835	George M. Troup	1835
†*Daniel Webster*	1839	John Forsyth	1837
Rhode Island.		*Kentucky.*	
Nehemiah R. Knight	1835	George M. Bibb	1835
†*Asher Robbins*	1839	*Henry Clay*	1837
Connecticut.		*Tennessee.*	
Gideon Tomlinson	1835	Hugh L. White	1835
**Nathan Smith*	1839	†Felix Grundy	1839
Vermont.		*Ohio.*	
Samuel Prentiss	1837	*Thomas Ewing*	1837
**Benjamin Swift*	1839	*Thomas Morris	1839
New York.		*Louisiana.*	
Silas Wright	1837	*Geo. A. Waggaman*	1836
*N. P. Tallmadge	1839	One vacancy (d)	——
New Jersey.		*Indiana.*	
The. Frelinghuysen	1835	Wm. Hendricks	1837
**Sam'l L. Southard*	1839	†John Tipton	1839
Pennsylvania.		*Mississippi.*	
William Wilkins	1835	George Poindexter	1835
One vacancy	——	One vacancy(e)	——
Delaware.		*Illinois.*	
John M. Clayton	1835	John M. Robinson	1835
†*Arnold Naudain*	1539	Elias K. Kane	1837
Maryland.		*Alabama.*	
Ezekiel F. Chambers	1837	William R. King	1835
**Joseph Kent*	1839	Gabriel Moore	1837
Virginia.		*Missouri.*	
Wm. C. Rives (b)	1835	One vacancy (f)	——
John Tyler	1839	†Thomas H. Benton	1839

† Re elected. * New members.

(a) In the place of Governor Marcy, resigned.
(b) In the place of Littleton W. Tazewell, resigned.
(c) In the place of Gen. Hayne, resigned.
(d) Occasioned by the death of the Hon. Josiah S. Johnston.
(e) Filled during the last session by John Black, by appointment of the Governor.
(f) Occasioned by the death of Senator Buckner.

The whole number of Senators elect is 44. Whole number, when the vacancies shall be filled, 48. Of the 44 elected we have put down 19 as Anti-Jackson If to these be added Miller, Calhoun. Poindexter, King and Tyler, (Nullifiers) there would be a majority of five against the Administration. The chance is, that most of the vacancies will be filled by Jacksonians.

HOUSE OF REPRESENTATIVES.

MAINE.	
*F. O. J. Smith	
Rufus M'Intire	
Edward Kavanagh	
*Gorham Parks	
*Joseph Hall	
Leonard Jarvis	
*Moses Mason	
George Evans.	
NEW HAMPSHIRE.	
Henry Hubbard	
Jos. M. Harper	
*Benning M. Bean	
*Franklin Pierce	
*Robert Burns.	
VERMONT.	
Hiland Hall	
Horace Everett	
Heman Allen	
William Slade	
**Benjamin F. Deming.*	
MASSACHUSETTS.	
Isaac C. Bates	
Rufus Choate	
John Quincy Adams	
John Davis	
George N. Briggs	
Edward Everett	
George Grennell, jr.	
John Reed	
*William Baylies	
**Benjamin Gorham*	
*Gayton P. Osgood.	
One vacancy.	
CONNECTICUT.	
Jubez W. Huntington	
William W. Ellsworth	
Noyes Barber	
**Samuel A. Foot*	
Ebenezer Young	
**Samuel Tweedy.*	
RHODE ISLAND.	
Tristam Burges	
One vacancy.	
NEW YORK.	
*Abel Huntington	
*Isaac B. Van Houten	
ChurchillC.Cambreleng	
Campbell V. White	
*CorneliusW.Lawrence	
*Dudley Selden	
*Aaron Ward	
*Abraham Bockee	
*John W. Brown	
*Charles Bodle	
*John Adams	
*Aaron Vanderpool	
Job Pierson	
Gerrit Y. Lansing	
*John Cramer	
**Henry C. Martindale*	
*Reuben Whalon	
*Ransom H. Gillett	
*Charles M'Vean	
*Abijah Mann, jr.	
*Samuel Beardsley	
*Joel Terrell	
Daniel Wardell	
*Sherman Page	
*Noadiah Johnson	
Henry Mitchell	
*Nicoll Halsey	
*Samuel G. Hathaway	
*William Taylor	
*Wm. K. Fuller	
*Rowland Day	
*Samuel Clark	
John Dickson	
*Edward Howell	
Frederick Whittlesey	
**George W. Lay*	
**Philo C. Fuller*	
**Abner Hazeltine*	
**Mellerd Fillmore*	
**Gideon Hard*	
NEW JERSEY.	
*Philemon Dickerson	
*Samuel Fowler	
*James Parker	
*Ferdinand S. Schenck	
*William N. Shinn	
*Thomas Lee	
PENNSYLVANIA.	
**Horace Binney*	
**James Harper*	
John G. Watmough	
William Heister	
**William Darlington*	
David Potts. jr.	
**William Clark*	
Harmer Denney	
**George Chambers*	
T. M. T. M'Kennan	
John Banks	
Andrew Stewart	
**Charles A. Barnitz*	
G. Burd	
*Jesse Miller	
*Joseph B. Anthony	
Henry A. Mulhenburg	
Joel K. Mann	
*Robert Ramsey	
David B. Wagener	
Henry King	
Andrew Beaumont	
John Laporte	
Joseph Henderson	
*John Galbraith	
*Samuel S. Harrison	
Richard Coulter	
Joel B. Sutherland.	
DELAWARE.	
John J. Milligan.	
MARYLAND.	
*James P. Heath	
*James Turner	
*J. T. Stoddart	
*Isaac M'Kim	
*Richard B. Carmichael	
Francis Thomas	
**William P. Johnson*	
Littleton C. Dennis	
VIRGINIA.	
John M. Patton	
John Y. Mason	
William F. Gordon	
Thomas T. Bouldin	
William S. Archer	
Nathaniel H. Claiborne	
Joseph W. Chinn	
Charles F. Mercer	
*Edward Lucas	
**Samuel McDowell Moore*	
Andrew Stevenson	
Thomas Davenport	
**John J. Allen*	
*George Loyall	
*James H. Gholson	
**Edgar C. Wilson*	
*James H. Beale	
*William P. Taylor	
*John H. Fulton	
*William M'Comas	
*Henry A. Wise	
NORTH CAROLINA.	
M. T. Hawkins	
Thomas H. Hall	
William B. Shepard†	
Jesse Speight	
James M'Kay	
Abraham Rencher	
Daniel L. Barringer	
**Edmund Deberry*	
Lewis Williams	
A. H. Shepherd	
*Henry Conway	
*Jesse A. Bynum	
*James Graham	
SOUTH CAROLINA.	
James Blair (a)	
George M'Duffie	
*Thomas D. Singleton	
*William K. Clowney	
*Henry L. Pinckney	
*William J. Grayson	
Warren R. Davis	
John M. Felder	
John K. Griffin	
GEORGIA.	
J. M. Wayne	
R. H. Wilde	
*G. R. Gilmore	
A. S. Clayton	
T. M. Foster	
*R. L. Gamble	
*Seaborn Jones	
*William Schley	
*John Coffee	
FLORIDA.	
Joseph M. White, Del.	
ALABAMA.	
Clement C. Clay	
Dixon H. Lewis	
*John Murphy	
Samuel W. Mardis	
*John M'Kinley	
MISSISSIPPI.	
*Henry Cage	
One vacancy (b)	
LOUISIANA.	
Philemon Thomas	
Henry A. Bullard	
Edw. L. White	
ARKANSAS.	
Ambrose H. Sevier, Del.	
TENNESSEE.	
John Bell	
Cave Johnson	
James K. Polk	
*David W. Dickinson	
*Bailie Peyton	
John Blair	
*Samuel Bunch	
*Luke Lea	
James Standifer	
**David Crockett*	
*John B. Forrester	
*William M. Inge	
*William C. Dunlap	
KENTUCKY.	
Chilton Allen	
Thomas A. Marshall	
**Amos Davis*	
Richard M. Johnson	
**Thomas Chilton*	
Thomas P. Moore (c)	
**Benjamin Hardin*	
Chittenden Lyon	
Martin Beatty	
**James Love*	
Christopher Tompkins	
*P. H. Pope	
Albert G. Hawes	
OHIO.	
*Robert T. Lytle	
*Taylor Webster	
*William Allen	
*Jeremiah McLene	
*Thomas L. Hamer	
*John Chaney	
*Robert Mitchell	
*John Thompson	
*Benjamin Jones	
*William Patterson	
Humphrey H. Leavitt	
**David Spangler*	
**James M. Bell*	
E. Whittlesey	
Thomas Corwin	
Joseph Vance	
Samuel F. Vinton	
Jonathan Sloan	
**Joseph H. Crane.*	
INDIANA.	
*Amos Lane	
Jonathan M'Carthy	
John Carr	
*George L. Kinnard	
*Edward A. Hannegan	
Ratliff Boon	
**John Ewing*	
ILLINOIS.	
Joseph Duncan	
Z. Casey	
Charles Slade	
MISSOURI.	
William H. Ashley	
John Bull	
MICHIGAN.	
*Lucius Lyon, Del.	

The above list embracee the names of 237 members, besides the three Delegates. If to these be added 3 for the 3 vacancies, the whole number will be 240. Of the 237 elected, we have put down 77 as Anti-Jackson, to which should be added a dozen or twenty Nullifiers. Still there will be a decided majority in favor of the present Administration.—The proportion is greater than in the last Congress, and there are more who are opposed to the United States Bank.

(a) Union man. All the other Representatives from South Carolina are Nullifiers.

(b) Franklin E. Plummer was elected from the other district, but has resigned, with a view to become candidate for the U. S. Senate.

(c) The votes of one county were rejected, on account of some alleged illegality in the returns. Had these been received, Robt. P. Letcher, an oppositiun man, would have succeeded by a majority of about 60.

† We have put the names of four North Carolina Representatives in Italics, in compliance with the suggestion of the Boston Advocate, though we are not sure that they will all covet the distinction

MARRIAGES.

On Tuesday evening, by the Rev. Samuel Nichols, of Bedford, N. Y. Dr. ROBERT EDMOND, of Newtown, (Conn.) to Miss MARY L. DELAPLAINE, of the former place.

On Wednesday morning, the 23d inst., by the Rev. Dr. Bewitt, RICHARD C. VAN WYCK, Esq. of Fishkill, D. C., to ANN C. daughter of Abraham Bloodgood, Esq. of this city.

On Monday Evening last, by the Rev. Dr Mc. aity, Mr. GILBERT BERRY, of New London, to RUTH, youngest daughter of Mr. Daniel Van Colt, formerly of Jersey City.

Last evening, by the Rev. Dr. Mathews, ROBERT J. LIVINGTON, to LOUISA MATILDA, daughter of Garrit Storm.

At Mount Pleasant, N. Y., on Tuesday, the 15th inst., by Rev N. S. Prime, Rev. SAMUEL J. PRIME, Principal of Weston Academy, Conn., to Miss ELIZABETH T. KEMEYS, daughter of the Hon. Edward Kemeys, of the former place.

At Pougkeepsie, on Monday evening last, by the Rev. Dr. Reed, NELSON PARDEE, to Miss ANN MERCH.

At the same place, on Thursday last, by A. Raymond, Esq. TRUNIS STOUTENBURGH, to Miss MARGARET E. STOUTENBURGH, of Hyde Park.

At Princeton, N. J. on the 16th. by the Rev. Dr. Alexander, the Rev. HENRY A. BOARDMAN, of Troy, N. Y. to Miss ELIZA BEACH, daughter of the late Paul T. Jones, Esq. of Charleston, S. C.

At Benville, U. C. by the Rev. John Reynolds, Rev. WM. CASE, Gen Superintendent of the Method. Episc. Church in Canada, to Miss ELIZA BARNES, formerly of Lowell, Mass.

In St. Louis, by the Rev. Mr. Borgna, Maj. WILLIAM S. HARNEY, Paymaster U. S. Army, to Miss MARY MULLANPHY, daughter of the late John Mullanphy.

On the same evening, in Bellville. Illinois; by the Rev. Mr. Lutz, Mr. WM. P. TILTON, to Miss VIRGINIA HAY, daughter of John Hay, Esq.

DEATHS.

On Tuesday morning, C. BILLOP GORLET, in the 48th year of his age.

On Tuesday evening, 22d inst., of scarlet fever, JOHN HENRY HOBART, only child of the Rt. Rev. Bishop Ives, of North Carolina, aged 4 years and 10 months.

Suddenly, last evening, THOMAS MCCREADY, Jr. in the 45th year of his age.

This morning, LYNDE CATLIN, in the 65th year of his age. The friends of the family are invited to attend the funeral on Monday afternoon, at 4 o'clock, from his late residence, No. 53 Chambers street.

Suddenly, yesterday afternoon, BENJ. RUSH COLES, aged 17 years.

Last evening, WM. M. MARSH, second son of Wm. and Ann Marsh, aged five years and six months.

On Monday evening, SARAH, wife of Charles M. Rogers, aged 31 years and 6 months

At 1 o'clock this morning, GERARDUS POST, in the 58th year of his age.

Last evening, JOHN GLANCEY, in the 47th year of his age.

On Sunday afternoon, in the 68th year of his age, Mr. BERNARD WENMAN, an old and respectable inhabitant of this city. He died as he lived, "the noblest work of God- an honest man."

At Rockaway, on the 20th inst. Mr. OLIVER HEWLETT, aged 71, much lamented by an extensive circle of relatives and friends.

At New Canaan, (Conn.) on the 19th inst. RUSSELL BALDWIN, eldest son of Samuel St. John, Jr. aged 6 years.

At Westbrook, (Conn.) on Wednesday the 16th instant, Mr. LEBBEUS CHAPMAN, in the 81st year of his age. Thus has fallen another of the remaining few who served our country during the whole of the Revolutionary War.

Recently, in Orange county, Virginia, JOHN PETTIS, a soldier of the Revolution, and father of the late Spencer Pettis, member of congress, and of F. H. Pettis, Esq. now of this city. He never asked for, nor received, a pension.

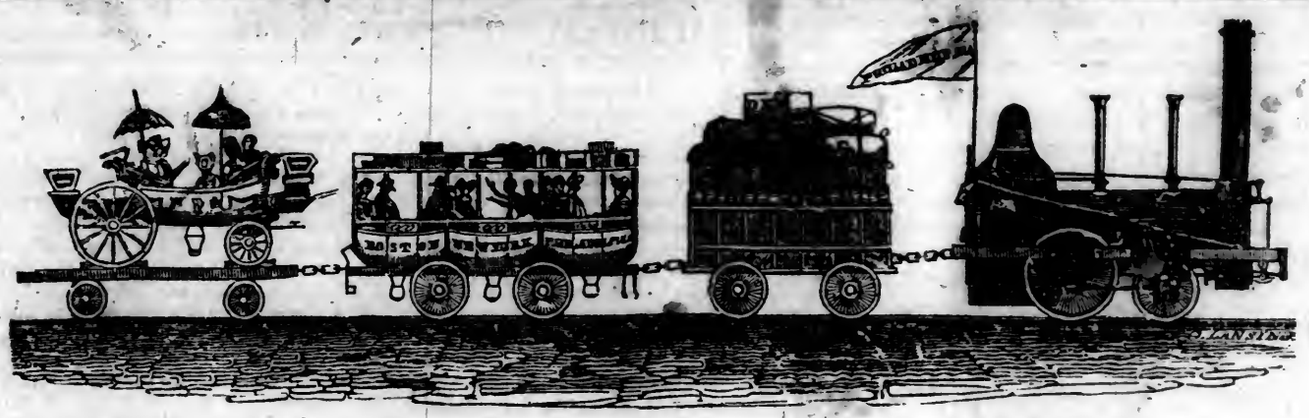
At New Orleans, on the 1st inst. after a short illness, Mrs. ELIZA NOEL DAVIDSON, wife of Dr. Richard Davidson, and daughter of John Pintard, of New York.

On the 11th inst. at his farm near Keyteaville, Mr. RICHARD CUCK, recently of Campbell county, Virginia of the Typus Fever.

In Whitehall, Green county, Illinois, of Billious Fever, Mr. JOHN SHANKLIN, of Virginia, and more recently of Logan county, Kentucky

At New Harmony, Indiana, on the 8th Sept. Hon. JAMES O. WATTLES, in the 50th year of his age, formerly a resident of this village.

On Monday, 21st inst., at Woodbridge, N. J. in the 71st year of his age, Mr. SAMUEL READ, of the firm of Read, Vanderbilt & Co. of this city.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, NOVEMBER 2, 1833.** [VOLUME II.—No. 44.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 2, 1833.

☞ Railroad Journal.—In order to meet the wishes of several gentlemen, who are friendly to the Journal, and desirous to obtain it in a more convenient form than in weekly numbers, residing remote from any agent for the work, through whom it can be obtained in bound volumes—I have concluded to put up the past and current volumes in four parts to the year, or thirteen numbers each, stitched in a cover of colored paper, which may be forwarded by mail to any part of the Union, on the same terms as ordinary magazines; or 1½ cent a sheet for *under*, and 2½ cents a sheet of 16 pages, for any distance *over* 100 miles. By this arrangement the work may be obtained in any part of the country, by mail, in a convenient form for preservation, at a trifling expense of postage.

*** Those editors, with whom we exchange, will greatly oblige us by giving this one or more insertions.

☞ With this number of the Journal, I forward to each subscriber a Title Page and Index, for the first, and one half of the second year, of the Railroad Journal, divided into parts of six months each, that those who have preserved the work from its commencement, may be enabled to bind it in part, or whole volumes, as they may prefer. It will be observed that one sheet contains a title page and index for parts 1 and 2, of volume 1; and that the other sheet contains a title page and index to the first six months, or from January 1 to July 1, of the present volume, together with a repetition of the statement made by me in the Journal, a few weeks since, relative to its continuance, which, I trust, will induce some of its friends to aid me in obtaining the necessary number of subscribers to insure its continuance *for many years yet to come.*

To the Editor of the American Railroad Journal:

Owego, Oct. 28th, 1833.

Mr. Editor: Sir—Allow me to make the inquiry, why notices of the *lettings* of different public works are not noticed in *your* paper? as it is a paper to which all *engineers*, railroad *companies*, and contractors, ought to have access, in a greater or less degree; and as its support is chiefly derived from such men, or, especially at the present time, from those who have charge of public works. It would only require an invitation from you, to have all such notices forwarded, to have it done; and as soon as contractors find that your paper contains all such notices, in addition to the important matter now treated upon, almost every man following the contracting business would at once subscribe for it, if for no other purpose than to have correct information, when different public works are to be let. An experiment of this kind would not be expensive, and I am very certain it would be the means of giving your useful paper a great circulation.

Yours, respectfully,

A Contractor on the Ithaca and Owego Railroad.

P. S. If you adopt the abovementioned course, I will warrant at least, twenty-five new subscribers within two months after such general request is made to engineers, and men having charge of public works, or at least after the first notice is inserted.

Remarks.—The above communication is cheerfully inserted, but it is proper that we should observe, that we have more than once requested engineers and railroad companies to furnish us with statements, not only of the *time when* they will receive proposals or bids, from contractors, but also the *rates* at which the contracts are made, as well as such other information as may be of service to those who desire to engage in the business. We have often, and will now again observe, that the object of the Journal is to give the earliest, the most accurate, and the greatest possible amount of useful information upon the subjects to which it is devoted; and, therefore, will again request that railroad companies, engineers, and contractors, will furnish us with all such matters, occurrences, and intelligence, as will tend to promote the cause of Internal Improvements, and thereby promote *their own*, as well as the interest of the Journal and its proprietor.

☞ As we have so readily complied with "A Contractor's" suggestion, we trust he will also do his part in forwarding the "twenty-five subscribers" he was so good as to guarantee.

Railroad Meeting.—The railroad meeting to-day, says the Augusta Courier, of the 16th ultimo, adopted the report of the committee, without a dissenting voice. The report, says the same paper, closes with the following resolution:

"*Resolved*, That the citizens of Richmond County will co-operate in the proposed construction of Railroads to Athens and Eatonton, and will send delegates to attend the conference to be held at Greensboro', on Monday, the 21st instant."—[Georgian.]

The Troy and Ballston Railroad is to be put under contract immediately. It will be finished in July next. H. Y. Sargent, of Mechanicville, is the Engineer in Chief.—[Albany Daily Advertiser]

Chemung Canal.—The citizens of Elmira were gratified on Tuesday last with the view of three Boats, moored in the Elmira Basin, which had arrived the previous evening, laden with about 120 tons of merchandize. Two of them had received their cargoes in the city of New-York. They are the first arrivals direct from our great commercial emporium; and the busy and business aspect of our streets during the day was hailed as the commencement of a new era in the trade of our village.—[Elmira Gaz.]

Mr. Rutter's Grand Discovery.—"If real," says an esteemed correspondent, "it will change the face of the world. To convert water into fire has been long a favorite speculation with philosophers, though hitherto the practical means of accomplishing it have constantly eluded their research. Among others who have distinctly pre-figured the discovery, and one of the greatest advantages to be derived from it, namely, its application to steam navigation, I may mention your ingenious friend, Junius Redivivus, who, in his 'Tale of Tucuman,' has these lines:

'Combustion's principle resides in water,'
And if we decompose it, hydrogen,
Thus gathered, may be used as burning matter,
To drive our merchant prows across the main.'"

On the Equilibration of Semi-Circular and Semi-Elliptical Arches; with an Inquiry into the Causes which have sustained, for a great number of years, some Stone Bridges, erected without regard to the true Theory of Arches. By VAN DE GRAAFF. [For the American Railroad Journal.]

It has been observed by some writers, that semi-circular or semi-elliptical arches are nearly in equilibrio when the roadway is horizontal; but this can only be admitted as true when the arch has a certain determinate thickness at the crown. As an illustration, it may be observed, that the thickness at the crown can be varied in such a manner as to cause the curve of perfect equilibrium to fall either within or without the given arch at the flanks; and there will therefore evidently exist, between those two extremes, a certain quantity of weight at the crown, which will have the best effect towards equilibrating the proposed arch: and this is the quantity which must be sought, when that curve is to be employed as an arch, for it gives the only case in which a correct view of the common analysis will indicate the ellipsis as approaching the true curve within judicious limits.

The method to be pursued in this investigation will be obvious enough, to the mathematical reader, from the hint given above, and I will therefore only show the result in the following Theorem:

In constructing, with a horizontal roadway, a semi-circular or a semi-elliptical arch, whether it be flat, as with the transverse axis horizontal, or surmounted, as with that axis vertical. I say, the most advantageous condition, *with respect to equilibrium*, will be obtained when the roadway and abutments, or piers, are so adjusted as to produce a *thickness at the crown*, including the ring and all the superincumbent matter estimated as reduced to the same specific gravity with it, *equal to one seventh part of the rise of the arch.*

The method of obtaining the most judicious ellipsis, *when a segment only is required*, has been already explained in a preceding number of this journal, but the following fact is thought by many to be a sufficient reason for disregarding the results of theory: "*Bridges which have not been equilibrated have endured for ages, and appear likely to endure till the materials of which they are composed crumble away.*" This experimental result contradicts not the mathematical principles of mechanics; for it must be remembered that such bridges, hitherto found to remain secure in consequence of the friction and adhesion of their materials, have only been subject to the action of loads passing over them, at a very slow rate, in which case there was no *tremulous* motion communicated to the arch: but it is the uniform result of all experience, that friction is much reduced when the slightest *motion* takes place; and thus an arch which might stand for centuries, *if suffered to remain perfectly quiescent*, would soon tumble down from the effect of small but *repeated* jarrings, when the various parts do not mutually incline to sustain each other.

To adopt such a system of building would therefore be particularly vicious on a line of railroad, where steam is used as a moving power, for heavy locomotive engines, moving over a bridge with great speed, will communicate a *tremulous* motion to all the materials laid upon the back of the arch; and which, *although it will not be sensible in the first instance*, cannot fail, by frequent repetitions, to have a pernicious result, if the arch be not truly balanced; and as there is a probability of great advances, for many years to come, in the power and speed of locomotive engines, it is very necessary to anticipate their effect, and to construct at the present time, as far as practicable, works proper to meet such events.

The theory of arches is built upon the supposition that the superincumbent matter is possessed of gravity alone, without any adhesive quality; and that the ring of the arch is susceptible of sustaining no lateral thrust, but only capable of resisting a longitudinal compression: and these are correct suppositions, for the ring of an arch will sustain without injury a very great thrust longitudinally, but is easily broken with a lateral pressure. When circular or elliptical arches are not equilibrated, the ring is continually strained at the flanks by a disposition to shove *outward;* and when this movement ever takes place, it gives room for the crown to fall in, and it is chiefly the friction, or the adhesive quality of the superincumbent matter, which prevents that effect in every instance in which such arches are not equilibrated. But when an arch is properly balanced, the experiment mentioned above is sufficient to justify a full confidence in the belief that cohesion and friction will be amply sufficient to insure stability during the small time in which a load is passing over the bridge—even when such a load *is much heavier, and moved with greater velocity*, than those which have hitherto been transported over bridges erected without regard to their equilibration.

An equilibrated arch will bear a considerable degree of *tremor* without injury; *and they only require a little more care in their construction.* The subject is one of deep interest, not only to the engineer, but to all who have money invested in such works. V. D. G.

Lexington, Ky. Oct. 1st, 1833.

Mr. Rutter's New Process for generating Heat.

[From the London Mechanics' Magazine.]

We have now the pleasure of laying before our readers the first detailed and authentic account which has yet appeared of the new mode of generating heat, discovered and patented by our esteemed friend Mr. Rutter, and which, to use the words of a correspondent, quoted in our last number, seems destined "to change the face of the world." The heat obtained is, we understand, extremely intense, very uniform, and, what we scarcely expected to find would be the case, *perfectly manageable.* The process has been in successful use at the Salisbury Gas Works ever since the patent was taken out, and it has also been tried on board of a steam vessel, off Lymington, with equally gratifying results. The following details of the process we extract from a copy of Mr. Rutter's Scotch specification, with which he has obligingly favored us—his English and Irish specifications have yet to be enrolled:

"My invention of an improved process for generating heat, applicable to the heating of boilers and retorts, and to other purposes for which heat is required, consists in the employment of bituminous, oleaginous, resinous, waxy, or fatty substances, in a liquid state, and in conjunction with water as fuel, in manner hereinafter described. I carry my said improved process into effect in manner following, that is to say, by allowing or causing one or more of the said bituminous, oleaginous, resinous, waxy, or fatty substances, as coal tar, for instance, to flow from a cistern or other vessel suitably placed, through a pipe or other convenient channel, into a spout or funnel communicating with the interior of an enclosed fire-place or furnace, and at the same time allowing or causing water to flow from a cistern or vessel, placed in a suitable or convenient situation, through another pipe, or other convenient channel, into the beforementioned spout or funnel, in which spout or funnel they are allowed or caused to flow or drop simultaneously upon a fire previously kindled and burning within the before-mentioned inclosed fire-place or furnace, subject to the regulations hereinafter mentioned or described. It is not essential that the coal tar, or other of the before-mentioned substances, should first come into contact with the water in the spout which communicates with the interior of the enclosed fire-place or furnace. Indeed, I rather prefer that they should first come in contact with each other in a funnel at some little distance from the furnace, and from thence be allowed to flow together, through a convenient channel, to the spout by which they are admitted into the interior of the fire-place or furnace; but the tar or other substance, and the water, should be in contact prior to or at their entrance into the fire-place or furnace, and being so in contact should fall simultaneously upon the fire so burning within the fire-place or furnace; and if the fire-place or furnace be large, two or more of the spouts or channels for introducing the coal tar, or other substances, and water together, may be adapted to such fire-place or furnace in such manner and at such distances from each other as may be found most convenient. The stream of coal tar, or other of the before-mentioned substances, and of water respectively, is or may be regulated by means of stop-cocks or valves, either in or attached to the cistern or other vessel, or in any of the pipes or channels before-mentioned. The spout or other channel through which the coal tar, or other of the before-mentioned substances, and the water, are introduced into the interior of the inclosed fire-place or furnace, should be left open, so that a supply of atmospheric air may thereby be admitted to the said inclosed fire-place or furnace, care being taken that too large a supply of atmospheric air be not admitted. Although I prefer the heating, inflaming, and decomposing surface of a fire, burning within an inclosed fire-place or furnace, as aforesaid, in carrying my said improved process into effect, as most favorable to the complete and effectual combustion of the coal tar, or other of the before-mentioned substances, in conjunction with water as aforesaid, yet the same is not absolutely essential to the said process, for the combustion of the coal tar, or other of the before-mentioned substances, in conjunction with water, may be effected in a furnace, oven, or other close vessel, previously heated, and afterwards kept at a proper degree of heat, either by heat disengaged within the said furnace, oven, or close vessel, or by heat being applied externally, or in any other way that shall be found most convenient. It is not essential that the water employed in my said improved process should be fresh or pure water, for sea water and impure water, such as the bilge water in ships, and the ammoniacal liquor in gas works, will answer the purpose. The respective quantities and properties of coal tar, or other of the before-mentioned substances, and of water, proper to be admitted or introduced into the inclosed fire-place or furnace, oven, or other close vessel, will be found to vary according to circumstances and the materials used. The proportions of coal tar and water, which I have found productive of a good result, are one gallon of coal tar, to be be used simultaneously with one gallon and a half of water, and these qualities should be so regulated as not to fall upon the fire or other heated surface, as before-mentioned, in much less than two or three hours; but the proper proportions to be used may be ascertained by observing the interior appearance of the said inclosed fire-place or furnace, oven, or other close vessel, (which may be done at or through one or more of the spouts or other convenient channels provided for the introduction of the coal tar or other material and the water, or at or through one or more convenient apertures made for the purpose); for if water be in excess the flame will be weakened or extinguished; or if tar, or other of the before-mentioned substances, be in excess, then the flame will be obscured by smoke."

Mr. Rutter does not lay any claim to the apparatus or machinery employed in the process, but limits his patent right to "the mode or process of generating heat, by subjecting bituminous, oleaginous, resinous, waxy, and fatty substances, or a mixture of two or more such

substances, in a liquid state, in conjunction with water, ignition, combustion, and decomposition, in the manner before described."

Bristol and London Railway.—A Committee of Deputies, appointed by the public bodies of Bristol, to consider of the expediency of the proposed Railway between that city and the metropolis, have made so favorable a report upon it that at a public meeting of the inhabitants, held on the 30th of July last, it was resolved to establish a Company forthwith, to carry the project into effect. The Railway will be from 115 to 120 miles in length, and is estimated to cost £2,805,320. It will go right through Bath, after quitting which it will pass near Chippenham, Wootten Basset, Swindon, Wantage, Abingdon, Pangbourn, and Reading, and terminate either at Paddington or some part of the southern bank of the Thames, as may be hereafter determined. The engineers employed in the preliminary surveys are Mr. Brunel and Mr. Townsend.

Travelling by Steam on Common Roads.—On Saturday morning, September 7th, a steam carriage, constructed by Colonel Macerone and Mr. Squire, started from the wharf, No. 19, at Paddington, with a view of running to Windsor and back. The carriage contained, including Col. Macerone, Mr. Squire, who guided it, and two working engineers, one to look after the fire behind, and one riding on the box before, eleven persons, and might weigh about three tons and a half. The place of starting is about one mile from Hyde Park Corner, making the distance to Windsor twenty-four miles. The carriage reached the new Inn at Windsor in two hours and fifty-six minutes. Including stoppages it went at the rate of nearly eight miles an hour; excluding the stoppages, it travelled at the rate of twelve miles an hour. The time was carefully marked between the mile-stones; and it was found that the speed was at the rate of ten, twelve, thirteen, eleven, and at one time at fourteen miles per hour. On its return, the axle broke, and its progress was stopped; but this is an accident which can be easily guarded against in future. The carriage with which this trip was made, consisted of an open chariot placed before a steam boiler. The merit of the invention consists, we understand, in the boiler. The engine is of the high pressure kind, and has generally been worked at the pressure of one hundred and fifty pounds to the square inch; but on the trip to Windsor the pressure was not equal to that. The whole of the machinery, except the boiler and fire-place, which are behind the chariot, is placed horizontally beneath the carriage, and between a strong frame of wood-work. The size of the whole is not greater than that of an omnibus, and the carriage is capable of being made ornamental.

Colonel Macerone, in a letter to the Morning Chronicle, says:

"I do not know what it may cost to work other steam carriages, but it is essential that you should be informed that, in our journey to Windsor and back, (forty-eight miles,) we did not consume so much as five sacks of coke; which, at two shillings a sack, makes ten shillings, the expense of propelling a carriage which is capable of carrying many more passengers, besides luggage, than a four-horse stage-coach."

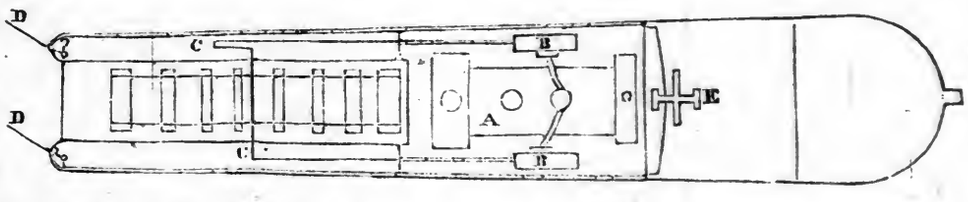
He also adds, in allusion to the comparative cost of running steam or horse carriages:

"The former are exempt from all tax, while the latter have to pay three pence or more per mile, which alone, as I have shown above, is equal to the whole cost of the steam coach's propelling power—the fuel! Lord Althorp positively assured us, in the House of Commons, in July, 1832, that he exempted steam carriages on common roads from all tax, for the sake of encouragement—'not that he was very sanguine as to their being speedily brought to answer.' As it is, we pay turnpikes equal to a four-horse carriage, although we have no horses' feet to pound up the road, and our broad vertical cylindrical wheels do more good than harm.—[London Spectator of Sept. 14.]

A Steam Carriage Trip to Brighton.—On Wednesday morning, shortly after five o'clock, Mr. Walter Hancock, the patentee of the Paddington Steam Omnibus, started from his factory at Stratford, in Essex, with his steam-carriage "Infant," for Brighton. On arriving at London-bridge, he (Mr. Hancock) was joined by six gentlemen, his friends, who took their seats in the carriage, and at six o'clock, the word "ready" being given, the carriage, which was guided by Mr. Hancock himself, proceeded at a most rapid rate, and reached Brighton without the slightest accident or obstruction. It was at first the intention of Mr. Hancock to have returned from Brighton on the same day; but owing to the want of proper arrangements on the road, and being obliged to take up water at whatever place it could be found, considerable time was lost. This circumstance, together with a wish on the part of the friends of the projector to stop a night at Brighton, induced Mr. Hancock to alter his intentions, and he, with his friends, after one or two stages, determined on remaining at Brighton on that night. On Thursday, at twelve o'clock, the carriage was propelled at a gentle pace from the yard, where it had been for the night, to the tank near the New Church, where it took in a necessary supply of water there. Several scientific gentlemen then took their seats in the carriage, and the steam being laid on the vehicle, set off at a most rapid rate towards the Pavilion, and, having passed several of the leading streets, reached the West Cliff in a few minutes, and passed along it in the most gallant style, the houses on each of the street and the streets through which it passed being lined with crowds of spectators. After passing along Bedford and Russell squares, and just as it had reached the bottom of the latter, a portion of the machine, called the clotch, from age and wear, gave way, and this causing the blower out of order, the machine in a short time had to be stopped, but not the slightest injury was done to the carriage or engines; and in the course of the afternoon the carriage was removed to the yard of Messrs. Palmer & Co., where the injury was repaired, and it was the intention of Mr. Hancock to drive through the town on Friday.—[Bell's Messenger of September 15.]

Application of Steam.—An advertiser in the Louisville Advertiser, signed A. B. C., thus announces his pretensions: "After a most persevering study in chemistry for 25 years, and mechanical philosophy, I have arrived at the conclusion, that Captain Savary Fitch, Oliver Evans, Watts and Bolton, Ericsson, Braithwaite, Stevenson, of Manchester, Robert L. Stevens, of New-York, and all the other engineers of science, theory, and practice, with Perkins, of London, and Dupin, have been entirely *on the wrong scent or pursuit for power*. Therefore, I deem it essential to say, I have found the *fulcrum of Archimedes* brought by Thales to me—I shall move a common steamboat at a velocity of 15 miles per hour, on rivers—*I will move a 60 gun battery of 42 pounders*, in 12 feet water, at 12 miles per hour, for national defence, without the possibility of the enemy injuring the vessel or machine—*I will cross the Atlantic in ten days* in a Power Packet, *without stopping for fuel*—I will ascend the river Mississippi at an average speed of 13½ miles per hour; and if only a passage boat, I will navigate the Ohio and Mississippi, without freight, at 18 miles per hour. I will contract to complete and perfect the improvement in any small boat, or large size boat, in two or three months. I am prepared to give satisfactory security and sufficient guarantees to perform whatever contract I make immediately, without defalcation. ☞ Reference to the Editor of the Advertiser.

[We presume the respectable editor of the Advertiser is satisfied that these assertions are correct, or he would not allow his name to be used. We must confess that we are somewhat incredulous about them, and should be much gratified to be able to lay before our readers something more substantial than the mere assertions of an anonymous advertiser.—Ed. Mech. Mag.]



Steamboats with Paddles in the Stern. By J. F. B. [From the London Mechanics' Magazine.]

Sir,—There is a small boat now fitting up in this port which is intended for the use of our Belgian neighbors; and as it is entirely different in construction from any I have yet seen, be kind enough to insert the following description of it in your useful Magazine. Your obedient servant,

J. F. B.

Liverpool, June 4, 1833.

A is the boiler, on Messrs. Stephensons' principle, with tubes running through the length of it. It is a high pressure one, and of precisely the same construction as those of the railway locomotives. B B, two ten boxes cylinders, working by means of cranks. C C, the paddle-wheel, placed in the stern of the vessel.

The vessel is made of iron, except the upper works above water mark; is 76 feet long, 14 feet 10 inches broad, and draws about 2 feet 4 inches water. She is steered by two rudders, D D, on each side of the cavity for the reception of the paddle-wheel;

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It has been observed by some writers, that semi-circular or semi-elliptical arches are nearly in equilibrio when the roadway is horizontal: but this can only be admitted as true when the arch has a certain determinate thickness at the crown. As an illustration, it may be observed, that the thickness at the crown can be varied in such a manner as to cause the curve of perfect equilibrium to fall either within or without the given arch at the flanks: and there will therefore evidently exist, between those two extremes, a certain quantity of weight at the crown, which will have the best effect towards equilibrating the proposed arch: and this is the quantity which must be sought, when that curve is to be employed as an arch, for it gives the only case in which a correct view of the common analysis will indicate the ellipsis as approaching the true curve within judicious limits.

The method to be pursued in this investigation will be obvious enough, to the mathematical reader, from the hint given above, and I will therefore only show the result in the following Theorem:

In constructing, with a horizontal roadway, a semi-circular or a semi-elliptical arch, whether it be flat, as with the transverse axis horizontal, or curvounted, as with that axis vertical, I say, the most advantageous condition, *with respect to equilibration*, will be obtained when the roadway and abutments, or piers, are so adjusted as to produce a *thickness at the crown* including the ring and all the superincumbent matter estimated as reduced to the same specific gravity with it, *equal to one seventh part of the rise of the arch.*

The method of obtaining the most judicious ellipsis, *when a segment only is required*, has been already explained in a preceding number of this journal, but the following fact is thought by many to be a sufficient reason for disregarding the results of theory: "*Bridges which have not been equilibrated have endured for ages, and appear likely to endure till the materials of which they are composed crumble away.*" This experimental result contradicts not the mathematical principles of mechanics; for it must be remembered that such bridges, hitherto found to remain secure in consequence of the friction and adhesion of their materials, have only been subject to the action of loads passing over them at a very slow rate, in which case there was no *tremulous* motion communicated to the arch; but it is the uniform result of all experience, that friction is much reduced when the slightest *motion* takes place: and thus an arch which might stand for centuries, *if suffered to remain perfectly quiescent*, would soon crumble down from the effect of small but *repeated* jarrings, when the various parts do not mutually incline to sustain each other.

To adopt such a system of building would therefore be particularly vicious on a line of railroad, where steam is used as a moving power, for heavy locomotive engines, moving over a bridge with great speed, will communicate a *tremulous* motion to all the materials laid upon the back of the arch; and which, *although it will not be sensible in the first instance*, cannot fail, by frequent repetitions, to have a pernicious result, if the arch be not truly balanced: and as there is a probability of great advances, for many years to come, in the power and speed of locomotive engines, it is very necessary to anticipate their effect, and to construct at the present time, as far as practicable, works proper to meet such events.

The theory of arches is built upon the supposition that the superincumbent matter is possessed of gravity alone, without any adhesive quality; and that the ring of the arch is susceptible of sustaining no lateral thrust, but only capable of resisting a longitudinal compression: and these are correct suppositions, for the ring of an arch will sustain without injury a very great thrust longitudinally, but is easily broken with a lateral pressure. When circular or elliptical arches are not equilibrated, the ring is continually strained at the flanks by a disposition to shove *outward*; and when this movement ever takes place, it gives room for the crown to fall in, and it is chiefly the friction, or the adhesive quality of the superincumbent matter, which prevents that effect in every instance in which such arches are not equilibrated. But when an arch is properly balanced, the experiment mentioned above is sufficient to justify a full confidence in the belief that cohesion and friction will be amply sufficient to insure stability during the small time in which a load is passing over the bridge—even when such a load *is much heavier, and moved with greater velocity*, than those which have hitherto been transported over bridges erected without regard to their equilibration.

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[From the London Mechanics' Magazine.]

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I carry my said improved process into effect in manner following, that is to say, by allowing or causing one or more of the said bituminous, oleaginous, resinous, waxy, or fatty substances, as coal tar, for instance, to flow from a cistern or other vessel suitably placed, through a pipe or other convenient channel, into a spout or funnel communicating with the interior of an enclosed fire-place or furnace, and at the same time allowing or causing water to flow from a cistern or vessel, placed in a suitable or convenient situation, through another pipe, or other convenient channel, into the before-mentioned spout or funnel, in which spout or funnel they are allowed or caused to flow or drop simultaneously upon a fire previously kindled and burning within the before-mentioned inclosed fire-place or furnace, subject to the regulations hereinafter mentioned or described. It is not essential that the coal tar, or other of the before-mentioned substances, should first come into contact with the water in the spout which communicates with the interior of the enclosed fire-place or furnace. Indeed, I rather prefer that they should first come in contact with each other in a funnel at some little distance from the furnace, and from thence be allowed to flow together, through a convenient channel, to the spout by which they are admitted into the interior of the fire-place or furnace; but the tar or other substance, and the water, should be in contact prior to or at their entrance into the fire-place or furnace, and being so in contact should fall simultaneously upon the fire so burning within the fire-place or furnace; and if the fire-place or furnace be large, two or more of the spouts or channels for introducing the coal tar, or other substances, and water together, may be adapted to such fire-place or furnace in such manner and at such distances from each other as may be found most convenient. The stream of coal tar, or other of the before-mentioned substances, and of water respectively, is or may be regulated by means of stop-cocks or valves, either in or attached to the cistern or other vessel, or in any of the pipes or channels before-mentioned. The spout or other channel through which the coal tar, or other of the before-mentioned substances, and the water, are introduced into the interior of the inclosed fire-place or furnace, should be left open, so that a supply of atmospheric air may thereby be admitted to the said inclosed fire-place or furnace, care being taken that too large a supply of atmospheric air be not admitted. Although I prefer the heating, inflaming, and decomposing surface of a fire, burning within an inclosed fire-place or furnace, as aforesaid, in carrying my said improved process into effect, as most favorable to the complete and effectual combustion of the coal tar, or other of the before-mentioned substances, in conjunction with water as aforesaid, yet the same is not absolutely essential to the said process, for the combustion of the coal tar, or other of the before-mentioned substances, in conjunction with water, may be effected in a furnace, oven, or other close vessel, previously heated, and afterwards kept at a proper degree of heat, either by heat disengaged within the said furnace, oven, or close vessel, or by heat being applied externally, or in any other way that shall be found most convenient. It is not essential that the water employed in my said improved process should be fresh or pure water, for sea water and impure water, such as the bilge water in ships, and the ammoniacal liquor in gas works, will answer the purpose. The respective quantities and properties of coal tar, or other of the before-mentioned substances, and of water, proper to be admitted or introduced into the inclosed fire-place or furnace, oven, or other close vessel, will be found to vary according to circumstances and the materials used. The proportions of coal tar and water, which I have found productive of a good result, are one gallon of coal tar, to be be used simultaneously with one gallon and a half of water, and these qualities should be so regulated as not to fall upon the fire or other heated surface, as before-mentioned, in much less than two or three hours; but the proper proportions to be used may be ascertained by observing the interior appearance of the said inclosed fire-place or furnace, oven, or other close vessel, (which may be done at or through one or more of the spouts or other convenient channels provided for the introduction of the coal tar or other material and the water, or at or through one or more convenient apertures made for the purpose); for if water be in excess the flame will be weakened or extinguished; or if tar, or other of the before-mentioned substances, be in excess, then the flame will be obscured by smoke."

Mr. Rutter does not lay any claim to the apparatus or machinery employed in the process, but limits his patent right to "the mode or process of generating heat, by subjecting bituminous, oleaginous, resinous, waxy, and fatty substances, or a mixture of two or more such

substances, in a liquid state, in conjunction with water, ignition, combustion, and decomposition, in the manner before described."

Bristol and London Railway.—A Committee of Deputies, appointed by the public bodies of Bristol, to consider of the expediency of the proposed Railway between that city and the metropolis, have made so favorable a report upon it that at a public meeting of the inhabitants, held on the 30th of July last, it was resolved to establish a Company forthwith, to carry the project into effect. The Railway will be from 115 to 120 miles in length, and is estimated to cost £2,805,320. It will go right through Bath, after quitting which it will pass near Chippenham, Wootten Basset, Swindon, Wantage, Abingdon, Pangbourn, and Reading, and terminate either at Paddington or some part of the southern bank of the Thames, as may be hereafter determined. The engineers employed in the preliminary surveys are Mr. Brunel and Mr. Townsend.

Travelling by Steam on Common Roads.—On Saturday morning, September 7th, a steam carriage, constructed by Colonel Macerone and Mr. Squire, started from the wharf, No. 19, at Paddington, with a view of running to Windsor and back. The carriage contained, including Col. Macerone, Mr. Squire, who guided it, and two working engineers, one to look after the fire behind, and one riding on the box before, eleven persons, and might weigh about three tons and a half. The place of starting is about one mile from Hyde Park Corner, making the distance to Windsor twenty-four miles. The carriage reached the new Inn at Windsor in two hours and fifty-six minutes. Including stoppages it went at the rate of nearly eight miles an hour; excluding the stoppages, it travelled at the rate of twelve miles an hour. The time was carefully marked between the mile-stones; and it was found that the speed was at the rate of ten, twelve, thirteen, eleven, and at one time at fourteen miles per hour. On its return, the axle broke, and its progress was stopped; but this is an accident which can be easily guarded against in future. The carriage with which this trip was made, consisted of an open chariot placed before a steam boiler. The merit of the invention consists, we understand, in the boiler. The engine is of the high pressure kind, and has generally been worked at the pressure of one hundred and fifty pounds to the square inch; but on the trip to Windsor the pressure was not equal to that. The whole of the machinery, except the boiler and fire-place, which are behind the chariot, is placed horizontally beneath the carriage, and between a strong frame of wood-work. The size of the whole is not greater than that of an omnibus, and the carriage is capable of being made ornamental.

Colonel Macerone, in a letter to the Morning Chronicle, says:

"I do not know what it may cost to work other steam carriages, but it is essential that you should be informed that, in our journey to Windsor and back, (forty-eight miles,) we did not consume so much as five sacks of coke; which, at two shillings a sack, makes ten shillings, the expense of propelling a carriage which is capable of carrying many more passengers, besides luggage, than a four-horse stage-coach."

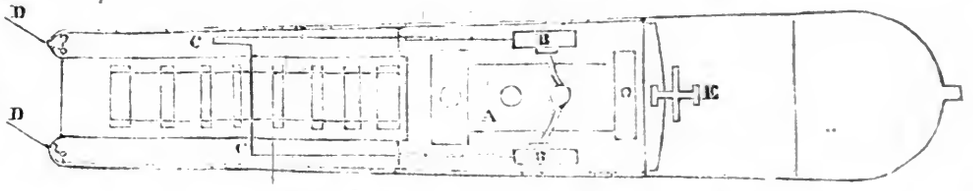
He also adds, in allusion to the comparative cost of running steam or horse carriages:

"The former are exempt from all tax, while the latter have to pay three pence or more per mile, which alone, as I have shown above, is equal to the whole cost of the steam coach's propelling power—the fuel! Lord Althorp positively assured us, in the House of Commons, in July, 1832, that he exempted steam carriages on common roads from all tax, for the sake of encouragement—'not that he was very sanguine as to their being speedily brought to answer.' As it is, we pay turnpikes equal to a four-horse carriage, although we have no horses' feet to pound up the road, and our broad vertical cylindrical wheels do more good than harm.—[London Spectator of Sept. 14.]

A Steam Carriage Trip to Brighton.—On Wednesday morning, shortly after five o'clock, Mr. Walter Hancock, the patentee of the Paddington Steam Omnibus, started from his factory at Stratford, in Essex, with his steam-carriage "Infant," for Brighton. On arriving at London-bridge, he (Mr. Hancock) was joined by six gentlemen, his friends, who took their seats in the carriage, and at six o'clock, the word "ready" being given, the carriage, which was guided by Mr. Hancock himself, proceeded at a most rapid rate, and reached Brighton without the slightest accident or obstruction. It was at first the intention of Mr. Hancock to have returned from Brighton on the same day; but owing to the want of proper arrangements on the road, and being obliged to take up water at whatever place it could be found, considerable time was lost. This circumstance, together with a wish on the part of the friends of the projector to stop a night at Brighton, induced Mr. Hancock to alter his intentions, and he, with his friends, after one or two stages, determined on remaining at Brighton on that night. On Thursday, at twelve o'clock, the carriage was propelled at a gentle pace from the yard, where it had been for the night, to the tank near the New Church, where it took in a necessary supply of water there. Several scientific gentlemen then took their seats in the carriage, and the steam being laid on the vehicle, set off at a most rapid rate towards the Pavilion, and, having passed several of the leading streets, reached the West Cliff in a few minutes, and passed along it in the most gallant style, the houses on each of the street and the streets through which it passed being lined with crowds of spectators. After passing along Bedford and Russell squares, and just as it had reached the bottom of the latter, a portion of the machine, called the clotch, from age and wear, gave way, and this causing the blower out of order, the machine in a short time had to be stopped, but not the slightest injury was done to the carriage or engines; and in the course of the afternoon the carriage was removed to the yard of Messrs. Palmer & Co., where the injury was repaired, and it was the intention of Mr. Hancock to drive through the town on Friday.—[Bell's Messenger of September 15.]

Application of Steam.—An advertiser in the Louisville Advertiser, signed A. B. C., thus announces his pretensions: "After a most persevering study in chemistry for 25 years, and mechanical philosophy, I have arrived at the conclusion, that Captain Savary Fitch, Oliver Evans, Watts and Bolton, Ericsson, Braithwaite, Stevenson, of Manchester, Robert L. Stevens, of New-York, and all the other engineers of science, theory, and practice, with Perkins, of London, and Dupin, have been entirely *on the wrong scent or pursuit for power*. Therefore, I deem it essential to say, I have found the *fulcrum of Archimedes* brought by Thales to me—I shall move a common steamboat at a velocity of 15 miles per hour, on rivers—*I will move a 60 gun battery of 42 pounders*, in 12 feet water, at 12 miles per hour, for national defence, without the possibility of the enemy injuring the vessel or machine—*I will cross the Atlantic in ten days* in a Power Packet, *without stopping for fuel*—I will ascend the river Mississippi at an average speed of 13½ miles per hour; and if only a passage boat, I will navigate the Ohio and Mississippi, without freight, at 18 miles per hour. I will contract to complete and perfect the improvement in any small boat, or large size boat, in two or three months. I am prepared to give satisfactory security and sufficient guarantees to perform whatever contract I make immediately, without defalcation. ☞ Reference to the Editor of the Advertiser.

[We presume the respectable editor of the Advertiser is satisfied that these assertions are correct, or he would not allow his name to be used. We must confess that we are somewhat incredulous about them, and should be much gratified to be able to lay before our readers something more substantial than the mere assertions of an anonymous advertiser.—Ed. Mech. Mag.]



Steamboats with Paddles in the Stern. By J. F. B. [From the London Mechanics' Magazine.]

Sir,—There is a small boat now fitting up in this port which is intended for the use of our Belgian neighbors; and as it is entirely different in construction from any I have yet seen, be kind enough to insert the following description of it in your useful Magazine. Your obedient servant,

J. F. B.

Liverpool, June 4, 1833.

A is the boiler, on Messrs. Stephensons' principle, with tubes running through the length of it. It is a high pressure one, and of precisely the same construction as those of the railway locomotives. B B, two ten boxes cylinders, working by means of cranks. C C, the paddle-wheel, placed in the stern of the vessel.

The vessel is made of iron, except the upper works above water mark; is 76 feet long, 14 feet 10 inches broad, and draws about 2 feet 4 inches water. She is steered by two rudders, D D, on each side of the cavity for the reception of the paddle-wheel;

and the steering wheel is at E, in the centre of the vessel, before the engine house.

In a late trial she went 7 miles in 33 minutes, tide in favor. The steam was not up at its full height, nor were the paddle-boards deep enough.

[*From the Boston Daily Advertiser of 22d ult.*]

Mr. Hale,—In Friday morning's Patriot, I notice an article, republished from the Railroad Journal, in reference to the southern termination of the Boston and Providence Railroad, urging the propriety of consulting the accommodation of the public generally, the city of Providence, and the New-York travel and transportation, via Stonington; and calling upon the Directors of the P. & B. Railroad to pause and reflect before they decide on locating the southern termination of this important public work, within the boundaries of Massachusetts. Concurring with the writer of that article, in regarding the question as one of vital interest, and involving, in a very considerable degree, the eventual success and prosperity of the work, and, moreover, feeling a deep solicitude in its speedy and satisfactory completion, I propose to offer a few thoughts, which have occurred to me in an attentive study of the subject, as connected, not only with its independent interests, but also its relations with the Stonington road, and the New-York and Providence steamboats.

The writer of the article in the Journal has, it appears to me, rather hastily entered his protest against locating the southern terminus in Massachusetts, and without recollecting that there are always two sides to every story. The people of Massachusetts have, as well as their brethren in Rhode Island, an interest in this question, which it may be well worth while to examine; and as a stockholder and native of that state, I do not feel willing to see their interest prejudiced in favor of their neighbors on the other side of Narraganset; and again, the southern termination of the road within the territories of Massachusetts, does not, by any means, offer the local obstacles which the writer in the Journal seems to apprehend.

I presume that the advantage of having the entire road within the jurisdiction of *one* state, and thereby placing it beyond the control of the legislative acts of any other state, avoiding the many inconveniences inseparable from a want of harmony in the operations of two distinct legislatures, will be acceded to at once. Having in view, then, that the accommodation of the road will be greatly facilitated by locating its line within the boundaries of this state, and also, the fact, that the objections urged by the writer in the Journal, of "increased distance and ferry transportation" are not of a serrious character, the question only remains, what point on the Massachusetts side of the bay is best adapted to accommodate the public generally, the city of Providence and the New-York travel and transportation, via Stonington? In answering this question, it appears to me there can be but one question. *Kettle's Point* offers, in an easy water approach for the New-York steamboats, and natural advantages for constructing the road itself, a strong inducement; which in addition to its near proximity to *Field's Point*, on the opposite shore, where the terminus of the Stonington road may be very advantageously located, renders it far superior to any spot within the possible sphere of location. To the people of Massachusetts such a location is desirable, and may well awaken their attention to the subject—the materials for building, both of wood and stone, are abundant—wharves, and every other facility for commercial pursuits, can be easily constructed—the water access is easy; and with these advantages, why may not the enterprising citizens of our state locate at Kettle's Point a town, which, at no very distant day, shall rival Providence, and give to Massachusetts a superior influence on the waters of Narraganset Bay, by which its shores are bounded?

There are those to whom this subject is more familiar—to them the stockholders and the public generally look with confidence for a correct decision. Let Massachusetts have her due weight in this question. Let her interests be fairly considered, especially when natural advantages so plainly indicate Kettle's Point for the location of the southern terminus of this important work. A Boston Stockholder.

[*From the National Gazette.*]

The following plan for preventing injury to passengers from the explosion of boilers of steamboats, suggested by Dr. Hare, has been communicated at our request.

The boilers are to be situated either outside of the hull, of which the timbers for a sufficient distance are to be carri d up as in a double decker, or otherwise they are to be situated as near as possible to the outside, in a niche or chamber made for the purpose. If a niche be deemed preferable, between the boilers and the interior of the steamer it is proposed to have a strong partition made water tight. In either case, towards the water, and fore and aft, there should be a frame and weather boarding, having no more strength than necessary as a defence against the rain, wind and waves. This framing should be arched, or convex outwards with hinges, so that a pressure from the outside may tend to fasten it, while to a pressure from within it may offer a resistance comparatively slight. Doors for closing the passages between the niche and the deck might be similarly contrived, so as to shut like valves in case of an explosion. It is presumed that in all cases of explosion, the projectile power will be most exerted in those directions in which there is least resistance. It is only on this principle that it can be safe to fire a gun—the bullet yields, while the breech-pin is undisturbed. Before the bulwark between the boiler and the interior of the boat would give way, the external defences of the space occupied by the boiler, and even the boiler itself, would go overboard. Neither the steam, the scalding water, nor the fragments, could reach the passengers.

It is conceived that the effect of the deck in protecting those who were in the lower cabins on board of the steamboat New England, at the period of the late catastrophe, sufficiently demonstrates the security which may be afforded by a stout bulwark.

In making this brief exposition, it is not deemed advisable to specify the means which would be recommended for the purpose of forming and securing a competent bulwark. No doubt is entertained of their efficiency.

Improved Railway.—We have been favored with a sight of the model of a new mode of railway conveyance, which, if brought into use, will present extraordinary advantages to the public. It is on the principle of the Saxton locomotive pulley, and according to the calculations of the projector, who is an engineer of some celebrity, the average rate of travelling will be nearly thirty miles an hour on a light railway laid upon the ordinary road, without requiring the least expenditure for levelling, so that the cost per mile, instead of being £200,000, as it is on the railways now in use, will be only £5000. According to the proposed plan, a horse, walking at the rate of 2 miles an hour over a distance of only one hundred yards, will be able to draw a light carriage, containing four persons, a distance of more than 1,600 yards in the same period of time as that occupied by the animal in performing its own distance. The carriage, on arriving at the end of a mile, will be carried by mechanism from the truck on which it is placed to another truck in waiting to receive it, and the same will be done from mile to mile to the end of the journey, each succeeding carriage being drawn in a manner similar to the first, until the whole train shall have passed over the railway.—[London paper.]

The following notice of the retirement of John I. Mumford, Esq. from the editorial chair of the New York Standard, should have appeared in the Journal of last week. It was, however, inadvertently omitted. As an editor, few wield a more ready pen—as a partizan, we know of no one more determined and fearless, and although, as a politician, judging him by our *own* standard, he has greatly, and, on some important subject, irreparably, erred, we wish him prosperity, and a happy retirement.

The connexion of the subscriber with the New-York Standard, which has subsisted for more than three years, is dissolved, and he returns to private life. Amid the conflicts of party, he has endeavored to bear himself faithfully and fearlessly in advocacy of the principles of the party with which he enlisted, and which has signally triumphed over all opposition. He preferred courtesy to rudeness, towards even the most reckless of personal and political opponents; and though at one time compelled to violence of invective and severity of rebuke, he had no relish for such course, and rejoiced when the guns of the enemy were silenced, and he was able to repose under the folds of the Standard. So long a connexion with a paper of the character of the Standard, naturally leaves with him a desire for its prosperity and continued usefulness; and, on the dissolution of that connexion, he desires to express his gratitude to the personal friends who assisted in its establishment, and to the great body of the Republican party, the friends of the National and State administrations, who nobly sustained him even in the most gloomy periods of his existence. John I. Mumford.

New-York, 18th Oct. 1833.

Curious Facts and Experiments.—The "Philosophical Transactions" contain a very curious paper on hybernation, from the pen of Dr. Marshall Hall. From the fact that the peculiar condition of certain mammalia in the winter season, in other words, the state of hybernation of these animals, bears so striking an analogy to ordinary sleep, as to justify the expectation of some interesting results being deduced from considering the two in connection, the learned doctor has paid very minute attention to the state of the hedgehog, dormouse, and bat, during sleep, and he has come to a conclusion respecting it which does not appear to be consistent with the testimony of former observers. He states that the animal, in ordinary sleep, experiences a striking diminution of the power of respiration: that the acts of breathing become less; and that its temperature decreases many degrees below the average of what it is in the active state of the animal. Its capability of enduring the abstraction of the atmospheric air is increased to a corresponding extent. Such is the character of the natural sleep of hybernating animals, and it is distinguished from hybernation only in the degree in which the symptoms of the ordinary sleep are developed. In this case, that is, in true hybernation, the function of respiration is nearly altogether suspended; at least the phenomena which result from experiments on animals during hybernation are all confirmatory of such a conclusion. The doctor has shown, likewise, that the air which surrounded the animal whilst in the hybernating state yielded, at most, but very slight signs of any absorption being experienced by it. He placed a bat in a contrivance so constructed as to be capable of indicating the minutest amount of the absorption of gas. In the interval of 60 hours, after a most carefully conducted experiment,

he found that three-quarters of a cubic inch of gas had been absorbed. The amount of the diminution in the quantity of gas required by the hybernating animal may be estimated by stating that the average consumption necessary to him in the active state would be an equal quantity of gas in about half the above number of minutes. In the process for determining the absorption of hybernating animals, the nicest precautions are demanded. Whilst the air to be respired is secured against any addition, it is likewise necessary to ascertain constantly the comparative temperature of the animal and of the atmosphere. The author recommends that the experimentor should obtain a mahogany box, with a glass lid, divided horizontally at its middle part by a fold of strong ribbon, and of such dimensions as just to contain the animal. The bat is then to be placed upon the ribbon, and enclosed by fixing the lid in its place. A thermometer with a cylindrical bulb is then to be passed through an orifice made in the box, on a level with the ribbon, under the epigastrium of the animal, and left in this situation. The thermometer should be so placed as to be seen without disturbing the innate, whilst its indications can be compared with those of another thermometer hung up in the room to express the variations in the temperature of the atmospheric air. The doctor adds, that the layer of silk and the portion of air underneath are sufficient to protect the animal from the immediate influence of the temperature of the table, or whatever may be the support of the box. The phenomena of hybernation prove beyond all doubt the power of the animals who undergo it to sustain with impunity the privation of the atmospheric air. But the most extraordinary feature in this general fact is, that the exercise of this power is limited exclusively to the term of hybernation: for Dr. M. Hall placed a dormant bat in water, in which it remained immersed for eleven minutes, and came out uninjured; whilst a hedgehog, in the active condition of its existence, was put in the same element, and died in three minutes, the ordinary time in which drowning kills mammalia. In a paper previous to the present one, the same author had shown that in those cases in which the amount of respiration is small, the degree of irritability is high, and that, consequently, during the state of hybernation, the irritability of the animal is very sensibly augmented.

Now, if this reasoning were correct, it would necessarily follow, that, if the head of an animal were suddenly removed, and the heat of the heart observed afterwards, that heat would be found to continue longer if the experiment were tried in the hybernating state, than when it was done in the active condition of the animal. This result would undoubtedly show that irritability did increase when the respiration was diminished. The fact was placed beyond all doubt by Dr. M. Hall, in the following experiment: "On March 9th, soon after midnight, I took a hedgehog, which had been in a state of uninterrupted lethargy during 150 hours, and divided the spinal marrow just below the occiput; I then removed the brain, and destroyed the whole spinal marrow as gently as possible. The action of the heart continued vigorous during four hours, when seeing no prospect of a termination to the experiment, I resolved to envelope the animal in a wet cloth, and leave it until early in the morning. At seven o'clock, A. M., the beat of both sides of the heart still continued. They still continued to move at 10 A. M., each auricle and each ventricle contracting quite distinctly.

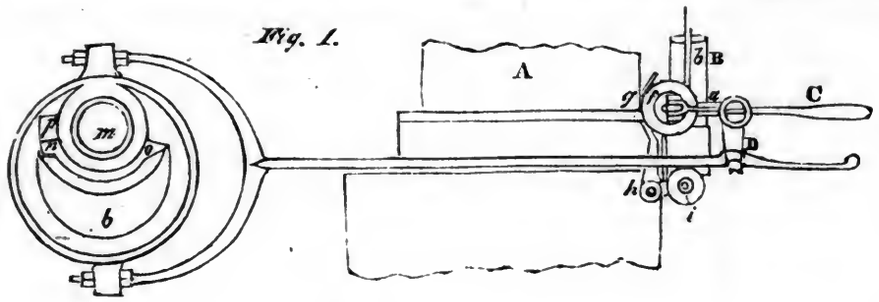
"At half past 11 A. M., all were equally motionless; yet all equally contracted on being stimulated by the point of a pen-knife. At noon the ventricles were alike unmoved, on being irritated as before; but both auricles contracted. Both auricles and ventricles were shortly afterwards irritable." A few weeks after this experiment, the spinal marrow of another hedgehog, in a state of activity, was simply divided at the occiput; the result was, that the beat of the left ventricle of the heart ceased almost immediately; that of the left auricle in less than a quarter of an hour; the right ventricle did not cease to beat before two hours from the time of death, whilst the right auricle ceased long before, though not so soon as the left auricle. The conclusions, then, which we are entitled to draw from these facts, are, that the irritability of the heart is strikingly increased in prolonged lethargy; and that in this state of the animal system the action of the heart continues without any dependence on the functions of the brain or spinal marrow. The general opinion hitherto has been, that during hybernation the sensibility of the animal is greatly impaired. The contrary is maintained by Dr. Hall, on the evidence of his own senses, for the slightest touch applied to one of the spines of the hedgehog, during hybernation, is sufficient to rouse it, and induce it to draw a deep respiration. The same respiration holds good with respect to the power of the animal to use its muscles. This remains perfectly unimpaired, and when there is insensibility or stiffness, then the animal is in a state of torpor, but not of hybernation. Again, though respiration is nearly suspended, the circulation still goes on; but, as it is of venous character, and as it wants the usual impulse, Dr. Hall assigns it to a place in the scale of animal life which is lower than that of the reptiles. The phenomena which are thus presented come before us in a series of facts, which it would be difficult for us to believe, if they were not put beyond all dispute by undoubted evidence. Anatomy and pathology alone can explain the strange process, by describing the increased irritability of the left side of the heart. A very important distinction is drawn by Dr. Hall, between true hybernation and torpor. Torpor may be produced by cold in any animal, and is attended by a benumbed state of the sentient nerves, and a stiffened condition of the muscles; it is the product of cold. But hybernation is limited to a certain number of animals; in it sensibility and power of motion remain unimpaired; its phenomena are produced through the medium of sleep. The nature of hybernation is determined, in a great measure, by the fact, that all hybernating animals avoid exposure to intense cold; but choose a retreat, make nests or burrows, congregate sometimes in clusters. The instinct by which the animals are led to make use of precautions is in connection with the law which requires that the change from the condition of hybernation to that of activity shall be slow and gradual, in as much as the state of the blood in one condition is compatible with the peculiar power of the heart in the other. The object is learnedly treated by Dr. Hall, and is well worthy the attention of scientific men.

Curious Clock.—The most curious thing in the cathedral of Lubeck is a clock of singular construction, and very high antiquity. It is calculated to answer astronomical purposes, representing the places of the sun and moon in the ecliptic, the moon's age, a perpetual almanac, and many other contrivances. The clock, as an inscription sets forth, was placed in the church upon Candlemas-day in 1405. Over the face of it appears an image of our Saviour, and on either side of the image are folding doors, so constructed as to fly upon every day when the clock strikes twelve. At this hour, a set of figures representing the twelve apostles come out from the door on the left hand of the image, and pass by in review before it, each figure making its obeisance by bowing as it passes that of our Saviour, and afterwards entering the doors on the right hand. When the procession terminates, the doors close.—[Clarke's Travels in Scandinavia.]

Sea-weed Banks.—The *Sargassum vulgare*, the tropic grape of sailors, and the Fucus natans of the older writers, is worthy attention, not only from its wandering habits, quitting as it does the submarine soil to which it probably in its early stage is attached, but also for the astonishing profusion in which it so frequently is found. It only grows within forty degrees of latitude on either side of the equator, but currents often cast it on our coast. It is a remarkable circumstance in the history of this plant, that it is chiefly located in its position, even when detached, forming two great banks, one of which is usually crossed by vessels homeward bound from Monte Video, or the Cape of Good Hope; and so constant are they in their places, that they assist the Spanish pilots to rectify their longitude. It is probable that these banks were known to the Phœnicians, who in thirty days' sail with an easterly wind, came into what they called the "Weedy Sea;" and to the present day, by the Spaniards and Portuguese, the chief tract is named Mar de Zargasso. It was the entering of such fields of fucus as these that struck so much terror into the minds of the first discoverers of America; for sailing tardily through extensive meadows for days together; the sailors of Columbus superstitiously believed that the hindrance was designed by heaven to stay their adventurous course: hence they wildly urged their commander to proceed no further, declaring that through the banks thus woven by nature, it would be presumptuous impiety to force a way.—[Burnett's Outlines of Botany.]

The vintage in France this year is one of the best that has been known for several years past. The quality of the wines is almost equal to that of the celebrated year of the comet, whilst the quantity is much larger, and even beyond that of what is called an average year. It is expected that there will be a fall of about 20 per cent. in the prices of the finer description of wines. In Champagne already the wines which were sold at 50 francs per dozen are now offered for thirty, and the commoner sorts of Champagne wine, which are frequently sold in England as high as 72*s.* per dozen, are offered at 27 francs, delivered at Calais. This is something under 2*s.* per bottle; and, adding the duty and all other expenses, Champagne wine, equal to three fourths of what is drunk in London, may be had for less than two guineas per dozen. The Rhenish wines will be also very good and abundant this year.

Fig. 1.



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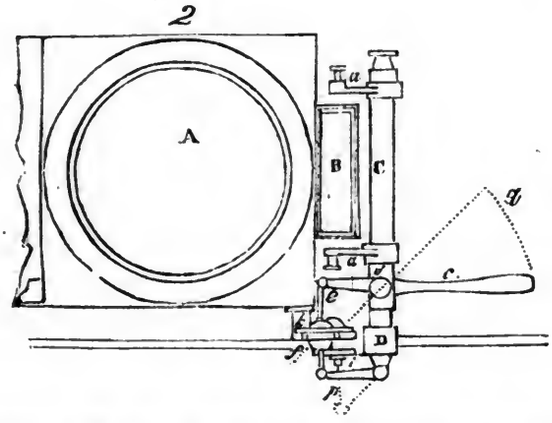


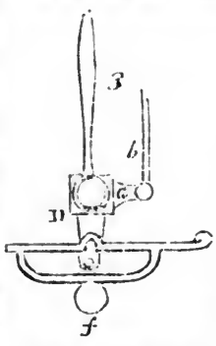
Apparatus for Setting in Motion, Stopping, or Reversing the Steam Engine. By Jas. Whitelow. [From the London Mechanics' Magazine.]

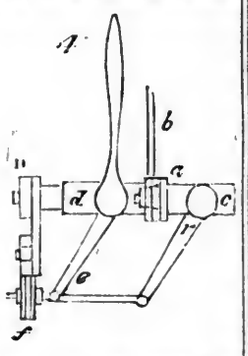
Sir,—To be able to set on, stop, or reverse the motion in coal pit, steamboat, and locomotive engines, without shifting the hand from one lever to another, enables the person in attendance to effect his purposes in *less time* and with more certainty.

Fig. 1 is an elevation, and fig. 2 a ground plan, of a very simple apparatus for effecting the above ends, applied to a common low pressure steam engine.

The same parts are marked by the same letters in both the plan and elevation. A is the cylinder; B, the nozzles; C, the wiper shaft; D, the wiper; *a a*, levers for working side rods, *b*, running along side the nozzles to the cross head, or top of valve rod. The starting bar, *c*, works on a centre, *d*, in the wiper shaft, and is produced beyond it until it meets the rod *e*, on which the pulley, *f*, is at liberty to revolve or work lengthwise, to allow the bell crank lever, *g h i*, always to rest in its groove. The lever, *g h i*, turns on a pin or stock fixed in the side of the cistern; the end, *g*, of this lever is a circle drawn from the centre of the wiper shaft, so that the lever will not move when the valve is wrought by hand; the pulley, *i*, turns on the other end, and lifts or lowers into gear the eccentric rod, by a simple motion of the starting bar sidewise. The eccentric, *b*, is at liberty to make half a revolution on the cranking shaft, *m*, but is prevented from turning more, by catches, *n o*, fixed on the shaft which works against the mug, *p*, cast on the eccentric, so that, in whichever way the engine turns, one or other of the catches on the crank shaft will work the eccentric so as to open and shut the valves at the proper time for the engines working in that direction. When the starting bar is in the position shown in the above sketch, the engine keeper can work the valve so as to start the engine in any direction, or stop it at any part of the stroke he pleases. After the engine is started in the direction wanted, the motion is continued in that direction by simply pushing the starting box into the position of the dotted line, *d g*, when the rod, *c*, and lever, *r*, will take the place of the other dotted lines, and allow the eccentric rod to fall into gear.

Fig. 3 is a side, and fig. 4 an end elevation,





of this apparatus, where the starting bar works in a vertical direction, and is so simple as to need no description. The same letters point out the same parts in figures 1 and 2.

Your obedient servant,

James Whitelow.

Objections to the received Theory of Rain.—It is the received opinion that rain is caused by the heat of the sun's rays raising the water in a state of vapor, into the higher regions of the atmosphere, and being there condensed by the cold, descends again, and thus forms rain.

Objection First.—That water requires a heat equal to sixty degrees of Fah. thermometer, to raise it into vapor, according to the commonly received opinion, when experience proves that we have the most rain when it stands below temperate, which is 55 deg.: for instance, the snow in frost, and the rain after.

Objection Second.—That when we have the greatest heat, with the largest loss of water, we have the least rain, as witness every dry summer.

Objection Third.—When vapor is condensed into water, which it must be if exposed to an atmosphere colder than itself, it must immediately descend, as witness the dews; it being heavier in its specific gravity than the bulk of the surrounding atmosphere. Therefore, were water raised into vapor, by the heat of 300 degrees, it must be immediately condensed by the sudden change of temperature, and descend before it had risen to the height of one hundred yards, much less rise into the highest regions of the atmosphere, and remain there for a length of time, and then form clouds, and so produce rain, as witness the steam arising from the boiler of a steam engine, or the refrigeratory of a common alembic.

Objection Fourth.—Experience has proved that we have the most rain in nights, and in winter, when, of course, it must be the coldest, as then the sun has the least influence.

Objection Fifth.—There is no vapor arises from the water when the sun has the most influence; for place a looking-glass over a river, when the sun shines with his meridian force, and it will not so much as dim it; but when the sun is gone down, the vapor rises so as to be visible.

Objection Sixth.—If the old theory be true, there would always be the most rain in the tropics, where the sun is vertical, which is not the fact.—[Field Naturalists' Magazine.]

Babbage on the Economy of Manufactures.

[Continued from page 681.]

ON THE EFFECT OF TAXES AND OF LEGAL RESTRICTIONS UPON MANUFACTURES.

304. As soon as a tax is put upon any article, the ingenuity of those who make, and of those who use it, is directed to the means of evading as large a part of that tax as they can; and this may often be accomplished in ways that are perfectly fair and legal. An excise duty exists at present of 3*d.*‡ per pound upon all writing paper. The effect of this impost is that much of the paper which is employed is made extremely thin, in order that the weight of a given number of sheets may be as small as possible. Soon after the first imposition of the tax upon windows, which depended upon their number, and not upon their size, new-built houses began to have fewer windows and of a larger size than before. Staircases were lighted by extremely long windows, illuminating three or four flights of stairs. When the tax was increased, and the *size* of windows charged as single was limited, then still greater care was taken to have as few windows as possible, and internal lights became frequent. These internal lights in their turn became the subject of taxation; but it was easy to evade the discovery of them, and in the last act of Parliament, reducing the assessed taxes, they ceased to be chargeable. From the changes thus successively introduced in the number, the forms, and the positions of the windows, a tolerable guess might in some instances be formed of the age of a house.

305. The effects of regulations of excise upon our home manufactures are often productive of inconvenience, and check in some measure the natural progress of improvement. It is frequently necessary, for the purposes of revenue, to oblige manufacturers to take out a license, and to compel them to work according to certain rules, and to make stated quantities at each operation. When these quantities are large, as they usually are, they deter manufacturers from making experiments upon new materials: they likewise prevent them from discovering, by trial, improved methods of conducting their processes. Difficulties of this nature have occurred in experimenting upon glass for optical purposes; and in this case, permission has been obtained by fit persons to make the experiments, without the interference of the excise. It ought, however, to be remembered, that such permission, if frequently granted, might be abused; and that the greatest protection against such an abuse will be found in bringing the force of public opinion to bear upon scientific

‡ Twenty-eight shillings per cwt. for the finer, twenty-one shillings per cwt. for the coarser papers.

men; and thus enabling the proper authorities, although themselves but moderately conversant with science, to judge of the propriety of the permission, by the public character of the applicant.

306. From the evidence given, in 1808, before the Committee of the House of Commons, on *Distillation from Sugar and Molasses*, it appeared that, by a different mode of working from that prescribed by the Excise, the spirits from a given weight of corn, which then produced eighteen gallons, might easily have been increased to twenty gallons. Nothing more was required than to make what is called the *wash* weaker: the consequence of which is that fermentation goes on to a greater extent. It was stated, however, that such a deviation would render the collection of the duty liable to great difficulties; and that it would not benefit the distiller much, since his price was enhanced to the customer by any increase of expense in the fabrication. Here then was an instance in which a quantity, amounting to one-ninth of the total produce, was actually lost to the country. A similar effect arises in the coal trade, from the effect of a duty, for, according to the evidence before the House of Commons, it appears that a considerable quantity of the very best coal is actually wasted. The amount of waste is very various in different mines, but in some cases it amounts to one-third.

307. The effects of duties upon the import of foreign manufactures are equally curious. A singular instance occurred in the article *bar iron*, which was liable to a duty of 140 per cent. ad valorem, on introduction into the United States, whilst that upon *hardware* was 25 per cent. In consequence of this tax, large quantities of malleable iron rails for railroads were imported into America under the denomination of hardware; and the difference of 115 per cent. in duty more than counter-balanced the expense of fashioning the iron into rails prior to its importation.

308. Duties, drawbacks, and bounties, when considerable in amount, are all liable to objections of a very serious nature, from the frauds to which they give rise. It has been stated before Committees of the House of Commons, that calicoes, made up in the form and with the appearance of linen, have frequently been exported for the purpose of obtaining the bounty. The calico made up in this way sells at 1*s.* 4*d.* per yard, whereas linen of equal fineness is worth from 2*s.* 8*d.* to 2*s.* 10*d.* per yard. It appeared from the evidence that one house in six months sold five hundred such pieces.

In all cases heavy duties, or prohibitions, are ineffective, as well as injurious: for unless the articles excluded are of very large dimensions, there constantly arises a price at which they will be clandestinely imported by the smuggler. The extent, therefore, to which smuggling can be carried should always be considered in the imposition of new duties, or in the alteration of old ones. Unfortunately, it has been pushed so far, and is so systematically conducted, that the price per cent. at which most contraband articles can be procured from France is well known. From the evidence of Mr. Galloway, it appears that from 30 to 40 per cent. was the rate of insurance on exporting prohibited machinery from England, and that the larger the quantity the less was the per centage demanded.

309. In examining into the effect produced, or to be apprehended, from any particular mode of taxation, it is necessary to inquire a little into the interests of the parties who approve of the plan in question, as well as those who object to it. Instances have occurred where the persons paying a tax into the hands of government have themselves objected to any reduction. This happened in the case of one class of calico printers, whose interest was injured by a removal of the tax on the printing. They received from the manufacturers payment for the duty about two months before they were called on to repay it to government: the consequence was that a considerable capital always remained in their hands. The evidence which states this circumstance is well calculated to promote a reasonable circumspection in such inquiries.

"Do you happen to know any thing of an opposition from calico printers to the repeal of the tax on printed calicoes!

"I have certainly heard of such an opposition, and I am not surprized at it. There are a very few individuals who are, in fact, interested in the non-repeal of the tax. There are two classes of calico printers: one, who print their own cloth, send their goods into the market, and sell them on their own account; they frequently advance the duty to government, and pay it in cash before their goods are sold, but generally before the goods are paid for, being most commonly sold on a credit of six months; they are of course interested on that account, as well as on others that have been stated, in the repeal of the tax. The other class of calico printers print the cloth of other people: they print for hire, and on re-delivery of the cloth, when printed, they receive the amount of the duty, which they are not called upon to pay to government sooner, on an average, than nine weeks from the stamping of the goods. Where the business is carried on upon a large scale, the arrears of duty due to government often amount to eight, or even ten thousand pounds, and furnish a capital with which these gentlemen carry on their business; it is not, therefore, to be wondered at that they should be opposed to the prayer of our petition."

310. The policy of giving bounties, and of enforcing restrictions against foreign articles, which can be produced more cheaply in other countries, is of a very questionable nature: and, except for the purpose of introducing a new manufacture in a country where there is not much commercial or manufacturing spirit, is scarcely to be defended. All incidental modes of taxing one class of the community, the consumers, to an unknown extent, for the sake of supporting another class, the manufacturers, who would otherwise abandon that mode of employing their capital, are highly objectionable. One part of the price of any article which is so produced consists of the expenditure, together with the ordinary profits of capital: the other part of its price may be looked upon as charity, given to induce the manufacturer to continue an unprofitable use of his capital, in order to give employment to his workmen. Now, in many instances, if the actual amount of the latter part of the price were known, the extent of the payment made by consumers, on account of restrictions only, would astonish *even those who advocate them;* and it would be evident to both parties, that the employment of capital in that particular trade ought to be abandoned.

311. The restriction of articles produced in a manufactory to certain sizes is attended with an economical effect. This arises chiefly from the smaller number of different tools required in making them, as well as from less frequent change in the adjustment of those tools. A similar economy prevails in the navy, by having ships divided into a certain number of classes, each of which comprises vessels of the same dimensions: the rigging made for one vessel will fit any other of its class.

312. The effects of the removal of a monopoly are often very important, and they were perhaps never more remarkable than in the bobbin-net trade, in the years 1824 and 1825. These effects were, however, considerably enhanced by the general rage for speculations which was so prevalent during that singular period. One of the patents of Mr. Heathcote for a bobbin-net machine had expired, whilst another, for an improvement in a particular part of such machines, called a *turn-again*, had yet a few years to run. Many licenses had been granted to use the former patent, which were charged at the rate of about five pounds per annum for each quarter of a yard in width, so that what is termed a *six-quarter frame*, (which makes bobbin-net a yard and a half wide,) paid thirty pounds a year. The second patent was ultimately abandoned in August, 1823, infringements of it having taken place.

The bobbin-net machine occupies little space, and is, from that circumstance, well adapted for a domestic manufacture. It had also hitherto yielded a very large profit: it was therefore not surprizing that, on the removal of the monopoly arising from this patent, a multitude of persons became desirous of embarking in the trade. The machines which already existed were principally in the hands of the manufacturers; but a kind of mania for obtaining them seized on persons of all descriptions, who could raise a small capital; and, under its influence, butchers, bakers, small farmers, publicans, gentlemen's servants, and, in some cases, even clergymen, became anxious to possess bobbin-net machines.

Some few machines were rented; but in most of these cases the workman purchased the machine he employed, by instalments of from £3 to £6 weekly, for a six-quarter machine; and many individuals, unacquainted with the mode of using the machines so purchased, paid others of more experience for instructing them in their use—£50 or £60 being sometimes given for this instruction. The success of the first speculators induced others to follow the example; and the machine-makers were almost overwhelmed with orders for lace-frames. Such was the desire to procure them, that many persons deposited a large part, or the whole of the price, in the hands of the frame-makers, in order to insure their having the earliest supply. This, as might naturally be expected, raised the price of wages amongst the workmen employed in machine-making: and the effect was felt at a considerable distance from Nottingham, which was the centre of this mania. Smiths not used to *flat filing*, coming from distant parts, earned from 30 to 42*s.* per week; finishing smiths, accustomed to the work, gained from 3 to £4 per week; the forging smith, if accustomed to his work, gained from 5 to £6 per week, and some few earned £10 per week. In making what are technically called *insides*, those who were best paid were generally clock and watch makers, from all the districts round, who received from 3 to £4 per week. The *setters-up* persons, who put the parts of the machine together, charged £20 for their assistance; and a six-quarter machine could be put together in a fortnight or three weeks.

Good workmen, being thus induced to desert less profitable branches of their business, in order to supply this extraordinary demand, the masters, in other trades, soon found their men leaving them, without being aware of the immediate reason: some of the more intelligent, however, ascertained the cause, and went from Birmingham to Nottingham, in order to examine into the circumstances which had withdrawn almost all the journeymen clock-makers from their own workshops. It was soon apparent that the men who had been making clocks at Birmingham, at the rate of 25*s.* a week, could earn £2 by working at lace-frame making at Nottingham.

On examining the nature of this profitable work, the clock-makers perceived that one part of the bobbin-net machines, that which held the bobbins, could be easily made in their own workshops. They therefore contracted with the machine-makers, who had already more work ordered than they could execute, to supply the *bobbin-carriers*, at a price which enabled them, on their return home, to give such increased wages as should retain their own workmen, as well as yield themselves a good profit. Thus an additional facility was afforded for the construction of these bobbin-net machines. The conclusion was not difficult to be foreseen: the immense supply of bobbin-net thus poured into the market speedily reduced its price. This reduction in price rendered the machines by which the net was made less valuable: some few of the earlier producers for a short time carried on a profitable trade, but multitudes were disappointed, and many ruined. The low price at which the fabric sold, together with its lightness and beauty, combined to extend the sale; and ultimately, new improve-

ments in the machines rendered the older ones still less valuable.

313. The bobbin-net trade is at present both extensive and increasing; and, as it may probably, at some future time, claim a larger portion of public attention, it will be interesting to describe briefly its actual state.

A lace-frame, *at the present day*, on the most improved principle, manufacturing a piece of net two yards wide, when worked night and day, will produce six hundred and twenty *racks* per week. A *rack* is two hundred and forty holes; and, as in the machine to which we refer, three *racks* are equal in length to one yard, it will produce twenty-one thousand four hundred and ninety-three square yards of bobbin-net annually. Three men kept this machine constantly working, and they were paid by piece-work about 25*s.* each per week in 1830. Two boys, working only in the day-time, can prepare the bobbin for this machine, and are paid from 2 to 4*s.* per week, according to their skill. Forty-six square yards of this net weigh two pounds three ounces: so that each square yard weighs a little more than three quarters of an ounce.

For a condensed and general view of the present state of this trade, we shall avail ourselves of a statement by Mr. William Felkin, of Nottingham, entitled "Facts and Calculations illustrative of the Present State of the Bobbin-net Trade," dated September, 1831. It appears to have been collected with care, and contains, in a single sheet of paper, a body of facts of the greatest importance.*

314. The total capital employed in the factories, for preparing the cotton, in those for weaving the bobbin-net, and in various processes to which it is subject, is estimated at above two millions of pounds, and the number of persons who receive wages at above two hundred thousand.

"Comparison of the value of the raw material imported, with the value of the goods manufactured therefrom:

"Amount of Sea Island cotton annually used, 1,600,000 lbs., value £120,000: this is manufactured into yarn, weighing 1,000,000 lbs., value £500,000.

"There is also used 25,000 lbs. of raw silk, which cost £30,000, and is doubled into 20,000 lbs. thrown, worth £40,000.

Raw Material.	Manufacture.	Sq'e yards produced.	Value pr sq. yard. s. d.	Total Value.
Cotton, 1,600,000 lbs.	Power Net	6,750,000	1 2	421,875†
	Hand do.	15,750,000	1 9	1,378,125‡
	Fancy do	150,000	3 6	26,250
Silk, 25,000 lbs.	Silk Goods	750,000	1 9	65,625
		23,400,000		1,891,875

"The brown nets which are sold in the Nottingham market are in part disposed of by the agents of twelve or fifteen of the larger makers, that is, to the amount of about £250,000 a year. The principal part of the remainder, that is, about £1,050,000 a year, is sold by about two hundred agents, who take the goods from one warehouse to another for sale.

"Of this production, about half is exported in the unembroidered state, and in the white principally; yet a large quantity is sent in the unbleached state, and is embroidered abroad, and much is figured in the white on the continent: so that it is probable that as much is figured abroad as at home, and this principally on account of wages being lower there than here, notwithstanding the low rate of embroiderers' earnings in this country. This foreign embroidery is chiefly done in Belgium, Saxony, and, until recently, Poland. The exports of bobbin-net are in great part to Hamburgh, for sale at home and at Leipzic and Frankfort fairs, Antwerp, and the rest of Belgium; to France, by contraband; to Italy, and North and South America. Though a very suitable article, yet the quantity sent eastward of the Cape of Good Hope has hitherto been too trifling for notice. Three-eighths of the whole production are sold unembroidered at home. The remaining one-eighth is embroidered in this country, and increases the ultimate value as under, viz.:

Embroidery.	Increases value.	Ultimate worth.
On power net,	£ 131,840	£553,715
On hand net,	1,205,860	2,583,985
On fancy net,	78,750	105,000
On silk net,	109,375	175,000
Total embroidery, wages, and profit,	£1,525,825	
Ultimate total value,		£3,417,700

"From this it appears that, in the operations of this trade, which had no existence twenty years ago, £120,000 original cost of cotton becomes, when manufactured, of the ultimate value of £3,242,700 sterling.

"There are about seventy houses engaged chiefly in embroidering goods, and about seventy houses engaged in the preparation and sale of plain goods principally. The cash paid to small owners, for the purchase of hand nets, about equals the amount of capital created by the credit given in this market by the power net manufacturers.

"As to weekly wages paid, I hazard the following as the judgment of those conversant with the respective branches, viz.:

"In fine spinning and doubling—adults, 25*s.*; children, 7*s.*; work, 12 hours per day. In bobbin-net making—men working machines, 18*s.*; apprentices, youths of fifteen, or more, 10*s.*; by power, 15 hours; by hand, 8 to 12 hours, according to width. In mending—children, 4*s.*; women, 8*s.*; work, 9 to 14 hours, *ad libitum*. In winding, threading, &c.—children and young women, 5*s.*; irregular work, according to the progress of machines. In embroidery—children seven years old and upwards, 1 to 3*s.*; work, 10 to 12 hours; women, if regularly at work, 5*s.* to 7*s.* 6*d*; 12 to 14 hours.

"As an example of the effect of the wages of lace embroidery, &c. it may be observed, it is often the case that a stocking weaver in a country village will earn only 7*s.* a week, and his wife and children 7*s.* to 14*s.* more at the embroidery frame."

* I cannot omit the opportunity of expressing my hope that this example will be followed by other trades, since by such means we shall obtain a body of information equally important to the workman, the capitalist, the philosopher, and the statesman.

† Being on an average "coarse 11-point," and nearly all in plain net.

‡ Being on an average "fine 11-point," and two-thirds in "quillings."

AGRICULTURE, &c.

NATIVE BREEDS OF CATTLE.—On reading the following report of the Committee of the Massachusetts Agricultural Society on milch cows exhibited at the Brighton Fair, on the 16th ult., our readers will perceive that attention and care given to our native stock will be rewarded.

The Committee appointed to award premiums on milch cows, heifers, bulls, and bull calves, have attended to the duty assigned them, and report as follows:

The first premium, to Mr. John Leathe, of Woburn, for his cow, 5 years old, $25.

The second premium, to Mr. Luther Chamberlain, of Westborough, for his cow, 12 years old, $15.

The third premium, to Mr. Jacob W. Watson, of Princeton, for his cow, 7 years old, $10.

Mr. Leathe produced to the Committee a well attested certificate that his cow had given, for the months of June and July last, not less, at any time, than twenty-four quarts of milk per day, and that fourteen pounds thirteen ounces and a half of excellent butter had been made from her milk in one week. She was sold for $100.

Mr. Chamberlain also stated, in writing, that his cow was remarkable for giving milk of very superior quality; that she gave from the 10th of June to the 20th, from nineteen to twenty quarts of milk per day, and from her milk during the ten days were made seventeen pounds of butter and thirty pounds of cheese; that the quantity of milk was reduced considerably from the 10th to the 20th of September, owing to the dry weather, and particularly to the want of a regular supply of good water; that for six months past the cow has actually produced him ninety-four dollars twenty-two cents, including eight dollars forty-two cents, for which sum the calf was sold, and fatted on little more than half the milk she gave.

Mr. Watson also furnished a certificate, to which he made oath, that his cow gave from the 10th to the 20th of June from twenty to twenty-one quarts of milk per day, from which was made seventeen pounds of butter for ten days; from the 10th to the 20th of September she gave from sixteen to seventeen quarts of milk per day, and thirteen pounds of butter were made from the milk she gave during the ten days. The three cows were native breed, and had only grass feed during the time stated in the certificates.

Heifers.—The first premium to Captain Ichabod Nichols, for his heifer, with a calf by her side, $15.

Second premium, to the Rev. Mr. Briggs, of Lexington, for his heifer, 17 months old, $12.

Third premium, to Captain Hector Coffin, of Newbury, for his heifer, 3 years old, with a calf by her side, $8.

Captain Nichols was present, who, with his son, gave such an account of his heifer, of native breed, that the Committee, on examining her, had no hesitation in awarding the first premium. Captain Nichols' knowledge of milk stock is well known.

A certificate was produced, signed by two respectable men in Lexington, that accorded so well with the appearance of the animal presented, that the Committee awarded to the Rev. Mr. Briggs the second premium for his heifer of native breed.

Captain H. Coffin furnished ample testimonials of his heifer being of the best native breed for the dairy, but the calf with her being young, no trial of quantity or quality of her milk had been made, although appearances were favorable.

HARVEST IN EUROPE.—In almost every section of Europe the past season has been one of plentiful crops. Comparative peace and plenty are universally enjoyed. The quiet state of some of the European nations, and, indeed, we may say of all that quarter of the globe, may, in a very considerable degree, be attributed to the abundance of the crops: allaying the swelling and angry emotions which scarcity would excite into open violence.

The vintage in France has been very abundant, causing a reduction in the price of wines of 25 per cent.

WHEATLAND AGRICULTURAL FAIR.—On the 12th of October, the Agricultural Society of Wheatland, Monroe county, held an annual Fair, when an address was delivered by Mr. N. Goodsell. From Goodsell's Genesee Farmer, we learn that the choice breeds of cattle and sheep exhibited did honor to the Society and exhibitors, and that the wheat fully sustained the reputation of the town for that staple article.

NEW KIND OF WHEAT.—Mr. Joseph Tracy, of Windsor, and Editor of the Vermont Chronicle, sent, in September last, a bushel of wheat to the Editor of the New-England Farmer. It weighs sixty-three pounds to the bushel, and produces forty-two to forty-four of the first quality of flour,—ripens a few days earlier than other wheat, produces less straw, and is less liable to injury from the fly. It was at first brought from Virginia.

OLD WHEEL AND LONG THREAD.—Anne McQuillin, as stated some years ago by Dr. Dickson in the Parthenon, spun on a wheel which

was made before the marriage of her grand-mother, one hundred and five hanks to the pound, the thread of which was so fine that it was in length two hundred and fourteen miles six furlongs and seven poles.

HOT-BED FENCES.—In England it is common to have fences of the stalks of bull-rushes and other similar plants to protect their hot-beds from cold chilling winds. A gardener of our acquaintance, residing on Long Island, makes them of the stalks of broom corn. Posts about 6 feet apart are put in the ground, and three lasts or strips of boards are nailed on, between which the stalks are perpendicularly placed. A fence from 5 to 7 feet high is thus made around the hot-beds.

SALT TO DESTROY TREES.—Among the most useful substances in promoting health in the animal and vegetable kingdoms is salt. Like thousands of other substances, it destroys, when used in excess, those very things which it benefits when applied in moderate and suitable quantities. In excess it is destructive of vegetation, but mixed in due proportions with the soil it greatly promotes the growth and health of plants. A writer in the Genesee Farmer recommends to concave the stump of a tree, which is difficult to kill, and pour on it very strong brine.

POTATOES MANURED WITH PINE BOUGHS.—A farmer in New-Jersey relates to us the following experiment: Having a large number of young pine trees growing near his potatoe grounds, he gathered a sufficient quantity of the boughs to form a considerable covering to a row of potatoes which he was planting in drills. In the drill on one side of this he used lime for manure, and in the one on the other he put in marl. They were all covered with earth in the same manner, and received the same culture. On digging them, those that were manured with the pine were twice as large as the others, and double in quantity.

Planters in the Southern States estimate pine leaves, gathered early, as among the best of manures.

COTTON CROP.—Dates from Beaufort, S. C., of October 17th, represent the Sea Island cotton crop equal only to half of that of last year.

PREMIUM BUTTER.—At the Pawtuxet Agricultural Fair, held in October, ult. the premium butter was sold at auction, and brought—1st premium 55 cents, 2d do. 40 cents, 3d do. 30 cents per lb.

PLANTING FRUIT TREES.—This is one of the best months in the year for planting out fruit and forest trees. In removing them care should be taken to prevent the roots being touched with the frost, as that is sure to kill them. Tender plants and shrubs about the yards and gardens should be covered with straw or rubbish to prevent them from being injured by early frosts.—[Goodsell's Genesee Farmer.]

BEANS.—These should be gathered before they have been soaked by the long autumnal rains, which greatly decreases their value, either for cooking or planting.—[Ib.]

BEETS.—Beets should be taken from the ground before their crowns are injured by the frost, otherwise they will not keep well. They should be corded up in the cellar with their tops out and a layer of sand between each layer of beets—carrots and parsnips should be kept in the same way. Although the latter will indure the severity of winter if left in the ground, yet their flavor is greatly improved by managing as above, besides they are ready for use at that season when they could not well be procured from the garden.—[Ib.]

GOOD HOUSE-KEEPERS.—If there be any thing among the temporals to make life pleasant, it is in the walls of a well ordered house, where all is adjusted to please—not by its finery or costliness, but by its fitness, its air of neatness and content, which invite all who enter to taste its comforts. The woman who does not make this a grand item in all her routine of duties, has not *yet* learned the true dignity of her station—has not yet acquired the alpha of that long alphabet which is set before her; and she who despises this noble attainment despises her *best* worldly good, and indirectly despises her family, her neighbors, and the word of God. "She looketh well to the ways of her household," was spoken by the wisest man that ever lived, and will be told a memorial of all those who have been eminent for this noble character.—[Gen. of Tem.]

POULTRY.—Fowls of every sort may be profitably fed on boiled potatoes and meal mixed. Hens which do not lay in the winter should have access to slacked lime, pounded bones, oyster shells, or other matter, which contains lime in some of its compounds, because something of the kind is necessary to form the shells of their eggs, which are composed of the phosphate of lime.

The following article will, we trust, be read with interest, by those who give their attention to the honey-making insect:

A Parasite of the Honey Bee (Apis mellifica.)—For a few years past, many of those people, in this vicinity, who have apiaries, have found that in the month of April, May, and June, an unusual mortality has prevailed among their bees. This circumstance has led to a thorough investigation of the cause, by those who have felt a particular interest in the products of this valuable insect; and the result has proved that this mortality has been produced entirely by a parasite.

More than two years since, one of my neighbors suggested to me his conjectures, that there was a parasite fly that was injurious to the honey bee; since which time, we have fully ascertained the fact. I have a box now before me, containing a great number of dead bees, in which may be found the parasites, in both the pupa and the perfect state. Usually the bees become sickly, and unable to fly, when the parasites are in the larva state; but they sometimes live till the perfect insect emerges from the pupa. The larva is fixed at the inosculations of the dorsal segments of the abdomen of the bee, and is hardly discoverable by the eye, unless the abdomen be dissected. The larva is white, nearly two lines in length, and very much resembles a small worm or maggot. The pupa is nearly the size of the larva, and of a reddish brown color. The perfect insect is a non-descript, and bears very little resemblance to the [*Stylops*] or [*Xenos*] or any other insect, that has been found to be a parasite of the bee or wasp. It is of the class Diptera of Lin., is little larger than the Hessian fly, but in color and form it is very unlike that insect.

Kirby, many years since, discovered that the insect (*Stylops*) was a parasite in the black-bronze bee, (*Andrena nigroænea,*) in England, and Professor Peck afterwards found that the (*Xenos*) was a parasite in wasps, in America; but I am not aware that a parasite of the honey bee has ever been discovered till of late, and in this vicinity.

In conclusion, I would most sincerely request those who have apiaries to examine their hives during the spring and summer months, and if this parasite is discovered, to investigate the history of the insect, and if possible, to find a remedy for the injury it may produce. MARTIN FIELD.

Fayetteville, Vt. May 15, 1833.

Memorandums about the Pea Crop. By W. PRINCE & SONS. [For the New-York Farmer.]

May 22 and 23, 1833. Planted all the following kinds on good ground, without manure, in rows:

June 20. Observed blossoms on the Nimble Dick, and on the Early Single Frame.

23. Blossoms on Bishop's Dwarf, (English seed).

July 8. Early Single Frame and Nimble Dick have pods fit to pick. These kinds much resemble each other.

Early Cluster and Dwarf Prolific blossoming.

August 2. Housed Nimble Dick, and thrashed them out.

7. Pulled up Botany Bay purple podded peas.

8. Pulled up Bishop's Dwarf, and put them on the fences to dry fully; they having ripened unequally, it was unsafe to house them without more airing.

13. Thrashed out Bishop's Dwarf, Botany Bay, Early Single Frame, and Lady's Finger.

16. Thrashed out Sugar Peas, Matchless Marrow, and Bergen Peas.

19. Pulled up Blue Imperial, and New Grotto Marrow, and put them on the fences—not fit to thrash.

Pulled up Spanish Dwarf, Dwarf Prolific and Early Cluster.

It appears that the Nimble Dick and Early Single Frame are the earliest of the above, and they resemble each other very much, but are supposed different varieties. They are fit for the table from twelve to fourteen days sooner than Bishop's Dwarf, or any of the kinds I have planted, and yielded more than Bishop's in proportion as 16 to 13. The Nimble Dick had pods fit for the table in 46 days from the day of planting. I believe that by picking out the earliest pods, they might have realized the story of forty-day peas.

Of Knight's Marrow we sowed two parcels, on the same day, the one from France and the other from England, and although there was in appearance no perceptible difference, yet the crop from the French seed was *ten days sooner* than that from the English seed.

You will perceive by the above statement that Bishop's Dwarf and the Dwarf Spanish vary materially as to the periods of maturity, &c. In fact, when Bishop's Dwarf was fit for the table, the Spanish Dwarf had but just commenced expanding its blossoms. The reason that many have considered them as equally early is this: a great quantity of the peas sold last spring for the *former* were of the *latter* variety, and a number of instances in proof of this fact have fallen under our own observation. WM. PRINCE & SONS.

Linnæan Botanic Garden, Flushing,
Sept. 30, 1833.

Average Velocity of Winds.—From the average rate of sailing of ships during long voyages through various seas, as in the China trade, and from other data, it is estimated that the average velocity of the wind, near the surface of the ocean, is equal to eighteen miles an hour throughout the year.

Showers of frogs, fishes, &c. arise from water-spouts, or spiral eddies, [whirls,] by which small portions of the waves of the sea and ponds of water, (in a state of division,) with their contents, are forced to an elevation; and thus being transported to a distance, and there falling, produce these strange precipitations.

NEW-YORK AMERICAN.

OCTOBER 26, 28, 29, 30, 31, NOVEMBER 1—1833.

LITERARY NOTICES.

We present below the first of a series of letters, which we hope from time to time to publish, from the pen of a well educated and intelligent American who, desirous of seeing for himself those parts of his own country, especially the northwestern territory and the great valley of the Mississippi, which, except from Mr. Flint's Geography, he, in common with the great mass of dwellers upon the seaboard, only knows from the description of foreign and too often prejudiced travellers, is about to make an extensive tour. He will note for the information and instruction of others, the impressions produced upon his own mind by his visit to these noble regions of our country; and we shall, we trust, impart an additional attraction to our columns, by rendering them the medium through which these letters will appear.

Easton, Pa. Oct. 17.

MY DEAR J.

My ride has not as yet furnished an incident worthy of being entered into the journal of the most unambitious tourist. Yet still I take the first opportunity of fulfilling the promise given, when starting on the wide excursion I meditate, of writing to my friends from the different stages of the route, and describing its features with sufficient minuteness for those who take an interest in my letters, to accompany their writer in his wanderings. With which of my friends, with whom breathing, my dearest, can I better commence my little narrative than with one who will only regard its details with the eye of affection—unmindful alike of their want of intrinsic interest, and the unattractive form in which they may be conveyed, so that they be but a faithful record of my wayfaring.

Our route hither from New Brunswick (or *Rougemont*, as some one proposes calling it from the colour of the soil,) was as uninviting as a rainy disagreeable day, bad roads, and a country neither fertile nor picturesque, could make it. Occasionally, indeed, a glimpse of the Raritan gave animation to the scene, as, sparkling restlessly between its cold brown banks, it rushes like an ill-matched bride from their dreary embrace to sully its pure waters in the marsh through which it passes to the sea. These, however, lasted but for a short time, and for the remainder of the ride but few natural objects presented themselves to induce one to dispute that quaint Indian tradition which avers, that when the Manitou had finished making the rest of this mighty continent, he slapped from his fingers the mud and gravel which now form this part of New-Jersey.

We reached a straggling village, called Jacksonville, about nightfall, at a low roofed unpretending-looking stone tavern, and finding that no one made his appearance at the call of 'House,' proceeded ourselves at once, like stanuch travellers and true, to unharness and blanket our wet and weary horses. The generous animals seemed really to appreciate our consideration in attending to their comfort before consulting our own; and I am convinced that the cordial whinning of the one I had ridden when leaving him at last to his supper, while I went to seek my own, has established an inviolable friendship between us for the rest of the journey. We had a capital supper—of which buck-wheat cakes, not quite so large as a New-York grass-plot, formed no mean ingredient—and slept in sheets of snow. To this auspicious characteristic, their properties, in other respects, bore a resemblance, as I afterwards discovered, which might readily be dispensed with. I awoke at dawn, with rheumatic pains in every part of my bones, and found, what had escaped me the night before, that every particle of the covering of my bed was as wet as if I had like a politician, who changes without pausing on the fence, been transferred at once from the wash tub to my bed, without undergoing the dilatory process of drying. I was glad to get at once into the saddle, and it took a warm trot of a dozen miles to relax my aching muscles and make me anticipate my breakfast with any thing like satisfaction.

The morning, though cloudy, broke beautifully. The country, as we approached the borders of Pennsylvania, increased in interest. Richly wooded hills, with here and there a fertile slope evincing a high state of cultivation, shone out beneath the fitful sky. The streams from the uplands were more frequent, and their currents flowed with heightened animation. The farm-houses too became more substantial in appearance; and their gray-stone fronts, standing sometimes in a clump of sycamores aloof from the road, betokened the quiet comfort of their inhabitants. The roads indeed became worse than indifferent—but that, though a sudden rain soon set in, did not prevent our enjoying the clouded but still beautiful landscape.

We crossed the bridge over the Delaware to Easton at about two o'clock, and driving to the famous hostebrio of Mr. White, the Cruttenden of these parts, were soon safely housed in his hospitable establishment. Having breakfasted at 11, we ordered dinner at five, and strolled out to see the lions of the place. The roar of a waterfall was the first thing which attracted my notice, and following the sound I soon found myself near the famous dam over the Lehigh, where, at its junction with the Delaware, back water is created for the sake of supplying the Lehigh canal. The pond, thus formed, which with its abrupt banks, and frowning limestone cliffs wooded to the top, might almost pass for a small natural lake, is filled with small craft,—the lubberly-looking canal-boat and sharp clean-built but still burthensome ark lying moored by the shore, with numerous light skiffs drawn up near them. I easily procured one of the latter, and shooting under the chainbridge which spans the Lehigh, the wind and current carried me in a moment past stone wharves heaped with anthracite to the brink of the dam. The sudden slope of the water here had an awkward look about it which reminded me vividly of a peep I once took from a row-boat into "the Pot" at Hell-gate, when its screwing eddies carried the eye with a strange fascination deep into the boiling cauldron. Bending heartily to my oars, I was glad to leave the glassy brim that sloped so smoothly to destruction.

The operations of an ark working up against the rapid current of the Delaware next caught my attention. She had four men to manage her—the roughest, hardiest looking set of fellows I ever saw, broad shouldered and brawny, with complexions like copper, and having no covering to their heads, but coarse curly hair, matted so thick that it looked as if the stroke of a sabre might almost be turned by it. The strength and agility of these fellows is very striking, as they stride along the gunwale with their long poles, and twist themselves into all sorts of positions while urging their unwilling craft against the foaming current. After they had gained and passed the lock, and floated into the basin where my boat was lying, I could not help rowing near theirs to examine their iron frames more narrowly. I was just making up my mind that such a collection of bold reckless impudent faces as were borne by these worthies, I had never seen, in my life before, when my surmises in physiognomy were fully confirmed by a volley of billingsgate, which one of them let fly at me. It being perfectly in character I was of course much amused at it, and, by gently lying on my oars and looking at him, incensed my amiable acquaintance to a degree that was irresistibly ludicrous. I waited till he was exhausted, and when he wound up by 'damning my spectacles,' I reflected with Dr. Franklin, that it was not the first time they had saved my eyes; and mentally consigning the fellow to the tender mercies of Hamilton and Trollope, pulled for the berth of my little shallop, and soon after regained my quarters.

I think you would be much pleased with Easton. The situation of the village itself is eminently happy—almost picturesque—and the country around it delightful. Imagine a lap of land, not quite a mile square, embosomed among green hills bounded by two fine rivers and a pretty mill stream—the straight rectangular streets now terminating with a bold bluff, descending so immediately to their very pavements that its rocky sides, skirted with copsewood, seem to overhang the place, and again either washed by one of the streams that determine the site of the town, or facing some narrow ravine which leads the eye off through a wild vista to the open country. Add the remarkably flourishing and well-built appearance of the village itself, with its two bridges, and the extensive works of the Morris and the Lehigh canals adjacent, and you have almost as favourable a combination of rural objects and city improvements as could well be effected on one spot. The chief buildings are the County Court-House, situated in a fine square in the centre of the place, and the La Fayette College, which, from a commanding position over the Bushhill, faces one of the principal streets. The latter is a *manual labor* institution, (a term I need hardly explain to you) recently incorporated, and likely to flourish under the energetic superintendance of the Rev. Mr. Junkin, its able principal. Easton, as you are probably aware, is celebrated for the rich mineralogical specimens found in its vicinity. The salubrity of the place, as I am informed by an eminent physician, is remarkable; and one can readily believe in its exemption from most of the fevers of the country, from the fact of there being no woodcock ground within five miles of the Court-House. The site was chosen and the town plot laid out by Penn, a townmonger, who, if he did cut his plans with a scissors from paper, as a recent foreign traveller has hinted was the case with regard to Philadelphia, had certainly a happy knack in adapting the model to the locality. The descendants of the great colonizer are still said to own property in Easton, while the peaceful members of his brotherhood in our day bless his memory when turning up the jasper arrow-head within the precincts of the village, and thank Heaven for the teacher whose gentle counsels withdrew forever from this lovely valley the red archers that shot them.

Eagerly as I am now treading on the steps of that fated race to their fleeting home in the far west, with what emotions of pleasure shall I not count every returning mile that will bring me near you. H.

SELECT JOURNAL OF FOREIGN PERIODICAL LITERATURE, No. IV. Boston: CHAS. BOWEN —This number has capital selections; but we have only time, in awarding this general praise to it, to refer to one of them—a review from the British Monthly, of a report by the Institution of France *in favor of* animal magnetism. This is the first we have heard of such a report, and our surprise is great indeed. We adopt concerning it and the whole subject, the remarks of the American Editors of the Select Journal:

The following, though not very well written article, contains, we believe, a fair account of the report lately made to the French Academy of Sciences by a committeee of that body on the subject of Animal Magnetism. This report seems to us one of the most extraordinary phenomena of the age. About sixty years ago the pretended art of Animal Magnetism had its origin in the tricks of a charlatan Mesmer. In 1784, at Paris, the subject was thoroughly examined by commissioners, appointed by the king of France, of whom our countryman Dr. Franklin was one; and the fraud was considered as detected. The supposed art, however, notwithstanding the baseness of its origin, and notwithstanding this discomfiture, still retained credit with many, and found disciples and defenders, particularly in Germany. For a brief account of its history and character, we would refer our readers to the "Encyclopædia Americana." It has now, it seems, revived in full glory; and we have a committee of a very celebrated scientific body testifying to effects unquestionably *miraculous* in their character. Physical power, are represented as enabling men to see without the use of their eyes, and as conferring the gifts of supernatural divination and prophecy.

Whatever one may believe of Animal Magnetism, the report of the Committee of the Academy of Sciences cannot be read without amazement. It is a document which will mark the age and country in which it was produced. Its existence is a fact hard to be accounted for: and in proportion as it may be better explained, will throw new light upon the occasions, laws, and character of human belief, or rather of human credulity. In accounting for the statements which are made, we may suppose that certain physical effects were, in some instances, produced by operating upon the imagination and feelings of those who submitted to be "magnetized." Collusion, fraud, deception, in various forms, afford another obvious solution. He who has witnessed the tricks of a juggler may easily believe that some of the most extraordinary results described might have been brought about without the agency of any unknown power. Whoever may relate them, not as a mere witness, but as giving assurances that they were effected by the supposed cause, should consider that the first point which every philosopher will demand to have established is his own veracity; and that this must be established upon plenary and unquestionable evidence. We may further remark that in witnessing an exciting phenomena, especially in company with others, there are few whose observation and memory are not affected by their feelings and imagination. It is somewhat rare to find a cool observer and correct narrator, who, when others about him are full of wonder, will submit to the self-denial of so telling his story as to reduce a marvel to an ordinary event. Yet this often may be done by the mention of one or two circumstances which it is easy to keep out of sight.

It seems worth consideration whether the delusion of which the following article gives an account, is not in a great measure to be referred to the character of the times, and to the entire unsettling of the belief of many upon the most important subjects. Throughout a large portion of the European world, nothing in the higher departments of thought can be considered as established and generally recognized as true. One metaphysical system with its pretended revelations has swept along after another. Out of the sphere of the mathematical and physical sciences, men's minds have not been disciplined to habits of clear reasoning and correct judgment. But credulity is the natural attendant of unfounded skepticism and uncertain opinions. The believer in an intelligent Diyinity can hardly deny any powers, however new or strange,

which may be claimed for Nature. Animal magnetism has in fact been connected with the pantheistic system, which represents all beings and all powers as portions and attributes of its unconscious God, and in their totality as constituting that God. The magnetized soul disengaged from the body is brought, it is said, into a nearer connexion with the universal Being of which it is a part, and thus discerns the secrets of nature and of fate. He who has received the theory, is prepared for receiving the application of it.

The following is the mode in which the process of magnetizing is carried on:

The magnetizer has two ways of operating; that by his hands in contact with the patient, called *manipulation*, and that in which he uses certain media of intercommunication with the patient. In the process by manipulation, the author says, that the usual practice is to move the hand, the palm and fingers being on some part of the patient, in one direction downwards, from the head to the feet. Then the operator is to return, throwing the hands round in a semicircle, turning the palms outwards, in order that the effect of the direct or downward stroke of the hand may not be disturbed. It would appear, from the cautions of all experienced magnetizers, that it is contrary to all the laws of this great remedy to attempt to direct the hand in a course contrary to that which was first selected; so that bringing the hands up direct from the feet to the head, after they had been brought down from the head to the feet, would neutralize all the efficacy of the first friction. Mr. Colquhoun goes on to say:—

If we attempt to operate with the back of the hand, no effect whatever will probably be produced upon the patient. If, in the course of this process, the hands or fingers of the operator are made actually to touch the body of the patient, it is called *manipulation with contact*. If, on the contrary, the operation is conducted at some distance, it is called *manipulation in distans*.

The *manipulation with contact* is of two kinds. It is accompanied either with considerable pressure, or with light touching; manipulation with *strong*, or with *light* contact. The manipulation with strong contact is certainly the most ancient, and the most universally prevalent mode of operating, and traces of it are to be found in almost all ages and countries. In manipulating with light contact, the hand, indeed, is conducted very lightly along the body of the patient; but the magnetizer must perform this operation with the utmost energy, and always have the desire of applying strong pressure to the body of the patient.

The *manipulation in distans*, is applied at a distance of from generally two to six inches from the patient's body. In the case of very susceptible persons, it is performed at a still greater distance. The effects of this mode of manipulating are less intense than those produced by actual contact, and, besides, it requires a greater energy of volition on the part of the magnetizer. It is, however, frequently employed in magnetizing very irritable patients, who cannot endure any stronger method.

It would be tedious to enumerate and describe all the various kinds of manipulation detailed in elementary works on this subject. They may all of them, however, be combined, according to the skill and judgment of the magnetizer, who will vary his modes according to the effects produced, and the degree of sensibility evinced by the patient.

We now extract some of the cases, in which the Committee of the Academy—among whom Majendie and other well known names figure—witnessed the the effects of magnetism:

One of the most singular and overwhelming of the cases which came under the head of the more recent and important ones, is that of Jules Cloquet, the well known anatomist in Paris, who had, of his own accord, sent in an account of this case to the surgical section of the Academy. He was no magnetizer, but, very likely, laughed and ridiculed the art with as much asperity as the most determined of its enemies. This gentleman, it appears, was called, on the 8th of April, 1829, to see a Mrs. P., then residing at 151, Rue St. Denis, Paris. He found that she had cancer of the breast, and that nothing but extirpation of the disease could effect a cure. The lady, at this time, had been attended by the physician whom she had long employed, and who was in the habit of magnetizing her into a sleep, or rather somnambule, (for there is a great difference between them,) to produce an oblivion of her sufferings. The physician, M. Chapelain, was sensible that no other hope of saving his patient from a miserable fate remained than that held out by M. Cloquet, and he proposed to the surgeon that he should perform the operation whilst she was in a state of magnetic sleep. The surgeon agreed to it, and the operation was performed accordingly. The patient knew nothing whatever of the proceeding, but was kept asleep for two days, and upon being awoke, and informed of what had taken place, she experienced says M. Cloquet, a very lively emotion.

The power which, it was represented, some somnambulists possessed of seeing perfectly through their closed eyelids, formed the subject of some very close and attentive examinations. The result was that the commissioners were satisfied, for they looked on, that in one case a patient, in this state, was able to read a book by seeing it through his eyelids! But this was not all; for although his somnambulism continued, yet the patient became very much fatigued, and was invited to play a game at *écarté*, of which he was very fond. He showed amazing dexterity all the while, and always beat his opponent.—It is to be remembered, that during all this time the patient was in a state of somnambulism, and, of coure, was unconscious of what he was doing.

Next is a case of paralysis cured according to his own prescriptions:

Paul Villagrand, a student at law, who was paralysed as to half his body by a stroke of apoplexy in the country, was admitted into La Charité, at Paris, after having been treated in all manner of ways at home for sixteen months. Now, the committee actually went to the bed where this patient lay, in the hospital, and saw the physical marks, as they were strongly indicated, of his disease.

They found that the lower left limb was much thinner than the right, that the right hand was closed much more firmly than the left, that the tongue when drawn out of the mouth was carried towards the right commissure, and that the right cheek was more convex than the left. Paul was then magnetized, and the result is thus stated in the report:—

"He recapitulated what related to his treatment, and prescribed that, on the same day, a sinapism should be applied to each of his legs for an hour and a half; that next day he should take a bath at Bareges; and that, upon coming out of the bath, sinapisms should be again applied during twelve hours without interruption, sometimes to one place, and sometimes to another; that, upon the following day, after having taken a second bath of Bareges, blood should be drawn from his right arm to the extent of a *palette* and a half. Finally, he added, that by following this treatment, he would be enabled on the 28th, *i. e.* three days afterwards, to walk without crutches on leaving the sitting, at which, he said, it would still be necessary to magnetize him. The treatment which he had prescribed was followed: and upon the daynamed the 28th of September, the committee repaired to the Hôpital de la Charité. Paul came, supported on his crutches, into the consulting-room, where he was magnetized as usual, and placed in a state of somnambulism. In this state, he assured us, that he should return to bed without the use of his crutches, without support. Upon awaking, he asked for his crutches.—we told him that he had no longer any need of them. In fact, he rose, supported himself on the paralysed leg, passed through the crowd who followed him, descended the step of the *chambre d'expérienees*, crossed the second court de la Charité, ascended two steps, and when he arrived at the bottom of the stair he sat down. After resting two minutes, he ascended with the assistance of an arm and the balustrade, the twenty-four steps of stairs of which led to the room where he slept, went to bed without support, sat down again for a moment, and then took another walk in the room, to the great astonishment of all the other patients, who, until then, had seen him constantly confined to bed. From this day Paul never resumed his crutches."

Last, and most incredible of all, a case where magnetism had imparted to its object, both the gifts of seeing into the human frame, of specifying exactly the seat and nature of the malady under which another person was laboring, and that of being able to prescribe—without any previous knowledge of medicine—the appropriate remedies by their appropriate technical names, and in the just proportions: and all this is believed by men of high intellectual endowments:

The reporter was called in to assist at a consultation, and he did not neglect to take advantage of this new opportunity of adding to what the committee had already seen. He found the patient to be a young married woman, Madame La C——, having the whole right side of the neck deeply obstructed by a great congeries of glands, close upon each other. One of them was opened, and emitted a yellowish purulent matter.

Mademoiselle Céline, whom M. Foissac magnetized in presence of the reporter, placed herself in connexion with this patient, and affirmed that the stomach had been attacked by a substance *like poison*; that there was a slight inflammation of the intestines; that, in the upper part of the neck, on the right side, there was a scrofulous complaint, which ought to have been more considerable than it was at present; that, by following a soothing treatment, which she prescribed, the disease would be mitigated in the course of fifteen days or three weeks. This treatment consisted of some grains of magnesia, eight lecches applied to the pit of the stomach, water-gruel, a saline cathartic every week, two clysters each day, one of a decoction of Peruvian bark (kina,) and, immediately after, another, of the roots of the marsh-mallow, friction of the limbs with ether, a bath every week; food made of milk (*laitage*,) light meats, and abstinence from wine. This treatment was followed for some time, and there was a perceptible amelioration of the symptoms. But the impatience of the patient, who did not think her recovery proceeding with sufficient rapidity, determined the family to call another consultation of physicians, who decided that she should again be placed under mercurial treatment. From this period the reporter ceased to attend the patient; and he learnt that the administration of the mercury had produced very serious affections of the stomach, which terminated her existence after two months of acute suffering. A *procés-verbal* upon opening the body, signed by M. M. Fouquier, Marjolin, Cruveillier, and Foissac, verified the existence of a scrofulous or tubercular obstruction of the glands of the neck, two small cavities full of pus, proceeding from the tubercles at the top of each of the lungs; the mucuous membrane of the great cul-de-sac of the stomach was almost entirely destroyed.

Library of Standard Literature—the Works of Burke, 3 *vols.* 8 *vo. New York.* Geo. Dearborne. It is only a little time ago since we spoke of this splendid enterprize, of which we have now the first fruits from the press of Mr. Dearborne. The works of Burke, however politicians may cavil about some of his principles, are well entitled to lead in any series of publications, intended for the future as well as the present, for standard use and reference. They are here presented in a form which combines economy order and beauty. The arrangement of the contents is chronological. The double columns admit of compreeing into three, materials which usually occupy seven or eight, volumes; while the clearness of the type and paper obviates in a great degree the usual objections against small print. We have had occasion in several of the above notices, to praise the beauty of Boston publications. We are well pleased to be able to say of this, that it authorizes the expectation that our New York publishers will not long remain behind their Eastern competitors.

Sermons on Various Subjects; by *Henry Colman*, of Salem, Mass.; 1 vol. 8vo: *Boston, Lilly, Wait & Co.*—This volume comes recommended externally by beautiful paper and typography. Its contents—bating certain theological opinions about which readers will differ—are worthy, by their style, their earnestness and their tendency, of all the luxury bestowed on them. Mr. Colman was for several years the pastor of a Congregational Church in Salem. Ill-health compelled him to renounce a career which seems to have been one of choice and feeling; and there is no part of the volume before us better adapted to conciliate the esteem of readers than his valedictory discourse on taking leave of his congregation, and a subsequent address on the induction of his successor.

The Testament, stereotype edition: *Boston*, Lilly, Wait & Co.—Another sumptuous specimen of the work of Boston publishers. The New Testament, in one volume, on beautiful paper, with a large, clear, open type, and the binding in keeping with all the rest.

Silvio Pellico.—Who that has read the memoirs—the affecting and improving memoirs of this

victim of Austrian tyranny—can forget the companion of Pellico's harsh imprisonment at Spielberg—*Maroncelli?* Loaded with fetters—plunged in a subterranean dungeon—and counting long and weary years almost shut out from the light of Heaven, from the face of nature, and the sweet intercourse of his fellow creatures,—fortitude, the mind conscious of right, and hope, immortal hope, which sustained his spirits, and almost his cheerfulness, were unavailing to ward off the physical effects of such tyranny; and the body yielded, while the soul remained unshaken. Confinement, low diet, and the unwholesome vapors of a dungeon, induced a disorder in the knee, which increasing rapidly in malignity, left no alternative at last but the amputation of the limb. This was effected—how and by what hands we will not now stop to say—but our readers will not forget the beautiful incident, extracted in our notice of the book, of this suffering individual's presenting to the operator who had just hacked off his leg, a flower—a rose that stood hard by—as the only token that Austrian policy had left him, of gratitude.

Well, Maroncelli—persecuted, imprisoned, maimed and exiled, because he felt and wrote like an Italian worthy of his glorious native land—Maroncelli is now among us; and here will not fail, we may say without hesitation, to find friends, fortune, country. The amusement and ornament of happier hours is now turned into a resource against adversity: and attached as Director of the Choruses to the Italian Opera Company, Signor *Maroncelli's* cultivated taste for and knowledge of music is to be made available to his support. This in itself is something; but a scholar and a poet, he will also give instruction in the language and literature of Italy; and those loved accents which he is no more permitted to breathe on his native soil, he will seek to impart here in this free land. to those who will not relish the instruction less, that it comes from the mouth of one who put life and all at hazard for Italy.

Although we have not authority from M. Maroncelli to say what we have done, and no knowledge of the details, if they be yet matured, of his future plans, we could not refrain from stating thus much concerning him and his general purpose.

The Oriental Annual: London.—This new candidate for favor among the annuals was sent to us by Peabody & Co., who were the first, as we are informed by them, to import it. It is Indian in all its attributes; the engravings, 24 in number, are all from scenes in India; the descriptive portion is by the Rev. Hobart Caunter; and in all respects of mechanical execution it may compare advantageously with any other annual.

Village Belles, 2 vols.—We have not in a long time met with a novel so much to our fancy. It is written without pretension, with great knowledge of the world, of human nature, and the ordinary motives of action among men and women of real life, and in a free, spirited, and sketchy style, that gives effect to the good sense, good feeling, and good aims of the writer. Our readers cannot go wrong in getting these volumes.

We have made one or two extracts, which will be found at page 702.

Tait's Magazine for September, has a article on Hamilton's *Men and Manners in America*, in which the cause of America is warmly espoused. The following illustration is good:

"Imagine a battered old beau quizzing a ruddy growing boy for his brown holland pin before, the three rows of brass sugar-loaf buttons on his jacket, the redness of his hands, the carelessness of his carriage, his fondness for tarts, his contempt of the higher luxuries of turtle and venison; and you have the sum and substance of all English criticisms on America."

SUMMARY.

It is mentioned in a Philadelphia paper, that Com David Porter is shortly expected home on a visit to his family.

The ship Ysidra, reported to have been lost on the coast of Spain, is insured at various offices in Wall street to the amount of $80,000, viz. on the cargo of Cocoa $30,000; on gold and bullion $30,000, and on the ship and freight $20,000. The amount on the ship is less than her value, and that on her cargo, though covering cost, is not half equal to what the value would have been, had the cocoa been landed.

The Captain of the brig Montilla, arrived just now from Malaga, states that when out about one hundred miles South West of Cadiz, the Ysidra started a butt and leaked so badly that the crew took to the boats and left her. The probability is therefore that the loss will be total.

Appointments by the President.—Peter V. Daniel, of Richmond, Virginia, to be Attorney General of the United States, in the place of Roger B. Taney, resigned.

The Charleston Patriot of the 17th inst. says, we understand that the *Bank of South Carolina* of this place have declined receiving the United States Deposites.—[Gazette.]

Naval.—It will be seen by reference to our marine head that the U. S. sloop of war Warren, Capt. Cooper, from Rio Janeiro, was spoken on Tuesday last going into the Delaware.—[Gazette.]

The passengers who left Philadelphia at 10 o'clock yesterday morning, arrived at 5 in the afternoon.—They were on the road between Bordentown and Amboy only one hour and fifty five minutes. The locomotives exceed all former inventions for rapid and safe travelling; and, when this line is completed to Camden, the intercourse between the two great cities of the United States, will afford facilities to men of business and pleasure, unequalled in any part of the world.—[Gazette.]

There was a slight fall of Snow at Troy on Sunday last.

The Helvetia one of the Hudson Whale Company's ship sailed from that place on Monday, for the Pacific Ocean, on a three years voyage. She is commanded by Capt. Cottle.—[Gazette.]

Steamboat Disaster.—We learn from the New Orleans Advertiser that the steamboat Columbia, Captain Laurent, sunk about twenty miles above New Orleans, on the morning of the eleventh inst., with a full cargo of more than nine hundred bales of cotton. One engineer and two negroes are supposed to have gone down with her.

Steamboat Accident.—On Saturday afternoon, the Champlain, Capt. Gorham, on her passage from Albany, when between Poughkeepsie and Newburgh, broke her larboard water wheel shaft, and before the engine could be stopped, the shackle bar gave way in two places, breaking the wood work of the boat considerably, and it is supposed also cracking the cylinder. The loud crash, brought all the passengers on deck, who at first took it to be an explosion of the boilers. She worked down to the City with her starboard engine, and arrived about eight o'clock, the accident detaining her only two hours. It will take a considerable time to repair her, and it is not probable from the lateness of the season that she will run again before spring.—[Standard.]

On Tuesday next the law of the Legislature requiring a new mode relative to Copartnerships will take effect. After that period, according to an act passed by our Legislature, all former partnerships, who carry on business under the ancient names of persons no longer living or interested, will be required to take the names of the partners actually doing business, and no other. The law, as a whole, is a good one, although, like most new acts, will bear rather hard. Many old firms, which have been familar to the public, enjoy a high credit, and which have been long identified with the character and credit of the city, we regret will have to be dropped.

Steamboat disasters in Canada.—During the late gale the steamboat St. George broke one of her shafts, and was towed into port by the Great Britain. The steamboat John Bay, which plied between York and the head of the Lake, was driven ashore near the Credit, and it is feared will prove a total wreck. The new and elegant boat Britain sunk at Kingston. The new steamboat William Avery, of Oswego, was towed into Kingston by the Great Britain, which boat fell in with her in distress.—[Albany Argus.]

Proclamation by William L. Marcy, Governor of the State of New York.

During the present year, the beneficent Ruler of the Universe has been pleased to dispense, in a liberal measure, his bounties and his blessings, to the people of this State. Peace and tranquility have prevailed throughout its whole extent; our free institutions, securing to us the full enjoyment of our civil rights and religious privileges, are unimpaired; our establishments for education continue to dispense the treasures of knowledge to the rising generation; our harvests have been unusually abundant; and industry, in all the diversified pursuits of our citizens, has been bountifully rewarded. While many other parts of our common country have been afflicted with a most destructive pestilence, the inhabitants of this State have been exempted by a kind Providence from its visitation, and signally blessed with an unwonted degree of health. Entertaining sentiments becoming a moral and religious people, it is our solemn duty to express in a public manner, the homage and gratitude due to our Divine Benefactor, for the manifold favors he has been pleased to bestow upon us:—

I do, therefore, in conformity to usage, most respectfully recommend, that *Thursday, the fifth day of December next*, be observed as a day of public Prayer and Thanksgiving by the people of this State.

Givon under my hand, and the privy seal of the State at Albany, this twenty eight day of October, one thousand eight hundred and thirty three.

L. S.

W. L. Marcy.

[*From the Charleston Courier.*]

Important Salvage Case.—*Wm. P. Lea* vs. *The Ship Alexander.*—We understand that the following points were decided by the District Court, in this case, on Saturday last.

1. That a Pilot going on board of a ship ashore 45 miles from the Bar of Charleston, being within his pilotage ground, cannot claim salvage, although he saves the ship—but may be entitled to extra compensation.

2. That to entitle the Pilot, in such a case, to claim salvage, he should have distinctly declared on going on abroad, that he was there as a salvor and not in the capacity of a pilot, in order that the master might make his election in which character he would receive him.

3. That under the City Ordinance, regulating pilotage, the boarding of a vessel within 40 miles of the land, was within the regular duty of the pilot: but in consequence of extra services, he was entitled to extra compensation—which the court awarded to the amount of $400.

From this decree the libellant has appealed.

J. L. Wilson & T. S. Grimke, Esqrs. for libellant. C. G. Memminger and S. G. Barker, Esqrs. Contra.

We are informed that it turned out in evidence that the ship was not insured.

Little Rock, [Ark] Sept. 18.—The Arkansas river has risen 12 or 15 feet within the last ten days, and is still rising fast. It is now at a stage to admit of navigation by boats of the largest class.

For more than two weeks past, we have been almost constantly visited by cloudy and rainy weather, and during a considerable portion of the time, the rains have been very heavy. Within the last two or three days, the sun has occasionally made his appearance, but at present, we have but little prospect of fair weather.

Interments at New Orleans—*Catholic*—Oct. 10th, 12; 11th. 10; 12th, 24; 13th, 10; 14th, 14—70. *Protestant*, Oct. 10th, 9; 11th, 7; 12th, 6; 13th, 2; 14th, 7—31—Total 101.

The late fair of the American Institute was much more *productive* than any former exhibition, the receipts amounting, as we are told, to over $2510; which is $600 more than received at any former fair. More than 10,000 tickets were sold, and as the ladies, members of the institute, and a great number of other persons, were admitted gratuitously, it has been supposed that more than 40,000 persons visited the exhibition. We have no doubt that a still larger estimate would come nearer the truth.—[Courier.]

A German Priest walking in procession at the head of his parishioners, over uncultivated fields, in order to procure a blessing on their future crops, when he came to those of an unpromising appearance, would pass on, saying, "Here are prayers, and singing will avail nothing; this must have manure."

[*From the Commercial Advertiser.*]

AMERICAN TREATY WITH SIAM.—We subjoin an article from the Singapore Chronicle of the 6th of June, which contains, we believe, the only provisions of the treaty between our government and that of Siam, recently negotiated by Mr. Roberts, that have transpired. In fact it gives, we have reason to believe, all the information respecting it which the public can be anxious to know.

The American sloop of war Peacock, Capt. D. Geisenger, arrived at the Bar about the latter part of February last, having on board Edmund Roberts, Esq. as Envoy from President Jackson to Cochin China and Siam. Previous to the vessel's arriving at Siam, the Embassy had been at one of the out ports of Cochin China, but could accomplish nothing. They were, however, well received at Siam: two large war boats were sent outside the bar to bring Mr. Roberts to Bankok, the Peacock being too deep to pass over it. The party that came up consisted of eleven persons: Mr. Roberts, Capt. Geisenger, the Doctor, Mr. Morrison, jr., of Canton, as Private Secretary and Chinese translator, two or three Lieutenants, and the residue Midshipmen. They occupied one side of the factory built for foreigners.

Mr. Roberts had his letter from the President of the United States to the King of Siam—it was open, and having no large seal on it, the Siamese could scarcely believe it to be a genuine letter from the President; but the Peacock laying outside the bar, with 200 white men on board, was a reality, therefore all must be real.

Mr. Roberts proposed to form a treaty of friendship and commerce, at which the Siamese made no objections. He endeavored however to make a more advantageous one than the English did, but that, the Siamese said, could not be done; they would agree to allow the Americans to trade on the same footing as the English, but more could not be granted.—After some delay and trouble, a treaty was drawn up after the Siamese fashion; but then the fight for alterations, amendments, &c. Mr. Roberts had an audience of his Majesty, and only one. The treaty is written in the Siamese, Chinese and Portuguese languages, and commences in the same style as the English one, with "Somdet Phra Puttie Chan Ya Hua," &c., which is translated in the treaty, "the great and magnificent King," instead of the literal godlike titles which are alike applied to their God and their King. Mr. Roberts was very anxious to obtain the treaty sealed in duplicate, in order to forward one copy to the United States from Batavia or elsewhere, and after having gone to the trouble of drawing three copies, the foolish old Praklang could not be induced to sign the duplicate, being fearful, it is presumed, that Mr. R. only wanted to sell the duplicate to some other State! so that Mr. R. went away with only one copy sealed. The Praklang was reasoned with, and told that were he to sign a hundred copies, no harm could befall the country, all being of the same tenor and date; but it was of no avail.

The presents given by Mr. Roberts did not produce the desired effect, though valuable in themselves. Indeed, to a Court, like Siam, they were rendered in some sense valueless through their ignorance. The presents to the King consisted of a pair or two of beautiful watches set with pearls of some value, some silver baskets and abundance of China Silks. To the Praklang also, Mr. Roberts gave presents to a good amount, but he did not visit any of the interior Princes. The amount of the presents might be about 2000 to 2500 dollars, while the returns consisted of a little sugar, sticlac, pepper, tin, gambouge, benjamin, Anguella wood, Sapan wood, and inferior Cardamons—the whole of which might be worth 1000 or 1100 dollars. The Siamese knew the presents were bought in China, which did not please them much, and it is said, that at one time they were not disposed to accept them. The original presents intended for the Cochin Chinese and Siamese Courts were sent out from America in a separate vessel, but she had not arrived in China ere the Peacock left. But this the Siamese would not credit.

Mr. Roberts inserted one article in the Treaty to the effect that if a citizen of the United States contracted debts in Siam and was unable to pay them, the creditors were to take whatever he possessed, and then to discharge him;—they are not to detain a citizen in Siam contrary to his inclination,—or something to that effect. This the Siamese agreed to, provided a similar clause was inserted in their favor, and the article, at present, stands thus: 'If a Siamese buy from a citizen of the United States, or owes him money, he must pay the citizen, if he possesses the means; but if he has not, the citizen is to take what he has got, and give him a discharge. The same with respect to the citizen of the United States."

This is liberty and bankrupt law with a vengeance. It is to be regretted that such a clause was inserted at all; for, from the manner of transacting commercial business at Bankok, it is almost impossible for the foreign merchant to get into debt with the Siamese. The former is obliged to sell his goods generally on a credit; but not so the Siamese merchant, his produce. If, therefore, a Siamese dealer be inclined to take advantage of the above article, he may purchase goods from a foreign merchant, pay his former debts, and if there be any residue, hand it over to the merchant, who, by the treaty, is bound to give him a discharge! This was explained to Mr. Roberts, and when too late he endeavored to cancel the clause altogether; but the Siamese would not *yom* (consent.) Mr. Roberts consoled himself, however, by saying that another article, inserted in the treaty, counteracts the above, which states that the Americans are to enjoy the same privileges as are granted to the most favored nations, and that if a Consul be allowed to reside at Bankok, from any European nation, excepting the Portuguese, the Americans will be permitted to have one also.

Mr. Roberts was desirous of inserting in the treaty a clause by which liberty should be granted to send a Consul; but the Praklang would not consent, though the King is said to have told him to agree to it. The Praklang informed Mr. Roberts that Capt. Burney had asked permission for an English Consul to reside at Bankok, but was refused. How far the signification of the phrase "most favored nations"—extends, is a matter of inquiry; it may be applicable only with regard to any alteration in duties, though the article regarding debts would still continue in effect.

The Peacock left the Bar of Siam for Singapore, on the 6th of April, after having remained upwards of forty days.

COMMERCIAL TELEGRAPHS.—The following extract of a letter from Paris of 5th September, to one of the London Journals, gives the first intelligence we have seen of this new enterprize of commerce in France. The effort of ministers to crush it, might find some countenance of our Postmaster General's attempt last year to interfere with, and defeat, the express of the Journal of Commerce:

"You have probably heard of the erection of commercial telegraphs on the route from Paris to Rouen; and of the opposition offered to the undertaking by the French Government. The persons at the head of it, however, being men of wealth, took the opinion of about twenty of the most eminent men at the French bar, who declared, that the Government could not, without a gross violation of the law, prevent the establishment of commercial telegraphs. Consequently there is no chance of their being put down, except by the Chamber of Deputies: but this is not expected, although Ministers say that they will make every effort to obtain their suppression. In the course of a few months, there is to be a line of telegraphs on the route from Paris to Calais, by which means you will get all important news very rapidly in London; as the estimated rate of expedition is two hundred and fifty leagues per hour in the day, and about one hundred in the night."

The Fall of the Brighton Antheum.—[Further Particulars.]—The Antheum was the largest dome in the world, exceeding in diameter that of St. Peter's at Rome by 36 feet, the width of the dome at bottom being 164 feet, and the height from the ground to the top of the ring exactly 64 feet. With the cupola it would have been 80 feet or more in height outside; and the height inside, to admit the lofty palms, would have been considerably increased by gradually sinking the ground. It must be remembered that the dome was not, like St. Peter's, placed on a height; it rose at once out of the ground. At six o'clock, the workmen left as usual, excepting a man named Wyatt and the head gardener, whose duty it was to see the house locked up and everything secure. A little before seven, the gardener, who was in the centre, was alarmed by a loud cracking noise:—Wyatt exclaimed "save yourself it is not safe," and he had barely escaped at the north entrance and climbed over the pailing, when the whole top part of the dome fell in with an awful rapidity. He describes the ribs as having fallen down, one after another, like a pack of cards, accompanied by a sound resembling the continued firing of cannon. The millions of sparks produced by so many pieces of iron striking against each other, made it appear as if the dome had fallen in a bed of flames; and some brickmakers in the next field actually gave an alarm of fire. The shock was so great in the neighborhood that the "lights" of the plant and melon pits simultaneously slid from their frames. Immediate information of the disastrous calamity was forwarded to Mr. Philips, who arrived at the spot in a state of the greatest agitation; but finding that no lives had been sacrificed, he gave the necessary direction for keeping out the curious who crowded to the spot; and very fortunate it was that he did so, as during the night, many of the principals, which were left standing, came down with a tremendous crash. The loss is tremendous; the labor for putting up the iron work only, not reckoning the expense of carriage and casting, &c.—the simple labor on the dome itself, cost upwards of two thousand pounds. We learn that it is likely the Antheum will be re-erected. Messrs. Goldsmid, Hollis, and English, were all here on Monday, and arrangements will be instantly made for re-building it. Crowds of persons have been to see the ruins.

POPE GREGORY XVI.—Bishop England of South Carolina, in a letter published in the newspapers, thus describes the occupation and habits of the present Pope, whom the writer of "first impressions of Europe," in the Mirror, calls "an indolent and good old man."

His ordinary hour of rising is about 4 o'clock in the morning, at all seasons of the year. He devotes to private religious exercises, such as prayer, meditation, the celebration of the Mass, and spiritual reading, nearly three hours At 7 o'clock, he commences his audiences of the Secretary of States, and other offices employed in the temporal governments of his states. In this laborious occupation several hours are daily consumed. He takes no breakfast; but occasionally a cup of coffee—of which beverage he is extremely fond—is brought to him as a refreshment.

When this duty is discharged by giving decisions and directions, either some of his own subjects are received upon business, or foreigners are presented—and thus some time is occupied. His holiness has no fixed time for dinner, which is his only meal; but when the press of business subsides, he takes alone an exceedingly plain and moderate refection. The estimate of expenses for this dinner, including wines, fruit, &c. would be too high at five dollars the week. After a short rest, and sometime devoted to prayer, the holy father walks for an hour or two in the gardens; on which occasions some of the principal foreigners of distinction, who have been previously presented, are upon special leave permitted to introduce him to the ladies of their family. At about 5 o'clock in the afternoon, he proceeds to his cabinet to receive the prefects or secretaries of the several congregations for ecclesiastical affairs, foreign prelates, and others with whom he has business relating to the church. He is generally occupied with them till after 8 o'clock; not unfrequently till 9. His evening devotions must then be attended to, previously to his retiring for the night.

The above order is indeed often interfered with, by the necessity of his presiding at congregations of cardinals and prelates upon special and important extraordinary cases of ecclesiastical business, as also of his presiding at consistories, where the whole body of cardinals assembles to deliberate on some weighty affair, relating sometimes to the government of his States, sometimes to the general concerns of the Church: he is moreover required on solemn occasions to attend at the grand ceremonies of the church, on the principal festivals; and sometimes too, though seldom indeed, does he break from his laborious routine, in order to ride or walk a few miles into the country, to inhale a more pure air, and to unbend a mind drawn to its utmost pitch, by such close application to the most important concerns of millions for this world, and of myriads for the next. This is, indeed, but a slight indulgence for one who in his sixty-ninth year is pressed upon so heavily by the concerns of time, and the concerns of eternity! Occasionally, when the weather will not permit his excursion or his walk in the garden, the father of the faithful might be found viewing, in his moments of relaxation, those glorious productions of nature and art with which the magnificent galleries of the Vatican are filled. No one surely would reproach him for such occupation of a moment thus given to restore the elasticity of his mind; unless, perhaps, we might be able to resuscitate the man who was scandalized at discovering St. John, the Evangelist, occupied with a hawk, as the companion and object of his mental relaxation.

[*From the "Village Belles," a novel, in 2 vols.*]

Subjoined is a short sketch of a humorist, and an original.

The defunct Sir John Worrel had been something of a humourist. "Knowledge is power," said he, "the power of making one's self disagreeable."—That he might not make himself disagreeable, he never opened a book after he became his own master; but devoted himself to the gratification of an extraordinary passion for bell ringing. At first he used to practice in the parish church, but his constant peals disturbing the studies or the slumbers of Mr. Wellford's predecessor, a quarrel ensued between baronet and vicar, and Sir John set up an opposition belfry in his own ground. Here he and his men servants amused themselves many a long hour; ding donging the good people of Summerfield out of their senses, and wearing Mr. Greenway to a thread with low spirits, except when a north wind carried the noise to Haxley, and nearly put a stop to the business of the place. Sometimes they pealed, at other times they tolled; at length, Death, out of patience at so much tolling without any burials, took off Sir John. His relict sold the bells, and the campanile fell into decay.

One more sketch, in which a glimpse is given of the charming Rosina.

Rosina, for reasons well known to herself, had decided on walking; and she said so much more than the occasion required, about being an excellent pedestrian, never feeling tired, scorning donkey-chaises, &c., that Hannah, without more ado, took the vacant seat, and the party set off.

Mr. Russell offered his arm to Rosina, Huntley walked next to her on the opposite side, and for some little time, the whole party continued together, exchanging desultory remarks on the scenery and the weather; but presently coming to a steep cart-track, Huntley ran forward to support the chaise, which seemed to him in imminent danger of losing its balance, and he continued to keep his hand on the side rail while answering some inquiry of Mrs. Welford's. Arrived at the end of the lane, a fine turfy down opened before them; the donkey began to trot, and Huntley to run, still keeping his hold on the chaise elbow, and continuing his laughing dialogue with the ladies, which, from the rattling of the wheels was necessarily carried on in a raised tone of voice. The clear fresh air of the heath heightened the complexions of Hannah and Huntley, each of whom thought they had never seen the other look so handsome; and the race continued till a slope of the downs carried them out of sight of Rosina and Mr. Russell. Hannah looked back after them once or twice, and asked her mother if they had not better wait.

"That is easier said than done, Hannah," replied Mrs. Welford, smiling, as she vainly pulled the rein, "Our magnanimous donkey seems to have snuffed inspiration from the breezy air."

"Is this your best driving, madam?" asked Huntley, "I thought you had been a better whip. Ah, give him the rein; you are hurting your gloves more than his mouth. This unwonted speed will soon abate, depend upon it; and we may as well await our distanced companions at the foot of the next hill as any where else."

Acting on this resolution, they half traversed Hexley common.

Rosina, in the mean while, had been rather annoyed at being left behind with Mr. Russell. "He had joined them," she said to herself, "without being wanted by any body, and now had completely broken up the party."

"Had not we better walk faster?' said she gently dragging him forward as she spoke: "they will be out of sight presently."

But no: Mr. Russell hung heavy on hand.

"We cannot keep up with them," said he composedly, "and I dare say they will wait for us at the bottom of the slope."

"Oh don't trust to that," cried Rosina eagerly, "for I know the Holland's donkey of old, and when it once takes to trotting on Hexley-heath, it never stops till it reaches the foot of the White-thorn hill."

"In that case," replied Mr. Russell, "there is still less chance of our keeping up with them; so you see, Rosina, it was a lucky thing I fell in with you, or you would have been left to yourself."

"No, that I should not, I am sure," cried Rosina, indignantly tossing her chin. Don't you think," resumed she, "that we had better try to gain the slope at any rate, before they are out of sight, that we may see which track they take."

"Oh," continued Mr, Russell, "I know my way to the brow of the hill perfectly well."

"But I am not so sure that mamma does," interrupted Rosina.

"If she loses her way," replied he drily, "we are not answerable for it; since she has run away from us, not we from her. However, we shall all meet at our journey's end, I make no doubt."

Rosina could not help letting her lips betray that note of impatience which can only be imperfectly implied on paper by the syllable "tut!" The vexation was increased by her imperturbable companion's coming to a full stop, apparently for no other purpose than to scent the reviving air.

"Delightful!" exclaimed he at length, with a tone and countenance of keen enjoyment. "Here, indeed, as your favorite Cowper expresses it, the sense is regaled

'With luxury of unexpected sweets.'"

"*My* favorite Cowper!" repeated Rosina with contempt, "Hannah's favorite Cowper, if you please. I have no taste for such dull, prosy writers, who instead of giving airy nothings a local habitation and a name, describe just what is before their eyes and no more, with the accuracy of a camera obscura. The 'Lay of the Last Minstrel' is worth all that a thousand Cowpers could write. 'The Task' too! Such a name! Enough to sicken one at the very outset. There is a great deal in a name; though Juliet chose not to think so; and Cowper fixed on one equally hateful to teacher and scholar."

"Very good, Rosina!" said Mr. Russell laughing, "there is much originality in what you say, and I always derive amusement from your ideas, though they are not—or more properly, *because* they are not in exact accordance with my own. As to your opinion on the subject of names, I agree with you that Miss Juliet Capulet was very unadvised when she exclaimed, 'What's in a name?' and that she would have been compelled to answer 'a great deal,' if it could have been proved that the so-called Signor Romeo Montague had no right to any other appellation than plain Stokes or Stubbs. Her love would speedily have been nipped in the bud, we may be certain. I myself am not a little proud of a name which revives associations with the noble, the brave, and the patriotic; and Mr. Huntley would fall five per cent. in your estimation, I dare say, if he were to turn out a mere Smith or Williams."

"Some people," said Rosina, "have more to boast of than their names."

"Why, that is true, too," rejoined Mr. Russell, "and I think you, Rosina, are among the number; for Wellford is not a very striking name. Rosina is pretty and Italian-like enough, but Wellford has not much to recommend it. Take my advice, therefore, and change it as soon as possible."

"Really, Mr. Russell——" exclaimed Rosina, very pettishly.

"Really what, Miss Rosina?"

Mr. Russell laughed with such thorough good humor at this speech, that Rosina, fearful of having rather exceeded the bounds of propriety, began to think she might as well treat him with a little more consideration. She was also aware that she was exposing herself to ridicule by displaying so much vexation at having been forsaken by Huntley. For the next ten minutes, therefore, all was smooth and agreeable.

At the expiration of that time, our walkers gained the top of the slope, and could perceive no traces of their companions on the wide-extended heath before them. Rosina's irritation now returned, and she declared that it was ill-natured of her mother and Hannah to leave her behind, as she was growing very tired.

"Indeed!" cried Mr. Russell, then you sadly over-rated your powers, when you said you were sure you could walk to Hexley-hill and back without fatigue! Bless me, what can be done in this emergency? How came you so to deceive yourself? But perhaps," added he, glancing slyly at her delicate *chaussure* and the pretty French glove that rested on his arm—"perhaps your fatigue in some measure depends on who is your companion."

Rosina was too much provoked to answer.

"Well then," pursued the abominable Russell, "as silence gives consent, I am to infer that Huntley is the happy man. Poor me! What shall I do to render myself less obnoxious? Shall we turn back? I am entirely at your disposal.—No.—Well then, let us make the best of our way forward, and I will make myself as agreeable as I can. Shall I carry your parasol for you?—you won't let me—come, then, that little bag; I long to be of service. Are there any sandwiches in it?"

"As if I should carry sandwiches!" said Rosina half laughing.

It might be worse filled, though—this air is what Greenway calls 'very appetizing.' Are you quite sure you are not deceiving me—No—here are a cambric handkerchief, a smelling bottle, and some keys—oh, I understand pockets are gone out of fashion."

"You are mistaken, there are no keys."

"Are there not?—I thought there were. By the by, Rosina, I have some news for you."

"Have you?"

"Yes—concerning an old flirt and favorite of yours. Can you guess whom I mean?"

"No indeed."

"Try."

"An old favorite."

"And flirt too—very, very old."

"I am sure I cannot imagine," said Rosina, carelessly, "unless it is Lewis Pennington."

"*Unless!*" that is a lucky guess of yours, Rosina. Yes, Lewis Pennington it is. I had a letter from him this morning. He has left Oxford, and writes to me that—what do you think?"

"How can I tell what to think—Lewis and I used to be very good friends when we were children, but really that is so long ago, that I have nearly forgotten him. How can I guess what he has written about?"

"'What's Hecuba to him, or he to Hecuba;'" repeated Mr. Russell; "but, indeed, Rosina, you must show a little more curiosity respecting my intelligence before I communicate it. News, you know, is a London staple: and as silks, ribbons, bobbins, everything from the great metropolis, has a neat little profit tacked on to it by the country retailer, so news is by far too scarce an article in our hamlet to be disposed of for nothing. Come, guess, guess!—I had nearly said 'an' thou loveat me.'"

Certainly Mr. Russell seems a little touched this morning, thought Rosina: what can have made him so exceedingly absurd?

"I suppose," said she with as unconcerned a tone and look as possible, "Lewis is going to be married. If that is not it, I have nothing else to guess.—Whatever it is I care very little about it."

"Can that be true, Rosina?"

"Quite true, I assure you, Mr. Russell."

"Oh, very well!" said he with a mischievous smile., "I will not waste my news on a person who does not care for it; and if, as I shrewdly suspect, this indifference is only assumed, you will deservedly punish yourself. Take care, however, that the news, when it *does* reach you, as it certainly will, does not come on you like a thunderbolt."

"A thunderbolt! how absurd?" said Rosina.

"We shall see!" said Mr. Russell, smiling.

He then continued to walk on, silently knocking about the flints and pebbles which lay in the path with his cane; till Rosina, who was secretly curious to know his mighty intelligence, asked him if he expected, like the Duke in "As you like it," to find a sermon in the stones.

"Why, possibly this flint," said Mr. Russell, picking one up from beneath his feet, "might, if it had a tongue, chatter quite as much to the purpose as many bipeds. For what reason,' we may imagine it to exclaim, 'am I left here in inglorious solitude, wedged in coarse marle, or kicked out of the way by every clouted peasant that crosses this path to pursue his daily labor, when many other flints, by no means so comely as myself, are selected by the partial hand of man to raise the cottage wall, or emit the generous spark?' Ah, foolish flint! you know not of what you complain. Borne hence in the object of your ambition, viz., the flint gatherer's basket, you would find yourself exposed to many rude buffets in that world, which, at distance seen, so allures your inexperienced imagination. Hard blows from the workmen's trowel, or stunning thumps against the sturdy steel, administered by the greasy hands of a cookmaid; and even in repose—what repose! the filthy darkness of a kitchen drawer! Be grateful to me, mistress flint, for restoring you to your inglorious but peaceful abode in the footpath, where the soft breeze blows over you, the blue sky shines above you, and the gorse and heather bloom at your side; and know that your fate is a type of many a charming fair who sighs for the gaiety of high life, but is luckily condemned to remain in that seclusion where, would she but discover it, the truest happiness is to be found! Well, Rosina, have I discoursed most eloquent nonsense?"

"Certainly, Mr. Russell," said she, smiling, as she felt her ill-humor rapidly thawing away, "you are a very odd sort of person, and though you like teazing a little sometimes, it is impossible to be out of temper with you long together."

"Out of temper!" exclaimed he; "'do you confess so much? Give me thy hand!' Come, Rosina, answer as Brutus did,

'And my heart with it!'"

I will put no unfair construction on the words, I promise you. You won't? Well then I must say that you are a very odd sort of person too, and that it is impossible to be out of temper with *you* long together. We have make up our reconciliation just in time; for sure enough there is the donkey chaise where you said it would be, at the foot of the Whitethorn hill. So now it will be but fair that Hannah and Huntley shall be left to toil in the rear as we have done, while Mrs. Wellford, you, and I ascend the hill with the speed of the wind."

Not even the conclusion of this speech could now put Rosina out of humor. She walked forward briskly, and they soon came up with the donkey-chaise party, who looked the picture of content. Huntley ran towards Rosina as she approached, and offered her his arm. Thus supported on either side, she told Hannah she could very well walk up the hill, though her late complaints to Mr. Russell shamed her from again mantaining that she felt no fatigue. They all proceeded to their place of destination; Rosina conversing with Huntley in high spirits, and in the overflowing of her satisfaction, bestowing many smiles and lively sallies on Mr. Russell.

"Aha!" thought he to himself, "my young lady is fairly caught for the present; but it will not last long, and I know why."

Without stopping to search into the meaning of this mysterious "I know why," we must proceed to the summit of the hill, where Mr. Huntley, as all had expected, was much struck with the view which opened before him. It was too extensive, however, he said, to be a fit subject for a sketch: it was vast, but not picturesque. Much was discussed learnedly and unlearnedly, on *coups d'œil*, grand masses, broken foregrounds, light and shade. At length Mrs. Wellford proposed returning.

Mr. Russell does not seem quite ready to go," observed Rosina. "See how pensively he stands with folded arms, quite absorbed in meditation! What are you considering Mr. Russell?"

"Nothing very particular," replied he, turning round with a smile, "I was merely letting myself be breathed on by this delicious wind; or, if I was thinking at all, I believe it was that I felt very hungry."

"What a poetical confession!" exclained Rosina; I expected to find you had been engaged in some very sublime speculation."

"Give me leave to ask, Miss Rosina Wellford, have *you dined?*"

"Yes, I have."

"Well, I have not; therefore, the next time we compare the relative sublimity of our ideas, pray let us start fair on this point. At present, you have the advantage of me."

The laugh was now against Rosina. Hannah offered to walk, and her younger sister seated herself in the chaise without complaint. The walkers and riders kept more together on their return than they had done before; and on reaching the White Cottage they separated with mutual expressions of satisfaction.

MARRIAGES.

In this city on Thursday morning, 24th inst. by the Rev. Joel Parker, ISAAC LITTLEFIELD, Esq. of New Orleans, to JOSEPHINE, eldest daughter of Samuel L. Waldo, Esq.

On Monday evening last, by the Right Rev. Bishop Onderdonk JOHN ALPHONSE TARDY, to CECELIA, youngest daughter of Alexis Eustaphieve, Russian Consul General, both of this city.

On Tuesday evening, by the Rev. Dr. Varela, Mr. THOMAS EVINS, Jr., to Miss CHRISTIANA HEALY, all of this city.

On Tuesday morning, in the Middle Dutch Church, by the Rev. Dr. Brownlee, Mr. E. J. SWORDS, of this city, to Miss JEMIMA, daughter of the late James Striker, Esq. of Bloomingdale.

On Thursday evening last, at the quarters of Col. Eustis, Fort Monroe, Hon. JOEL R. POINSETT, to Mrs. MARY PRINGLE, both of Charleston, S. C.

In Rochester, on the 14th instant, by the Rev. Mr. Kellogg, Mr. LUTHER TUCKER, editor of the Rochester (N. Y.) Daily Advertiser, to Miss MARY, daughter of E. Sparhawk, Esq.

In St. Matthew's Church, in Unadilla, on the 22d inst., by the Rev. Norman H. Adams, Mr. GEORGE H. NOBLE, merchant of that place, to Miss ELIZABETH B. PAGE, daughter of the Hon Sherman Page, all of the same place.

On the 22d inst., in St. Peter's Church, Auburn, by the Rev. Mr. Lucas, ISAAC T. MINARD, of Baldwinsville, to ELIZABETH S., eldest daughter of James D. Wallace, of the former place.

At the residence of the Hon. E. Savage, in Salem, Washington Co., on the 23d ult. the Hon. MICAH BROOKS, of Brooksgrove, Livingston Co., to Miss ELIZABETH CHATTIN, of the former place.

In London, on Wednesday, the 4th of September, by the Right Rev. the Bishop of London, JOSEPH FENWICK, Esq. to ELIZABETH HUGHES, late of the Park Theatre, New York.

DEATHS.

On 24th Oct., JOHN BROOME BOGGS, son of JAMES BOGGS, aged 23 years.

The high intellectual endowments of this young man; the spotless purity of his life, and the eager soarings of a spirit which the darkness of the shadows of death, that has long menaced its earthly tabernacle, had no power to check; his patience and resignation under long suffering; and his tranquil departure from a world, which his abiding Christian hope and trust had long taught him to look upon as at best a scene of trial to fit him for another; combined to render the early death we here announce, one of deep yet not unmitigated affliction to the parents and relatives, who have long watched his waning health. Their consolation must be found where he whom they mourn found his strength, in the hour of dissolution.

On Friday afternoon, Oct. 25th, at his residence in New York, Lieutenant JOHN A. WISH, of the United States Navy.

This morning, CATHARINE AMANDA, infant daughter of John G. and Catharine Clayton, aged 21 months.

On Saturday last, after a lingering illness, GEORGE W. BUNE, aged 34 years, son of Mr. Nathaniel Bune.

On Seventh day evening, 26th inst., JOHN MERRITT, in the 76th year of his age.

On Monday morning, Mr. G. Z. HICKIE, in his 38th year.

On Sunday morning, after a lingering illness, Miss MARIA BOARD, in the 37th year of her age.

On the 26th inst., after a short illness, Capt. JOSEPH CUTTER, a Revolutionary Soldier, in his 80th year.

On 26th inst., Mr. ABRAHAM STORMS, formerly of Dutchess county.

At Newport, ENOCH PECKHAM, aged 100 years and 5 months, a revolutionary pensioner.

At Madisonville, Ken., of yellow fever, on the 29th August last, Mr. SYLVANUS PARSONS, of this city.

In Boston, on Friday morning, Mr. GEORGE HARRISON OTIS, son of the Hon Harrison G. Otis, aged 23.

At Peekskill, on the 21st inst. MOSES FIELD, late of this city aged 53 years The poor of this city could not have sustained greater loss in an individual. No man had more enlarged or persevering benevolence in feeding the hungry and clothing the naked, and providing for the sick. His greatest happiness appeared to be to mitigate the sufferings and relieve the wants of the virtuous poor.

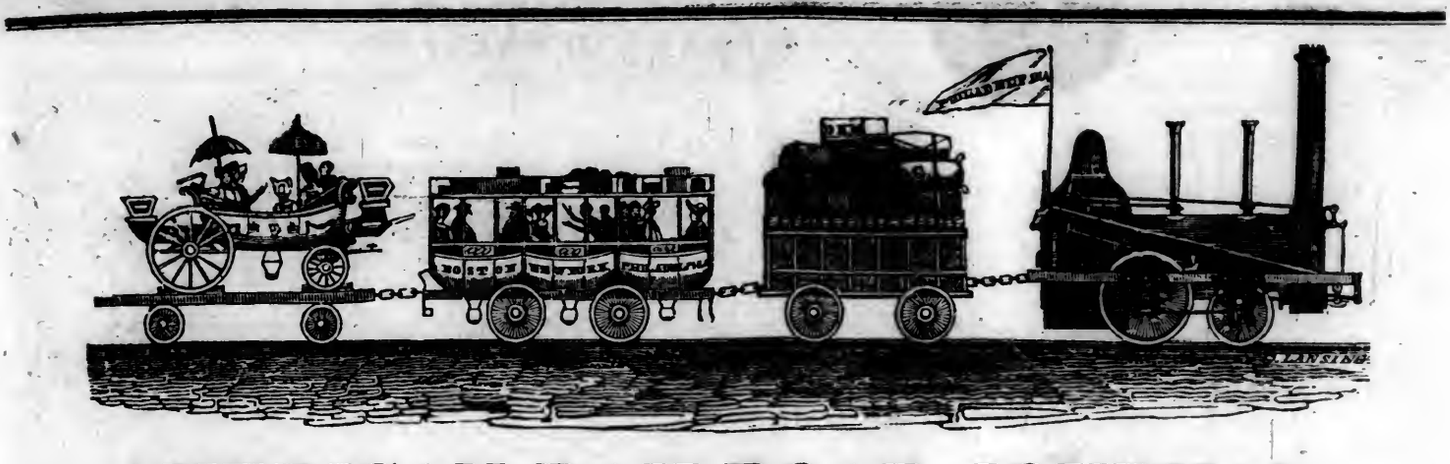
At Cowes, Eng., on the 6th ult., GRACE SCHUYLER HUNTER, eldest daughter of Robert R. Huntar, Esq. formerly of this city.

On the 12th Sept. at Carthagena, of the yellow fever, Mr. ABRAHAM KASHOW, late of this city, aged 24.

NEW-YORK PRICES CURRENT:

Corrected from the "New-York Shipping and Commercial List"—Wednesday, October 30, 1833.

ASHES—				
Pot, 1st sort 1833. 100 lbs	4 45	a		—
Pearl.....do	5 10	a	5	12½
BARILLA—				
Teneriffe.....ton	—	a	50	00
BEESWAX—				
White.....lb	31	a		34
Yellow.....do	19	a		21
BOTTLES—				
Bristol Porter...gross	7 75	a	8	25
Wines.....do	6 00	a	8	00
BREAD—				
Navy.....lb	—	a		2½
Pilot.....do	—	a		4½
Crackers.....do	5½	a		6
BRISTLES—				
Russia, first sort ....lb	60	a		—
Do. common...do	20	a		36
American.....do	15	a		44
CANDLES—				
Mould, tallow .....lb	12½	a		14
Dipped .....do	11	a		12
Sperm.....do	33	a		35
CLOVERSEED ..lb	—	a		—
COAL—				
Liverpool ....chaldron	11 00	a	11	50
Scotch .....do	—	a	7	00
Sidney & Bridgeport.do	8 00	a	8	50
Albion.....do	7 75	a	8	00
Virginia.....do	8 00	a	9	00
Anthracite .....ton	5 50	a	6	25
COFFEE—				
Cuba .....lb	11	a		13½
Brazil.....do	12	a		13½
Porto Rico.....do	12½	a		13½
Laguira .....do	12½	a		13½
St. Domingo.....do	—	a		12½
Java .....do	13	a		14
Jamaica.....do	—	a		—
COPPER—				
Sheathing .....lb	22½	a		23
Pig .....do	16½	a		17
Old .....do	17	a		17½
Bolt.....do	24	a		—
CORDAGE—				
Foreign.....lb	9½	a		11
American .....cwt	9½	a		10
CORKS—				
Velvet.....gross	38	a		46
Common .....do	26	a		33
Phial .....do	8	a		12
COTTON—				
New Orleans.....lb	15	a		18
Upland.....do	13	a		16½
Alabama .....do	13½	a		17
Tennessee.....do	12½	a		14½
COTTON BAGGING—				
Hemp.....yd	22	a		25
Flax .....do	18	a		20
Do. American .....do	22	a		25
DUCK				
Russia, U. X.... } coil	16 75	a	17	50
Do. Bruisguins { coil				
Do. Zotoff & Konop'f	15 50	a	15	75
Do. 3d quality ..do	15 00	a		—
Do. inferior.....do	11 00	a	14	00
German, Half .....do	11 00	a		—
Holland, A. A. .....do	24 00	a		—
Ravens .....do	6 00	a	7	50
Amer. Joy's, all flax, No. 1 a 8 .....do	11 00	a	14	50
Do. Phenix Mills, Paterson, flax, No. 1 a 3.	16 00	a	12	00
Do. cotton, Paterson, No. 1 a 10 .....yd	26	a		39
DYE WOODS—				
Braziletto .....ton	28 00	a	30	00
Camwood .....do	—	a	80	00
Fustic, Cuba.....do	—	a	30	00
Do. Tampico....do	—	a	27	00
Do. Maine.....do	20 00	a	22	00
Logwood, Camp'hy..do	26 00	a	27	00
Do. St. Dom..do	21 00	a	22	00
Do. Jamaica..do	—	a	18	00
Nicaragua, Bonaire.do	—	a	45	00
Do. Coro....do	—	a	50	00
Do. Hache ..do	65 00	a	70	00
FEATHERS—				
Live, Foreign .....lb	14	a		30
Do. American .....do	38	a		42
FISH—				
Dry Cod .....cwt	2 50	a	2	62½
Scale .....do	—	a	1	75
Pickled Cod.....brl	—	a		—
Do. Salmon.....do	14 50	a	15	00
Smoked do. .....lb	—	a		—
Mackerel No. 1 ....brl	6 00	a	6	25
Do. No. 2.....do	—	a	5	00
Do. No. 3.....do	—	a	3	37½
Shad, Conn. Mess...do	9 00	a	9	50
Do. Bucksport, do. .do	—	a		—
Herrings.....do	2 25	a	2	50
Do. Smoked...box	36	a		90
FLAX—				
Russia .....lb	11½	a		12
American.....do	8½	a		10
FLAXSEED—				
Clean.....cask	—	a		—
Rough .....do	12 25	a	12	50
FLOUR AND MEAL—				
New York superfine..brl	—	a	5	62½
Troy.....do	5 62½	a	5	69
Western Canal .....do	5 62½	a	5	81
Philadelphia .....do	—	a	6	00
Baltimore Howard st.do	6 37½	a	6	50
Richmond City Mills..do	—	a	7	00
Do. Country...do	6 12½	a	6	25
Georgetown.....do	6 12½	a	6	37½
Alexandria.....do	6 00	a	6	25
Fredericksburg .....do	—	a		—
Petersburg .....do	6 12½	a	6	25
Scratched and fine..do	—	a	6	37½
Fine middlings.....do	—	a	5	00
Rye Flour .....brl	—	a	3	87½
Indian Meal.....do	3 75	a	3	87½
Do. ..... hhd	16 50	a	16	75
GRAIN—				
Wheat, North riv..bshl	—	a		—
Do. Genesee....do	1 17	a	1	18
Do. Virginia....do	1 18	a	1	22
Do. N. Carolina..do	1 03	a	1	06
Rye, Northern .....do	—	a		80
Corn, Yellow, North..do	76	a		73
Do. White, L. I. & N. J..	75	a		78
Do. Southern.....do	66	a		71
Barley, North river..do	72	a		73
Oats, South & North..do	38	a		46
Peas, white dry...7 bshls	7 00	a	9	00
Do. black eyed....do	—	a		—
Beans.....do	8 00	a	11	00
HEMP—				
Russia.....ton	170 00	a	175	00
Manilla .....do	160 00	a	170	00
Sisal.....do	—	a		—
American dew-rot...do	100 00	a	120	00
Yarns, Kentucky ...lb	—	a		—
HIDES—				
La Plata & R. Grande..lb	14	a		15
Brazil .....do	10	a		12
Do. wet salted ...do	7	a		7½
Oronoco .....do	12½	a		13
W. India & Southern..do	10	a		11½
S. A. Horse.....piece	1 15	a	1	25
HONEY—				
Havana .....gallon	45	a		47
HOPS—				
First sort, 1833.....lb	20	a		22
Second sort, do....do	—	a		—
HORNS—				
Ox.....100	5 00	a	20	00
INDIGO—				
Bengal .....lb	1 25	a	1	75
Manilla .....do	90	a	1	25
Caraccas.....do	1 20	a	1	37½
Guatemala .....do	90	a	1	31
IRON—				
Pig, Engl. & Scotch...ton	37 50	a	45	00
Do. American .....do	30 00	a	40	00
Bar, do. .....do	72 50	a	75	00
Do. Russia, P. S. I..do	—	a	92	50
Do. new Sable.do	—	a	80	00
Do. Swedes.....do	90 00	a		—
Do English ass'td..do	72 50	a	75	00
Sheet, English.....cwt	6 25	a	6	75
Peru I. Co. flat & sq..ton	—	a		—
Do. round....do	—	a		—
Hoop, American...cwt	6 00	a	6	25
Do. English.....do	6 25	a	6	50
JUNIPER BERRIES	2	a		3
LEAD				
Pig .....lb	—	a		6
Bar.....do	—	a		6
Sheet .....do	6½	a		—
Old .....do	6½	a		5½
LEATHER—				
Sole, Oak tanned....lb	18	a		27
Do. Hemlock.....do	16½	a		18
Do. damaged.....do	12½	a		14½
Upper, dressed....side	75	a	2	75
Do. undressed...do	1 00	a	2	25
LUMBER—				
Boards, N. R.....M ft	16 00	a	17	00
Do. East'n Pine..do	17 00	a	18	00
Do. Albany do .pce	17	a		18
Plank, Georgia do. M ft	25 00	a	35	00
Staves, W. O. pipe..do	62 00	a	65	00
Do. do hhd.....do	42 00	a	44	00
Do. do brl.....do	36 00	a		—
Do. R. O. hhd...do	—	a	27	00
Heading W. O. .....do	18 00	a	50	00
Hoops.....do	25 00	a	30	00
Scantling, Pine .....do	15 00	a	16	00
Do. Oak .....do	20 00	a	25	00
Timber. Oak.....sq. ft	20	a		25
Do. Geo. Yell. Pine..do	25	a		30
Shingles, Cypress. M ft	4 —	a	10	—
Do. Pine..bundle	—	a		—
MOLASSES—				
Martinique & Guad..gall	29	a		32
English Islands.....do	28	a		33
Havana & Matanzas.do	27	a		31
Trinidad de Cuba...do	32	a		33
New Orleans.....do	30	a		33
MUSTARD—				
English .....lb	25	a		31
Do. in bottles..doz	1 25	a	1	37½
American.....lb	20	a		30
Do. in bottles.doz	75	a	1	25
NAILS—				
Cut, 4d to 40d.....lb	—	a		6
Cut, 3d.....do	7	a		8
Cut, 2d .....do	—	a		8½
Wrought.....do	10	a		16½
NAVAL STORES—				
Tar.....brl	1 87½	a	2	00
Pitch.....do	1 50	a	1	62½
Rosin .....do	1 12½	a	1	75
Turpentine Wilm. soft.	—	a	2	12½
Do. North Co. do.do	—	a	2	75
Spirits Turpentine. gall	40	a		42
OILS—				
Florence 30 flasks..box	4 50	a	5	00
French 12 bottles..bskt	3 25	a	4	00
Olive.....gallon	96	a	1	00
Linseed, American..do	94	a		96
Do. Eng. & Dutch..do	—	a		98
Whale.....do	25	a		26
Do. refined.....do	—	a		—
Sperm, Summer....do	93	a		95
Do. Winter.....do	1 05	a	1	10
Liver, Straits.....brl	—	a	14	00
Do. Shore & Bank..do	12 00	a	13	00
PLASTER PARIS . —		a	3	25
PORTER AND CIDER—				
Porter, London....doz	2 50	a	2	75
Do. American...do	1 75	a	2	00
Cider, draught.....brl	1 75	a	10	00
Do. bottled, box..doz	2 00	a	2	50
PROVISIONS—				
Beef, Mess.....brl	8 50	a	9	00
Do. Prime.....do	5 50	a	5	75
Do. Cargo.....do	—	a		—
Butter, N. Y. Dairy..lb	14	a		17
Do. Shipping....do	8	a		11
Do. Philadelphia.do	5	a		10
Hog's Lard .....lb	9	a		11
Pork, Mess.....do	16 50	a	17	00
Do. Prime.....do	12 00	a	12	25
Do. Cargo.....do	—	a		—
Cheese, American...lb	6½	a		7½
Hams, Virginia.....do	—	a		10
Do. Northern.....do	8	a		10
RAGS—				
Foreign .....do	2	a		3
Country.....do	3	a		5
RICE.....100 lb	3 00	a	3	62½
SALT—				
Turk's Island.....bshl	46	a		—
Isle of May.....do	—	a		—
St. Ubes .....do	39	a		40
Cadiz .....do	36	a		38
Lisbon .....do	—	a		39
Liverpool ground ...do	—	a		32
Do. blown ....do	—	a		—
Do. sack do. ..sack	1 90	a	2	00
SALTPETRE—				
Refined.....lb	8	a		8½
Crude E. I.....do	6½	a		6½
SOAP—				
New-York, Brown ..lb	5½	a		6½
Castile .....do	11	a		12
SPELTER .....lb	2½	a		2½
SPIRITS—				
Brandy, Ot. D. & Co.gal	1 56	a	1	60
Do. Rochelle...do	1 30	a	1	37½
Do. Bordeaux ..do	1 25	a	1	30
Rum, Jam. 4th proof.do	95	a	1	12½
Do. St. Croix, 3d do.do	95	a	1	00
Do. Wind. Isl. 3d do.do	80	a		85
Do. N Orl'ns, 1st do.do	45	a		55
Do. N. Eng. 1st do..do	37	a		38
Gin: Holl'd, Meder Swan	—	a	1	12½
Do. Hour Glass..do	1 08	a	1	10
Do. Pine Apple..do	1 10	a	1	12½
Do. Imperial ...do	—	a	1	00
Do. Country.....do	37	a		43
Whiskey, Rye.....do	30	a		31
Cider Brandy .....do	28	a		30
STEEL—				
German .....lb	10½	a		12½
English .....do	11	a		14
Trieste, in boxes....do	7	a		7½
American.....do	8½	a		9
SUGARS—				
British Island .....lb	7½	a		9½
St. Croix .....do	8	a		10
New Orleans .....do	7½	a		8½
Havana, White.....do	9	a		10½
Do. Brown.....do	7½	a		8
Do. Muscovado.do	7½	a		8
Porto Rico .....do	8	a		9
Brazil, White.....do	8½	a		9
Do. Brown .....do	7½	a		8
Manilla, Brown.....do	—	a		—
Lump.....do	13	a		15
Loaf .....do	16	a		16
SUMAC—				
Sicily.....ton	70 00	a		—
Trieste.....do	—	a	40	00
American .....do	—	a	30	00
TALLOW—				
Foreign .....do	9	a		9½
American.....do	9	a		9½
TIMOTH. SEED..tce	14 00	a	15	00
TIN—				
Block, S. American..lb	—	a		13
Do. East India...do	—	a		15½
Plates, 1 X.....box	—	a	9	00
TOBACCO—				
Richmond & Petersb..do	4	a		8
North Carolina .....do	—	a		—
Kentucky .....do	4½	a		9
Cuba.....do	8	a		16
St Domingo.....do	9	a		15
Manufactured, No. 1..do	11	a		13
Do. No. 2..do	8	a		9
Do. No. 3..do	7	a		8
Ladies' Twist.....do	15	a		18
Gavendish.....do	12	a		37
TORTOISE SHELL	9 50	a	10	50
TWINE—				
Seine [24 lb].....lb	—	a		30
Sewing .....do	30	a		34
India.....do	14	a		16
WHALEBONE—				
Slab.....lb	—	a		20
WINES—				
Madeira.....gall	1 12½	a	2	25
Sherry .....do	80	a	2	00
Canary, Cogewell's..do	90	a	1	37½
Teneriffe L. P.....do	75	a	1	12½
Do. Cargo.....do	60	a		70
Malaga, dry .....do	40	a		48
Do. sweet.....do	44	a		48
Claret.....cask	12 00	a	20	00
Do. in bottles ....doz	2 00	a	6	00
Port .....gall	70	a	1	87½
Lisbon .....do	80	a	1	25
Marseilles Madeira..do	42	a		50
Catalonia.....do	36	a		40
WOOL—				
Merino, Am. fleece...lb	44	a		47
Do. pulled..do	46	a		50
Common .....do	30	a		35
Pulled, spinning ....do	40	a		45
Lambs, 1st quality ..do	31	a		34
Do. 2d quality...do	32	a		34
Do. 3d quality...do	21	a		23



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, NOVEMBER 9, 1833. [VOLUME II.—No. 45.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 9, 1833.

Mechanics' Magazine.—The October number of this work is published. It contains a great variety of articles on various subjects; amongst others, a full account of the articles exhibited at the Fair at Masonic Hall, together with the able address of Mr. Kennedy, delivered before the American Institute at Chatham street Chapel.

The "Observations on Railroads, and Hints to Railroad Companies," by a "Civil Engineer," which we copy from the London Morning Chronicle, will be found well worthy of consideration, as well in this country as in Great Britain, by all who are interested in the success of the system to which it relates. The proposition there laid down, that the *interest* of the companies will warrant the offer of large premiums for *improvements* in the locomotive engine, scarcely needs an argument with those who are aware of the expense of those engines. It is within the recollection of all who are at all familiar with the history of railroads for the last few years, that we are indebted to the Liverpool and Manchester Railroad Company's offer of £500 for the present degree of perfection to which locomotive power has been brought. If, then, the offer of a premium of £500 has done so much, what might we not anticipate if premiums of 5, 3, 2, and £1000 were offered for engines of the desired character, and powers, which can be kept in *repair* for one year, within a certain cost? By some, we doubt not, a prediction that locomotives will be constructed, within twenty years, to run upon an average thirty miles the hour, would be laughed at, yet such a prediction, if made, will be more than verified.

Increased Facilities for Travelling.—We learn that the Philadelphia and Trenton Railroad is completed from Trenton to Bristol, twelve miles, and that the section between Bristol and Philadelphia will be ready for use early in the spring. The New-Jersey Railroad, from Jersey City through Newark and Elizabethtown to New-Brunswick, is also progressing rapidly, and will, probably, be in use in the course of the ensuing summer. These roads when connected by a permanent *track road*, for which the timber is now landing at Trenton, as we are informed, which is to be laid on the turnpike between New-Brunswick and Trenton, to form the tracks, upon which locomotive engines or steam carriages may be used, will add another easy mode of travelling between the rival cities.

Advantages of Railroads.—The communication between this city and Philadelphia has been greatly improved within a few years. By the Camden and Amboy Railroad, since locomotive engines were put on, it is no difficult matter to leave Philadelphia after breakfast, and dine in New-York at 3 P. M. On Thursday last the distance was performed in 6 hours 35 minutes. It will be no uncommon thing next year, for New-Yorkers to visit Philadelphia, and *return the same day.*

Locomotive Engines.—The following account of the extraordinary performance of a locomotive engine is taken from the London Morning Post, furnished us by an intelligent gentleman, who takes great interest in the promotion of internal improvement. It shows conclusively, that we in this country are but just beginning to understand the importance of *locomotive engines.* Does it not show beyond a doubt that they are destined to effect as great improvement in our internal *land* communication, as the introduction of steamboats has upon our navigable rivers? Together with Railroads, locomotive engines are yet destined to make *neighbors* of those who now reside far remote from each other, and thereby produce a more permanent bond of union to the States than can otherwise possibly be effected.

The daily performance of the engines on the Liverpool and Manchester railway testifies the perfection which has been there attained in the conveyance of light goods and passengers, the ordinary rate of travelling being from 20 to 30 miles an hour; but they seem to be excelled by those in the neighborhood of Glasgow in another very important application of the power of locomotive engines, viz. the transmission of heavy goods, in which so great speed is not of such importance as the diminishing the expense of conveyance by increasing the quantity conveyed. The other day one of the engines on the Garnkirk and Glasgow railway, hauled a train of *seventy* loaded waggons from Gartkill colliery to the depot at Glasgow, a distance of 8 miles, in one hour and five minutes. The gross weight of the waggons was 287½ tons, and of the engine and tender 14 tons 7 cwt., making a total weight of 301 tons 17 cwt. A great proportion of the distance is quite level. The ordinary resistance on a level line is nine lbs. per ton, so that the engine must have been exerting a power of about 2718l bs. The diameter of the cylinder is 12½ inches, the length of stroke 22, and the pressure at 55 lbs. per square inch. The train extended over a distance of upwards of 270 yards, and presented to view a grand and interesting spectacle, while it afforded a most wonderful exhibition of locomotive power to those who take an interest in the important national question of the improvement of our internal means of communication.

The Saratoga Railroad Company have sent to England for another Locomotive Engine.—[Albany Daily Advertiser.]

Liverpool and Manchester Railroad.—This stupendous undertaking, which is justly entitled to the lead of all such works, and has the greatest traffic of goods and passengers of any line in the known world, yet its blemishes are of a corresponding magnitude. It is the most absolute monopoly that has been granted this century; its insecurity of travelling by night, and bungling inconveniences at the ends, two rises of more than one yard in a hundred suffered to remain upon it; the repairs of half a year for locomotive engines alone being upwards of £12,600, must prove to every one that ever saw a railroad, that something must be wrong, and as to the dividends of eight pounds or guineas per annum, they are futile when compared to the immense gross income. The dividends have a right to be more than double what they are when the enormous fares are considered.

Observations on Railways, with Hints to Railway Companies. [From the London Morning Chronicle of September 17.]

MR. EDITOR,—The art of forming Railways and of enduing them, as means of transport, with the utmost degree of economy, velocity, and security, is yet in its infancy. To the promotion and construction of these works, or to the determination of their probable success, as durable fountains of profit, the thoughts and attention of engineers, of merchants, manufacturers, agriculturists, capitalists, indeed, of all the enterprising portion of the community, are as keenly directed as were the efforts of our immediate forefathers to the establishment of Canal Navigation.* The two most important enterprises of this nature now in activity—the Stockton and Darlington, and the Liverpool and Manchester Railways—have been highly lucrative from their outset: a fact, in the history of mercantile associations of this nature, as remarkable as it is encouraging. In a commercial sense, the objects of these two Railways are distinct; the one being limited, almost exclusively, to the transport of coal; the other combining the convenience of myriads of passengers, with the carriage of an infinite variety of merchandise. These two great, and hitherto successful, experiments may not be inaptly compared—as to their novelty, their purpose, their importance, and their results—to the two first specimens of artificial communication by water in this island, viz. the Sankey Navigation, and the Duke of Bridgwater's Canal. The comparison will hold good under each of these heads; and I confess that I am sanguine enough to think that the two Iron Ways will rival, in permanency of profit, the celebrated Waterways referred to; and, further, that Railways and Canals may co-exist, with fair gain to their respective proprietors. But, it behoves the authors of new and similar projects to inquire diligently into the particular causes of the success of these first experiments; to compare carefully the springs whence these parent Railways derive their traffic, with the sources relied upon as feeders to the projected lines; to investigate the most minute details of daily expense; to analyse rigidly the cause of wear and tear, as well as of all interruptions and accidents; in short, to make themselves as thoroughly masters of the subject, and to act with as much forethought and deliberation as an individual would do in a private venture. It is not upon the engineers that reliance should be placed for mercantile details or points of management; our business is simply that of workmen; it is upon mature and well-digested plans, aided by an EFFICIENT DIRECTION, that the prosperity of all associations of this nature must mainly depend.

Professionally uninterested in Railways, I am impelled to submit the following hints and observations to the attention of the public, and of Railway Proprietors, by an ardent desire to see Railway conveyance rendered as secure as it is expeditious; and by the conviction that this great desideratum is not only practicable, but that its accomplishment is essential to the lasting profit of such undertakings. The promotion of the interests of humanity is the true aim and end of science; and Great Britain can furnish abundant examples to show that mankind appreciates so accurately the value of whatever contributes to its welfare, that the greatest honors and fortunes commonly crown the exertions of those who are most successful in perfecting inventions for the use of man. I feel, then, that no apology can be required for the public expression of sentiments on subjects so interesting to society, and to ourselves, as the prosperity of a great enterprise, and the preservation of our own existence.

The Proprietors of a Railway are as deeply concerned in insuring, to the utmost of their means, safety of life and limb to travellers, as in economising their own expenditure. These are matters of weighty import to the Liverpool and Manchester and to other established Companies; but they are of still greater consequence to those recently created for uniting the metrolis, by similar means of transport, with the northern marts of commerce. The London and Birmingham, and the Grand Junction Railway Companies, cannot be too diligent in ascertaining the various causes of the casualties which have occurred in Railroad conveyance; they cannot be too careful to avoid, IN THE ORIGINAL PLAN OF THEIR RAILWAY, any defects which may have had a share in occasioning accidents or hindrances on those already executed. The two enterprises referred to will require millions of capital for their completion; it is probable that the conveyance of passengers and goods will encounter, on these greater lengths of line, multiplied difficulties and delays; and it is possible that yet undiscovered sources of personal danger may present themselves. Let it be borne in mind, too, that Railways, once laid down, cannot be altered in their dimensions like a turnpike road; tunnels, bridges, viaducts, &c. cannot be widened or narrowed at pleasure; the errors of their first formation will remain nearly, or altogether irremediable.

It will, I doubt not, be granted, by persons conversant with the subject, that the distance, FOUR FEET EIGHT INCHES, between the two lines of the Liverpool and Manchester Railway, has been found in practice most FATALLY limited, as, also, the pathway on either side of the lines. These scanty spaces render the descent of travellers from a carriage, or the unloading of a luggage wagon, not only dangerous, but nearly impossible, should an axle break, or other of the not unfrequent occasions for stoppage arise whilst passing embankments, or deep perpendicular cuttings. It is unnecessary for me here to particularise the many other inconveniences resulting from this, I fear, incurable fault in that railway.

The running of engines or carriages off the rails is another frequent cause of delay to trains of merchandise, as well as of danger to passengers, and inexpressibly awful would be the consequences were a train of coaches (suddenly diverted towards the other line, by some impediment on the road, or some derangement of the machinery) to encounter an engine proceeding in the opposite direction. Such a crash might indeed be disastrous! And who will be bold enough to affirm that so melancloly an event may not reasonably be expected, sooner or later, to occur?

I am not disposed, Sir, to imagine improbable, or barely possible catastrophes; nor do I desire to kindle, in the breasts of persons unaccustomed to travelling by railways, an apprehension that this mode of conveyance is attended with greater danger than the more usual ones. Such is not my opinion. On the contrary I believe that the records of travelling, either by land or by water, cannot supply data so satisfactory, on the score of safety to travellers, as those deducible from a comparison of the number of persons conveyed along the Liverpool and Manchester Railway with the number of accidents which have happened to them. But I do think that precautions might be, and OUGHT to be adopted, to check the recurrence of many accidents, particularly those, most to be dreaded, arising from engines running off the rails. I am aware that this has been very partially effected (at the Sankey Viaduct, and at one or two other spots considered as particularly dangerous) on the Liverpool and Manchester Railway, by a very simple and not costly contrivance, first applied along a high embankment on the Bolton and Leigh Railway. I allude to the introduction of a beam of wood, or continuous iron bar, placed parallel with and near to one of the rails on each line, of such height as to present a sufficient obstacle to the passage of wheels over it.

In laying down a new Railway, it would be well for Companies to consider, whether some such safeguard, extended throughout the line, should not form part of their original plan; whether twelve feet should not be allowed between the middle rails of a double Railway; and six feet for the width of pathway on either side. An additional defence against the possibility of collision between approaching trains might also be advantageously provided, by fixing a strong railing of moderate height along the middle of the roadway, and throughout the whole extent of the line. This railing would serve as a complete barrier to passengers crossing the road, to the imminent danger of their lives; and it might be so constructed as to form a support for a series of low lamps, which would, in every respect, be more suitable to Railways than elevated ones!

I cannot but think that had the width, above prescribed, existed between the two lines of the Liverpool and Manchester Railway, even without the safeguards mentioned, we should not have had to deplore the loss of Mr. Huskisson, and that the fatal calamity of the 1st of February last would not have been so extensive. Neither these nor other similar catastrophes could have occurred, or can occur, were a breast-high railing established between the lines.

The half-yearly Reports of the Liverpool and Manchester Railway Company are documents of inestimable value to all concerned in that or similar undertakings. The candid and just observations of the Directors of that Railway, in their last Report, leave no room to doubt that they are impressed with a due sense of the numerous defects of the engines now employed by them, and that they are not only on the alert to discover, but also well disposed to adopt, such improvement as may tend to diminish the cost of working, or to increase the performance of these machines. I fully concur in their remark, that "the locomotive engine is, beyond comparison, the most eligible, indeed the only efficient moving power for Railways;" nor can I refuse to accord to those Directors a full measure of praise for their sagacity in selecting this instrument as their motive force, in preference to horses or stationary engines, as well as for their fostering care of its infantine weakness. I am aware that an Edinburgh Reviewer, and other self-sufficient (perhaps, self-interested!) critics, have thought that, by ordering engines from every aspirant to locomotive glory, the Directors would have achieved still brighter conquests. I am not the panegyrist of the Liverpool Directors, but this opinion is groundless; and I do think that the learned Reviewer would act more creditably and usefully by confining himself to his compilations and cheap-knowledge books, than by giving public and anonymous vent to petty tales and slanders on the conduct and performances of men, whose practical science and labors have accomplished more in two years, for the benefit of their country, than all the scribblers in all the Reviewers will accomplish n two centuries.

The Locomotive Engine is a combination of the ideas and contrivances of many heads. That it should, with all its imperfections, have been brought to its present state of usefulness in so short a time, is highly creditable to the ingenuity and exertions of the Messrs. Stephenson, and of the other contributors to its actual mechanical form and powers. I know, however, that various very admirable schemes for increasing the power and durability of the boiler, as well as for improving the general arrangement and application of the engines, are contemplated by different contractors. But it is vain to expect that inventions, which may be termed rather skilful dispositions of parts than new discoveries, should see the light, when it is considered how heavy is the expense incurred by the engine-builder in experiment-

* The canalization of Great Britain has, in fact been accomplished within the memory of man; for there still lives one of the original proprietors and chief promoters of the Sankey Canal Navigation—the first artificial waterway in this island. I mean Nicholas Ashton, Esq. of Woolton, near Liverpool, now at the advanced age of ninety years. This canalized brook conveys the coal from the pits about St. Helens to the Mersey, near Runcorn. A railway has recently been opened between the same points, which will, probably, contend as successfully against its aqueous opponent, as does the Stockton and Darlington against the rivers and canals in its neighbourhood.

ing on so costly an apparatus, how uncertain is his success, and how immediate would be the adoption of his improvements by his rivals in trade. Nor can any reasonable man urge the Directors of a Railway to speculate in inventions; but they may hasten their development, and appropriate them to their service; they may, through timely encouragement, anticipate, by many years, the fruits of mechanical skill, and brighten the prospects of their own and similar enterprises

The Directors of the Liverpool and Manchester Railway will, I trust, pardon me for suggesting to their consideration a measure which might possibly accelerate the march of improvement, and, at the same time, diminish, in no slight degree, the amount of that weighty item in their disbursements, "LOCOMOTIVE POWER." I advise them to repeat the trial of what they themselves have correctly styled a "happy expedient;" I mean that they should renew the offer of a reward for that engine which shall unite, in the most eminent degree, the now well-ascertained requisites to its perfection. Let the prize contended for be worthy the acceptance of engine-makers; let it be such as, to induce them to risk a failure in the strife; and such as, in the event of success, will constitute, an ample remuneration for their skill and labor. I feel confident that the offer of One Thousand Guineas reward to the victorious candidate in such a contest, would be attended with results not less beneficial to Railways at the present era, than were those which came out of the first famous mechanical combat.

It appears that the working and repairs of the locomotive engines, on the Liverpool and Manchester Railway, cost, annually, about £24,000, or, in other words, THE STARTLING SUM OF £800 PER MILE, PER ANNUM, on the length of their line. Two-thirds of this amount are comprised under the sole head of repairs; to which outgoings should be added the interest upon, and depreciation of, a large stock of tools and materials, composing the workshops and hospitals; the latter of which are commonly filled to over-flowing with sick or disabled Locomotives. Surely, then, one thousand, or even two thousand guineas, might be well applied in the endeavor to diminish so large a draught from the profits of the Company, for wear and tear is an absolute and irrecoverable loss.

I will now proceed to trace the outline of the broad principles on which such a trial of skill should be conducted; a trial which would bring competitors to the goal, the productions of whose efforts would far more than compensate the Company for the value of the stake.

I assume, as postulates, that the average weight of the best engines now on the Railway is sufficiently great, and that two eleven-inch cylinders, working under a pressure of steam of fifty pounds per square inch, are found to possess sufficient power. I then suggest, as bases, the following conditions:

1. That the maximum weight of the competing engines shall not exceed that of the best engine in the Company's employ.

2. That the maximum pressure of the steam shall be fixed, and shall be alike in all the engines; and that the calculated power shall be equal to that of two eleven-inch cylinders, with an 18-inch stroke, working under a pressure of steam of 50 lbs. per square inch.*

3. That all the competing engines shall commence working on a given day: their duty to be that of making complete trips, during a given period, between Liverpool and Manchester reciprocally, with trains of merchandise of a determinate and ascertained weight.

4. That in the event of EQUALITY OF PERFORMANCE between any of the competing engines, or between them and any of those in the Company's employ, their RELATIVE powers and properties shall be decided by subjecting them to a proof of their ABSOLUTE powers and properties; and that this shall be the conclusive trial.

5. That one thousand guineas shall be awarded to the constructor of that engine which shall have proved itself superior both to all its competitors, and to any engine in the Company's use: that the Company shall purchase such engine for the sum of one thousand guineas, and order from its maker the next five engines which they may require.

6. That five hundred guineas shall be awarded to the maker of the second best engine, provided it be adjudged to possess advantages over the Company's engines; and that the Company shall purchase such engine at a fair valuation.

Every facility should be given to the candidates, previous to the trial, to prove their engines on the line, either with or without loads, subject to the convenience and rules of the Company. Twelve months should elapse between the publication of the challenge and conditions, and the day on which the competitors shall enter the lists.

I have recommended the Liverpool and Manchester Company the more especially to institute this trial, as their railway is in full operation, and consequently they would the sooner reap the advantages of those results, which cannot but prove important to them. But the scheme applies with equal force to all Railways, and, were a combat of this nature to take place on the opening of a new line, and PERIODICALLY on different lines, the whole engineering talent of the country would feel its stimulus, and be pressed into the service of Railways.

In furtherance of this design—viz., that of exciting the mechanical world to the improvement of Locomotive Engines, and of Railway conveyance generally—too great publicity cannot be given to all facts tending to illustrate the excellencies and defects of the existing system. A register should be kept and periodically published of the duty done by the engines. In one table might be presented a list of the engines in the employ of a company; the makers' names; the date of their use; the construction of the boiler; specifying whether with or without tubes; the diameter of the cylinders, and length of stroke; whether placed horizontally, vertically, or inclined; whether working on a cranked axle or otherwise; whether actuating two, or all four wheels, and their size, &c.; the pressure of the steam, the kind and weight of fuel burnt; the nature and amount of work done; the injuries sustained, and from what causes; the number of hours actually worked in a week, &c. &c. Such are the data which ought to be collected and analysed by the judicious engineer before he decides on his plans and executes an engine; but these facts are obtained with difficulty. It is, indeed, impracticable for any other than the mechanic residing contiguous to a Railway, to acquire that precise information on the respective merits of the various forms of locomotive engines in actual use, which can alone instruct him how to remedy the defects, and by what means to diminish the wear and tear of these costly machines.

A concise summary of the principal properties of a variety of engines, accompanied by a notice of their performance; of the casualties to which they have been subjected; of the parts which have needed repair or been renewed; arranged in a tabular form, and published MONTHLY, would give to the engineer, at one glance, more exact and valuable knowledge than could be acquired by him were he to pass his whole time on a Railway. It would stimulate the engine-men to be cleanly and diligent, as their reputation would be thus identified with that of their engines. They would become more observant of incipient imperfections, such as leakages, the loosening of bolts, the want of oil to the wearing parts, the waste of water in the boilers, the stoppage of the pumps, &c. &c. and they would be more sedulous in preventing gross repairs, by timely precautions, were their too-often culpable negligence made notorious.

Of the efficacy of publicity in promoting a rapid advance towards perfection in the use of Steam Power, we have a case in point, from the effects produced by the printed monthly reports of the duty done by the pumping-engines in Cornwall. An inspection of the summary table for a series of years, given in Mr. John Taylor's "Records of Mining," will convince the most sceptical of the advantages which have accrued to the miner from this system. He will there learn that a bushel of coals, which, a few years since, raised only SEVENTEEN millions of pounds weight of water one foot in height, is now made to raise EIGHTY millions of pounds to the same height. This immense increase in the effective performance of the pumping-engine is chiefly attributed to the publicity given to the construction of various engines, and to the modes of applying their power. The same instrument, the PRESS, is now working a similar miracle in the mining districts of North Wales; and it may be rendered equally as effectual an agent in accelerating the perfection of Locomotive Engines and of Railway conveyance.

Facts of a still more interesting nature to the public might also be periodically communicated, not only without detriment to the proprietors of Railways, but to their manifest advantage. I refer to the accidents occurring, from time to time, to those employed or travelling on these roads. In the want of an authentic record of such casualties, (excepting in the event of loss of life,) any ill-informed gossip, or penny-a-line man, becomes the bearer of his version of "A DREADFUL ACCIDENT ON THE RAILWAY" to a newspaper editor, which goes the round of the journals, and "frights the isle from its propriety." Be such tale true or false, correct or exaggerated, the reputation of the Railway equally suffers. An antidote should be instantly applied, and this antidote would be found in a simple unvarnished statement of the case emanating from the Directors, and published by their authority. I could quote numerous instances illustrative of the truth of these remarks, and am acquainted with many persons whose natural timidity has been so excited by such garbled reports of accidents, as to deter them from venturing on a Railway. But were a full and explicit statement published of every occurrence of this nature worthy of note, accompanied by a proper explanation of its origin, the public would not be unduly alarmed, precautions would be enforced, and means would frequently be devised for removing some of those imperfections which still disfigure Railway conveyance; imperfections arising often from original bad construction, often from mismanagement, and which are the causes (though happily rare) of disasters to passengers.

In the persuasion that you, Sir, are ever ready to lend your columns for the advancement of knowledge and the arts, I do not hesitate to request your insertion of these hints and observations, should you deem them suited to their object, and likely to promote the perfection of a system of travelling, of which the town of Birmingham is about to become a centre. I am, Sir, your obedient servant,

A CIVIL ENGINEER.

Mr. Symington, the Original Inventor of Steam Vessels. By ROBERT BOWIE. [From the United Service Journal, for September.]

MR. EDITOR,—The article concerning steam navigation contained in your last Number has afforded me no little pleasure, as it assists materially in establishing the justice of the claims I am now engaged in advocating on behalf of a highly-talented and deeply-regretted relative, the late William Symington.

To alter the opinion of your intelligent and impartial contributor, with regard to Mr. Hulls, will, I am pursuaded, require but examination

*That the greatest latitude of construction may be given to engine-makers, the dimensions of the cylinders should not be prescribed, merely the calculated power resulting from the bulk of steam consumed by the number of strokes of the pistons per minute. This is requisite in order to insure a fair trial, as all the engines, whatever may be their construction, should be on precisely equal terms as to their NOMINAL power; otherwise a proof of their ABSOLUTE power would not be conclusive in regard to their RELATIVE merits.

of the mode proposed for constructing the machinery and applying the power of steam,—a mode which has been pronounced, by skilful and practical mechanicians, visionary and impracticable.

As to the Marquis de Jouffroy, his experiments are so completely unknown, that, for any benefit derived from them, they might as well never have existed. And it is the general belief respecting them that they were incomplete, and unfit for bringing the undertaking to a favorable conclusion. That such a belief was not unfounded may be inferred from the imperfect state of the steam-engine of that day, and the failure of the subsequent and imitative attempts said to have been made by De Blan and Fulton; the latter of whom, Fulton, was only able to accomplish his object after having had an opportunity of minutely examining Mr. Symington's boat, receiving explicit answers to printed questions, and jotting down his observations as he was carried along the canal on board of the vessel.

Contending, therefore, that the mere idea of the practicability of steam-navigation, without the ability for its realization, possesses but little if any value, I feel myself warranted in claiming for him who first successfully applies the power of the steam engine for the propulsion of vessels, the honor and credit of the invention; and I feel myself warranted in my proceeding, by the firm conviction that he was indebted to no one for the idea, it having occurred to himself long before he became aware of its ever having been entertained by others.

In 1784 he imagined it possible for steam power to be rendered applicable to terro-locomotion; and in 1786, he exhibited in Edinburgh a working model of a steam-carriage. He then bethought himself that the same power might be rendered available for propelling vessels. His first boat appeared on Dalswinton Lake, in 1788, and his second on the Forth and Clyde canal the succeeding year. Both of which as completely illustrated the practicability of steam-navigation as any ever since exhibited.

In your Magazine it is stated that the first boat appeared in 1789, on the Forth and Clyde canal, and resembled Hull's, in being a tug. This is an error, as neither the one of 1788, nor that of 1789, at all resembled the boat proposed by Hull; nor were they intended to be used solely as tugs; and furthermore, the first never made its appearance upon that canal. It was the vessel constructed twelve years afterwards for Lord Dundas, which was designed to be used for dragging shipping, a purpose which, on several occasions, she satisfactorily and successfully executed.

It has been attempted to represent the whole of these experiments as failures; but too much respectable and unquestionable evidence can be adduced in their favor to render any hostile assertions likely to be either accredited or believed—the more especially, as many practical, well-informed engineers have declared their conviction that the machinery was well contrived, and its mode of application most ingenious. Indeed the declaration may at once be hazarded, that in several important points it possessed many advantages over that which is even at present employed. And it may also be averred, that to be more highly prized, it needs but to be better understood.

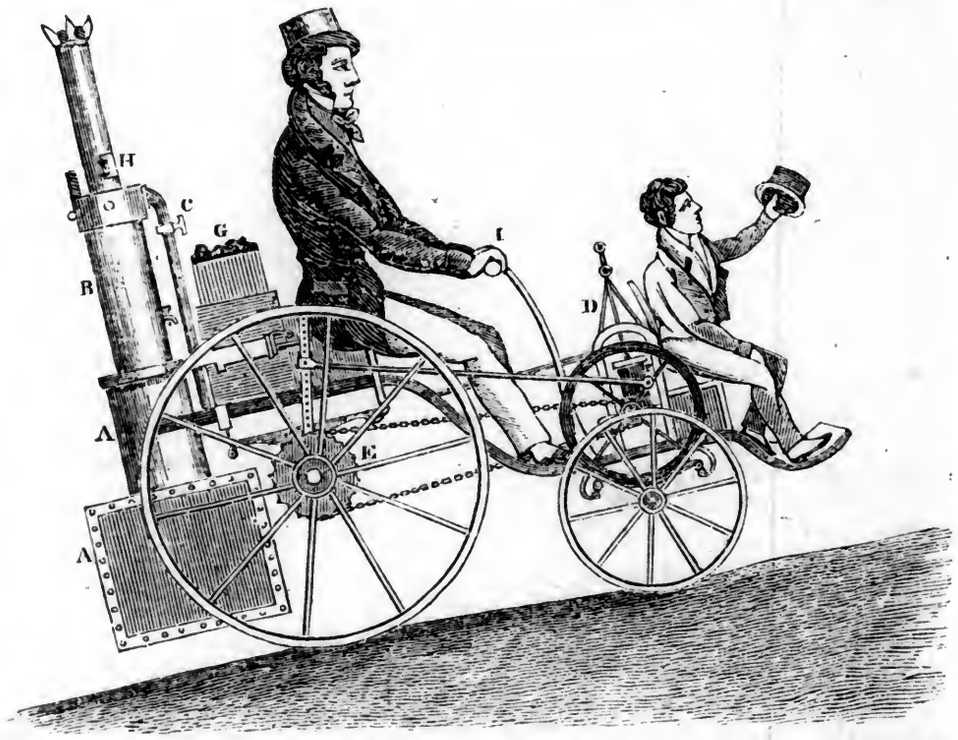
As a proof of Mr. Symington's ingenuity, and of the obstacles which genius will surmount, may be mentioned, that although Mr. Hull's patent rights were said to have been prestrained, strictly guarded, and rigidly enforced, Mr. Symington invented and brought into use an improved steam-engine, which was more simple, manageable, and economical for many purposes than that of his celebrated contemporary and competitor, without, in the slightest degree, rendering himself liable to the charge of encroachment. And he gave still further evidence of inventive powers by *dismissing the beam*—a desideratum so important as to have called forth the following opinion from the writer of the article which has led to this communication. "And if the beam shall ever be dismissed, and a rotatory motion obtained, the triumph over inertia and friction will raise the wonder still higher."

I have the honor to be, Sir, your most obedient servant, ROBERT BOWIE.

[*From the Mechanics' Magazine.*]

TRAVELLING BY STEAM ON COMMON ROADS.—Although the state of the roads in this country will not at present allow us to be very sanguine of the advantages to be derived from carriages propelled by steam, we are satisfied that our readers will be gratified to possess a record of what is doing in other countries, and we hope it will rouse them to fresh exertions in promoting internal improvements here. The annexed account of the "Triumph" steam carriage, from a recent number of the London Mechanics' Magazine, will be read with interest, as also the observations it has elicited from two most valuable correspondents to that journal. One of them, Mr. J. O. N. Rutter, has been for several years looked up to as an authority on most subjects connected with engineering. He claims to be the inventor of a method of substituting water for fuel in steam engines, alluded to at page 117, Vol. II. of this Magazine, and has stated that it has succeeded equal to his most sanguine expectations at the gas works in Lymington, of which he is the superintendant.

If our information is correct, we shall have it in our power to prove that the credit of the invention is due to an American citizen; and a patent was taken out for it in 1817, by Mr. James Morey, of New-Hampshire. Why it has not been acted upon we are at present uninformed, but we hope in our next to be able to give a full description of it, accompanied with such drawings as may be requisite.—[ED. MECH. MAG.]



The Triumph Steam Carriage. [From the London Mechanics' Magazine.]

SIR,—I did not intend to send you the prefixed rough drawing of my little Triumph steam carriage until I could faithfully inform you of its full powers, in regard to speed and weight propelled; but, from considerations of expense and ill health, delay succeeds to delay until I fear some claims of priority, which I pretend to, may be denied to me. It is the little carriage, (built in 1828, and first mentioned in your Journal of 29th May, 1830,) improved in construction, but the same in principle, and which was the first that ever ascended a rise of one in six; the chief alteration is the application of two main levers, to obviate the necessity of having very large wheels.

It is built on what I at present consider the best principles of my theory, namely, placing nearly the whole weight, when in motion and needful, on the propelling wheels, giving a varying leverage to the power, to any required extent, and making the line of direction of the power, when acting on the propelling wheels, to be such that its action and re-action shall as near as possible be parallel with the line of progress, by causing the fore carriage to have a tendency by its weight to propel the hinder part.

The main axle, wheels, and springs of this carriage, are so attached to the carriage frame that they can be shifted backward or forward to vary the centre of gravity of the whole at pleasure, and also keep the endless chain stretched.

A A is the tubular boiler; B, tubular chimney and steam chest; C, steam pipe, cased deep in flannel, &c.; D, a pair of cylinders, pistons, &c. working an endless chain wheel on the crank shaft and two small fly-wheels; E, another endless chain wheel, either fast or loose on the main axle; F, a pin on each fly-wheel, working alternately two main levers, that catch in two clutch wheels fixed on the main axle; G, coke box and water cistern; H, feed door in the chimney; I, pilot pole.

As soon as the engines start, the pins F on the fly-wheels begin, by means of the connecting rods, to pull at the main levers, which levers, by a re-action (if they are in gear), have a tendency to lift the fore carriage off the ground. (I have seen it thus lifted quite off.) By this operation the weight of the fore carriage is partly thrown

on the hind wheels, increasing their interlocking force with the ground, and at the same time tends to pull them round by its gravity. *Note*, I do not mean to say that power is thereby gained, as all power comes from the steam, but that the power is acting in its best direction, being a transfer of the power of the steam to the gravity of the fore carriage, as the steam, with a varying leverage, cannot well act direct on the main axle. When the road is level and good, the main levers are in a few seconds put out of gear, and the unvarying endless chain, E, put in.

I would say a word or two to Mr. Alexander Gordon and the *ultra* locomotionists. Steam locomotion on common roads is no longer a question of possibility, but of economy. Messrs. Ogle and Summers could tell, if they would, how much cheaper (or dearer) they went to Liverpool by steam than if horses had taken them (including wear and tear, but rejecting accidents); and Sir C. Dance could state his profits on the Cheltenham road. Both these and other parties richly deserve public assistance. But no! somebody will have a monument when dead, but no help whilst living. Yet the public is not to blame: for to whom of the many projectors must it extend its bounty?

There was once a carriage and four horses went twenty miles an hour, at Newmarket, for a wager, and won it, yet the mails still are conveyed at half that speed. These Ultras forget that steam pistons cannot go more than 2½ miles an hour, and at that rate they will, like a horse, do a great deal of work; but if they must propel any thing at 20 miles an hour, they must either have little to propel or there must be a great many of them; and the question is, can these many be kept cheaper than horses? This waits for proof. Locomotion is a darling theme of mine, but I have paid my visit to *Utopia*, and am come back. I wish again and again some one would build an 8 or 10 horse-power steam drag, to work one of the stage waggons at about its present rate of going, and then see what power could be spared for increasing the speed. SAXULA.

March 14, 1833.

SIR,—"Saxula" has named his carriage the "Triumph"; but I shall not consider the triumph complete until he has run it daily for six or twelve months on a common road, and given an accurate statement of the costs arising from wear and tear, fuel, attendance, and interest of capital. It is no proof that the anxiously desired object has been attained,—of running steam carriages on common roads,—because a carriage has been constructed that will run a certain distance at a certain rate, with a certain number of passengers or tons of merchandize. Many important undertakings have proved splendid failures, simply, as I conceive, on account of the conditions implied in their principle being imperfectly understood, or totally neglected. The necessary conditions for locomotive carriages on common roads may, I think, be clearly ascertained by a careful attention to those employed on railroads. If the published statements in reference to the engines at work on the Liverpool and Manchester railroads are to be credited, it appears that, with friction and abrasion at a minimum, those engines involve a prodigious outlay of capital in their original construction and in their subsequent repairs. Now, supposing it should be found advisable to go to a considerable expense in the construction of any future railroad, either in polishing it or in having a double line of road, each inclining throughout its whole length, but in opposite directions; and if, by these or any other arrangements, it should be found that the first expense of engines and their subsequent wear and tear would be thereby reduced, should we be any nearer than we are at present to turnpike road engines?! I rather think we should be farther off than ever. On railroads, the friction, the agitation, and the consequent abrasion of surface, are found to be the chief impediments to success. How, therefore, can we expect to succeed, where we have to contend with more friction, more agitation, more abrasion, and, last, but not least, inequalities of surface, which do not exist on railroads? Far be it from me to think or say that the object is unattainable; many more unlikely things have happened, and will doubtless continue to do so almost every day. But we never can move safely towards a result until we thoroughly understand the principles of our experiment, and make ourselves conversant with its conditions. I wish "Saxula" success, and I sincerely hope he will favor your readers, from time to time, with the data he obtains in his experiments on this interesting subject. J. O. N. RUTTER.

April 18, 1833.

SIR,—Some time has now elapsed since you favored me with the insertion of a few lines on long and short cranks, which I hazarded in opposition to the theory of locomotion promulgated by your ingenious correspondent "Saxula," in which I promised the result of a series of experiments I had then in contemplation, but which I have been unable to accomplish, from want of time, change of residence, &c. Trusting, however, that my not having fulfilled my engagement may not debar me from your pages, I beg, as a constant reader, to offer a few remarks which have suggested themselves since reading the account of the "Triumph Steam Carriage" in your Journal of the 6th of April last.

I am still at a loss to comprehend what advantage "Saxula" anticipates from the use of the main levers over that of an ordinary crank, save that he will by that means be able to increase his power at a very great reduction of speed, and, I conceive, a great waste of power at the same time. In the first place, does he mean to deny that a short crank would accomplish the same end, provided the power were increased in due inverse ratio, and to uphold that more can be accomplished by the use of long cranks, or *main levers*, than by short ones? If so, I need say no more, for of that I shall never be convinced. Again, if the adhesion between the periphery and the road be sufficient to enable him with his long lever to lift the fore carriage off the ground, where is there any necessity for an increased resistance or *interlocking force?* Such a tendency would only cause a loss of power and straining to the machinery, besides which there would be an irregularity in the motion of the vehicle, which would also be attended with very serious waste of power, arising from the reciprocal action of the main levers. Although "Saxula" may have accomplished the ascent of a hill, having an inclination of 1 in 6, I still maintain that the same thing might be accomplished by means of a short crank, provided the cylindrical power of the engine were increased proportionately. "Saxula" may perhaps here ask—but why cumber your engine with more power than is actually necessary? Let him make his engine on that principle, and run it on a road—not one rolled and brushed for the purpose—and he will soon find he will be "put to a stand still." Hills are not the only obstacles which present themselves (Mr. Gurney well knows this). Newly-formed roads, or repaired ones, are much more serious objections to steam carriages on common roads. We will suppose a road (as is often the case) repaired at intervals, of say a quarter of a mile—would the "staid and sure" pair of long levers be used? or alternately levers and cranks, to the great annoyance of passengers, and prejudice of the machinery? So many delays would completely do away with steam travelling, if there were no other objections to it.

But the objections to such a mode of conveyance on common roads, compared with railroads, are so numerous, and rendered so obvious by the daily experience on the Liverpool and Manchester railway, as to need but little comment. I understand the estimated cost of an engine for common roads, capable of conveying about 20 passengers, is £1,500, while the utmost speed which could with safety, or *otherwise*, be accomplished, would be 12 to 14 miles per hour. Now, an engine capable of conveying upwards of 300 passengers in covered carriages on a railway, at 20 miles per hour, costs only £800 or £900. The wear and tear of an engine on high roads is also very considerably greater than that on a railroad, owing to irregularity of surface. I believe at 15 miles per hour it would be 7 times greater, and the force of traction 12 times as great. Supposing, therefore, that only the same consumption of fuel should take place, the diminished number of passengers would, of course, raise the fares in due proportion. But certainly the expediency of using locomotives on common roads can only be proved or disproved by actual experience. I heartily agree with "Saxula" in wishing some practical results to be given forth by the numerous and extensive speculators in such machines. I am afraid "Saxula" will find himself in error, when he states that an engine of two horses' actual power will be able to accomplish the labor of two horses on common roads. This is daily proved to be impossible: even on a railroad a portion of power is lost by the re-action, or *backsliding* (if I may so term it), produced by the deposition of extraneous matter on the surface of the rail, which causes the wheel, or rather the engine, to retrograde in a slight degree. This I have proved very frequently when travelling on the above railway. I have in fine weather invariably found that 86 beats or strokes of the engine are necessary to traverse the distance between the ¼ mile distance accurately measured, thus proving that 2 revolutions are lost in each instance, the wheel being precisely 5 feet diameter. This I have observed at speeds of from 14 to 18 miles per hour. At 25 miles per hour nearly 4½ revolutions are lost. This, I think, would militate greatly against "Saxula's" two horses.

I am, sir, yours, &c.

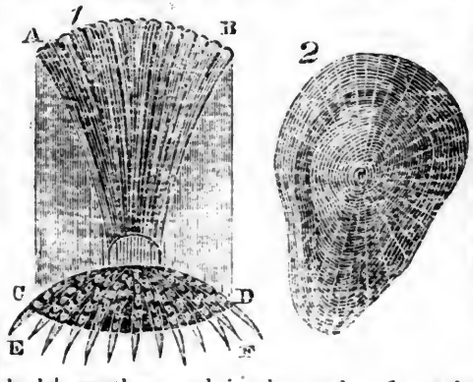
DUBITANS.

Liverpool, May 7, 1833.

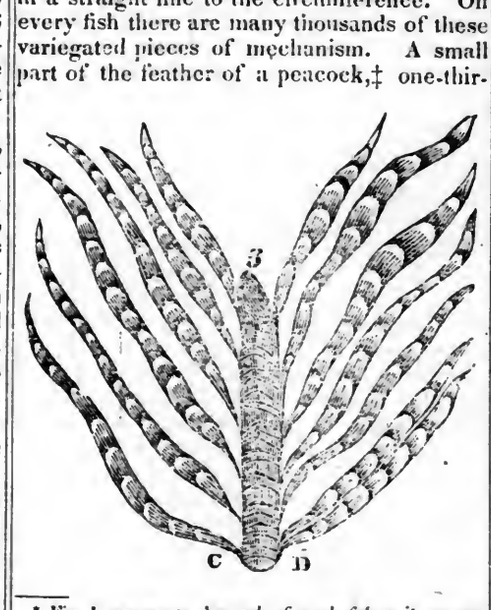
Wonders of the Microscope. [Arranged from Dr. Dick, on the Diffusion of Knowledge.]

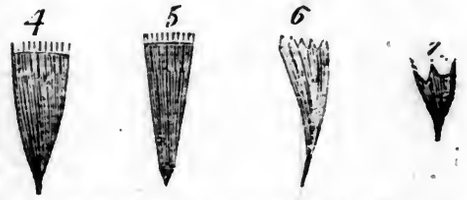
In the universe we find all things constructed and arranged on the plan of *boundless and universal variety.* In the animal kingdom there have been actually ascertained about sixty thousand *different species* of living creatures. There are about 600 species of *mammalia,* or animals that suckle their young, most of which are quadrupeds—4000 species of *birds,* 3000 species of *fishes,* 700 species of *reptiles,* and 44,000 species of insects.* Besides these, there are about 3000 species of *shell fish,* and perhaps not less than eighty or a hundred thousand species of animalcules invisible to the naked eye; and new species are daily discovering, in consequence of the zeal and industry of the lovers of natural history. As the system of animated nature has never yet been thoroughly explored, we might safely reckon the number of species of animals of all kinds as amounting to at least *three hundred thousand.* We are next to consider that the organical structure of each species consists of an immense multitude of parts, and that all the species are infinitely diversified—differing from each other in their forms, organs, members, faculties, and motions. They are of all shapes and sizes, from the microscopic animalculum, ten thousand times less than a mite, to the elephant and the whale. They are different in respect of the construction of their sensitive organs. In regard to the *eye,* some have this organ placed in the front, so as to look directly forward, as in man; others have it so placed as to take in nearly a whole hemisphere, as in birds, hares, and conies; some have it fixed, and others moveable; some have *two* globes or balls, as quadrupeds; some have *four,* as snails, which are fixed in their horns; some have *eight,* set like a locket of diamonds, as spiders; some have several *hundreds,* as flies and beetles, and others above *twenty thousand,* as the dragon-fly and several species of butterflies. In regard to the *ear*—some have it large, erect, and open, as in the hare, to hear the least approach of danger; in some it is covered to keep out noxious bodies; and in others, as in the mole, it is lodged deep and backward in the head, and fenced and guarded from external injuries. With regard to their *clothing*—some have their bodies covered with hair, as quadrupeds; some with feathers, as birds; some with scales, as fish; some with shells, as the tortoise; some only with skin; some with stout and firm armor, as the rhinoceros; and others with prickles, as the hedgehog and porcupine—all nicely accommodated to the nature of the animal and the element in which it lives. These coverings, too, are adorned with *diversified* beauties; as appears in the plumage of birds, the feathers of the peacock, the scales of the finny tribes, the hair of quadrupeds, and the variegated polish and coloring of the tropical shell-fish—beauties which, in point of symmetry, polish, texture, variety, and exquisite coloring, mock every attempt of human art to copy or to imitate.

Not only in the objects which are visible to the unassisted eye, but also *in those which can only be perceived by the help of microscopes,* is the characteristic of *variety* to be seen. In the scales of fishes, for example, we perceive an infinite number of diversified specimens of the most curious workmanship. Some of these are of a longish form, some round, some triangular, some square; in short, of all imaginable variety of shapes. Some are armed with sharp prickles, as in the perch and sole;* some have smooth edges, as in the tench and codfish; and even in the same fish there is a considerable variety, for the scales taken from the belly, the back, the sides, the head, and other parts, are all different from each other. In the scale of a perch we perceive one piece of delicate mechanism, in the scale of a haddock† another, and in the scale of a sole beauties different from both.



We find some of them ornamented with a prodigious number of concentric flutings, too near each other and too fine to be easily enumerated. These flutings are frequently traversed by others diverging from the centre of the scale, and proceeding from thence in a straight line to the circumference. On every fish there are many thousands of these variegated pieces of mechanism. A small part of the feather of a peacock,‡ one-thirtieth of an inch in length, appears no less beautiful than the whole feather does to the naked eye, exhibiting a multitude of bright shining parts, reflecting first one color and then another in the most vivid manner. The *wings* of all kinds of insects, too, present an infinite variety, no less captivating to the mind than pleasing to the eye. They appear strengthened and distended by the finest bones, and covered with the lightest membranes. Some of them are adorned with neat and beautiful feathers, and many of them provided with the finest articulations and foldings for the wings, when they are withdrawn and about to be folded up in their cases. The thin membranes of the wings appear beautifully divaricated with thousands of little points, like silver studs. The wings of some flies are *filmy,* as the dragon-fly; others have them stuck over with short *bristles,* as the flesh-fly; some have rows of feathers along their ridges, and borders round their edge, as in gnats; some have hairs, and others have hooks, placed with the greatest regularity and order. In the wings of moths and butter-flies there are millions of small feathers of different shapes,* diversified with the greatest variety of bright and vivid colors, each of them so small as to be altogether invisible to the naked eye.





The variety of forms in which *animal life* appears, in those invisible departments of creation which the microscope has enabled us to explore, is truly wonderful and astonishing. Microscopic animals are so different from those of the larger kinds, that scarcely any analogy seems to exist between them; and one would be almost tempted to suppose that they lived in consequence of laws directly opposite to those which preserve man and the other larger animals in existence. When we endeavor to explore this region of animated nature, we feel as if we were entering on the confines of a new world, and surveying a new race of sentient existence. The number of these creatures exceeds all human calculation. Many hundreds of species, all differing in their forms, habits, and motions, have already been detected and described, but we have reason to believe that by far the greater part is unexplored, and perhaps forever hid from the view of man. They are of all shapes and forms: some of them appear like minute atoms, some like globes and spheroids, some like hand-bells, some like wheels turning on an axis, some like double-headed monsters, some like cylinders, some have a worm-like appearance, some have horns, some resemble eels, some are like long hairs, one hundred and fifty times as long as they are broad, some like spires and cupolas, some like fishes, and some like animated vegetables. Some of them are almost visible to the naked eye, and some so small that the breadth of a human hair would cover fifty or a hundred of them, and others so minute that

* Specimens of all these species are to be seen in the magnificent collections in the Museum of Natural History at Paris.

* Fig. 1 represents the *scale* of a *sole-fish* as it appears through a good microscope. C D E F represents that part of the scale which appears on the outside of the fish, and A B C D the part which adheres to the skin, being furrowed, that it may hold the faster. It is terminated by pointed spikes, every alternate one being longer than the interjacent ones.

† Fig. 2 is the scale of a haddock, which appears divaricated like a piece of net-work.

‡ Fig. 3 represents a small portion or fibre of the *feather of a peacock,* only one-thirtieth of an inch in extent, as it appears in the microscope. The small fibres of these feathers appear, through this instrument, no less beautiful than the whole feather does to the naked eye. Each of the sprigs or hairs on each side of the fibre, as C D, D C, appears to consist of a multitude of bright shining parts, which are a congeries of small plates, &c. The under sides of each of these plates are very darkand opaque, reflecting all the rays thrown upon them like the foil of a looking-glass; but their upper sides seem to consist of a multitude of exceedingly thin plated bodies, lying close together, which, by various positions of the light, reflect first one color and then another, in a most vivid and surprizing manner.

* Figs. 4, 5, 6, 7, represent some of the different kinds of feathers which constitute the dust which adheres to the wings of moths and butterflies, and which, in the microscope, appear tinged with a variety of colors. Each of these feathers is an object so small as to be scarcely perceptible to the naked eye.

millions of millions of them might be contained within the compass of a square inch. In every pond and ditch, and almost in every puddle, in the infusions of pepper, straw, grass, oats, hay, and other vegetables, in paste and vinegar, and in the water found in oysters, on almost every plant and flower, and in the rivers, seas, and oceans, these creatures are found in such numbers and variety as almost to exceed our conception or belief. A class of these animals, called *Medusæ*, has been found so numerous as to discolor the ocean itself. Captain Scoresby found the number in the olive-green sea to be immense. A cubic inch contained sixty-four, and consequently a cubic mile would contain 23,888,000,000,000,000; so that, if one person should count a million in seven days, it would have required that eighty thousand persons should have started at the creation of the world to have completed the enumeration at the present time. Yet, all the minute animals to which we now allude are furnished with numerous organs of life as well as the larger kind, some of their internal movements are distinctly visible, their motions are evidently *voluntary*, and some of them appear to be possessed of a considerable degree of sagacity, and to be fond of each other's society.*

In short, it may be affirmed without the least hesitation, that the beauties and *varieties* which exist in those regions of creation which are invisible to the unassisted eye are far more numerous than all that appears to a common observer in the visible economy of nature. How far this scene of creating power and intelligence may extend beyond the range of our microscopic instruments, it is impossible for mortals to determine; for the finer our glasses are, and the higher the magnifying powers we apply, the more numerous and varied are the objects which they exhibit to our view. And as the largest telescope is insufficient to convey our views to the boundaries of the great universe, so we may justly conclude that the most powerful microscope that has been or ever will be constructed will be altogether insufficient to guide our views to the utmost limits of the descending scale of creation.

We shall now continue our illustrations:

Fig. 1 represents a *mite*, which has eight legs, with five or six joints in each, two feelers, a small head in proportion to its body, a sharp snout and mouth like that of a mole, and two little eyes. The body is of an oval form, with a number of hairs like bristles issuing from it, and the legs terminate in two hooked claws.

Fig. 2 represents a microscopic animal which was found in an infusion of *anemony*. The surface of its back is covered with a fine mask, in the form of a *human face*; it has three feet on each side, and a tail, which comes out from under the mask.

Fig. 3 is an animalcula found in the infusion of *old hay*. A shows the head, with the mouth opened wide, and its lips furnished with numerous hairs; B is its forked tail; D its intestines, and C its heart, which may be seen in regular motion. The circumference of the body appears indented like the teeth of a saw.

Fig. 4 shows the *wheel-animal*, or *vorticella*. It is found in rain-water that has stood some days in leaden gutters, or in hollows of lead on the tops of houses. The most remarkable part of this animalcula is its *wheel-work*, which consists of two semi-circular instruments, round the edges of which many little fibrillæ move themselves very briskly, sometimes with a kind of rotation, and sometimes in a trembling or vibratory manner. Sometimes the wheels seem to be entire circles, with teeth like those of the balance-wheel of a watch; but their figure varies according to the degree of their protusion, and seems to depend upon the will of the animal itself; *a* is the head and wheels, *b* is the *heart*, where its systole and diastole are plainly visible, and the alternate motions of contraction and dilatation are performed with great strength and vigor, in about the same time as the pulsation of a man's artery. This animal assumes various shapes, one of which is represented at Fig. 5, and becomes occasionally a case for all the other parts of the body.

Fig. 6 represents *an insect with net-like arms*. It is found in cascades where the water runs very swif. Its body appears curiously turned as on a lathe, and at the tail are three sharp spines, by which it raises itself and stands upright in the water; but the most curious apparatus is about its head, where it is furnished with two instruments, like fans or nets, which serve to provide its food. These it frequently spreads out and draws in again, and, when drawn up, they are folded together with the utmost nicety and exactness. When this creature does not employ its nets, it thrusts out a pair of sharp horns, and puts on a different appearance, as in Fig. 7, where it is shown magnified about 400 times.

Fig. 8 is another animalcula, found in the same infusion, called a *tortoise*, with an umbilical tail. It stretches out and contracts itself very easily, sometimes assuming a round figure, which it retains only for a moment, then opens its mouth to a surprizing width, forming nearly the circumference of a circle. Its motion is very surprizing and singular.

Fig. 9 is the representation of an animalcula found in the infusion of *the bark of an oak*. Its body is composed of several ringlets, that enter one into another, as the animal contracts itself. At *a-b* are two lips, furnished with moveable hairs; it pushes out of its mouth a *snout* composed of several pieces sheathed in each other, as at *c*. A kind of horn, *d*, is sometimes protruded from the breast, composed of furbelows, which slide into one another like the drawers of a pocket telescope.

Fig. 10 is an animalcula, called *great mouth*, which is found in several infusions. Its mouth takes up half the length of its body; its inside is filled with darkish spots, and its hinder part terminated with a singular tail.

Fig. 11 represents the *proteus*, so named on account of its assuming a great number of different shapes. Its most common shape bears a resemblance to that of a swan, and it swims to and fro with great vivacity. When it is alarmed, it suddenly draws in its long neck, transforming itself into the shape represented at *m*, and at other times it puts forth a new head and neck, with a kind of wheel machinery, as at *n*.

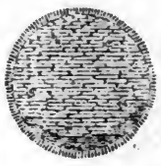


Fig. 12 is the *globe animal*, which appears exactly globular, having no appearance of either head, tail, or fins. It moves in all directions, forwards or backwards, up or down, either rolling over and over like a bowl, spinning horizontally like a top, or gliding along smoothly without turning itself at all. When it pleases, it can turn round, as it were upon an axis, very nimbly, without removing out of its place. It is transparent, except where the circular black spots are shown; it sometimes appears as if dotted with points, and beset with short moveable hairs or bristles, which are probably the instruments by which its motions are performed.

Fig. 13 shows a species of animalculæ called *soles*, found in infusions of straw and the ears of wheat; *o* is the mouth, which is sometimes extended to a great width, *p* is the tail.

Fig. 14 represents an animal found in an infusion of citron flowers. Its head is very short, and adorned with two horns like those of a deer; its body appears to be covered with scales, and its tail long, and swift in motion.

Fig. 15 is a representation of the *eels* which are found in paste and stale vinegar. The most remarkable property of these animals is that they are *viviparous*. If one of them is cut through near the middle, several oval bodies of different sizes issue forth, which are young *anguillæ*, each coiled up in its proper membrane. A hundred and upwards of the young ones have been seen to

* The following extract from Mr. Baker's description of the *hair-like animalcule* will illustrate some of these positions. A small quantity of the matter containing these animalcules having been put into a jar of water, it so happened that one part went down immediately to the bottom, while the other continued floating on the top. When things had remained for some time in this condition, each of these swarms of animalcules began to grow weary of its situation, and had a mind to change its quarters. Both armies, therefore, set out at the same time, the one proceeding upwards and the other downwards: so that after some time they met in the middle. A desire of knowing how they would behave on this occasion engaged the observer to watch them carefully; and, to his surprize, he saw the army that was marching upwards open to the right and left, to make room for those that were descending. Thus, without confusion or intermixture, each held on its way: the army that was going up marching in two columns to the top, and the other proceeding in one column to the bottom, as if each had been under the direction of wise leaders.

issue from the body of one single eel, which accounts for their prodigious increase.

Fig. 16 exhibits a species of animalcula shaped like bells with long tails, by which they fasten themselves to the roots of *duck-weed*, in which they were found. They dwell in colonies, from ten to fifteen in number.

It may not be improper to remark, that no engraving can give an adequate idea of the objects referred to above; and, therefore, whoever wishes to inspect nature in all her minute beauties and varieties must have recourse to the microscope itself.

What we already know of these unexplored and inexplorable regions gives us an amazing conception of the intelligence and wisdom of the Creator, of the immensity of his nature, and of the infinity of ideas which, during every portion of past duration, must have been present before his all-comprehensive mind. What an immense space in the scale of animal life intervenes between an *animalcule*, which appears only the size of a visible point, when magnified 500,000 times, and a *whale*, a hundred feet long and twenty broad! The proportion of bulk between the one of these beings and the other is nearly as 34,560,000,000,000,000,000 to 1. Yet all the intermediate space is filled up with animated beings of every form and order! A similar variety obtains in the vegetable kingdom. It has been calculated, that some plants which grow on *rose* leaves, and other shrubs, are so small that it would require more than a thousand of them, to equal in bulk a single plant of *moss;* and if we compare a stem of moss, which is generally not above one-sixtieth of an inch, with some of the large trees in Guinea and Brazil of twenty feet diameter, we shall find the bulk of the one will exceed that of the other no less than 2,985,984,000,000 times, which multiplied by 1,000 will produce 2,985,984,000,000,000, the number of times which the large tree exceeds the rose-leaf plant. Yet this immense interval is filled up with plants and trees of every form and size! With good reason, then, may we adopt the language of the inspired writers,—"How *manifold* are thy works, O Lord! In wisdom hast thou made them all."

To the Editor of the American Railroad Journal:

PHILADELPHIA, Oct. 24th, 1833.

SIR,—Should you think the following suggestion worthy your notice, I would be much obliged to you to call the attention of some of your scientific and mechanical correspondents to it, through the columns of your valuable Journal. I have lately been desired by a friend in London, to forward to him some particular accounts of the different steamboats now in operation in waters near you, and particularly, on the Hudson, and of recent experiments, &c. &c.; but I have as yet not been able to find any work on the subject, which contains the desired information; and further, on examining all the different works that *touch* on the subject, I perceive they merely tell of wonderful experiments made *in England*, and in my opinion, these which are recorded as *wonderful* are not to be mentioned in the same day, with those practical machines now in daily use on our waters, and I am persuaded that should some person, fully competent, publish a small work containing a precise account of the different engines and boats now in operation, say on the Hudson and East rivers, that they would receive ample compensation from the sale of the work, as well as confer a lasting favor on the reading public. I wish to see our own splendid engines and boats recorded as being something worthy of American industry. Your friend and subscriber,

G. W. A.

We cheerfully give place to the above communication, with a hope that it may induce some one familiar with the subject to supply a work of the character referred to; and will endeavor, if no one else is disposed to undertake it, to obtain, and publish in the Journal, some account of our best steamboats, both on the North and East rivers.

[For the American Railroad Journal.]

MR. EDITOR,—Should the Boston and Providence Railroad Company refuse, on equitable terms, to unite with the Rhode Island Railroad Companies, would it not be desirable to the Worcester Railroad Company, much of the stock of which is owned in this city, to unite their road to the Providence and Boston Railroad, by a branch intersecting their road near Boston, striking the valley of the Charles river, and through Wrentham to the line of the State of Rhode Island; and by making terms with the Providence and Boston Company, who have twelve miles exclusive privilege, commencing at Fox Point, would bo enabled to command the principal travel on this great thoroughfare from Boston to Providence and Long Island Sound. A privilege to make said branch no doubt could be obtained of the Legislature of Massachusetts. X.

[*From the Mobile Register and Patriot of 24th Oct.*]

MARINE RAILWAY.—A model of a newly constructed Marine Railway has been left at our office by Lieut. Gedney of the United States navy for the inspection of the public. We understand that it has received the decided approbation of the Board of Navy commissioners, as well as of practical mechanics who have examined it, and that measures have been taken for testing its value by a Gentleman at Charleston who is erecting a railway on a scale sufficiently large to haul up ships of any size. The principle and the machinery are extremely simple, and we would invite the attention of those interested in the establishment near this city to the model now on the table of the Reading Room.

Bristol and London Railway.—The people of Bristol are going to make a bold effort to restore the prosperity of that once flourishing and still important city, by forming a railway thence to London. It is calculated that this undertaking, which is to be called the Great Western Railway, will cost three millions, to be raised in shares of £100 each. The formation of such a line of communication will be of great utility, not only to Bristol, but to the whole of the west of England, and to the southern counties of Ireland and Wales. The intercourse and traffic along it will be immense. The passengers between London and all parts of the counties of Berks, Wilts, and Gloucester, Heveford, Monmouth, Glamorgan, Somerset, Devonshire, Cornwall, and a very large portion of those from the south of Ireland will travel along it. Amongst the cities and towns it will touch, or be likely to be united with by branch roads, are Windsor, Oxford, Reading, Newbury, Sallsbury, Marlborough, Bath, Bristol, Gloucester, and Merthyr Tidvil, whilst all other travellers proceeding to London from Bridgewater, Taunton, Exeter, Plymouth, Falmouth, and the other towns of the west will avail themselvs of it from Bristol to the metropolis. The Irish counties principally benefitted will be those lying to the south of Dublin. Amongst the most important articles in the carrying department will be the agricultural produce of Berks and Wiltshire, the woollen manufactures of Gloucester and Somersetshire, the iron and coal of south Wales, the West India and other produce imported into Bristol, and the corn and cattle of Wexford, Waterford, Cork, &c. When the railway is formed, of which there is little boubt, Bristol will be one of the greatest thoroughfares in the British dominions.

CORNS.—A piece of moistened tobacco, and bound around the toe, is recommended by the New-Hampshire Spectator, as a sure cure of corns.

AGRICULTURE, &c.

[*From the New-York Farmer.*]

Cultivation and Drawings of Gama Grass.

By the EDITOR.

Within three or four years much attention has been excited respecting this grass, particularly in the Southern States. Dr. Hardeman, of Missouri, was among the first to bring it before the public as a prolific grass, and one of immense importance to the Southern section of the Union, where corn stalks or leaves are almost the only fodder for live stock. It is considered to be a native of the alluvial soils of the Southern States, but is found growing wild as far north as the banks of the Connecticut river. It succeeds well on sandy, and even barren soils.

The seeds are put in drills 18 inches apart, and the plants should be hoed sufficient to prevent the growth of weeds. The first season they spread and cover the whole surface. During the second, they are cut once a month from May or June to October or November. Being a perennial, it will probably continue to produce for several years without renewal. Those who are zealous advocates for the introduction of this grass into Southern husbandry in particular, say that it will produce 70 to 80 tons of green hay, or 20 to 30 of cured hay to the acre.

Some botanists describe four species of Tripsacum, but that called Gama Grass is supposed to be the T. monostachyon; others enumerate only three, and, in the opinion of some writers, two of these are identical. Professor Eaton describes only two, considering the T. monostachyon a variety of the T. dactyloides.

The following drawings we take from the Encyclopædia of Plants—the smaller engraving is the T. dactyloides, and the others the T. monostachyon:

THE PROFESSION OF A FARMER.—The North American Magazine, reviewing P't Lindsley's address, which we noticed in former numbers of the Farmer, makes the following extract and comments:

"I have long thought that our college graduates often mistake their true path to honor and usefulness, in making choice of a learned profession, instead of converting agriculture into a learned profession, as it ought to be, and thereby obtaining an honest livelihood in the tranquil shades of the country."

In the praise of Agriculture he might have gone further, and extolled it as an occupation at once sublime and useful—which ennobles man, gives peace to his mind, virtue to his heart, placidity to his countenance, and calmness to his passions. Absorbed in the holy contemplation of mute but eloquent Nature, or engrossed in the avocations that give sustenance and comfort to his fellow beings, he is

equally blessed in the fruit of his labors or the fragrance of his meditations.

CULTIVATION OF SILK IN THE NORTHERN PART OF THE UNITED STATES.—The numerous and detailed experiments which we have from time to time laid before our readers, on the subject of silk culture, must have convinced them that no obstacle exists to the successful prosecution of this great and important branch of domestic industry. The following experiment, from the N. H. Spectator, made by Dr. Frost, of Plainfield, N. H., in the latitude of 43°.30, not only establishes the fact that the worm will perfect its cocoon in the Northern States, but that the whole business is perfectly simple. He states that he had no knowledge on the subject from personal experiment and observation previously to his present undertaking. The Doctor observes:

On the 20th June last past my eggs were hatched. I counted out 1,500, and took a few more to supply the place of those that should die in the several stages, say from 50 to 100. These were uncounted. My calculation was to raise about 1,500. By reason of the cold and rainy summer the worms were retarded in their growth, as will always happen—warm and dry weather being the climate suited to the full perfection of the worm, and to facilitate its growth and maturity; yet the food in either case will be about the same—the only difference will be the length of time required for the insect to eat the same quantity of leaves. The first cocoon was wound on the 38th day of the age of the silk worm. After the fourth moulting, or in other words, shedding of their skin—for they shed their skin four times during their life, before they commence winding their balls or cocoons—they are usually about 10 days in winding up their cocoons. Previous to their moulting the fourth time, I counted about 1,450; so that 50 had died out of the 1500, besides the worms I held in reserve as above stated. Of these 1,450 worms, besides those that died during this last age of the worm, and during their winding, I counted 912 that remained on the shelves the 40th day—585 on the 42d day—303 on the 43d day—186 on the 44th day—90 on the 45th day—43 on the 46th day—26 on the 47th day—13 on the 48th day. In ten days from the beginning of winding, all had wound their cocoons except 13 worms. In 4 days more these were all wound. The whole time the silk worms were progressing through their several ages, each age designated by the moulting, including the winding, were 53 days—the usual time is from 42 to 45 days—retarded no doubt from the cold and dampness of the season. There died in the whole, 257 during the several ages, till the completion of the cocoons. I had 1,243 cocoons of all descriptions, and but few, say 15, that would not reel off. The reserved uncounted worms are not included in this estimate.

The weight of cocoons before reeling, and as soon as they were picked from the bushes, weighed 4 lbs. 5 oz., 20 cocoons weighed precisely one ounce.

Raw reeled silk	6¼ ounces
Raw silk	1¼ ounce.

Making the whole product of silk nearly one half pound.

The weight of leaves consumed and wasted was 75 lbs.

After I had found the quantity of leaves the 1,500 worms consumed, I made a comparison with a statistical tablecommunicated in a letter to the 20th Congress of the U. S. by Hon. James Mease, on the method of rearing silk in Bavaria, and found by this table, 20,000 silk worms consumed 1,000 lbs. mulberry leaves—exactly corresponding to 75 lbs. for every 1,500 worms—and that from 7 to 10 lbs. of cocoons make a pound of raw or reeled silk—from this estimate the product of my experiment nearly coincides, for 4 lbs. and 5 oz. produced 7¾ ounces of silk. Nor does this estimate of the consumption of leaves and the product of silk materially differ from the estimate and exact result of Count Dondolo—transmitted to Congress by the Hon. Richard Rush, then Secretary of State.

It will readily be perceived that the rearing of silk worms, in our state is practicable and with due management equals the product raised in Bavaria, and the careful management in the extensive laboratory of Count Dondolo, where 8 ounces of eggs, or 160,000 worms are reared. In this laboratory the leaves are chopped, the thermometer regulates the temperature, and the pyrometer the dampness of the atmosphere; and every measure of precaution is used to secure the worms from disease—by ventilation, by stoves, and by cleanliness. On reading these treatises and observing all the nice directions contained therein, any person would almost shrink from the task and become discouraged, before they attempted to enter a field where so many obstacles seemed to threaten him. I have chopped no leaves—made no fire but once or twice, and then when the weather was extremely cold and damp for the season. I gave them what they would eat, and they appeared to know what to do with the leaves as well as any other insect, and not more at a loss about it.

I am fully of opinion that the culture of silk is as easily learned as any other kind of business or art—and that many families in every town would find as profitable a reward for their labor as our rich farmers do, by correspondent care and exertion. ELIAS FROST.

Plainfield, August 27, 1833.

IMPROVED CORN.—This is the season of the year when all those farmers who have not previously attended to the subject should go to their cribs, and select some of the best ears for the purpose of planting, with a view of obtaining in the course of a few years an improved variety of corn. Among the experiments which we have seen recorded, the following seems to ripen early in comparison with others:

Dr. Oliver Fiske of this town has left with us a specimen of corn, of a kind which he has raised for three years past, and which appears worthy the attention of our farmers generally. It has now been fully ripe for near a month, and being thus early, it is not only safe from the frost, but, in consequence of filling out and ripening in the warmer part of the season, is more likely to be sound and heavy than that which ripens later. The kernel and ear are about the size of the common corn, and Dr. Fiske thinks it will yield as large a crop as any corn he ever raised.—[Worcester Spy.]

CORN COBS FOR CATTLE AND BREAD.—In a western paper we find the following. If the facts detailed should be sustained by future experiments, we know not why the use of the cob and corn ground together may not become general. We have heard objections made by farmers to the use of the cob, but do not recollect what they are.

Many farmers in this country have within a few years converted the cobs of Indian corn to a use formerly unknown.

The corn and cobs are ground together and given to swine and other domestic animals for the purpose of fattening them. We understand the experiments thus far have proved successful, and that swine and cattle intended for slaughter will grow as fast as on any other fodder. A gentleman in Shrewsbury, Mass. has for seven or eight years used corn and cobs cracked and ground together for provender, and he says it is the best he has ever used for fattening cattle. An experiment was tried a few years ago by feeding one ox with corn and oats ground, the other with corn and cobs—the two oxen being so well matched that no one, on viewing them was satisfied which was best: accordingly they were fed as above. Each ox had an equal quantity at a time, except the one which had corn and oats sometimes became dainty, and would not eat his allowance, while the other kept his regular course. The allowance for both was about three pecks per day. The cattle were taken to market, and weighed about 2800 The one fed on corn and oats had 162 lbs. of tallow. The one that was fed on corn and cobs had 163 lbs. of tallow, and the purchaser of the two oxen pronounced the beef of the latter to be worth half a dollar on the hundred more than that of the other, on account of the color of the beef.

It has also been proved by actual trial, that good and palateable bread may be made from corn and cobs, ground about half and half, sifted as usual, and the addition of the usual quantity of rye meal.

Mills for grinding corn and cobs together have been erected in several small towns in Massachusetts.

CHESNUT ORCHARDS.—The price of chesnuts in our markets has led us to think that many farmers might, with profit, devote a portion of their less productive lands to the cultivation of the chesnut. They have commanded, this season, from $6 to $2 50 per bushel. At this rate an orchard would be profitable, independent of the timber. The tree is of quick growth, and produces abundance of shoots or sprouts from the stump.

EXHIBITION OF STOCK.—Our friend A. W. has sent us the following, which we suppose is part of the report of the Berkshire Agricultural Society. The spirit that prompts to send stock for exhibition to neighboring fairs is very commendable and patriotic.

Even the citizens of our sister states have done us the honor, by gratuitous exhibitions of stock, to encourage our exertions, and to advance the objects of the society and the interests of the country. The committee beg leave to name Caleb N. Bement, Esq. of Albany, as deserving the thanks of the society for his interesting exhibition of two imported cows and a bull, of the short horn or Durham breed. They are also much indebted to Mr. Thomas Dunn, of Albany, for his exhibition of a buck and lamb of the New Leicester or Bakewell breed. It is presumed that this breed of sheep is entirely new to most of the farmers of the country, and it is well worthy of their consideration, whether their flocks may not be greatly improved by them, particularly as it regards the quantity of the fleece and the size of the sheep. Mr. Bates, of Vermont, exhibited to the society a fine horse, which was much admired for his beauty and excellence. The committee noticed with great pleasure several fine animals from the excellent stock of cattle belonging to the Hon. Henry W. Dwight, to whose patriotic and spirited exertions the agricultural community is largely indebted for a steady and progressive improvement of stock in the county.

PLANTING FOR CHILDREN.—The strong desire existing in the human breast to provide for our offspring converts that toil, which produces sweat on the brow, into pleasant and cheerful exercise. The farmer rises early and labors until the setting of the sun, in planting, sowing, and reaping—and all this to feed and clothe his family, in the hope, too, of having a little annual surplus for his children when he is gone; but, alas, how many toil in vain!—twenty, thirty, or forty years of care and labor appear to have made no provision for the rising members of the family. Had there been plantations of valuable timber or fruit trees made by the farmer in his young days, their produce would now give a son or daughter a considerable "setting out." Remember this is the season for planting.

NEW-YORK AMERICAN.

NOVEMBER 2, 4, 5, 6, 7, 8—1833.

LITERARY NOTICES.

MEMOIRS OF BARON CUVIER, by *Mrs. R. Lee.* 1 vol. *New York:* J. & J. HARPER.—The biographer of Cuvier is an English woman, the widow of the African traveller Bowdich, through whom, and his scientific and adventurous pursuits, she became known to Cuvier and his family; and when deprived by death of her husband, found in that family, and in its chief especially, consolation and friendship such as is rarely extended to other than near and dear connections. The heart of the grateful woman is consequently manifested in this memoir, which is rather the narrative of the beautiful private life, and the fine moral qualities of Cuvier, than a notice of his literary or his political career, though these of course enter into the general story. We are sure this work is one that will be much read. We extract the account of the last moments of Cuvier, a small part of which indeed has appeared before in our columns, but of which the ensemble requires a repetition.

Although occasionally subject to sight ailments, the health of M. Cuvier, generally speaking, was good, and his carriage was used by him more as a saving of time than a matter of necessity; therefore the sudden summons he received to quit his earthly labors, was an event for which his friends and his country were not prepared. Never were his intellectual faculties more brilliant; never was his great mind more fully possessed of that clearness, that comprehensiveness, which so peculiarly marked it, than at the time of his seizure. His life of temperance and rectitude, at the age of sixty-two, had preserved the corporeal existence unimpaired, and also contributed to the perfection of his mental vigor; for more than forty years he had been unremittingly laboring to perfect his great views in science and legislature; and concerning the former he was about to give to the world the results of his researches and reflections. "His intention was to review all his works, and put them on a footing with the last discoveries, and then to deduce from them, all the consequences, all the general principles, which appeared to him to emanate from such an assemblage of facts, though he did not think it possible, in the present state of human knowledge to establish a general theory. All his studies, all his meditations had convinced him of the philosophical principle, that organized beings exist for an end, for a special object; but he did not admit any scientific theory, and with all his energy maintained that it was not yet possible for any to be formed."* But even the entire publication of these facts, of these deductions, was denied to us by the inscrutable ways of the Almighty; perhaps we were not yet worthy of penetrating so deeply into the mysteries of creation as had been given to this one gigantic intellect, and I dare not call the death of M. Cuvier premature, when I think that by so doing I should question the decrees of that Providence to whom we owe the very existence of him whom we deplore, by whom that life was lent to us to increase our sense of his wisdom, and to enlighten us by its example.

M. Cuvier had sought forgetfulness of the storms that were passing without, the walls of his peaceful abode, in a greater devotion than ever to his home pursuits; that is, he gave up his evening visits, and the few relaxations he had permitted himself to enjoy. The cholera raged around him, and he saw those fall who were younger and apparently stronger than himself; those whom he loved, and those whose services were essential to the state. Public disturbances filled the streets of Paris, while pestilence stalked through the multitude in every direction. Secluding himself, then, entirely from society, except that of his family; after going through the daily routine of his public duties, he returned to his labors, with an intenseness, which, added to his share of the pervading gloom, was calculated to injure the springs of life. No one, however, could foresee its effects on his constitution; and he himself said, that he had never worked with so much real enjoyment;" and he rapidly advanced, not only in the vast undertakings then begun, but in the preparations for others. On Tuesday, the 8th of May, he opened the third and concluding part of his course of lectures, at the Collège de France, on the history of Science, &c., by summing up all that had been previously said. He forcibly inveighed against that heresy in natural history, which derives every thing in this vast universe from one isolated and systematic thought, and shackles the future of science with the fallacious progess of the moment:† he pointed out what remained for him to say respecting the earth and its changes, and announced his intention of unfolding his own manner of viewing the present state of creation; a sublime task, which was to lead us, independent of narrow systems, back to that Supreme Intelligence, which rules, enlightens, vivifies, which gives to every creature the especial conditions of its existence, to that Intelligence, in short, which reveals all, and which all reveals, which contains every thing, and which every thing contains. In the last part of this discourse, there was a calmness, a clearness of perception, an unaffected and unrestrained manifestation of the contemplative and religious observer, which greatly added to its force, and which involuntarily recalled that book which speaks of the creation of the earth and the human race. The similarity was avoided rather than sought; it was not to be found in the words, but the ideas; and at once flashed across the minds of his auditors, when the great professor declared, that each being contains in itself an infinite variety, an admirable arrangement for the purposes for which it is intended; that each being is good, perfect, and capable of life, each according to its order and species, and in its individuality. In the whole of this lecture there was an omnipresence of the Omnipotent and Supreme Cause: the examination of the visible world seemed to touch upon the invisible; the search into the creation, necessarily invoked the presence of the Creator; it seemed as if the veil were to be torn from before us, and science was about to reveal eternal wisdom. Great, then, was the effect produced by the concluding sentences, which seemed to bear a prophetic sense, and which were the last he ever addressed to his audience. "These," said he, "will be the objects of our further investigations, if time, health, and strength, are given to me, to continue and to finish them with you." Those who were versed in human destiny, seemed to feel that his sphere of action was even then placed out of this world, and that he had pronounced his farewell. So near the great and awful tribunal, what other words, what other thoughts than those contained in this lecture, could have so plainly shown the preparation already made for his journey thither?

I am told that the profound emotion occasioned by this last discourse was universal, and that few left the hall without an undefined feeling of sadness, and sentiments of reverence, far beyond the power of expression. On the same day, M. Cuvier, as usual, attended a council of administration in the Jardin des Plantes, and bestowed his last cares on that immense establishment, which owes so large a portion of its treasures to his constant and active solicitude, and to his extreme generosity. "By turns protected and protecting, Mr. Cuvier had there resisted the political vicissitudes which changed all but the sacred asylum of men and things. It would seem as if a special grace from Providence has suffered him to remain, during thirty-eight years of revolution, in the same place and with the same occupations. The great mind, the pure intentions, the devoted and disinterested heart, alone are suffered to effect such miracles."

In the evening of Tuesday, M. Cuvier felt some pain and numbness in his right arm, which was supposed to proceed from rheumatism. On Wednesday, the 9th, he presided over the Committee of the Interior with his wonted activity. At dinner that day, he felt some difficulty in swallowing, and the numbness of his arm increased. Never can the look and the inquiry he directed to his nephew, when he found that bread would not pass down his throat, be forgotten; nor the self-possession with which he said, as he sent his plate to Madame Cuvier, "Then I must eat more soup," in order to quiet the alarm visible on the countenances of those present. M. Frédéric, the younger, sought medical advice; and an application of leeches was made during the night, without producing any melioration. The next day (Thursday) both arms were seized and the paralysis of the pharynx was complete. He was then bled, but without any benefit, and from that moment he seemed to be perfectly aware of what was to follow. He, with the most perfect calmness, ordered his will to be made; and in it evinced the tenderest solicitude for those whose cares and affection had embellished his life, and for those who had most aided him in his scientific labors. He could not sign it himself, but four witnesses attested the deed. He sent for the good M. Royer, who was so soon to follow him, to make a statement of the sums he had expended, out of his private fortune, on the alterations of the rooms behind his house, though the affliction of this Chief du Bureau d'Administration was so heavy as almost to disable him from doing his duty. M. Cuvier alone was tranquil; and, perfectly convinced that all human resource was vain, he yet, for the sake of the beloved objects who encircled him, submitted without impatience to every remedy that was suggested.—The malady augmented during the night, and the most celebrated medical practitioners were called in: emetics were administered by means of a tube, but, like all other endeavors, they did not cause the least alteration. Friday was passed in various, but hopeless attempts to mitigate the evil; and, perhaps, they only increased the suffering of the patient.—In the evening the paralysis attacked the lege; the night was restless and painful; the speech became affected, though it was perfectly to be understood. He pointed out the seat of his disorder, observing to those who could comprehend him "Ce sont les nerfs de la volonté qui sont malades;"‡ alluding to the late beautiful discoveries of Sir Charles Bell and Scarpa, on the double system of spinal nerves:§ he clearly and precisely indicated the changes of position which the parts of the limbs yet unparalyzed rendered desirable; and he was moved from his own simple and comparatively small bed-room, into that saloon where he had been the life and soul of the learned world; and, though his speech was less fluent, he conversed with his physicians, his family, and the friends who aided them in their agonizing cares. Among other anxious inquirers came M. Pasquier, whom he had seen on the memorable Tuesday; and he said to him, "Behold a very different person to the man of Tuesday—of Saturday. Nevertheless, I had great things still to do. All was ready in my head; after thirty years of labor and research, there remained but to write; and now the hands fail, and carry with them the head." M. Pasquier, almost too much distressed to speak, attempted to express the interest universally felt for him; to which M. Cuvier replied, "I like to think so; I have long labored to render myself worthy of it." In the evening, fever showed itself and continued all night, which produced great restlessness and desire for change of posture; the bronchiæ then became affected, and it was feared that the lungs would soon follow. On Sunday morning the fever disappeared for a short time; consequently he slept; but said, on waking, that his dreams had been incoherent and agitated, and that he felt his head would soon be disordered. At two o'clock in the day, the accelerated respiration proved that only a part of the lungs was in action; and the physicians, willing to try every thing, poposed to cauterize the vertebræ of the neck: the question, Had he a right to die? rendered him obedient to their wishes; but he was spared this bodily torture, and leeches and cupping were all to which they had recourse. During the application of the former, M. Cuvier observed with the greatest simplicity, that it was he who had discovered that leeches possessed red blood, alluding to one of his Memoirs, written in Normandy. "The consummate master spoke of science for the last time, by recalling one of the first steps of the young naturalist." He had predicted that the last cupping would hasten his departure; and when raised from the posture necessary for this operation, he asked for a glass of lemonade, with which to moisten his mouth. After this attempt at refreshment, he gave the rest to his daughter-in-law to drink, saying, that it was very delightful to see those he loved still able to swallow. His respiration became more and more rapid; he raised his head, and then letting it fall, as if in meditation, he resigned his great soul to its Creator without a struggle.

THE NEW ENGLAND MAGAZINE FOR NOVEMBER. *Boston:* J. T. BUCKINGHAM.—This is a very clever number of our cleverest Magazine. It is original, powerful and spirited. The *Equus redivivus* is capital. The notice of Stuart and Hamilton deals too harshly with the former, and too leniently with the

* Laurillard.

† Alluding to the the theory of unity of composition. This and the following citations are taken from a description of this admirable lecture, as noted by a distinguished auditer, the Baron de H ——,

‡ "The nerves of the will are sick."

§ A month before his illness, he had read a paper before the Institute upon a memoir of Scarpa's, on this distinction between the nerves of will, and those of sensibility.

latter—especially on the score of intentions. The Nervous Man we are glad to see resumed, and give our readers the pleasure of the following extract from it:—

THE DOCTOR AND HIS PATIENT.

"Ma foi!—ces Medecins sont de vilaines gens!"

So saith Mons. Renard, in his play of the *Legatee*; but so say not I. My physician has just left me. He is a clever fellow, and it may be a skilful, withal. But he has the folly to pretend to cheerfulness, and laughs by main force over his own jokes—the unhappy man! Does he think to deceive people by it? A merry physician, indeed!—as well talk of a laughing death's head—the cacchination of a monk's *memento mori*. Heaven help the doctors! From the court physician down to the veriest quack who ever dosed with herbs or steam *à la Esquimaux*, I commiserate every mother's son of them. This life of ours is sorrowful enough in its best estate—the brightest phasis of our being is "sicklied o'er with the pale cast" of the future and the past. But, it is the lot of the physician to look only upon the shadow;—to turn away from the house of feasting and go down to the house of mourning; to breathe day after day the atmosphere of wretchedness;—to grow familiar with suffering; to look upon humanity disrobed of its pride and glory—robbed of its fictitious ornaments—weak, helpless, naked—and undergoing the last fearful metempsychosis from its end and godlike image—the living temple of an unshrined divinity, to the loathsome clod, and the all inanimate clay. There is wo behind him—there is wo before him. He is hand and glove with misery by prescription,—the ex-officio gauger of the "ills which flesh is heir to." What to him are the much-eulogized charms of home—the holy comforts of one's fires side? *He* has no home, unless it be by the bedside of the sick—the querulous—the dying. Hurrying perpetually from one scene of misery to another, he knows nothing of the quiet happiness of those "sleek-headed men who sleep o' nights." He realizes, more than any other, the truth of that maxim, that

"Where ignorance is bliss,
"'Tis folly to be wise."

His ideas of beauty—perhaps even the affections of his heart—are regulated by the irrepressible associations of his profession. Others may talk of their "ladye loves" as angels—sylphs—seraphs—*he* knows better—he knows that woman, as well as man, is "of the earth, earthy." Through the soft and beautiful veil of what *we* call *delicacy*, he sees only the consuming canker of incipient disease. Has his fair one a form of faultless symmetry? He thinks of the *subjects* of his anatomical studies. Does her beautiful smile unveil a set of pearls? He thinks of his dental operations. Does the blush of feeling or modesty mantle, of a sudden, neck, cheek, and brow,—a variable play of coloring, like sunset upon tremulous water? He calls to mind his last case of fever. Does the bright and eloquent blood glow steadily and richly through her fair cheek? He remembers his hectic patients. Tell him of a young lady's sentimental melancholy, and he will forthwith answer you by a dissertation upon dyspepsia. Tell him of broken hearts,—of dying for love—of the "worm i' the bud" feeding upon the damask cheek of beauty,—of the mental impalement upon Cupid's arrow, like that of a Giaour upon the spear of a Janizary; and he will talk to you of liver complaints—of tight lacing—of fashionable exposure—of lack of exercise.

I have sometimes thought that Sheridan's Doctor, in "St. Patrick's Day," was no caricature; indeed, there seems to be something very natural in his description of his dear, deceased helpmate. "Poor Dolly!—I shall never see her like again; such an arm for a bandage—veins that seemed to invite the lancet! Then her skin, smooth and white as a gallipot; her mouth as round and not larger than the mouth of a penny phial; and her teeth—none of your sturdy fixtures—ache as they would, it was but a small pull, and out they came,—I believe I have drawn a half a score of her dear pearls—(*weeps*)—but what avails her beauty? She has gone and left no pledge of our love behind—no little babe to hang like a label upon papa's neck. Death has no consideration—one must die as well as another—fair and ugly, crooked or straight, rich or poor—flesh is grass—flowers fade!"

But, to return to my physician. Never man had a kinder—punctual in attendance—lavish of his drugs—perfectly deferential to the opinions of his patient. As I recount, for the thousandth time, the symptoms of my case, he never fails to congratulate me upon my peculiar good fortune in securing the services of one so able and willing to assist me as himself—significantly assuring me, in the language of Hippocrates's first proposition, that, "Vita brevis; Experimentum periculosum; Judicium difficile." He has, if I mistake not, all the skill and kind wishes of Moliere's Toinet, who disdained to "amuse himself with the small fry of common diseases"—the trifles of rheumatism, vapors, agues, &c. "I would have," said he, "diseases of importance—good continual fevers, good plagues, good confirmed dropsies, good pleurisies,—this is what pleases me—this is what I triumph in;—and I wish, sir, that you had all these diseases—that you was abandoned by all the faculty—despaired of—at the point of death,—that I might demonstrate to you the excellency of remedies."

THE COMMON SCHOOL ARITHMETIC; by CHARLES DAVIES, Professor of Mathematics at West Point, &c. *New York*: N. & S. WHITE.—They who have some experience of the labor and difficulties of instruction, are those to whom we must always look with most hope for amelioration in the forms by which knowledge can be imparted: nor is there any higher or more useful employment of talent, than that which seeks to render plain, precise, and clear, the elements of any branch of learning. It is therefore with satisfaction we find a man, eminent as Professor Davies is known to be as a teacher, occupied in removing the difficulties which lie in the path of young beginners. This little book, prepared for the use of academies and common schools, and for those young men who may be preparing for the Military Academy at West Point, is divided into sections, each subject occupying a section, and each section followed by a series of questions which the learner should be required to answer in his own language, so that it may be perceived whether he has comprehended the idea and reason of the rule, or only learnt its words. Every thing seems to us to be stated with the greatest clearness in these pages.

THE HISTORY OF NUBIA AND ABYSSINIA; BY THE REV. MICHAEL RUSSELL: author of 'Egypt and Palestine,' &c. constituting Vol. LXI of HARPERS' FAMILY LIBRARY.—This is in some sense a supplement to Vol. XXIII of the Library, by the same author, containing a view of 'Ancient and Modern Egypt,' of which Ethiopia—now known as Nubia and Abyssynia—was the civilizer, and imparted to it a knowledge of the arts. After being, as it were, the parent of nations, it was for long centuries shut out from the knowledge of, and all intercourse with, Europe, of which the interest was finally aroused to this ancient people by the report, that, in the midst of Mahometan races, there was in Ethiopia a Christian people, preserving in their purity the rites and doctrines of that Church as originally communicated to them within less than three centuries of its foundation. Travellers soon made these people better known, and we have here the summary up to the latest period of all that has been written concerning them—including notices of the geology, zoology and botany of these regions.

A GUIDE TO AN IRISH GENTLEMAN IN SEARCH OF A RELIGION, by the Rev. MORTIMER O'SULLIVAN. *Philadelphia*: CAREY, LEA & BLANCHARD.—The Rev. Mr. O'Sullivan is master of his arms, and he manages them in this publication with the good temper, ease, and self-possession of one justly confident in his own powers. The Search is certainly a very taking book; but we do not think any one will be the worse off for having such a guide as this to accompany it. Polemics, if ever beneficial, can only be so when conducted in so good a tone and with such perfect decorum as in the volume before us.

THE HEADSMAN, A TALE; by the author of 'The Bravo," &c. 2 vols. Philad. CAREY, LEA & BLANCHARD.—If books are to be judged by their effect upon the reader, we may state a comparative opinion of two of Mr. Cooper's works, in a few words. The Spy we read through, without stirring from the spot where we first took it up: the Headsman, with all the aids of a pelting storm without, we could not master in two days, and after repeated trials. Possibly the fault is in us; possibly also in the writer. But we do not mean ourselves to criticise. * *

NEW MUSIC.—We have this week from Ja's L. Hewitt, & Co. 137 Broadway, the following songs.

Day is gently breaking—words by C. Jeffries—music by S. Nelson.

The mother—words and music by the same.

Apollo's gift—a collection of airs from various composers arranged for the flute, and *trois bagatelles* for the piano.

We conclude with letter No. II, from our Western traveller.

Rodrocksville, Pa. Oct. 19.

The last red hues of sunset were just dying over the western extremity of the road we had long been following, when a herd of cattle, under the guidance of a woolly-headed urchin, collecting indolently around an extensive farm-yard, reminded us alike that it was time to seek shelter, and that one was at hand. A few paces further brought us to the door of a large stone building, displaying with the usual insignia of an inn, an unwonted neatness in all its out-door arrangements: unharnessing our four-footed fellow travellers we proceeded, in spite of the threatening outcry of a huge ban-dog chained at its entrance, to bestow them comfortably in a stable near at hand. A Canadian poney, with a couple of goats, the companionable occupants, seemed hardly to notice the intrusion—and leaving an active mulatto ostler to reconcile any difficulties which might arise between our pampered steeds and a sorry looking jade, which just then entered to claim a share of the comforts at hand, we soon ensconced ourselves before a crackling wood fire in the comfortable apartment where I am now writing.

Every mile of our route to-day has given some new occasion to admire the scale upon which farming is conducted in Pennsylvania. The fences, indeed, are not remarkable for the order in which they are kept; but while the enclosures themselves are tilled with a nicety which preserves the utmost verge of a field from shooting up into weeds or brushwood, the barns into which their harvests are gathered, are so spaciously and solidly built, that they want only architectural design to rival in appearance the most ambitious private mansions. Stone is almost the only material used here in building, and the massive profusion in which not only the barns, but the smallest outhouses upon the premises of these sturdy husbandmen, are piled upon their fertile acres, is such as would astonish and delight the agriculturist accustomed only to the few and frail structures with which the farmers of most other sections of our country content themselves. The establishment of our host is admirably supplied with these lordly appurtenances in which a true tiller of the soil may so justly show his pride. The huge cathedral-looking edifice which towers above his farm-yard, would make as proud a temple as could be well reared to Ceres, even by Triptolemus himself.

The most picturesque country we have yet seen is that immediately around Easton. Indeed, the first view that opened upon us when gaining the brow of a wooded hill, about half a mile from the town, was so fine as to make us forget the regret with which we had a few moments before bade adieu to our prince of landlords and his blooming daughters. The Lehigh, for about a half a mile in extent, lay in the form of a crescent beneath us—a wooded ravine striking down to either horn, and undulating fields—some ruddy with buckwheat stubble, and some green from the newly sprouting wheat, filled up the curves. A grey stone barn stood here and there on an eminence against the bright morning sky, while sheltered below on the alluvial flats formed by the river, a white-walled cottage or two might be seen reposing by its cheerful current. The Lehigh Canal winding through the valley, like a younger sister bent on the same errand, beside the stream from which it takes its name, added not a little when viewed at such a distance to the gathered beauties of the scene.

We took our breakfast at Bethlehem, and availing myself of an hour's necessary delay to give the horses theirs, I left my friend puzzling himself over a German newspaper and strolled off to look at the village. It is a place of considerable interest, not less on account of its ancient and peculiar appearance than the Moravian Institutions which have rendered it so celebrated. I was fortunate enough to meet with Mr. Ridel, the principal of the Female Seminary, who, upon my asking him some trivial question about that excellent establishment, offered in the most polite manner, though I was wholly unknown to him, to show me through the building. It is a plain stone structure of some 80 feet in length, subdivided internally into lecture rooms and dormitories like some of our colleges; one range of small apartments being used entirely as *washing* rooms by the pupils, and having all the necessary furniture for that purpose neatly arranged about each. These, like every other part of the establishment, have their peculiar superintendant, and standing thus distinctly by themselves form an essential feature in the economy of the institution, and with the extensive play-grounds in the rear of the building, evince the attention which is paid to the health and personal habits, as well as the intel-

lectual improvement, of its inmates. I was shown into the school-rooms of the several classes, and had ample opportunity, as the ruddy bright-eyed occupants rose to receive my conductor, to observe the happy effect of the life they led upon their personal appearance. A fresher, fairer assemblage of youthful beauty has rarely greeted my eyes. Several of the apartments were furnished with pianos, and my curious entrance into these smiling domains startled more than one young musician from her morning's practising. I was, as you may suppose, a little, a very little, confused at being thus exposed to the full broadside gaze of a hundred "boarding-school misses." This though, however it might forbid my examining their features in detail, did not prevent me from observing that their general expression was happy and natural—two sources of attraction not so very common in the sex but that they will still strike one even when displayed, as was the case in this instance, in mere children.

I subsequently visited the burial ground of the place which I contemplated with no slight interest. The disposal of the dead is as true a test of civilization in a community, as the social relations of the living. The taste which embellishes life passes with the arts attendant upon it, from one nation to another, like a merchantable commodity; but the sentiment that would veil the dreariness of the grave and throw a charm even around the sepulchre, that would hide the forbidding features of that formal mound, and shelter the ashes beneath it from contumely—this is a characteristic springing from some peculiar tone of national feeling and radically distinctive of the community that possesses it. The philosopher, it is true, may sneer at our care of this bodily machine when the principle that gave it motion has ceased to actuate it; but how stolid is he who can look upon the ruin of a noble edifice, even though made irretrievably desolate, with apathy; or who would not fence up from intrusive dilapidation, halls hallowed whether by the recollection of our own personal enjoyments or the memory of the great and good of other times. It is one and the same feeling which arrests our steps beneath a mouldering fortress, and which induces a pilgrimage to the tomb of a departed poet; which kindles our indignation against the plunderer of the Parthenon, that "titled pilferer of what Time and Turks had spared;" and which makes it ready to consume the wretches who tore the bones of Milton from his sepulchre.

The calm sequestered privacy of the Bethlehem burial ground would have satisfied even the particularity of Sir Lucius O'Trigger, whose encouraging suggestion to his non-combative friend Acres, "that there was good lying in the Abbey," shows that he had an eye to his comfort in these matters. It stands aloof from the bustling part of the village, near a noble church which still faces on one of the principal streets. The approach from the church, which has grounds of its own in the form of an ornamented terrace around it, is through a narrow green lane. At the entrance of this, shaded by a clump of willows, stands a small stone building called, I believe, from the purposes to which it is applied, "The Dead House." Here the bodies of the dead are deposited for many hours previous to interment. The head is left uncovered, and life, if by any possibility it be yet remaining, has a chance of renewing its energies before the jaws of the tomb close for ever over its victim. I looked through the grated windows, but saw nothing except an empty bier in the centre, and several shells adapted to coffins of different sizes leaning against the wall. With the usual perversity of human nature, I half regretted that the solemn chamber was at the moment untenanted, and passed on to the place of which it is the threshold.

There my eye was met by the same neat appearances and severe taste which seems to prevail throughout the economy of the Moravians. The graves, arranged in rows with an avenue through the centre dividing the males from the females, are in the form of an oblong square flattened on the top with a small slab reposing in the centre. On this are cut simply the name of the deceased and the dates of his birth and death—a meagre memorial—but enough: and I could not help—after deciphering a number of these moss-covered stones upon which the dews of more than a century had wept—turning with distaste from a few flaring marble slabs at the further end of the yard, upon which the virtues of those beneath were emblazoned in the most approved modern forms.

I left the spot, thinking it a pity that a greater number of trees did not, by shading the grounds, complete their beauty, and felt willing that the young locusts which skirt them round should have time to fling their branches further toward the centre before I should have occasion to claim the hospitality of the place.

Need I say how truly, until then, I am,

Yours. H.

FOREIGN INTELLIGENCE.

Late from France.—By the Sully, from Havre, we have Paris and Havre papers of 1st ult. They furnish little political news. The rumors from Constantinople were numerous, of insurrectionary movements there; but nothing further was known, except that a great fire occurred there on 1st September.

Talleyrand had arrived in Paris, and had a long private interview with the King.

The National and the Tribune, prosecuted for their articles, stirring up the Parisians to oppose by force if necessary, the erection of forts around Paris, were acquitted by the Jury.

The *Florida* and the *Isaac Hicks* had arrived at Havre from this port. In the *Estafette*, of Monday, 30th, we find this paragraph respecting a passenger in the Florida, who is not named:

On Saturday a deplorable occurrence took place on board the Florida. A young American coming from New York to finish his medical studies at Paris, was remarked during the passage for his taciturnity and solitary disposition. Whether from regret of home, or private griefs, or merely disgust of life, on nearing the port he asked the captain for some laudanum to check a tooth-ache. A phial containing some was given to him without distrust, and shortly afterwards he was found lifeless, having swallowed nearly the whole of it. He had, it subsequently appeared, attempted ineffectually to destroy himself some days before, by a wound which was discovered in his side.

By the annexed extract it will be seen that the Bohemian meeting of the Sovereigns of Russia and Austria had broken up.

[*From the Estafette of 1st October.*]

Letters from Vienna, state that on the 19th of September, the Emperor Nicholas left *Munchen Gratz* for Modlin, where he is to have a great review. He is expected in St. Petersburg about the middle of October. Before leaving Munchen Gratz he distributed many decorations, and became himself the proprietor [*proprietaire*] of a regiment of Austrian Hussars.

The Emperor and Empress of Austria left on the same day for Brunn. The Duke of Nassau passed two days at Munchen Gratz during the residence there of the Monarchs.

All the diplomatic personages who had gone from Vienna to Bohemia, were expected back by the 26th September.

We have looked more carefully over our files of Paris papers by the *Sully*, but do not find any thing of interest. The movements of the ci-devant Duchess of Berri, now Madame *Lucchesi Palli*, are only ridiculous. The *prestige* of her influence was destroyed by the *accouchement* in the chateau de Blayo. The speculations as to the object of the Bohemian conference between the sovereigns of Russia and Austria abound, but very little light is thrown on it, though for good it could not be. Mr. Livingston and his suite, and some of the officers of the Delaware had been presented to, and dined with the King. These civilities however, will not pay the *five millions of dollars* of indemnity from France, though they may soothe the irritation more extensively felt, than acknowledged, induced by the cavalier treatment of this country by Louis Philippe's ministry in postponing till the close of the session of the Chamber, when the members was impatient to be gone, and had moreover been put out of humor in various ways, the consideration of the treaty with the United States and of the appropriations necessary to carry it into effect. We hope much, however, from the efforts of Mr. Livingston, backed as they will be by so just a cause.

A Paris paper of the 28th September has the following:—"The King has received in private audience the officers attached to the United States ship Delaware. These officers are seven in number. The Captain, first, second, third fourth Lieutenants, Captain of Marines, and Chaplain. The King received them with much cordiality and even accompanied them through the visits they made to the different apartments in the Tuilleries.

"The Aid de Camp on service for the day at the palace and who by a lucky chance, happened to be General Bernard, afterwards conducted these gentlemen to the grand gallery of the museum. They are besides, invited to dine with his Majesty to-morrow at St. Cloud."

From London there are accounts by one day later by the packet ship Samson. They present a little later intelligence from Lisbon, but without any interest.

London, Sept. 30, twelve o'clock.—Private Letters have been received this morning, brought by a merchant vessel from Lisbon, dated the 18th instant. Up to that date affairs remained tranquil, no further attack or demonstration having been made by the Miguelite army. It is likewise possitively reported that the steam vessel, the Lord of the Isles, has been captured by two of the Queen's ships. The steamer had on board twenty seven French Officers who were going out to join Marshal Bourmont, and was also heavy laden with amunition and warlike stores. It is likewise stated, that a small schooner laden with shot had shared a similar fate.

The *Hague Journal* states, after a letter from Lubeck, that a Russian 74 gun ship, with a crew of 750 men has been wrecked upon the coast of Finland, and only 15 men saved.

The London Spectator says, "A plot to assassinate the Emperor of Russia has been discovered at St. Petersburgh, in which several Poles are said to be implicated. A report has also been circulated, that letters from General Lafayette were found in possession of one of the conspirators, urging him to the commission of the deed. This the gallant and high-minded old General most indignantly denies; and we suppose there is scarcely a human being who would not at once acquit him of the charge."

Ireland.

The Marchioness Wellesly does not come to this country, and Mrs. Littleton, the daughter of the Noble and Illustrious Chief Governor, is to discharge the functions of Vice Queen at the Irish Court.—[Dublin Evening Mail.]

The Royal William steamboat has arrived, from Quebec, at Cowes, having made her first passage across the Atlantic in 21 days.

Tom Terry, an English convict, is now Thomas Terry, Esq. of New South Wales, and one of the largest wool growers in that country. His income is estimated at £25.000 sterling per annum.

Later from Jamaica.—By the arrival of the packet brig Neptune, we have Kingston dates to the 14th ult. more than a month later than our previous advices. The colonial legislature had been in session nearly a week, and the reply of the Assembly to the Governor's speech, was moderate and conciliatory.—They assure him, that as soon as he shall lay before them the information to which he alludes in his speech, relative to the emancipation bill, it will be considered with that serious attention, which a subject on which the fate of the colony depends, so justly demands. His Excellency rejoined, expressing the unmingled satisfaction with which he had received their reply, and promising to co-operate with them in their labors. There is, however, great excitement, as might be expected, on the subject; and the Jamaica Despatch, an ultra slave paper, holds a high bearing, denouncing the act of Parliament as arbitrary and unjust, and submission to it as evidence of pusillanimity.

Latest from Buenos Ayres.—By the brig Paulina, Captain Ricketson, the British Packet, published in that city, of the 31st August, has been received, from which we make the following extracts:

On the 23d of August, the British brig Prompt, Barnes, from Liverpool, was totally lost near the entrance of the river Plate, at a place called Garzon, about seven miles South of Cape St. Mary. All on board were drowned except the Captain and one sailor.

Buenos Ayres, Aug. 31.—The Director of the Vaccine Establishment in this city, has issued a notice to the public, stating that the small pox is making horrid ravages in Cordove; and that from the number of persons who are continually arriving from that provence, considerable danger exists that the disease may be thus introduced in Buenos Ayres, and attack those who have been vaccinated.

Buenos Ayres, Aug. 31.—The present aspect of political affairs in this province is not very flattering. The time which has elapsed since the suspension of the elections, has not in any degree lessened the excitement in the public mind; on the contrary, we think it has increased: indeed, so much, that during the week, the garrison of this city has "slept on their arms," and the odious sounds of "*quien vive?*" are vociferated by the sentinels, who hail every passenger after a certain hour of the night. We know not the cause of these precautions, nor have we heard of any disturbance, much less of any threatening movement.

Falkland Islands.—It would seem from the fol-

lowing document, which has appeared in the journals of this city, that the matter is not likely to be soon set at rest.

"Bolivian Government.—Foreign Depar't.
Government Palace in Chuquizaca, 19th June, 1833.

"Sir—The undersigned Minister of Foreign Affairs of the Bolivian Republic, has laid before his government the esteemed communication of the Minister of Foreign Affairs of Buenos Ayres, relative to the occurrence on the 2d of January last, on the Island of la Soledad, one of the Falkland Islands. This disagreeable event has renewed in the Government of Bolivia, the sentiments of regret which it had before experienced, on observing that mistaken interests have frustrated the grand project of the Congress of Panama. It would indeed have given to the sections of America, all the respectability necessary to prevent European nations from committing aggressions proscribed by international law, and to repel them with vigor in case they should preceed to violent measures. The occupation of the Falkland Islands, without previous reclamation, without any just title, without any other support than the abuse of power, has been sensibly felt by the Government of Bolivar, which, respecting even to the extreme, the rights of every nation, would wish that all of them should discard, *de facto*, measures so contrary to reason, and to the enlightenment of the age. As a manifest violation of the law of nations, the outrage committed on the Argentine Republic is not only to be considered, but likewise the disregard of the other American sections which it involves. In more plain terms, the conduct of the British Cabinet with respect to the Falkland Islands, is not only prejudicial to the Government which has been despoiled of their possessions, but offensive and extremely injurious to all the American Republics; and it is, in the opinion of the Government of Bolivar, an affair highly continental. Under this view, it will with pleasure not only enter into and aid in whatever may lead to the reparation of so grievous an offence—but likewise sincerely desires that it may be accounted among the first to reclaim and obtain, by those measures which may be deemed most convenient, indemnity for the injuries sustained, and the redress which so much interests American sovereignty and dignity.

"Such, Sir Minister, are the sentiments of the Government of the undersigned, and of the Bolivian Nation identified with those of every true American heart.—The Government of Buenos Ayres may always reckon upon them, when it has to sustain, and to cause to be respected the political rights of the sister Republics, which are essentially annexed to their Sovereignty and independence.

Mariano Enrique Calvo.

To H. E. the Minister of Foreign Affairs of the Government of Buenos Ayres."

Montevideo.—A communication, dated Head Quarters, *El Yi*, 15th inst, from the President of the Oriental Republic of the Urugary, (Fructuoso, Rivera,) to the Minister of War at Montevideo, states that the tranquility of the Republic being completely established, he had given orders to disband his army, except a small portion of it for the service of the frontiers.

Buenos Ayres Prices.—Ox hides, best, $31a32 per pesada; do. country, 29a30 do.; do. weighing 23 to 24lbs. $26a28, do. salted, $24a26 do.; do. horse, $10a14 ea.; Nutra skins, $65a70 per dozen; Chinchilla, $33a39 do.; Wool, (common) $9a11 do. per arroba: Hair, (long) $30a32 do.; Hair, (mixed) $350a900 per thousand; Flour, (N. A.) $80a82 per barrel; Salt, on (board) $16a18 per fanega.

[*From the Commercial Advertiser.*]

From Carthagena.—By the arrival of the British packet Lyra, at Kingston, Jam., from Carthagena, which place she left on the 8th of October, information is received that Rear Admiral Duportel, Governor of Martinique, had repaired to Carthagena with several French vessels of war, and demanded reparation for the insult offered some time ago to M. Barrot, the Representative of the French court at that place.—The demand was accompanied by a threat of using force in case of refusal. The Governor, Colonel Vesga, stated in reply, that as he was without an armed force, the commander of the French ships could, if he pleased, carry his resolution into effect; but that if he did make war upon a defenceless people, he would be held responsible for the result. The Governor assured the Admiral that he had not the authority to make the reparation demanded—but that it must rest with the supreme authorities. Further correspondence between the parties ensued, which ended in a declaration by the French Admiral, that he would blockade the port, if, at sunset on the 17th, full satisfaction was not awarded.

The Serpent, a British vessel of war, had been despatched from Kingston, to protect the persons and property of British subjects at Carthagena.

The Kingston Chronicle of the 8th, has the following remarks:—

The whole property of the island is at stake, and one false throw of the Legislature may annihilate it forever. The chances are now in our favor, if we play our game fairly; but if we allow our attention to be drawn aside, or distracted by the excitation of radicals, we shall infallibly lose the self-possession necessary to ensure the success attendant upon calm and cautious dexterity. All must be impressed with the necessity of acting with the most prompt and temperate decision to avert the dreadful consequences of external legislation; and if the present moment be not properly employed to secure our future welfare, the opportunity may be lost forever. An honest, firm and straightforward policy is what we would recommend, and the adoption of a measure likely to reflect credit on the loyalty and generosity of the Jamaica Legislature, as well as to render nugatory the Parliamentary Bill viz: the passing a bill agreeing in principle with that passed by the Imperial Legislature, but regulating the details to suit the character of our Colonial population, and at the same time obviating the expensive machinery of Commissioners. In short, agreeing to shorten or abolish the term of apprenticeship, provided full, fair and unencumbered compensation be immediately secured.

SUMMARY.

[*From the National Gazette.*]

The letter of E. Champion Jr., to the Editor of the Hartford Times, which appeared in the National Gazette of the 24th inst., being calculated to do injury, by drawing off the attention of the public and engineers from what is generally admitted by practical men to be the cause of the explosion of steam boilers, I have deemed it a duty to endeavor to bring them back to the true source of the evil, namely, the want of water in the boilers.

It is not to be wondered at, that after so terrible a concussion a part of a bulk head should have been found resting on the lever of the safety valve; and even if it had been there before, he has not shown that there was then steam enough to burst a good boiler, which undoubtedly those of the New England must have been, being more than a quarter of an inch thick, and nearly new. It appears, too, that there were two mercurial gauges, yet we do not learn that the quicksilver was blown out, which would have been the case before the steam would have burst the boilers. The rapid formation of steam at Essex proves a scarcity of water; and their simultaneous explosion goes far to prove an instantaneously created, irresistible power; but the circumstance of the accident occurring immediately on the starting of the engine, is conclusive to my mind that the jet of water into highly heated boilers, was the only cause of the lamentable catastrophe.

I have seen a small square boiler, so strongly secured by wrought iron stays that I supposed it capable of bearing a pressure of 500 pound to the square inch, so strained in consequence of an ignorant bystander turning the feed cock for one instant when the boiler was highly heated and quite dry, as to break one or more of the stays, and bend up the top like the lid of a trunk, notwithstanding the safety valve and two additional holes made by the melting of their pipes. Had there been a little more water, it is probable an explosion would have ensued.

When such accidents happen with condensing engines, it seems impossible in any other way to solve the mystery; for they are not capable of working with more than 20 lbs. to the square inch, as they cannot condense more than that, even when they shut off the steam at half the stroke of the piston. Now, little danger can be apprehended from a pressure of 20lbs. in a good boiler, seeing that 100 to 150 is very common with high pressure engines; and the iron of both is nearly the same, although not always the construction.

How, then, can the recurrence of these dreadful explosions be prevented? Not by placing a safety valve under the lock and key of a government officer: this would not remedy the evil, for it would not ensure a supply of water to the boilers. It can only be done by applying more checks and more attention on the part of the captain and engineer. This most important part of the operation of working an engine,—feeding the boilers,—is too frequently entrusted to a very common personage, the fireman—a person not likely to be very highly impressed with the great responsibility of his station. The gauge cocks are in his room, and too rarely opened by any body else. May not such a one open the cocks mechanically, and not be able one minute afterwards to say whether steam or water was given out? May he not, especially at night, become drowsy and negligent? Let then "sleeping Duty be roused at her post."

The force pump is as complicated as any part of the steam engine, very liable to get out of order, and may not do its office when it is supposed to be doing it. Let then each engine be provided with two force pumps, which shall be used day about to insure their good condition; let gauge cocks, in addition to those of the firemen, be placed within the reach of the engineer; and discourage the racing of steamboats, because, as the feeding of the boilers destroys steam, if either has a difficulty in keeping up a supply, there would be a temptation to withhold the water until it might be dangerous to renew it. It is possible that, owing to an obstruction or defect in the pipe leading to the force pumps, the feeding may not go on. Let the difficulty arise from what it may, there should be no hesitation, after the water gets below the ken o the engineer, which is the case as soon as it is below the lowest gauge cock, to cause the fire under the boilers to be put out, until the remedy is applied, and the boilers replenished by the *hand pump*. Much better would it be to detain the passengers one hour than to injure an individual,—better to detain them a month than to explode a boiler in the midst of them.

L.

Volcanic ashes, when carried into the highest regions of the atmosphere, are usually wafted to the eastward. Upon an eruption of Mount Vesuvius in 1631, a shower of ashes fell upon the coast of continental Greece, and also at one hundred leagues distance towards the coast of Syria. On the eruption at St. Vincent in 1812, ashes were deposited at Barbadoes, sixty or seventy miles eastward, and also on the decks of vessels one hundred miles still farther east, while the trade wind at the surface was blowing in its usual direction. In the same year ashes fell upon the deck of a British packet bound to Brazil, when distant nearly one thousand miles from the nearest land.—[Silliman's Journal.]

Letters have been received, by the owners of this port, of the following ships at Fayal.

Aug. 26th Gov. Clinton—no oil, all well.

Sept. 7. Arabella, no oil, had landed 3 colored men who were sick.

6th. Daniel Webster, no oil, all well.

17th. Franklin, 160 bbls sperm oil, all well.—[Sag Harbor Corrector.]

Interments at New Orleans.—*Catholic*.—Oct. 12, 24; 13, 10; 14, 14; 15, 13; 16, 15; 17, 14; 18, 13; 19, 13; 20, 11; 21, 7.

Protestant.—Oct. 12, 6; 13, 2; 14, 7; 15, 13; 16, 13; 17, 5; 18, 7; 19, 5; 20, 7; 21, 7.

The loss by the fire at Lee, Mass. on Saturday evening, which destroyed one of the paper mills of W. W. & C. Lafflin, was about $12,000. Insurance $8000. Only one of the mills was burnt; the other is uninjured. From that which was destroyed, a part of the contents was saved.

We may safely congratulate our readers on the favorable termination to the nation, of our struggles for sovereignty with the State of Alabama, in consequence of that State having extended its jurisdiction over that part of the Cherokee territory lying within its limits. It is we believe, generally known that the Cherokee Government within these limits had been superseded by that of Alabama, and the vacant lands settled upon by the whites. At a Circuit Court of September term, for the county of St. Clair, his honor Judge Adair, presiding, came up for trial, *a Cherokee Indian*, indicted for the murder of an Indian in the Cherokee territory, in Alabama. The Counsel for the Nation filed a plea to the jurisdiction of Alabama, as repugnant to the treaties, &c., of the United States. Judge Adair remarked, that he was sworn to support the Constitution and Treaties of the United States, and would be strictly governed by them. In an elaborate opinion, as we are informed, Judge Adair has declared the laws of Alabama over the Cherokees, null and void, and repugnant to the treaties and laws of the United States. We shall publish the opinion so soon as we can obtain a copy.—[Cherokee Phenix.]

Mr. *J. Fennimore Cooper* and his family have arrived in the Samson. He will be warmly welcomed to his native home.

We are requested to state, that the hour of starting for Philadelphia has been changed from 6 to 8 o'clock, and the steamboat Independence, of the Railroad Line, will leave tomorrow (Wednesday) morning at the above hour, the 10 o'clock line having been discontinued for the season.

[*From the Baltimore American.*]

The Legislature of Tennessee, and the Union Bank of Tennessee, have got into a controversy which threatens to be an angry and protracted one. The circumstances are curious. As far as we can make them out from publications in the Nashville papers, particularly the report of the Committee on Banks, they are these.

The charter of the Union Bank was granted in 1832. For the charter the Bank agreed to pay, by the terms of the act, a certain bonus, and a certain interest on the deposites of public money. The State subscribed for $500,000 of the stock, for which bonds were issued to that amount, and the *seventh* section of the charter of incorporation appropriated the proceeds of these several sums in the following way:

"Be it enacted, That the profits which may arise from the stock owned by the State in the Union Bank of the State of Tennessee, after the bonds of the State shall have been paid, and also the *bonus* agreed to be paid by the Bank of the State for the privilegea conferred by this charter, and also the interest which may from time to time accrue, upon the deposites of public money, by the treasurers of the State, shall be and they are hereby appropriated to the use of Common Schools in this State."

On this clause, the President and Directors of the Bank have set up a most extraordinary claim, They refuse to pay the bonus, the interest upon deposite or the dividends on the stock into the State Treasury, and insist that this clause makes them trustees for a sinking fund to pay the State debt contracted by those bonds, to the exclusion of the State itself! The State bonds are not payable finally for *thirty* years, and the Bank demands to have the use of all the public money, the dividends on all the public Stock, and the debt which it owes the State, to accumulate, as they allege, to provide for the security of the holders of State scrip, in case the 'Legislature might fail to raise the necessary funds." They, therefore, tell the Legislature that they feel it their *duty* to "resist" the withdrawal of these funds from the Bank.

As might be expected, the Legislature is rather restive under these imputations upon the honor and credit of the State, and efforts to supersede the functions of the Treasury by a corporation. The report of the Committee uses freely such phrases as 'officious interference,' 'arrogant dictation,' 'rapacity,' 'fraud,' &c. and recommends a bill,—we have not seen it,—to bring the matter before the judicial tribunals.

The *Indian Question* is before the Legislature of Tennessee. The Cherokee lands in that State form a very considerable tract of country, over which the laws of the State have not yet been extended. At the present session, a bill has been reported for giving the State Courts "cognizance of crimes and misdemeanors committed, and of all contracts made in the said territory."

The bill expressly reserves to the Indians the unmolested enjoyment of their property, real and personal, their customs and usages, and exempts them from taxation by the State, except where admitted according to law to all the privileges of citizens.

It met with considerable opposition upon the ground that the Cherokees were, in accordance with existing treaties under the constitution, a *quasi* independent nation, and could not rightfully be subjected to the jurisdiction of the State. After a long discussion, it was finally passed by a vote of 24 to 15, and sent to the Senate, which body has not yet acted upon it.—[Baltimore American.]

The Montreal Daily Advertiser, of the 29th ult. says—"A shock of an earthquake was felt at Metis, on Saturday, the 12th inst."

Naval.—Com. Wadsworth, appointed to the command of the United States squadron in the Pacific, has hoisted his broad pendant on board the United States ship Vincennes, lying in this harbor. We understand the V. will sail in a few days.—[Norfolk Beacon.]

Mobile, Oct. 21.—The new mail boat Watchman, Capt. Gedney, arrived at this port yesterday. She is a fine specimen of naval architecture, and from what we have seen and heard, we make no doubt she is well calculated for the route for which she is destined. The time occupied in running from Cape Henry to Mobile Point, was only 9 days and seven hours, during which time, in consequence of head winds, she used her sails but eight hours. She will remain here about a week, to complete the repairs rendered necessary by the accident with the brig Nahant, when she will take her place on the line. Capt. Gedney pronounces her a first rate sea-boat.

Mr. Clay.—We learn that Mr Clay was to leave Boston on his return South yesterday—crossing over the country via Worcester, Northampton, Pittsfield, &c. to Troy and Albany—and thence descending the river to this city. The citizens of Troy and Albany, without distinction of party, have extended an invitation to the Western Statesman, and we are glad that he has accepted it.—[Com.]

[*From the Newbern N. C., Spectator.*]

We observe with great satisfaction the present prosperous and improving state of our town. Every commodity brought to market finds a ready and fair sale. The citizens of the adjacent country are satisfied with the prices, and believe that their labour is adequately remunerated. There is not a house in town which is not either occupied or engaged, and new buildings are gradually appearing in every direction. The number of merchants, also, has increased very considerably. We hope that these signs of prosperity may be as substantial as they are cheering, and that they may be followed by an increased diffusion of information, (i. e. the Sentinel) and a generous encouragement of literature.

The President has officially recognized *Adel Charles Lacathon de la Forest*, as Consul General of France for the United States.

The United States sloop of war Warren, Master Commandant Cooper, arrived at Philadelphia on Wednesday, and anchored off the Navy Yard. A national salute was fired by the Warren, and returned from the Navy Yard. Officers and crew all well.

[*From the National Intelligencer of Wednesday.*]

We understand that among the official visiters now in this city, are the members of the Army Medical Board of Examination. The Board, after a tour of inspection along the Northwestern, Western, and Southwestern stations, of nine thousand miles travel, and after sitting as a Board of Examination at New-Orleans, St. Louis, and at New York, have been ordered to the seat of government, to confer with the Secretary of War and the Surgeon General, on the important duties which have occupied them for the last eight months. The Board consists of Surgeons Lawson and Mower, and Assistant Surgeon Smith. While the operations of this Board have had an influence on the Medical department of the Army, primarily conducive to the safety, health and comfort of the brave soldier and the gallant officer, it is but an act of justice to their humanity and professional skill, to state, that in long course of their journey they travelled with the pestilence in the West, and most assiduously devoted their able services to the relief of their fellow citizens.

We consider the establishment of the Army Board of Medical Examination as highly creditable to the judgment and energy of Secretary Cass, as its perpetuation is certainly to conduce to the health and safety of the army, and to elevate the character of our Military Medical Department.

Anatomy of the Horse's Foot.—The horse, a native of extensive plains and steppes, is perfect in his structure, as adapted to these, his natural pasture grounds. When brought, however, into subjection, and running on our hard roads, his feet suffer from concussion. The value of the horse, so often impaired by lameness of the foot, has made that part an object of great interest; and I have it from an excellent professor of veterinary surgery to say, that he has never demonstrated the anatomy of the horse's foot without finding something new to admire. The weight and power of the animal require that he should have a foot in which strength and elasticity are combined. The elasticity is essentially necessary to prevent porcussion in striking the ground; and it is attained here, through the united effect of the oblique position of the bones of the leg and foot—the yielding nature of the suspending ligament, and the expansibility of the crust or hoof. So much depends on the position of the pastern bones and coffin bone, that, judging by the length of these and their obliquity, it is impossible to say whether a horse goes easily, without mounting it. When the hoof is raised, it is smaller in its diameter, and the sole is concave; but when it bears on the ground it expands, the sole descends so as to become flatter; and this expansion of the hoof laterally is necessary to the play of the whole structure of the foot. Hence it happens that if the shoe be nailed in such a manner as to prevent the hoof expanding, the whole interior contrivance for mobility and elasticacy is lost. The foot in trotting, comes down solid, it consequently suffers precussion; and from the injury, it becomes inflamed and hot. From this inflammation is generated a variety of diseases, which at length destroy all the beautiful provision of the horse's foot for free and elastic motion. The subject is of such general interest, that I may venture on a little more detail. The elastic or suspending ligament spoken of above passes down from the back of the cannon bone, along all the bones to the lowest, the coffinbone; it yields and allows, these bones to bend. Behind the ligament the great tendons run, and the most prolonged of these, that of the perforans muscle, is principally inserted into the coffin bone, having at the same time other attachments. Under the bones and tendon, at the sole of the foot, there is a soft elastic cushion; this cushion rests on the proper horny frog, that prominence of a triangular shape which is seen in the hollow of the sole. The soft elastic matter being pressed down, shifts a little backwards, so that it expands the heels, at the same time that it bares on the frog, and presses out the latteral part of the crust. We preceive that there is a necessity for the bottom of the hoof being hollow or concave—first to prevent the delicate apparatus of the foot from being bruised, and, secondly, that elasticacy may be obtained by its descent. We see that the expansion of the hoof and the descent of the sole are necessary to the play of the internal apparatus of the foot. That there is a relation between the internal structure and the covering, whether it be the nail, or crust, or hoof, we can hardly doubt: and an unexpected proof of this offers itself in the horse. There are some very rare instances of a horse having digital extremities. According to Suetonius, there was such an animal in the stables of Cæsar; another was in the possession of Leo X.; and Geoffrey St. Hilaire, in addition to those, says, that he has seen a horse with three toes on the fore-foot, and four on the hind-foot.* These instances of deviation in the natural structure of the bones were accompanied with a corresponding change in the coverings—the toes had nails, not hoofs. By these examples, it is made to appear still more distinctly, that there is a relation between the internal configuration of the toes and their coverings—that when there are five toes complete in their bones, they are provided with perfect nails—when two toes represent the whole, as in the cleft foot of the ruminant, there are appropriate horny coverings—and that when the bones are joined to form the pastern bones and coffin bone, there is a hoof or crust, as in the horse, couagga, zebra, and ass.—[Bell's Bridgewater Treatise.]

* Such a horse was, not long since, exhibited in town, and at Newmarket.

Maxims and Reflections from Goethe.

Modern poets pour a great deal of water in their ink.

The greatest difficulties are found where they are least expected.

In the works of man, as in those of nature, their purpose and design are the proper objects of our attention.

The greatest good that we derive from history is that it awakes enthusiasm.

Literature is a fragment of a fragment. Of all that ever happened, or has been said, but a fraction has been written; and of this latter but little is extant.

Shakspeare is dangerous reading to budding talent,—he compels it to reproduce him while it fancies it is producing itself.

Wisdom exists only in truth.

The smallest hair casts its shadow.

There are not always frogs where there is water, but where we hear them croak we may be sure the latter is not far off.

Many knock at random on the wall with the hammer, and fancy they hit the nail on the head every time.

Historical writing is a way of getting rid of the past.

What we do not understand we do not possess.

Foresight is simple, retrospection manifold.

One who feels not love must learn to flatter, or he will never succeed.

The world is a cracked bell; it rattles, but does not ring.

There are men who never go wrong, because they never entertain any sensible project.

Time is itself an element.

Let us know the world as we may, it has always a day and night side.

At all times it is individuals and not the age which have influenced knowledge. It was his age which poisoned Socrates, his age which condemned Huss to the stake. Ages have always been alike.

What government is the best?—that which teaches us to govern ourselves.

Truth is like God: it does not show itself directly; we must seek it in its manifestations.

It would not be worth while to live to seventy, if all the wisdom of the world is foolishness before God.

APHORISMS ON NATURAL SCIENCE.

The ignorant propose questions which the learned have answered a thousand years ago.

Nothing is more prejudical to a new truth than an old error.

Man must persist in the belief that the incomprehensible is comprehensible, otherwise he would inquire into nothing.

Hypotheses are lullabies with which teachers hush their pupils asleep.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 15th to the 25th day of October 1833, *inclusive.*

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Octob. 15..	6 a. m.	52	30.17	wsw	faint	w by s	cloudy
	10	56	30.19	variable	..—light	..	.. —fair
	2 p. m.	62	30.10	sse	light	w / w by s	fair—cloudy
	6	61	30.03	..	..	w by s	cloudy
	10	61	30.04	..	..	..	..
" 16..	6 a. m.	64	29.95	s—sw	moderate	sw by w	..
	10	67	29.98	ssw	..	sw	..
	2 p. m.	70	29.91	s	..	..	..
	6	68	29.89	..	light	..	..
	10	66	29.90	..	..	..	fair —storm
" 17..	6 a. m.	64	29.82	..	..	..	cloudy
	10	65	29.80	sse	..	..	..
	2 p. m.	69	29.77	ese	—fresh	..	rainy —fair
	6 a. m.	67	29.70	sse	moderate	sw / sse	fair—light scuds from sse
	10	67	29.60	..	strong .	..	..
" 18..	6 a. m.	53	29.85	..	..	..	..
	10	52	29.90	wsw	..	ssw	..
	2 p. m.	57	29.95	ssw	moderate	..	cloudy —fair
	6	53	30.07	wsw	..	..	fair
	10	50	30.18	..	..	..	..
" 19..	6 a. m.	45	30.33	w—nw	..	wsw	..
	10	50	30.40	nnw	..	..	..
	2 p. m.	53	30.38	..—se	faint	..	..
	6	50	30.38	..	..	..	..
	10	50	30.41	..	..	..	cloudy
" 20..	6 a. m.	43	30.33	ne	moderate	ene	rain scuds rain
	10	42	30.35	..	fresh	ne ..	..
	2 p. m.	44	30.32	..	..	.. ..	..
	6	43	30.26	..	..	.. ..	..
	10	42	30.26	..	..	.. ..	..
" 21..	6 a. m.	44	30.12	..—ene	mod.-fresh	.. ..	..
	10	45	30.10	ne	—..	.. ..	..
	2 p. m.	46	30.05	..	moderate	.. ..	..
	6	47	30.03	..	fresh	.. ..	..
	10	47	30.00	..	..	..	..
" 22..	6 a. m.	48	29.83	nnw	moderate	nnw—nw	rainy
	10	48	29.89	nw—nnw	..	wnw	..
	2 p. m.	52	29.87	w—w by n	..	s / wnw	cloudy
	6	49	29.89	w by n	..	..—wnw / w	fair
	10	47	29.94	wsw	..	sw	..
" 23..	6 a. m.	40	30.01	sw—n by w	..—fresh	..	..
	10	47	30.08	sw by w	fresh	..	..
	2 p. m.	54	30.06	..	..	..	..
	6	52	30.04	..	..	..	.. —hazy at sw and w
	10	48	30.04	..	..	..	..
" 24..	6 a. m	48	29.94	ssw	moderate	..	.. —hazy at e
	10	53	29.92	..	..	..	..
	2 p. m.	59	29.80	..	..	..	..
	6	56	29.70	..	..	..	..
	10	54	29.70	..	..	sw by w	..
" 25..	6 a. m.	53	29.67	sw	..	..	cloudy —fair
	10	55	29.65	wsw	..	..—wnw	fair
	2 p. m.	58	29.62	..	..	w	..
	6	55	29.67	..	..	wsw	..
	10	52	29.70	..	..	..	..

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of September, 1833—(*Lat.* 31.10 *N., Long.* 91.59 *W. nearly.*)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date. 1833.	Thermometer. Morn'g.	Noon.	Night.	Wind.	Weather, Remarks, &c.
Sept'r 1	72	88	82	ne—light	cloudy—Red River falling
" 2	71	88	81	..	clear
" 3	70	87	82	calm	..
" 4	71	87	78	e	light showers & sunshine—evening calm & cloudy—Red River fell 5 inches
" 5	74	86	77	ne—strong	cloudy—at 3 a. m commenced raining and continued very heavy to 1 p. m.*
" 6	74	86	83	se—light	clear—flying clouds—evening calm—Red River rising
" 7	73	87	80	calm	.. evening—light showers
" 8	74	86	82	..	..
" 9	72	88	82	..	.. —Red River risen 22 inches, now falling
" 10	77	88	82	..	cloudy morning—from 10 a. m. wind ne and clear—night cloudy
" 11	75	86	83	..	clear
" 12	73	87	85	..	..
" 13	72	86	80	..	.. —light shower at 1 p. m.
" 14	75	86	79	sw	.. morning—light showers—calm—cloudy evening
" 15	74	85	83	w	.. —flying clouds—evening calm and sultry
" 16	76	86	83	calm	.. —light breezes from s
" 17	77	83	80	..	..
" 18	75	86	82	se	..
" 19	72	85	78	calm	.. —Red River fell since the 9th, 22 inches
" 20	71	88	82	..	..
" 21	71	74	73	ne	cloudy—night calm and clear
" 22	60	73	68	n	clear
" 23	58	75	70	calm	..
" 24	62	76	73	n	.. —calm evening
" 25	62	79	77	nw	.. — .. ..
" 26	65	81	78	calm	..
" 27	65	84	79	..	..
" 28	74	87	80	sw—light	cloudy—clear evening
" 29	70	87	80	calm	clear
" 30	72	87	77	s—light	at 4 p. m. thunder shower—heavy showers all night.

* Sept. 5th—severe flaws of wind all day; evening and night heavy showers; at night wind severe form e to se.

September—Red River fell since the 1st of this month, 1 foot 4 inches; fell previously, 22 feet 10 inches; and is now below high water mark, 24 feet 2 inches.

[*From the Albany Argus.*]

We have been requested by the Comptroller to publish the following notice:—

Merchandize transported upon the Canal.—Merchants would facilitate the transportation of merchandize upon the canal, if they would weigh each box, cask, package or separate parcel of goods, and mark the weight upon it. The statute requires that "every master of a canal boat, conveying property on a canal, shall exhibit to the several collectors, a just and true account, or bill of lading," containing among other things, "*a statement of the weight of all the articles on which toll is charged by the ton.*"

This weight should be ascertained and marked upon the box or cask, by the merchant who sells the goods. The attention of merchants in the city of New-York is specially directed to this subject of weighing and marking merchandize which is to be transported upon the canals.

Canal boats are now frequently loaded in the city of New York with 30 or 40 tons of merchandise, and when the boat arrives at Albany and a clearance is wanted, the master has not the means of giving such a bill of lading as the law requires, without unlading his boat and weighing each article.

The merchants who sell the goods may remedy this evil by weighing and marking upon each article the weight thereof, and by giving the purchaser or shipper, with his bill of goods, the weight also of each article.

Every person who loads a canal boat, in New York or elsewhere, should bear in mind, that to enable him to get a clearance to navigate the canal, he must be enabled to give, not only a bill of all the articles on board, but also the weight of each article.

Nov. 1, 1833.

MARRIAGES.

Thursday evening, Oct. 31st, by the Rev. Dr. Lyell, Edward B. Valentine, to Miss Eliza Emily, daughter of Elijah Pinckney, Esq. all of this city.

On Wednesday morning, 6th inst., at St. Thomas's Church, by the Rev. Dr. Hawks, J. H. Borrowe, M. D., to Jane, daughter of John Beekman, Esq., all of this city.

On the 17th instant, by F. T. Tiffany, Mr James Swartwout, of Milford, to Miss Margaret Wilcox, of Middlefield, Otsego co., N. Y.

On the 15th instant, by Rev. Daniel Nash, Mr Aurelius Tunnicliff, of Warren, Her. co., to Miss Nancy Ann Tunnicliff, of Columbia.

On the 20th instant, by Elder H. Robertson, Mr. Harvey Wkendal, to Miss Phoebe Irons, all of Hartwick.

In Laurens, on the 20th inst., by S. J. Cook, Esq. Mr. George Matteson to Miss Philinda Eldred.

At Pendleton, S. C., on the 22d inst., by the Rev. Mr. Barwell, William Van Wyck, of this city, to Lydia Ann, youngest daughter of Samuel Maverick, Esq. of the former place.

In Philadelphia, on the 5th instant, by the Right Rev. Bishop White, George Trott, Jr., of this city, to Sarah, eldest daughter of Thomas McKean, Esq., and grand daughter of the late Governor McKean, of Pennsylvania.

At Coxsackie, on Monday evening last, by the Rev. Mr. Grigg, of Athens, Columbus Lane, of New York, to Elizabeth, daughter of Barent Houghtaling, Esq., of Coxsackie.

At Port Deposit, on Tuesday Morning, 22d inst. by the Rev. W. Finney, Lieut. John Archer, of the U. S. Army, to Miss Ann D. daughter of T. L. Snvin, Esq. of Port Deposit.

DEATHS.

On Sunday morning, after a short illness, Daniel Boardman, Esq., in the 77th year of his age.

Yesterday afternoon, in the 31st year of his age, Mr. James F. Jackson.

This morning, Oct. 31st, William Dewitt, infant son of Dr. C. A. Lee, aged 11 months.

Thursday evening, Oct. 31st, Mrs. Mary Brewster, in the 63d year of her age.

On the 28th instant, Lydia Ann Anthony, wife of Captain Caleb Anthony, Jr.

On Saturday evening, of a lingering disease, Mrs. A. Wilson, consort of James Wilson, and daughter of the late R. Bannan, deceased.

On Saturday evening, Wm. W. Ellis, aged 7 years.

At Schooley's Mountain, N. J., on Thursday afternoon last, Leonora, twin daughter of C. Bowne.

On 18th Oct., at Pleasant Valley, Dutchess County, John A Wood, Esq. formerly Sheriff of that County.

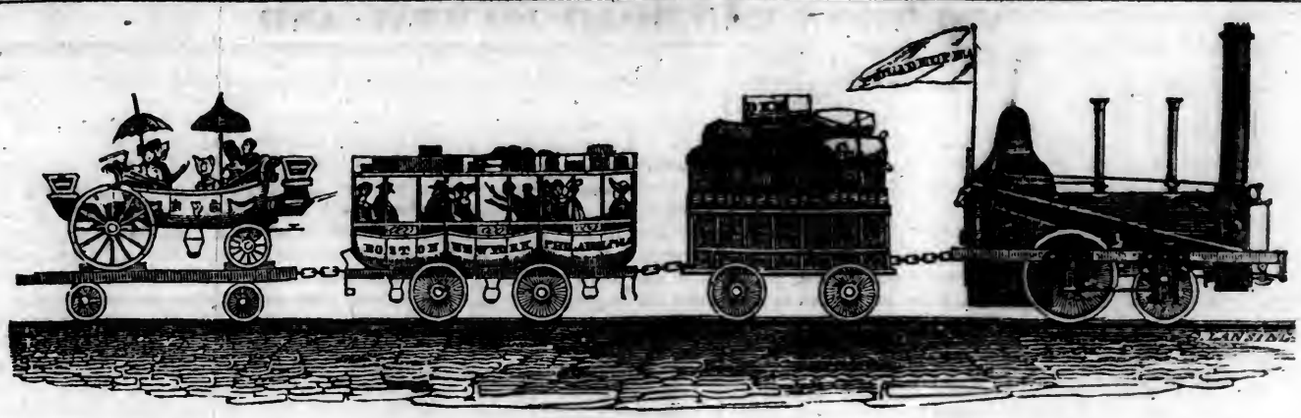
On the 13th October, at Alton, Illinois, Benjamin Ives Gilman, late of this city, in the 68th year of his age.

In Hartwick, on the 23d inst. of consumption, Mr. Orimel Edson, aged 41 years.

At Kinderhook, N. Y. on the 22d ult., Andrew Meliss, a native of Scotland, and formerly a merchant of this city, in the 47th year of his age.

At Carthagena, on the 12th September, last, of the yellow fever, Mr. Abram Kashow, late of this city, in the 24th year of his age.

In the death of this young gentleman, thus cut down in the bloom of manhood, society has sustained no ordinary loss—but to numerous friends whom intimate association had made acquainted with his many amiable qualities, the loss is irreparable. To a heart possessed of every noble attribute which could adorn or dignify our nature, he joined a highly gifted mind, which application to the ample page of Knowledge had richly endowed with intellectual beauties. Affable in manner, manly and generous in action, ardent and sincere in his attachments, he won all hearts; and though now reposing in the dreamless sleep of eternity on a foreign shore, he will not be forgotten. Loved in life, he will be sincerely regretted in death; and the fondest recollections will be cherished of his memory in the minds of those who knew and appreciated his gentleness as an worth.—[Communicated.]



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, NOVEMBER 16, 1833.** [VOLUME II.—No. 46.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 16, 1833.

The Alexandria Gazette copies from the Baltimore Gazette the annexed paragraph:

"Our experience in Baltimore, in regard to Railroad travelling, has furnished satisfactory evidence to sustain fully the opinion, 'that it is the most secure mode of travelling.'"

And then remarks that

"*Our* observation, made by a perusal of public prints, from all parts of the country, satisfies us that Railroad travelling is the most *insecure* mode that has ever yet been invented. We speak entirely without prejudice."

We should have been inclined, but for the candor of the editor of the Alexandria Gazette, in disclaiming any thing like prejudice, to believe that he was somewhat under its influence when he says that he has, "from reading the public prints from all parts of the country, *satisfied himself that railroad travelling is the most insecure mode that has ever yet been invented.*" He is, however, a gentleman of too much candor to be suspected of a desire to prejudice others, and we must therefore conclude that he has forgotten the frequent and appalling accounts of *steamboat explosions*, by which, not only hundreds, but *thousands*, have lost their lives. It is true, and we would not wish to disguise, that several *serious* accidents have occurred upon railroads—not so many however as to render them liable to be considered the "*most unsafe* mode of travelling ever yet invented." It appears to us from the information we have received, that most of the accidents which have occurred to persons, on our railroads, have been occasioned by the carelessness of the persons injured, and not from any mismanagement of the Railroad Companies, or their special agents. No agent or engineer should be held accountable for the indiscretion of a passenger, who attempts to get from a car when in motion, or other persons attempt to cross the *track* in front of a train of cars.

The late unfortunate accident on the Camden and Amboy Railroad, as serious as it is, cannot, we think, from the report, which will be found in the Journal, of a committee of investigation, be chargeable either to want of care in the arrangements or in the agents, as we presume there is not another company in this country which has taken more care to *prevent* accidents than that of the Camden and Amboy Railroad. An agent expressly to *keep the time*, and another to tend the brake, and keep a look out and give notice of danger.

We think we shall be borne out by facts when we estimate the loss of life and property by the explosion and destruction of *steamboats*, to be at least *twice*, if not three times, as great in an equal number of passengers, and amount of business, as by accidents upon, or pertaining to, railroads. And as an additional, and, we regret to say, most melancholy evidence of it, we give the following heart-rending account of new disasters on the Mississippi river, by which *forty* lives were lost, and several others seriously injured, with the loss of more than $200,000 in property.

From the New-Orleans Mercantile Advertiser Extra, of Friday, Nov. 1.

Distressing.—It is with feelings of the deepest regret we lay before our readers the following distressing news, politely furnished us by the clerk of the steamboat Black Hawk, arrived here this morning about half past four o'clock.

Extract from log-book of steamboat Black Hawk, P. S. Hartshorne, master, October 29, 5 P. M.:

At Foot of 98, discovered the wreck of steamboat New-Brunswick, came to, and took on board one of her crew, from whom we learnt that she took fire the day before, at 4 P. M. and was entirely destroyed—no lives lost, but that none of the cargo was saved.

Another, and more Distressing.—Oct. 31, came up to the wreck of the steamboat St. Martin, two miles above Donaldsonville, rounded to, and received on board those that were saved.

The St. Martin was from Bayou Sarah, and had about 500 bales of cotton and 90 hhds. sugar; she was discovered to be on fire about 12 o'clock *this day*, and melancholy to relate about 40 persons were LOST by fire and water. Of the officers and crew missing are the captain, clerk, 2d mate, 2d steward, cabin boy, chamber maid, 2 cooks, bar keeper, 4 sailors, and 5 firemen. Several passengers were lost, among the number Capt. Sengstack, N. Moss, Esq. of N. Orleans, and servant, Mr. Whiting, of Franklin, Mr. Easton and servant, of Opelousas, Mr. Allen, Mrs. Willis, of Bayou Sarah, a lady, name unknown, and 3 servants—Mr. J. F. Miller, of New-Orleans, was badly burnt—several passengers say that she had on board about *fifty thousand dollars*, belonging to some of the Banks in New-Orleans, which is lost.

John W. Owens, Clerk.

Railroad.—We are gratified to learn that the railroad will be ready for the transportation of passengers and goods, as far as the Bergen hill, by about the 1st of December. The rails are now laid, we understand, except upon about half a mile of this distance, and the bridges all completed. Our manufacturers and others will, we presume, gladly avail themselves of its facilities, which will be especially important in the coming season of bad roads, and when the river is closed. Suitable arrangements will of course be made for the conveyance of passengers and goods from the termination of the railroad to and from the ferry.—[Paterson Intelligencer.]

Clinton, Oct. 25, 1833.

We learn that Col. Crozat, civil engineer of the State, and Mr. Welch, the assistant engineer, have resumed the survey of the Clinton and Port Hudson railroad.—[New-Orleans Mer. Adv.]

Pennsylvania Canal.—It is stated in an official report of the receipts and business of this canal for the year past, ending on 1st November, that the canal was only closed one month during the year, February, and such, it is added, has been the case ever since it was first opened. This is a fact of great interest to New York, as unless we can compensate by a reduction of tolls and greater facilities of transportation, for the greatly longer period (from three to four months,) during which, the Erie canal is closed, we may be in danger of seeing a considerable portion of its trade to the far West diverted.

Internal Improvements, No. I. By F. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

Sir,—Mechanical knowledge is now making rapid strides towards perfection, exercising in its progress a genial influence over the arts and sciences of the civilized world, strengthening its ties of intercourse, and dispensing plenty and intelligence where formerly misery and ignorance held their sway. The invention of the steam engine alone may be regarded as a new era in the domestic policy of nations, and since the important step made by Watt in reducing its principles to practical application by an investigation of its physical properties, its course has been steadily onward, engaging in its service more talent, ingenuity, and labor, and producing more national and individual wealth, than any other human invention. Its gradual development gave an impetus that has led to all the numerous discoveries and improvements in the different branches of manufactures, and raised them to their present high state of perfection. But a few years have elapsed when the wondrous effects now resulting from the application of this subtile fluid, before its capacity of adaptation was known, could only have found place to grace the pages of fiction, or adorn a tale of romance. Who would then have credited the assertion, if made, that hundreds were under its influence, daily travelling the country, navigating rivers, and traversing lakes and seas, at the rate of thirty miles per hour; and that at this high degree of velocity they were in the indulgence of every luxury and comfort that their own private apartments could afford? Had its accomplishment been then predicted, instead of serving as a beacon-light to guide the intelligence of men of science and learning, it would have been treated simply as the wild dream of an enthusiast, and elicited naught save contempt from many who are now proud to acknowledge themselves among its warmest advocates. For there are many persons still living, scarce passed the meridian of life, who blush to have regarded the idea as visionary; and, refusing the subject the effort of a thought, have even suspected the intellect of the person who predicted its eventual realization. Strange as this incredulity may now appear, it is none the less true; and a few years may yet prove to us that the principle is in its infancy; that it is destined to fulfil still higher duties: and that its sphere of usefulness is to be widely extended. It would be no unprofitable lesson to mark the influence which physical science, in its different stages, has exercised over the moral and political character of nations. It would be found that nearly in the same proportion that mechanics have advanced towards perfection, the world has advanced in civilization; that as its principles have been developed, its condition has been bettered; in short, it has been one of the grand moving principles by which these effects have been produced. But this investigation becomes not the present paper; and however grateful be the task to pay a passing tribute to the inventive talents and sublime genius of the great men who have preceded us; and laid the foundation on which the superstructure of civilization is being reared, it must be abstained from here to give place to the matter more immediately claiming our attention.

The astonishing change effected by the system of internal improvements, in the transition of persons and intelligence from place to place, has been productive of consequences not easily to be calculated. Distances being now estimated by *time* instead of *miles*, the mind and exertion of communities, hitherto isolated and deprived the benefits of free intercourse, become concentrated in proportion with the increased velocity of locomotion. A mutual dependance and interchange of commodities is established, which, in enlarging ideas and creating wants and desires before unknown, must operate beneficially as an incitement to increased activity for their accomplishment. It must be borne in mind that a portion of the price of every article of necess ty or luxury is composed of the cost of ransporting it from producer to consumer; and consequently, that every reduction in this cost must produce a corresponding reduction in the price of the article transported. Should this portion be considerable in relation to the whole price of the manufactured article, it would be no difficult matter to demonstrate that its market value would be proportionably lessened; and as lessened, that its consumption would be proportionably increased. This observation is not confined to the home markets, but will likewise apply in its degree to the foreign, giving birth thereby to a spirit of competition, which alone, on either side, can stimulate the inventive genius of the operator to greater enterprize for the palm of mastery and the attainment of excellence.

Another consequence arising from increased cheapness and facility of transport, is a fresh demand for manufacturing population. All manufactured articles, as their uses become known, gradually cease to be regarded as luxuries, and enter more generally into the wants of every-day life. To meet the increased consumption necessarily attendant on this state of things, an increased number of operators must be employed; and this, in its reaction on the agricultural interests, will produce an extended market for that species of produce. Indeed, the benefit to the agriculturist is far greater than to the manufacturer; because the proportional expense of transporting all productions of the soil is much greater than that of transporting those of the loom, and in many instances enters so largely into its whole price as to preclude its cultivation, except for domestic purposes. To the agriculturist, therefore, it becomes a matter of still higher import that such means be devised as will place him on a more equitable footing with his more fortunate neighbors; and to this end he should, before the tide of prosperity has entirely run out and left him a prey to want, in some unfriendly shoal, direct his remaining energies to the accomplishment of such improvements of intercourse as nature and art may have placed at his disposal.

It is disagreeable to anticipate even in thought what might be the result of a continued deprivation of these facilities to any community, where indolence has taken the place of industry; and vice and misery, its usual concomitants, have breathed their pestilential influence over the actions of its members. Many a melancholy picture might be adduced in illustration from the experience of other countries, at the bare relation of which the heart of the philanthropist would sicken in sorrow, and many a parallel might have been deplored as a curse to this happy country, had not the soaring genius of a Clinton, in defiance of the vulgar prejudices of the day, predicted and finally executed a work that will command the admiration of ages, and stand a cenotaph to perpetuate his name to a grateful posterity. F.

New-York, 10th Nov. 1833.

Specification of the Patent granted to Joseph Saxton, *of Sussex street, in the County of Middlesex, Mechanician, for Improvements in Propelling Carriages, and in Propelling Vessels for Inland Navigation.* Dated June 20, 1833. [From the Repertory of Patent Inventions.]

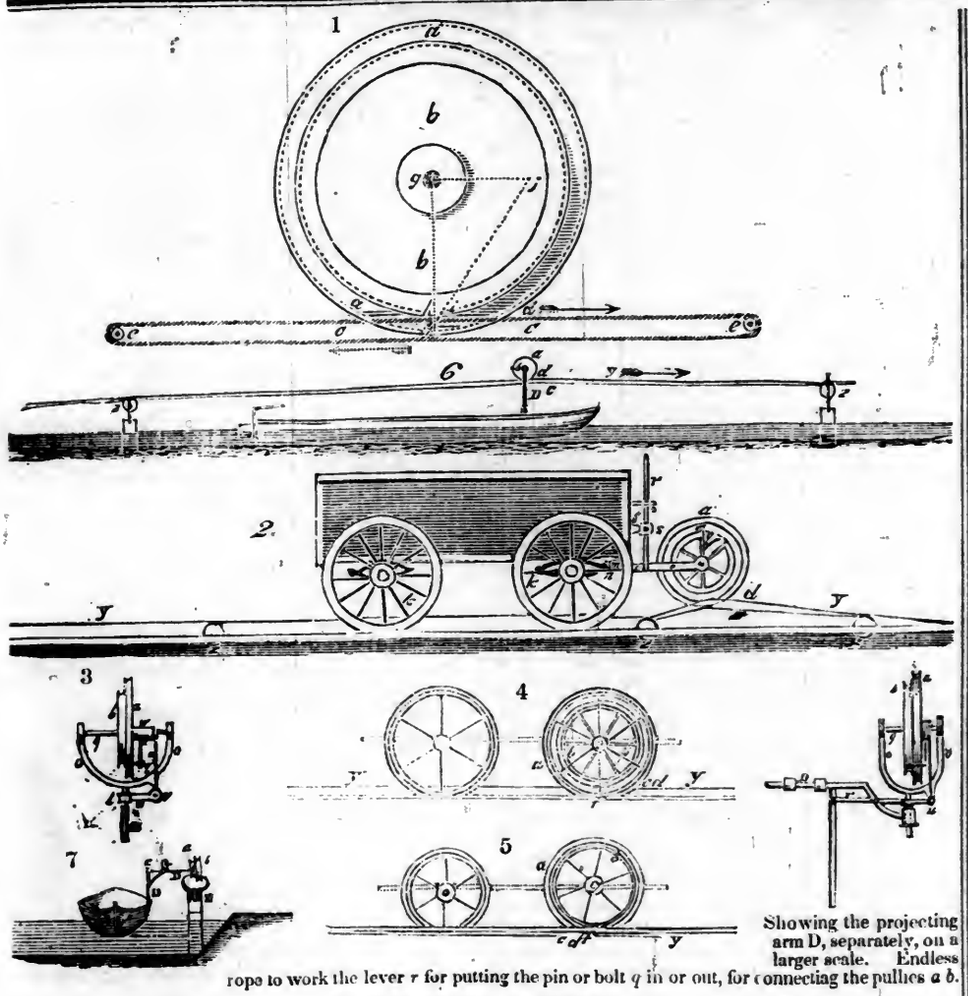
To all to whom these presents shall come, &c. &c.—*Now know ye*, that in compliance with the said proviso, I, the said Joseph Saxton, do hereby declare the nature of my invention, and the manner in which the same is to be performed, are fully described and ascertained in and by the following description thereof, reference being had to the drawing hereunto annexed, and to the figures and letters marked thereon, that is to say,

My invention consists in the application of pulleys of different diameters, which I denominate "The Differential Pulleys," or of a pulley and wheels, according to the principles hereafter described, whereby I am enabled to take advantage of the results which are obtained from such difference of diameter, by obtaining considerable velocity to carriages, or to vessels used in inland navigation, whilst the rope by which the motion is produced is caused to act through a very small space, in proportion to the distance travelled by the carriage, or by a vessel used in inland navigation, as will be fully described hereafter, when I come to describe the various figures shown in the drawing. But in order that my invention may be most fully understood, it will be desirable, in the first place, to go into a short description of the principles on which my improvements act, before I describe their application to carriages, and to vessels for inland navigation.

Fig. 1 represents a combination of two pulleys, their diameters being as six to seven, *a* being the larger pulley, and *b* the smaller one. *c d* is an endless rope, passing over the sheaves *e e*; and it should be observed, that this endless rope takes a turn around each of the pulleys, *a* and *b*; that is to say, the part *c* taking a turn around the larger pulley *a*, and the part *d* taking a turn around the smaller pulley *b*. If then the rope *d* be caused to move in the direction of the black arrow, (the upper one,) it will have a tendency to draw the lower part of the pulley *b* in the same direction with the rope *d*, meanwhile the part *c* of the endless rope will be moving in the direction of the dotted arrow, (the lower one,) and will have a tendency to move the lower part of the pulley *a* in the same direction with this part of the rope; consequently, the two pulleys *a b*, (they being fixed together,) would turn on the mean point *f*, as a fulcrum. *g* is the centre of the two pulleys. Let it then be supposed that the part *d* of the endless rope be moved from *h* to *i*, it will be evident that the centre *g*, of the differential pulleys, *a b*, would be moved to the point *j*; and, consequently, if any object were connected to the centre *g*, of these differential pulleys, it would be propelled from *g* to *j*, by the endless rope, *c d*, being moved the much smaller distance of *h* to *i*, as is clearly indicated by the dotted lines, and these distances will be as thirteen to one.

Having now shown the principles on which the differential pulleys act, the various applications hereafter described will be readily understood. And I would observe, that in all the other figures in the drawing, the same letters of reference will be used to indicate similar parts, wherever they occur.

Fig. 2 represents my improvements applied to a carriage, the construction of which is represented to be an omnibus for the carriage of passengers; but it is evident the description of carriage is immaterial, and will vary to suit the purposes to which the carriages are to be applied. The carriage is placed on four wheels, as usual, two of which wheels, *k*, *k*, are shown in this figure. *a*, and *b*, are the differential pulleys, applied to the carriage according to my invention, *a* being the larger pulley, and *b* the smaller one. These pulleys are placed on an axis *g*, see fig. 3, which represents the pulleys, together with the parts in which they are placed. *m* is an arm or frame, which carries the differential pulleys, and which is fixed to the carriage, as shown at fig. 2: the arm *m*, being cylindrical, and capable of turning in bearings, *n n*, affixed to the carriage. The object of this turning of the arm *m*, is to permit the pulleys *a*, *b*, to stand at an angle, by which the endless rope may be led into the sheaves, when the carriage is going in a curved direction. The projecting arm *m* is forked at the outer end, as shown in figs. 2 and 3, at *o o*; and the forked ends serve as bearings to the axle *g*, of the differential pulleys, *a* and *b*, the pulley *a* being per-



Showing the projecting arm D, separately, on a larger scale. Endless rope to work the lever r for putting the pin or bolt q in or out, for connecting the pulleys a b. y y, endless rope—z z, sheaves.

manently affixed to the axle *g*, whilst the pulley *b* is capable of turning loosely on this axis, when it is not retained by the pin or bolt *q*, which locks the two pulleys, *a* and *b*, together at the times required, and thus they are at such times the same as if they were permanently attached to each other; the object of thus having the means of disconnecting the two pulleys, *a* and *b*, is, that by disconnecting them, the power will no longer tend to drive the carriage, as will be fully described hereafter. *r*, fig. 2, is a lever, turning on a fulcrum *s*, the bearing of which fulcrum is attached to the carriage. The upper end of this lever, *r*, is formed into a handle, and is in such a position, that a person sitting in front of the carriage may have it under his control; the other end of the lever *r*, that is, the part below the fulcrum, has a crotch, which receives the flanch *t*, of a sliding-socket *t*, within it, as shown in fig. 2: this socket slides on the arm *m*, according as the lever *r* is moved out from, or drawn towards, the carriage. *u*, is a cranked or bent lever, having its fulcrum at *v*, on the forked frame *m o*, as shown in fig. 3. One end of this cranked lever *u* has a crotch, which receives the flanch *t*, of the sliding socket *t*, see fig. 3; and the other end of the bent or cranked lever *u* has also a crotch therein, by which it is enabled to slide the socket *w*, on the axis *g*, backwards and forwards. *x*, is an arm, affixed to the sliding socket *w*, through which the bolt or pin *q* passes, and this pin or bolt passes through one of the spokes of the wheel or pully *a*; and when it protrudes beyond the pulley *a*, it passes between the spokes of the pulley *b*, and, consequently, when the pin or bolt *q*, comes in contact with one of the spokes, or the part of the inner rim of the pulley *v*, which is cut away (as shown in fig. 2) for that purpose, the two pulleys will be held securely together. On the bolt *q* is placed a spiral spring, its object being, that in case the lever *r* be moved for the purpose of forcing in the bolt *q*, at a time when it is not opposite the part of the inner rim which is cut away, the spiral spring will have a tendency to force in the bolt, yet at the same time will not offer sufficient resistance to prevent the turning of the pulley, and the bolt *q* will be forced in, when the part of the pulley where it is cut away comes opposite to the bolt; at the same time there is a spring to prevent a sudden concussion.

In fig. 2, *c d* is an endless rope, the part *c* taking a turn around the pulley *a*, and the part *d* taking a turn around the pulley *b*, as described in fig. 1. This endless rope is supported, at proper intervals of the road, on sheaves (as shown in fig. 2,) to prevent the rope falling on the ground, and thereby greatly increase the friction; this endless rope passes around a rigger at each end, by which the rope is kept sufficiently tight; but to insure the endless rope being kept sufficiently tight, I cause one of the riggers around which the rope passes to be placed in bearings capable of being slided in the direction of the length of the railway on which the carriage travels, and then, by means of weights attached to a rope or chain, and passing over a pulley affixed at the top of a well, and having sufficient weights attached to keep the endless rope, *c d*, sufficiently tight to prevent it sliding on the differential pulleys, *a b*.

Having now described the various parts shown in figs. 2 and 3, I will proceed to describe the manner of their action; in doing which, I will suppose the bolt or pin is passed through the two pulleys, *a* and *b*, and thus retains them together, as if they were permanently fixed to each other. If, then, the endless rope *d* be moved in the direction of the arrow, a similar action will take place to that described in fig. 1, that is, the carriage, being attached to the centre *g*, of the differential pulleys, *a* and *b*, will be propelled forward on a railway with a much greater velocity than the rope travels; and the distance so travelled by the carriage, in comparison with the distance through which the rope moves, will depend on the difference of the diameters of the pulleys, *a b*; and the nearer the respective diameters of the pulleys approach each other, the greater will be the relative velocity the carriage will travel, to the velocity with which the rope moves.

In order to prevent the two parts of the rope rubbing against each other, in leading on and off the differential pulleys, the axis *g* of these pulleys is placed at an angle, a little varying from a right angle with the direction of the motion of the carriage.

Figs. 4 and 5 show two applications of my improvements, but in these figures the applications somewhat vary from that shown in fig. 2; for in these instances there is only one pulley, whilst the two front or two back wheels of the carriage act the part of the other pulley.

In fig. 4, *a* is one of the front wheels of the carriage, which also acts as the larger pulley; *b* is the smaller pulley, and is the only one around which the rope, *c d*, passes. The wheels *a*, and the pulley *b*, being on the same axis *g*, which runs from side to side of the carriage, and turns in bearings affixed to the carriage.

In this arrangement, the point *f*, at which the wheels touch the rail, becomes the fulcrum on which the wheel *a* turns; and it will thus be evident, that if the rope, *c d*, be drawn forward, in the direction of the arrow, a similar effect will be produced, as described in fig. 2, and as is clearly shown by dotted lines in fig. 4; yet, at the same time, if the wheels and pulleys, *a* and *b*, be of the same relative diameters as those in fig. 2, the carriage at fig. 4 would only be propelled at the velocity of seven to one, owing to the fulcrum, at which the wheels *a* turn, being removed from the main point *f*, fig. 2, between the two diameters, and placed at the extreme end of a radiating line, drawn from the centre of the wheel *a*, to the point at which it touches the railway.

In fig. 5, the rope passes around the pulley *a*, which is larger, whilst the carriage-wheels act the part of the smaller pulley *b*. The pulley *a*, and the wheels *b*, being on the same axis *g*.

In order that the pulleys in this arrangement may stand at an angle for clearing the rope, the axle *g*, is formed of three parts, connected by universal joints, and one of the wheels *b* thus travels a little forwarder than the other, and thus the rope will clear itself. And it should be observed, that in both these arrangements, the pulley around which the rope passes is to be made capable of being disconnected from revolving with the axle, as described in figs. 2 and 3. In the arrangement, fig. 5, the fulcrum *f*, on which the wheels turn, is the point at which the wheels *b* touch the rail or road; and the difference in the arrangements figs. 4 and 5, is, that the power in fig. 4 is applied by the rope between the fulcrum *f*, and the centre *g*, of the wheels or pulleys, *a b*, where the weight to be drawn is attached; whilst in fig. 5, the fulcrum is between the centre of the pulley and wheels, *a b*; consequently, the arrangements differ in the order of leverage, and in this instance the velocity will be as six to one.

In these two last arrangements, the rope, *c d*, may be either an endless rope, as described in figs. 1 and 2, or the rope may be single, and taking a turn around the pulley *a*, or *b*, is to be wound on and off a drum at each end of the distance, which is to be run by one length of rope.

Having now described my improvements, as applicable to the propelling of carriages, I will proceed to describe their application to the propelling of vessels in inland navigation. This application is an arrangement similar to that shown and described in figs. 2 and 3. A representing a canal barge or boat, having an upright standard B, affixed on one side thereof, see figs. 6 and 7; at the top of this standard, the bearings, c c, are formed to receive the projecting arm D: in other respects the parts are similar to fig. 2, and the same letters are used to denote the various parts.

At proper intervals sheaves are placed on standards at the side of the canal or river, to support the rope *c d*, as shown in these figures. In propelling vessels, the same description given of figs. 1 and 2 applies, and is fully de-

scriptive of the effect which takes place by the application of my improvements.

Having now described the nature of my invention, and the manner of constructing and applying the same, I would observe, that the power to be employed for causing the rope, *c d*, to be moved, may be varied according to circumstances. Thus, for instance, by attaching a horse or horses, according to the power required, to the rope, *c d*, and causing it to move slowly, a very considerable velocity will be obtained; or the power may be derived from a fixed steam engine, or water-wheel, or manual labor. And in order to have perfect control over the carriage or vessel, and be enabled to stop at any time, although the rope is continuing to move, it will be necessary to separate the two pulleys, *a b*, by withdrawing the pin or bolt *q*: the power will then no longer act to propel the carriage or vessel, and, consequently, there will only be the momentum already obtained, by the carriage or vessel, to be overcome, and this in a carriage may be effected by aid of a brake on any of the carriage wheels, *k*.

Having now fully described the manner of applying and using my invention, I would have it understood, that I lay no claim to the parts separately of which the same is composed; and I would observe, that some of the details may be varied to meet the various circumstances to which works of this kind are at all times liable, but which will be readily arranged and adopted by any engineer competent to undertake works of the like nature. And I would further observe, that I am aware that endless ropes, as well as drag-ropes, have been before known and used for the purposes of propelling carriages and vessels, but in such cases the carriage or vessel travels only at the rate of speed with the rope; therefore, the use of an endless rope or a drag-rope forms no part of my invention, and are only necessary means for effecting the object of my invention, as above described. And I do hereby declare, that I confine my claim of "Improvements in propelling Carriages, and in propelling Vessels for Inland Navigation," to the application of the differential pulleys, or of a pulley and wheels, *a b*, for propelling carriages and vessels, as above described, whereby I am enabled to take advantage of the results which are obtained from the difference of their diameters, and thus obtaining considerable velocity to such carriages and vessels, whilst the rope by which the motion, of the carriage or vessel, is produced, is caused to act through a very small space, in proportion to the distance travelled by the carriage or vessel, as above described.

In witness whereof, &c.

Specification of the Patent granted to WILLIAM RANGER, *of Brighton, in the County of Sussex, Builder, for a Cement or Composition, which he denominates "Ranger's Artificial Stone."* Dated June 4, 1833. [From the Repertory of Patent Inventions.]

To all to whom these presents shall come, &c. &c. *Now know ye*, that in compliance with the said proviso, I, the said William Ranger, do hereby declare, that the nature of my said invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the drawing hereunto annexed and the following description thereof, that is to say:

My said cement or composition is intended, as above mentioned, to form blocks or masses of artificial stone, to be used in the construction of buildings, in place of brick or stone, or in union with either or both of them, as occasion may require; and I compose it of silicious or other fit and proper, hard and unchangeable matters; of powdered lime in its pure or caustic state; and of water boiled or heated; and which said water I employ as hot as conveniently may be, in mixing the different ingredients. I likewise occasionally dissolve a portion, more or less, of sulphate of iron in this water, as well also as caseous and other matters, when thought desirable. I prefer to use such stone-lime as contains a portion of iron; such, for instance, as that procured in the neighborhood of Dorking, or Reigate, in the county of Surrey; also, gray-stone lime, lime from blue or yellow lias, or any other lime which is fit and proper for the purpose: and I employ it in the state of a dry powder, not slacked, as usual. The silicious or other hard materials or matters may be such as are commonly employed; for instance, river or sea sand; skreened shingle from the seashore or beach; the two latter, however, well washed in fresh water to free them from sea-salt; or I can employ broken flints, free-stone, copper slag, or other fit and proper materials of similar natures. Any, or either of these substances, as well as the lime, I separate or reduce into finer or coarser parts, either by hand, or by the employment of machinery similar to that used in making Roman cement, or any other which is fit and proper for the purpose, agreeably to the nature of the artificial stone I design to employ them to form. In general, I prefer to use them in the following proportions, videlicet,—silicious or other hard materials or matters, thirty pounds; powdered lime, three pounds; and boiling or hot water, either containing or not the above matters in solution, one pound twelve ounces. I can, however, vary these proportions occasionally, although I have hitherto found them the best in practice. I avoid mixing more of these materials at once than will be sufficient to fill the mould, as, owing to the heat produced by the boiling or heated water, the setting or concreting action begins to commence instantly they are put into the mould; and, in general, the mass of artificial stone becomes sufficiently firm in the course of about ten minutes, to admit of the sides and ends of the mould being removed, and the block left upon the bottom of it, ready to be taken to the place where it is to remain to dry and harden, and which will usually happen in the course of a fortnight, when the block or mass will be fit for use. I cause the materials to be carefully rammed close in all their parts, whilst filling the mould with them, in order to expel the air; and remove any excess thereof by passing a straight iron bar or scraper along the top of the mould; I can, then, likewise, when thought desirable, fill any interstices or cavities left in the face of the block, with materials of a finer consistency. The moulds will, of course, vary in their forms and manner of framing them, according to the shapes intended to be given to the masses or blocks of artificial stone; as, for instance, whether they are to be plain, or moulded in flutings, or otherwise ornamented or decorated; or whether to be square, circular, or of any other shapes, so that it is quite impossible to afford examples to any extent. As, however, it may be desirable to give some idea of their construction, I shall proceed to do so by describing the several figures contained in the drawing, which, as aforesaid, is annexed to this specification, and which represents the various parts of a wooden mould intended to form plain oblong blocks of artificial stone, each part being designated by a similar letter of reference in all the figures. *e* is the bottom of the mould, resting upon and strengthened by the two cross-pieces, *f f*. *g g* are the sides of the mould, each having two upright grooves formed in it, as shown at *h h h h*, in the plan, fig. 1, to receive and retain the ends *i i* of the mould in their proper situations. These sides and ends are held together by means of four iron bars *j j j j*, whose ends are bent at a right angle, so as to form clamps, as shown in fig. 1, between the inner ends of which said clamps and the sides of the mould wooden wedges may be tightly driven, to hold the mould together in use, and be as easily removed again when it is to be taken asunder. There are also two wooden ledges *k k* affixed upon the bottom of the mould, as shown in the end section, fig. 5, to retain the sides and ends of it steadily in their places upon it in use.

Fig. 2 is a side elevation, and fig. 3 an end elevation of the mould; and fig. 4 is a side elevation and section of it, taken at the dotted line *a b*, in fig. 1.

Fig. 1—PLAN.

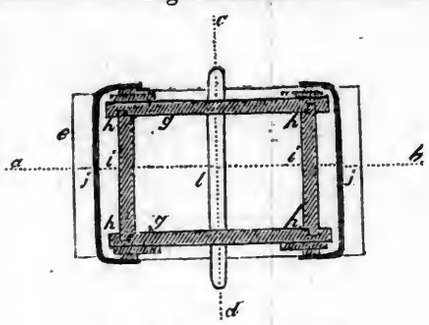


Fig. 2—SIDE ELEVATION.

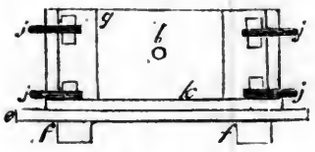


Fig. 3—ELEVATION.

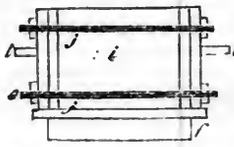


Fig. 4—SECTION THROUGH *a*—*b*.

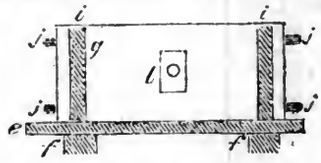


Fig. 5—SECTION THROUGH *c*—*d*.

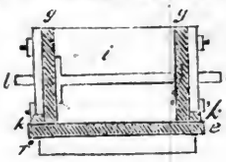


Fig. 5 being an end elevation and section, taken at the dotted line *c d*, in fig. 1. *l*, in all the figures, is a bar passed through holes made in the sides of the mould, to form a hole through the block of artificial stone. I prefer to place the blocks or masses of my artificial stone in the open air to harden, and even to wet them occasionally during that operation.

I do not mean, or intend hereby, to claim as my invention, the use of hot water in mixing mortar for building with; but I do hereby claim the employment of boiling or hot water in combination with dry powdered caustic lime, and silicious or other hard matters, in the manner and in the proportions hereinbefore described, as my invention, and as essential to the forming of my said blocks or masses of artificial stone.

In witness whereof, &c.

GREAT SOUTHERN RAILROAD.—The following is taken from the National Intelligencer. It indicates a proper feeling on the part of the inhabitants of that section of Tennessee, bordering upon the river and State of Mississippi. There can be little doubt that great and lasting benefits would result to the south-western States from the construction of a railroad from Charleston to the Mississippi, on or near the route indicated. Indeed, it would not be saying too much, to say that the country would in ten years increase in wealth to at least twice, and probably to three times, the cost of the road, even if it should cost $10,000,000.

GREAT PROJECT.—A Convention of Delegates, from the counties of Madison, McNairy, Hardeman, Fayette, Shelby, and Tipton, in Tennessee, assembled at Bolivar, in that State, on the 14th of October, to take into consideration the improvement of the means of communication between different sections of the county, in which they are interested. Maj. Gen. Edmund P. Gaines, of the United States Army, was appointed President of the Convention, and R. A. Parker, Secretary.

On the 15th, a Committee, appointed the preceding day, and of which, by order of the Convention, Gen. Gaines was made Chairman, reported a series of resolutions, of which we subjoin the five first, all of which were adopted:

1st. Resolved, as the opinion of this meeting, That a Railroad between the Mississippi River and the Atlantic Ocean, to pass through the Alabama, and Georgia, and the southern part southwest border of the State of Tennessee, the notrhern parts of the States of Mississippi, of South Carolina, is *practicable* and *desirable;* that its anticipated local benefits and national advantages may reasonably be estimated as greatly to exceed the whole expense of its construction, and that it ought to be commenced forthwith.

2d. Resolved, as the opinion of this meeting, That the proposed Railroad will contribute more in ten years time, by the cheapness of its means of transportation of merchandize and country produce, than will be suffieient to defray the whole expense of its construction.

3d. Resolved, as the opinion of this meeting, That the proposed work, as a measure of *national defence*, would contribute more, by the facilities it will afford in the transportation of troops and munitions of war, to the protection and security of the southeastern States and East Florida, than all the fortifications constructed or designed to be constructed, south of the Chesapeake Bay; for it is obvious to every man of military mind, that the strongest fortifications must depend mainly for defence and preservation on prompt and seasonable supplies of *fighting men*, with arms and subsistence; and that these cannot be promptly wielded from the interior to the frontier, without good roads, railways, canals, or large navigable streams, and a railway will cost much less than a Macadamized road.

4th. Resolved, as the opinion of this meeting, That the proposed Railroad, in a political point of view, will be found to be one of the strongest links in the chain of the *union* of the twenty-four States.

5th. Resolved, as the opinion of this meeting, That —— be appointed a Committee, whose duty it shall be, by sending memorials to Congress, and to the Legislatures of the several States mentioned in the fourth resolution, and by such other means as they shall deem expedient to carry into effect the foregoing resolutions, and they are hereby especially authorized respectfully to request the President of the United States to direct an officer of the corps of Topographical Engineers to make the requisite surveys and estimates, preparatory to the commencement of the proposed Railroad.—[Nat. Intel.]

Tow Boat.—The charge for towing the ship St. Louis up to Natchez, was thirteen hundred dollars.

[*From the New-York American.*]

THE ACCIDENT ON THE AMBOY AND CAMDEN RAILROAD.—The explanation which the company owning this road have made in the address we publish today, proves, as it seems to us, conclusively, that the fatal accident of last week was one of those occurrences which scarcely any human foresight or caution can guard against. It is satisfactory to find that, so far as strict vigilance, and all proper means of enforcing attention to the safety of passengers, and the regulation at a due speed of the carriages, are concerned, this company are free from reproach. No mode of conveyance is exempt from accident, or can be made so; but we do not hesitate to express the belief, that steam conveyances, whether on land or water, will be found, reference being had to the numbers they transport, vastly less hazardous than the duilest stages or the surest sailing vessels.

Address of the Camden and Amboy Railroad and Transportation Company.

TO THE PUBLIC.

The unfortunate accident which occurred on the road on Friday last, and the melancholy consequences resulting from it, have occupied the most serious attention of the Executive committee of the Board of Directors. Every exertion has been made to obtain a correct statement of all the facts, that they might be disclosed to the public.

The security of the passengers from the commencement of the operations of this company, has been an object of the first consideration. For several weeks after a sufficient number of locomotives to carry the passengers, were completed, and on the line, the horses were continued, notwithstanding the importunity of the public for the change. The most unfounded reports as to the capacity of the road for the use of this species of power, were circulated and believed from this delay. During all this period, however, the engines were constantly in use, when the line was free from the passenger cars, in transporting merchandize and materials on the road.

The Directors preferred the odium attached to their delay to the risque attending the substitution of the engines until the engineers had become familiar with their use. They were then placed on one line only, that they might be under the immediate superintendance of confidential agents of the Company. Positive instructions were given that the trip [35 miles] should not be made in less than two hours and a quarter; allowing two hours, or a speed of seventeen and a half miles per hour, for the actual running of the engine, and fifteen minutes for the necessary stoppages. Special instructions were also given that no one mile should be run in less than *three minutes*. To ensure a compliance with these orders, an agent was placed on each line, whose *special* and *only* duty is to take the time of running each and every mile, with a stop watch, for the government of the engineer, and to note down the same, and report to the Executive Committee. From the commencement these reports have evinced so nearly a compliance with the orders as to be entirely satisfactory. From a careful inspection of the reports of the week immediately preceding the accident, it is discovered that the time actually occupied in running, shows an average rate of eighteen miles per hour, and the fastest trip was at the rate of 19 miles. Unfortunately the time keeper of this line had sustained a slight injury from a fall a day or two previous, and was not then on the line. As the engineers had become so well regulated in their time, it was deemed unnecessary to procure another agent to fill this temporary vacancy.

Had this officer been at his post, the first subject of inquiry, to wit: the rate at which the cars were running, would have been attended with no difficulty. From the excitement naturally produced by the disaster, it has been found impracticable to obtain accurate information on this subject. The committee are led to the conclusion, however, that a short time before the occurrence of the accident, the speed of the engine had considerably exceeded the rate allowed, but that at the time and immediately before, this was not the case. This opinion is induced by the following facts:

There were two trains of cars attached to separate engines. The accident happened to the last train. The first engine is the least powerful on the line. The engineer is positive that so far from being in advance of, he was behind his time. He moreover states that from inadvertence his fire had got down and his steam was so low as to render it difficult to maintain his proper speed at that point, as the road there ascends. The committee are satisfied that the orders had not been materially violated as to the whole time of running the distance.

But it appears that owing to some trifling derangement of the second engine, the engineer, about three miles before, had reduced his speed to adjust it. After doing so, he states that to recover his proser station he increased his speed, but not in his opinion exceeding his limited rate. In this he was probably mistaken. But before the accident occurred he had checked the engine by shutting off a considerable portion of the steam, and is positive that he was not then running faster than the train in advance. This declaration is strongly corroborated by the fact, that one of the agents accompanying the line was on he top of the car which upset, and jumped from it to ground *without injury*, when he discovered that it was going over. From the place where he alighted to that where the car rested after the train was stopped, is not quite 21 yards.

The accident has also been attributed to the heating of the axle from friction for want of oil. It is understood that some of the passengers are under the impression that they saw smoke from this cause. This is clearly a mistake. The axles were examined at Spottswood, (not eight miles distant) by the agent whose duty it is to do so, and found perfectly cool and well supplied with oil. The appearance of the fracture is entirely inconsistent with this idea, and the quantity of oil still adhering to both the journal and box is conlusive, as that would have been entirely consumed by the heat.

These matters have been adverted to particularly, because the accident has been attributed to them, and the committee have felt bound to afford every information on the subject. They are convinced, however, that it is to be traced to other causes which could neither have been foreseen nor prevented, and that the fatal consequences were produced by a combination of circumatances that have never before occurred and in all human probability will never again occur.

Cast iron wheels have been entirely excluded from the passage cars on this road. The axles have all been procured from Boonston the most celebrated works in the country, at the exorbitaut price of $125 per ton to ensure the quality of the iron. They are more than 50 per cent. stronger than those used for the passage cars of the Liverpool and Manchester road, and for still greater security the ends were all welded down before they were turned. Yet with all these precautions it appears by an examination of the broken axle that a latent defect existed in it which caused the accident. There was a flaw in it leaving not more than three eighths of the strength of the iron to sustain the whole weight, but as the defect was in the journal it was effectually concealed. This was the primary cause of the calamity. But the breaking of the axle would have been harmless as none of the passengers in that car received the slightest injury. It remains only to account for the injury to the other car.

It has been supposed the car was thrown from the track and upset by running over the wheel of the broken car. This is entirely an error. The axle broke in the journal, outside the wheel, so that both wheels remained attached to the axle, which at one end maintained its proper position, but at the other, having nothing to sustain it, dropped into the receiver, so that the spokes and the hub, which were of wood, were brought in collision with the iron on the frame, and nearly half of them splintered to pieces by the revolutions of the wheel. It has been this which was mistaken by the passengers for the *smoke of the axle.*

An agent is always stationed at the brake of the baggage car to keep a constant watch upon all the other cars, and to apply the brake and instantly apprise the engineer if any accident occurs. For the first time since the line has been in operation a spark had lighted on the baggage car, and ignited a bundle of cotton. The agent discovered this, and was in the act of extinguishing it when he discovered the breaking of the axle. Before he could recover his station and apply the brake, the car was thrown from the track, and so far over as to be beyond recovery. There is no doubt but that the impetus from the after cars caused the overthrow of this car. It is evident that it must have been projected forward by them and thrown on the front end, from the fact that of the twenty-four passengers in it at the time, those in the back apartment were uninjured.

This would have been effectually prevented by the application of the brake, but for the unfortunate mischance which drew the agent from his post at that critical juncture. No blame appears reasonably to be attached to the agent, as the train was then running on a portion of the line where there is a double track and perfectly straight for nearly six miles without even a turn-out to guard against.

These are the facts and conclusions arrived at after the most careful examination of this painful subject. Whilst the committee deeply deplore the event and sympathize with the unfortunate sufferers and their friends, they have to console themselves with the conviction, that the company cannot justly be chargeable with the censure of the public. It is believed that in no similar enterprize, greater care has been taken to protect the passengers from injury, and that their intentions have been frustrated by an extraordinary combination of circumstances, not to have been foreseen or prevented by human foresight.

J. H. SLOAN, *Secretary.*

Effects of Burying Iron and Steel in the Earth.
By Junius Redivivus. [From the London Mechanics' Magazine.]

Sir,—Some of the principal physical agents in the furtherance of human happiness being metals, and, amongst those metals, iron taking the foremost place, I was much gratified by reading your extract from the *Chronicles of Old London Bridge*, which seems to open some new views as to the further improvement of our national manufacture. But there is some obscurity in the statement of the circumstances, which it would be well to have cleared up, if possible, for the advantage of the experimentalists who may be inclined to trace the matter up to its causes, since 'this effect effective must come by cause.'

It seems that the burying of either steel or iron in the earth, for either 'three years,' or 'six or seven hundred years,' causes a decided improvement in its quality. Of what nature the improvement was, in the case of the razors which were buried, we are left in ignorance; but it seems that the change must have been wrought by an operation of natural chemistry, either taking something from the metal, or adding something to it, or both, by the process of chemical affinity. I should be led to imagine that both circumstances had taken place, as it is stated that, though a coat of rust had gathered on the razors, they were not eroded: that is, had sustained no loss of substance. The process would then be perfectly analogous to what is called the petrifying of wood, or other organized substances, wherein, as the organized matter decays, a deposit of lime assumes the same form. To get at the complete facts, we ought to know—first, the chemical analysis of the razor blades when first buried—secondly, the analysis of the 'earth' in which they were buried—thirdly, the analysis of the razor blades when they were again dug up—and, fourthly, wherein the improvement consisted, or what new qualities were acquired by the steel. Mr. Weiss would render a great service to science and art by stating these particulars as far as his experience enables him, if, indeed, it were not interfering with his profits as a manufacturer, to make his secret known. This no man can be called upon to do, unless for specific remuneration. But I take it for granted, that the author of the *Chronicles* states the *facts*, and that they are not of a piece with the proposition of the gardeners, that 'melon seeds should be worn some years in the breeches pocket previous to planting.'

In the case of the pile-shoes of London Bridge, which were of iron, a change took place in the straps which were in contact with the charred timber, and not in the solid points. This is a different case from the steel which was buried in the 'earth;' yet both the iron and the razor blades were *improved*, though the circumstances were different. A supposition is given, that, in the case of the iron, the change was wrought by galvanism. Very possibly; but it would be for the interest of manufacturers and the public to know it more certainly. 'Improvement,' and 'earth,' are far from definite terms, and a variety of chemical distinctions may be comprised in them. The object sought for is to effect, by the chemistry of art, in a short space of time, that which takes the chemistry of nature 'three years,' or 'some six or seven hundred years,' to accomplish. Are there yet data enough to work by? If not, they should be sought; and by careful inquiry and experiment, that would be made a matter of common knowledge which is at present a matter of uncertainty.* I have understood that your correspondent, Mr. Rutter, is one of the favored few possessing the rare combination of pecuniary means with public spirit. Surely the experiments I have endeavored to indicate offer a worthy field for the exercise of his talents. Yours, &c. Junius Redivivus.

Effects of Burying Iron and Steel in the Earth.
[From the London Mechanics' Magazine for May.]

Sir,—I very much doubt whether we possess sufficient information to warrant the conclusion, that burying iron and steel in the earth "causes a decided improvement in its quality."

It is a subject that well deserves minute investigation. I think, however, it belongs to the practical worker in these metals, rather than the experimental chemist, to make the necessary observations. The chemist may be able to analyse a piece of metal, and to ascertain with tolerable accuracy of what materials it is composed;* but he will give very little useful information as to its utility, unless he be assisted by the experience of the man who forges, and tempers, and sharpens the specimen, and thus exemplifies its peculiar properties.

That chemical changes are constantly going on in the vast and magnificent laboratory of nature, cannot, as I conceive, be denied. We must, however, bear in mind, that the chemistry of nature seems evidently designed to prepare materials for the chemistry of art to operate upon, and not to supercede the art itself.

The pile-shoes of London Bridge ought not to be cited as illustrative of a beneficial change by simply burying them in the earth. When those pile-shoes were forged, iron was a comparatively scarce metal. The small quantities of ore that were smelted in that day imply a careful and protracted process, evidently conducted under a variety of disadvantages as respects quantity, yet involving, perhaps, some of the most favorable conditions relative to quality.

The superiority of the straps that were in immediate contact with the charred surfaces of the piles, seems to indicate a process somewhat analogous to the cementation of iron in forming it into steel, by its combination with carbon. Yet, after all, may not this part of the shoe be that which had retained its original peculiarity, whilst that not in contact with the charred surfaces had become deteriorated by the soil in which it was imbedded?

It is to be feared that practical men, in the various departments of science to which they belong, are not sufficiently attentive to the phenomena that are constantly inviting their observation. Those of them who possess discernment enough to distinguish between things that differ, generally keep their own secrets. They are fully justified in doing so, whilst the present system of plundering and appropriating prevails in the scientific world. There is no very great encouragement for a poor man to communicate what he knows, merely to see others enriching themselves by the results of his unacknowledged, unappreciated, and unrewarded labors.

Your valuable correspondent "Junius" has said more of me than I deserve: were my means proportionate to my wishes, and I trust they are not immoderate, I should, perhaps, do more than I can at present. A young family, and a tolerably extensive business, justly demand of me the greater portion of my time and attention. A few moments of occasional leisure are all that I can spare to science: but those few moments always leave behind them a reward more satisfying and more enduring than either wealth or honor can confer.

I am, &c. J. O. N. Rutter.
April 30, 1833.

* In almost all our metallic manufactures, mechanism is in advance of chemistry. The latter science has never yet been properly pursued as a whole, by a united body of men, but is indebted for its progress to the energy of individuals, who have from time to time devoted themselves to it, principally at their own cost, and the public at large have benefited by their 'labors of love.'

* The chemist who can do this must be more expert than a "Lecturer on Chemistry," of whose performances in the analytical way I have lately heard an amusing account.

Birds and Insects.—There cannot be any question of the immense number of insects required by birds during the breeding season. It is stated by Bingley, that a pair of small American birds, conjectured to be the house-wren, were observed to leave the nest and return with insects from forty to sixty times in an hour, and that in one particular hour they carried food no fewer than seventy-one times. In this business they were engaged during the greatest part of the day. Allowing twelve hours to be thus occupied, a single pair of these birds would destroy at least six hundred insects in the course of one day, on the supposition that the two birds took only a single insect each time; but it is highly probable that they often took more.

Looking at the matter in this point of view, the destruction of insectivorous birds has in some cases been considered as productive of serious mischief. One striking instance we distinctly recollect, though we cannot at this moment turn to the book in which it is recorded. The numbers of the crows or rooks of North America were, in consequence of state rewards for their destruction, so much diminished, and the increase of insects so great, as to induce the state to announce a counter reward for the protection of the crows. Such rewards are common in America; and from a document given by Wilson, respecting a proposal made in Delaware "for banishing or destroying the crows," it appears that the money thus expended sometimes amounts to no inconsiderable sum. The document concludes by saying, "The sum of five hundred dollars being thus required, the committee beg leave to address the farmers and others of Newcastle county and elsewhere on the subject."

From its sometimes eating grain and other seeds, "the rook," says Selby, "has erroneously been viewed in the light of an enemy by most husbandmen; and in several districts attempts have been made either to banish it, or to extirpate the breed. But wherever this measure has been carried into effect, the most serious injury to the corn and other crops has invariably followed, from the unchecked devastations of the grub and caterpillar. As experience is the sure test of utility, a change of conduct has in consequence been partially adopted; and some farmers now find the encouragement of the breed of rooks to be greatly to their interest, in freeing their lands from the grub of the cockchafer, an insect very abundant in many of the southern counties. In Northumberland I have witnessed its usefulness in feeding on the larvæ of the insect commonly known by the name of Harry Longlegs, which is particularly destructive to the roots of grain and young clovers."

It has on similar grounds been contended, that the great number of birds caught by bird-catchers, particularly in the vicinity of London, has been productive of much injury to gardens and orchards. So serious has this evil appeared to some, that it has even been proposed to have an act of parliament prohibiting bird-catchers from exercising their art within twenty miles of the metropolis; and also prohibiting wild birds of any kind from being shot or otherwise caught or destroyed within this distance, under certain penalties. It is very clear, however, that such an act could never be carried; and though it *might* be advantageous to gardens, orchards, and farms, yet the attacks which the same birds make on fruit would probably be an equivalent counterbalance.

In the case of swallows, on the other hand it has been well remarked by an excellen

naturalist, (the Rev. W. T. Bree,) that they are to us quite inoffensive, while "the beneficial services they perform for us, by clearing the air of innumerable insects, ought to render them sacred, and secure them from our molestation. Without their friendly aid the atmosphere we live in would scarcely be habitable by man; they feed entirely on insects, which, if not kept under by their means, would swarm and torment us like another Egyptian plague. The immense quantity of flies destroyed in a short space of time by one individual bird is scarcely to be credited by those who have not had actual experience of the fact." He goes on to illustrate this from a swift, which was shot. "It was in the breeding season when the young were hatched; at which time the parent birds, it is well known, are in the habit of making little excursions into the country to a considerable distance from their breeding places, for the purpose of collecting flies, which they bring home to their infant progeny. On picking up my hapless and ill-gotten prey, I observed a number of flies, some mutilated, others scarcely injured, crawling out of the bird's mouth; the throat and pouch seemed absolutely stuffed with them, and an incredible number was at length disgorged. I am sure I speak within compass when I state that there was a mass of flies, just caught by this single swift, larger than, when pressed close, could conveniently be contained in the bowl of an ordinary table-spoon." —[Library of Entertaining Knowledge.]

AGRICULTURE, &c.

Valuable Manure—New-Jersey Marl. By D. A. Ames. [For the New-York Farmer.]

Mr. Fleet,—I have, according to promise, collected a few facts upon the Jersey Marl, as a manure, and I submit them to you for insertion in the New-York Farmer.

Every person to whom I have applied for information upon this new and valuable article, speaks of it as possessing enriching qualities, truly surprising, and of more general value than any known substance at present in use for that purpose.

Its effect was accidentally brought into local notice about sixteen years ago, by a farmer, who, having a ditch dug in a meadow, had the soil scattered over the piece: the ditch or drain happened to cut a vein of this marl, and the produce of the meadow was three-fold the ensuing season, upon the spot where the marl was scattered. Important as this was, no further notice was taken of it, and being of the old stamp, averse to any thing new, he neglected to profit by his accidental good fortune. That meadow still has a better bottom where the marl was spread. After this I can find no traces of its use till about nine years since, when, by some chance, Mr. Alexander McGregor spread a quantity on some grass land; the effect was great, and he informed me that the first crop paid him for the expense in additional hay. That gentleman is now a warm advocate for it, and being a large owner, and a wealthy man, has caused it to be pretty extensively used for these last two years, for all kinds of crops, and he assured me last week, with entire success; yet one or two, who have pits of marl on their premises, still prefer disposing of it to improve other farms, rather than enrich their own. It is now ascertained that this marl forms a stratum in many parts of the Jersey coast, and therefore may be procured to any extent; and I am about to show you that its cheapness, durability, strength, cleanness, &c. will make it a valuable manure for the Long Island market-gardeners and farmers. If they once try it, they will no more buy the New-York manure at 50 cents the carman's load. I am assured by one respectable farmer, that he considers one load of marl equal to five of dung. It is perfectly clean, and will even destroy many weeds. This is a great desideratum in garden truck. It does not readily freeze, and will work well all weathers, always ready for use, and may be spread any time from September to March inclusive. It makes an excellent compost; upon grass land it does wonders; a thick bottom and heavy swarth of white clover is its certain produce. Potatoes, both the sweet and Irish, thrive well with it. Dung, it is known generally, flies into the tops of these, while marl scarcely alters the top, but greatly increases the size of the roots. Corn, buckwheat, cabbages, turnips, all succeed with it.

I am informed that five loads to the acre have produced a fine crop of buckwheat upon very poor land. It is used as a top dressing on grass land, and may be spread from 10 to 20 loads per acre, as late as March. One large farmer, Judge C., informed me he had used 18 loads per acre; but there is some danger of using too much, particularly with poor light land. I have heard of some that was unproductive for five years, but last year it began to recover, and it is expected the produce will eventually make up for lost time, but it is certainly better not to over-do the thing. Give a second dressing the second year rather than a surfeit at first. As far as experimental information enables us to determine, it continues its effects sufficiently nine or ten years. For corn and grain it is scattered on the top after ploughing, and well harrowed in. I cannot learn that it has been tried for peach trees, but I know one large grower who is making preparations to try it this season.

This marl is evidently a marine deposit: it is found in hollows at two or three feet below the surface, continuing downwards to sixteen. Its upper strata is of a greenish blue color, the middle more inclining to grey; and the lowest is of an ash color; this last is considered the strongest. Observe, I speak of its color when dry; and I ought further to observe that other pits are said to vary much in color and quality: therefore, before trial the quality ought to be known. This marl has the appearance of sand, each little grain having a thick coat of decomposed vegetable matter, making them adhere together in lumps occasionally.

Shells, sea-worn stones, sharks' teeth, &c. are often found amongst it. The marl that is found in some places further from the sea does not appear to be so powerful. From the pits where I selected you the sample, that accompany this, it is carted by land 40 miles, the farmer paying from 2s. 6d. to 3s. per load by the pit side. A load is twenty bushels; a bushel weighs from one hundred to one hundred and three pounds, when dry.

I am about having the marl analized, so as to ascertain exactly where it will be most useful. I will communicate to you the result with some other experiments, for your next number; and should you wish to possess a larger sample for any of your readers to make trial with, I have prepared you some in barrels, with the price you can furnish it; for I can see no reason why it should not become an article of as much request as ashes, or plaster of paris, and will, therefore, be of as much commercial importance as coal.

D. A. Ames.

New-York, Sept. 21, 1833.

On the Wine of Seckel Pears. By C. S. Rafinesque. [For the New-York Farmer and American Gardener's Magazine.]

This American Pear is the most delicious fruit of our country; it is different in flavor from any other pear or fruit. I prefer it to the pine-apple and any other fruit, except some kinds of grapes. It begins to be extensively cultivated, and this year it has appeared in abundance in the market of Philadelphia, at the price of 20 to 50 cents the half peck.

I had long ago wished to make experiments on its vinous properties, and I now have begun a series of them, of which I shall gradually communicate the results.

Mr. Brarier, of Philadelphia, had already published his experiments on its saccharine properties in the Journal of Pharmacy. He has shown that it is the only pear that affords a real syrup and sugar candy, equal to those of the sugar cane. And as sugar is the main principle of wine, I was induced to try my experiments.

The juice of the Seckel Pear weighs 1075, water being 1000, or 7½ per cent. more than water. This is more than many grape juices, which vary from 1040 to 1100. This juice is very sweet and pleasant, but thinner than good Must, or grape juice. The color is yellowish, with a tinge of reddish. One bushel of pears gives four gallons of juice. Therefore, if the wine or perry made with it may be of a superior flavor and quality, it may be worth $1 the gallon; thus a bushel of pears will produce $4; while the same quantity produces only one gallon of syrup worth 75 cents.

Mr. Brarier believes that when this useful tree becomes very plentifully multiplied, as it bids fair to be, since the nurserymen inform me that they sell more of it than of any other whatever, or than of all the other pears put together, and can hardly propagate it fast enough—when it will be as plenty as our cider apples, he thinks it may be made useful for the purpose of syrup and sugar. But how much more so for wine, or a superior perry!

The average of a full bearing tree is four bushels—one acre will hold easily 100 such trees. Thus one acre of orchard will produce at least 400 bushels, which, at $1 per bushel, $100 annual income, whether sold in market or made into syrup, which requires some care or trouble: while it will be $800 per acre for 1600 gallons of wine or perry, at 50 cents the gallon, or $1600 if it should sell at $1 the gallon, and with less trouble than the making of syrup or sugar, which is not so easily made as maple sugar.

I have an idea that by mixing the juice of Seckel Pears and wild grapes, an improved wine can be made. In fact the Seckel juice, by an addition of Must or grape juice, will acquire the tartaric acid, without which no wine can be had, as the malic acid of apples and pears makes only cider or perry. Some tartaric acid or argol might be added; but fortunately the grapes and Seckel Pears ripen at the same time, and thus by the mixture both the proper acid and mucilage of grapes may be procured for the vinous change.

My experiments will extend to this; and I shall use the poorest of our wild grapes,

such as those called chicken grapes, so as to have the worst result. Well knowing afterwards that by using the better sort of our wild grapes, Isabella, Bland, Catawba, &c., a superior result may be attained.

If it should be needful to thicken the Seckel juice so as to have a richer must, it may easily be done by boiling, reducing four gallons to three. Thus a variety of wines may be produced by these pears.

But as I am still bent upon improving our native wines, I deem that the juice of Seckel Pears, added to our native grape juice, in the proportion of one-third or one-fourth, would improve many of our wines, by imparting to them the delicate flavor of the pear, and even adding to the strength of any must which is under 1075 in weight.

Our Seckel Pears last from September to October, in Pennsylvania, New-Jersey, and New-York, and there is yet time for many farmers to take the hint, and make experiments this very year. Let them communicate the results, as I will do mine, and we shall acquire thereby a stock of knowledge for next year. This is quite a new subject and branch of industry, since the very fruit is new and only lately spread. It is truly an American fruit, deserving our attention and care. We ought to multiply it speedily and properly, by grafting with it all our worthless pears and apples. C. S. Rafinesque.

Philadelphia, Sept. 15th, 1833.

Memorandums about the Pea Crop. By W. Prince & Sons. [For the New-York Farmer.]

May 22 and 23, 1833. Planted all the following kinds on good ground, without manure, in rows:

June 20. Observed blossoms on the Nimble Dick, and on the Early Single Frame.

23. Blossoms on Bishop's Dwarf, (English seed).

July 8. Early Single Frame and Nimble Dick have pods fit to pick. These kinds much resemble each other.

Early Cluster and Dwarf Prolific blossoming.

August 2. Housed Nimble Dick, and thrashed them out.

7. Pulled up Botany Bay purple podded peas.

8. Pulled up Bishop's Dwarf, and put them on the fences to dry fully; they having ripened unequally, it was unsafe to house them without more airing.

13. Thrashed out Bishop's Dwarf, Botany Bay, Early Single Frame, and Lady's Finger.

16. Thrashed out Sugar Peas, Matchless Marrow, and Bergen Peas.

19. Pulled up Blue Imperial, and New Grotto Marrow, and put them on the fences—not fit to thrash.

Pulled up Spanish Dwarf, Dwarf Prolific and Early Cluster.

It appears that the Nimble Dick and Early Single Frame are the earliest of the above, and they resemble each other very much, but are supposed different varieties. They are fit for the table from twelve to fourteen days sooner than Bishop's Dwarf, or any of the kinds I have planted, and yielded more than Bishop's in proportion as 16 to 13. The Nimble Dick had pods fit for the table in 46 days from the day of planting. I believe that by picking out the earliest pods, they might have realized the story of forty-day peas.

Of Knight's Marrow we sowed two parcels, on the same day, the one from France and the other from England, and although there was in appearance no perceptible difference, yet the crop from the French seed was *ten days sooner* than that from the English seed.

You will perceive by the above statement that Bishop's Dwarf and the Dwarf Spanish vary materially as to the periods of maturity, &c. In fact, when Bishop's Dwarf was fit for the table, the Spanish Dwarf had but just commenced expanding its blossoms. The reason that many have considered them as equally early is this: a great quantity of the peas sold last spring for the *former* were of the *latter* variety, and a number of instances in proof of this fact have fallen under our own observation. Wm. Prince & Sons.

Linnæan Botanic Garden, Flushing,
Sept. 30, 1833.

Salubrity of the Climate of Florida, and of Tropical Countries. By H. Perrine, M. D. [For the New-York Farmer.]

To the Editor of the Medical Journal of Sciences, Philadelphia.

Dear Sir,—As the ship is still in the bay, I commence an additional sheet, to say that I have just read, in the May number of your Journal, your review of "Johnson on Change of Air"; and that I am highly delighted with your additions to his remarks on the climate of Italy. It is, indeed, a matter of momentous inquiry, to select the best winter retreat for our citizens, who are laboring under pulmonary disorder, and, I will add, under hepatic disease. However diversified the climate of our twenty-four existing states, the one great evil of a variable temperature is common to them all—sudden changes *cutting off* equally the corn of Maine and the cane of Louisiana, with the frosts of spring and of autumn; and *carrying off* the farmer of the north and the planter of the south, with consumption of the lungs and of the liver; and as the sufferer in either section but increases or exchanges disease in the other, he finally dies amid the great vicissitudes of the south of Europe, with the too tardy conviction, that the natural remedy of an equable temperature cannot be found in the miscalled *temperate*, but, properly, *variable* zones. I myself exchanged incipient pulmonary disorder of the bank of the northern Raritan, for actual hepatic disease on the borders of the southern Mississippi; but, thank God, I have experienced relief for both on the tropical shores of Yucatan. While you admit the wonderful equability of temperature of the mis-named torrid zone, and its consequent remedial powers for the consumptive disorders of our citizens, you still appear to retain that common belief of the general insalubrity of tropical climates, which is founded on the reports and resorts of war and trade; but as you are already divested of false impressions in behalf of southern Europe, you will as easily overcome unmerited prejudices against tropical America. The local circumstances which render certain districts sickly during the *hot* weather *beyond* the tropics, will render similar districts unhealthy during the *warm* weather *between* the tropics; but for every extra-tropical situation, which you may show me exempt from malignant fevers during our autumnal months, I will show you an inter-tropical situation exempt from malignant fevers throughout the year! When remote from noisome marshes and chilling mountains, you will be equally free from febrile and inflammatory diseases in the uniform temperature of every location on the dry shores of a tropical sea. This whole peninsula of Yucatan is proverbial for the dryness and healthiness of its soil and atmosphere. In the city itself, from which I am writing—in this very house, whose balcony almost overtops the wall washed by the sea, I should be content to pass all my remaining days, if the state were placed under our happy government, and inhabited by our intelligent people. Indeed, so delightful is this climate, that a winter in Yucatan would remind you that we read not of frost in the garden of Eden; and might incline you to look with indulgence on the sublime idolatry of the Peruvians, in worshipping the truly material God of the World!

The desire to protract a tolerable existence amid the numerous natural blessings of such a climate, with the political and social enjoyments existing in our boundaries alone, induced me to ascertain that *it does indeed* extend beyond the astronomical line, into our *own* territory, and under our *own* government—whose manifold advantages can be duly appreciated only by our citizens abroad, or by foreigners, who happily compare it to the air which covers us, unseen, unfelt, but essential to our existence. In my address "To the Intelligent Friends of the Union," I therefore briefly mentioned the very peculiar circumstance presented in the singularly uniform temperature of southern Florida for vegetable growth and animal health; and I now challenge my professional brethren in general to name any place in the world, which, in climate and position, can combine as many natural and social advantages, for a dry winter retreat to our invalids, as Cape Florida.

Very respectfully, your obedient servant,
Henry Perrine.

Grass Cloth, &c.—*Mr. Fleet:* I observe in the advertisements of the New-York Courier and Enquirer, of August 16th, under public sales, the following: 66 cases assorted bleached and brown *grass cloth*, and *fine and extra grass cloth* handkerchiefs; 150 bales and cases *Chinchu*, *Bamboo*, and other fancy baskets; 40 cases Suchan *Pongees*, 20 do. Cochineal and white *Pongee* handkerchief; 60 dozen fancy *cane* seat chairs. Cannot you enlighten us in your next number relative to the vegetables which furnish these materials? H. P.

Florida Productions.—I presume you have observed that the Charleston Mercury remarks that "no doubt can longer exist that the productions of the West Indies may be profitably cultivated in the peninsula of Florida. The sloop Capital, arrived yesterday from near Cape Florida with a quantity of bananas, plantains, and limes, as a part of her cargo, being the first shipment for commercial purposes, of fruit, produced at that place. A bunch of the bananas, and of the plaintains, and a few of the limes, may be seen at this office, all remarkably fine." H. P.

Cape Florida Nursery.—I am told that the St. Helena will suddenly start to-morrow, at 9 A. M. I fear these dilatory Mexicans will not have the hives of stingless bees ready. I want also to send you, if possible, three young plants, viz.: a true *pulque* Agave, a true *Henequen* Agave, and a true Pita plant, Bromelia or Furcræa, which you should have the greatest possible care taken of, as they give a death-blow to the veracity and intelligence of Humboldt. Should they go, exhibit them likewise at the American Institute, if

they arrive in time. As I can keep my nursery under way, provided J. Dubose of Cape Florida is persevering, through Sagra at Havana; and as my fellow trustees in the T. P. Company seem to hold back for the law giving the township of land, I shall remain here till I have news of its passage. Perhaps I will have time to-night to write a short address to the Horticultural Society, which I wish you to present and explain. If they and their brethren throughout the Union would do any thing in their own way, to forward the enterprise, it would soon be completed.

H. Perrine.

Sept. 16, midnight, 1833.

Pitting Turnips.—As the turnip harvest is approaching, we take the liberty of suggesting to those who cultivate the Swedes, our method for pitting them for winter. The pits are limited to two feet in width, and of an indefinite length, and are dug in a dry situation, seldom more than two feet deep. When the pit or hole is filled with roots as high as the surface of the ground, the turnips are laid by hand, the tops out, and sloping to the centre, until they terminate in a ridge which is generally about two feet above the ground. The whole are then covered with straw, and then with earth. The important point follows: The crown of the ridge is then pierced with an iron bar, at intervals of a yard, and the earth pressed out, so as to leave an entire aperture into the turnips, and into each of these apertures a wisp of twisted straw is loosely inserted. The roots will heat, and unless the rarified air is permitted to escape the turnips are apt to rot. The openings permit its escape, without danger of the frost doing injury. With this precaution we have not lost one bushel in a thousand. The same course would no doubt be beneficial in preserving the *mangel wurzel*. B.

Massachusetts Silk.—We observe that the Bristol County Agricultural Society have been awarded four premiums for white mulberry trees, two of which were given for those planted expressly for the making of silk on the same farms. The whole number of trees entered for the premiums was over 70,000.

Curing Butter.—We should suppose the following recipe recommends too great a proportion of saltpetre:

Take two parts of the best common salt, one part sugar, and one part of saltpetre, beat them up together, and blend the whole completely; take one ounce of this composition for every sixteen ounces of butter, work it well into a mass, and close it up for use.

The above by some is used in this proportion—ten ounces of salt to four ounces of clean sugar.

The following is the commendation given of this mode of practice in the Pennsylvania Farmer:

"The butter cured by this mixture appears of a marrow consistence and fine color, and never acquires hardness, nor tastes salt; it eats as sweet after being kept three years as at first. It must be noted that butter thus cured requires to stand three weeks or a month before it is fit to be used; if it be sooner opened, the salts are not perfectly blended with it, and sometimes the coolness of the nitre will be perceived, which totally disappears afterwards."

This mixture will not cost more than about one cent per ounce, which is sufficient for curing one pound of butter. Country farmers, is not this worthy of your attention! As much so as sweet butter is better and bears a higher price than that which is strong and frowy. Besides, it affords to the dairy woman a settled rule, in an operation which, in the way it is usually practised, is done without rule or uniformity. I cannot but think, were people to adopt the mode here recommended, they would soon be convinced of the importance of it. Every one knows the superiority of meat preserved by a proportion of saltpetre and sugar with common salt, and it cannot but be expected that the same should be the case in respect to butter.

Salt your Corn.—Mr. Brown, of this vicinity, communicated some information to us, in a conversation recently held with him, in regard to the use of salt in corn which is put away in the husks, which may be interesting to the public. He stated that he received last year a quantity of corn, which he had purchased, in so wet a state that he was apprehensive that it would spoil. He remembered that it was a common practice in Pennsylvania, when hay was put away somewhat damp, or not fully cured, to sprinkle salt on it, and that such hay generally kept well, and that horses and cattle were very fond of it; he therefore concluded to try the experiment on his corn. He accordingly, as his corn was thrown in a pile on a large floor, sprinkled it with salt, using from a half a bushel to a bushel of salt to five or six hundred bushels of corn. The corn kept well, never became musty, and never had any weevil in it. Mr. B. still had of this corn when he communicated this information to us; and he stated that the bread which it then made was so sweet and good that it was esteemed preferable to that made of new corn. He also stated that he was not under the necessity of purchasing any fodder for his working oxen last winter, they fed upon the husks of this corn so freely; and he added that they kept in excellent order. Mr. B. was so well pleased with this experiment, that he is putting up all his corn this year in the same manner, using about half a bushel of salt to five hundred bushels of corn, which he thinks is enough.—[Ala. Intel.]

Price of Hops.—Hops vary much in price. Some years farmers and speculators are made "hopping" mad because they can get no price for them. This year, as appears below from the American Farmer, they are "hopping" for gladness.

The late increased demand for hops in New-York, and the high prices which the article commanded in consequence of the exportation of a large quantity to Europe, appears to have set our friends in the north "all hopping." Every northern agricultural paper that we open abounds in "hops, hops." It would seem from the following article, that one, at least, of these active gentry has hopped into a pretty round sum.

"*Hop Culture.*—The Bangor Courier mentions that one of the packets of that place, bound to New-York, recently took on board two hundred bales of No. 1 hops, raised in Penobscot. The value of this quantity was $8000, and the present prices of the article make the crop worth, on an average, $150 per acre. As the Maine soil and climate are suited to the culture, we see no reason why it should not be carried, in that as well as other sections, much farther than it has been. In Great Britain, about fifty thousand acres are occupied with hops."

Now this kind of business, at the rate of "$150 per acre," we would like very well to be at, if we only knew how. Has any of our subscribers ever cultivated the hop to any extent in this section of country, or farther south? and if so, cannot he or they tell us something about it? We should like to be "made sensible" of the practicability, prospects of success, and advantages of this culture, with the method of conducting it.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 26th day of October to the 4th of November, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.		
Octob.26..	6 a. m.	48	29.76	w by s	moderate		clear		
	10	52	29.80	..	fresh	..—w by s	..		—fair
	2 p. m.	54	29.77	..	..	w by s	fair		
	6	52	29.82	w	moderate	w	..		—clear
	10	48	29.92		fresh		clear		
" 27..	6 a. m.	45	29.95	wsw	light	sw—w	fair	—hazy	—cloudy
	10	50	29.91	..—ssw	.. — mod.	..	..		— ..
	2 p. m.	59	29.78	sw by s	fresh	..	cloudy		
	6	54	29.79	..	moderate	..	..		
	10	52	29.81	..	..	..	..		
" 28..	6 a. m.	46	29.81	NW	faint	..	..		
	10	50	29.81	WNW	..	..	fair		
	2 p. m	53	29.79	W	moderate	w—w by s	..		
	6	46	29.80	..	..	w by s	..		
	10	44	29.82	..	..		..		
" 29..	6 a. m.	37	29.97	NW	faint	WNW	clear		
	10	44	30.00	..	moderate	..	fair	snow at Richmond and at Ashtabula, twelve inches.	
	2 p. m.	47	29.95	..	fresh	..	..		
	6	42	29.98	..	..	..	..		
	10	41	30.00		moderate	..	..		
" 30..	6 a. m.	38	30.09	WNW	..	..	..		
	10	40	30.15		fresh	..	..		
	2 p. m.	42	30.20	W	..	..	..		
	6	39	30.30	..	..	..	..		
	10	36	30.39	..	..	..	..		
" 31..	6 a. m.	32	30.48	..	..	NW by W	..		
	10	37	30.48	..	..	..	..		
	2 p. m.	41	30.48	..	..	..	..		
	6	39	30.47	NNW	..		clear		
	10	36	30.50	WNW			..		
Novem.1..	6 a. m.	32	30.50	WSW	moderate		..		
	10	40	30.40	S	..		..		
	2 p. m.	49	30.30	SSW	..		..		
	6	45	30.12	SW	..		..		
	10	45	30.05	WSW	..		..		
" 2..	6 a. m.	45	30.03	..	light	sw	fair	—thin cirri	
	10	47	30.02	WNW	..	..	..		
	2 p. m.	50	29.92	..	..	w by N	..		
	6	53	30.05	..	..	..	..		
	10	48	30.10	NNW	..	..	..		
" 3..	6 a. m.	43	30.20	..	..	..	..		
	10	46	30.22	N	moderate	..	..		
	2 p. m.	47	30.22	..	..		clear		
	6	43	30.29	..	..		..		
	10	36	30.30	NNW	..		..		
" 4..	6 a. m.	30	30.38	..	..		..		
	10	34	30.37	..	..		..		
	2 p. m.	39	30.35	N	..		..		
	6	37	30.37	..	fresh		..		
	10	33	30.47	NE	..		..		

Average temperature of the week ending Monday, October 28, 49°.63.
Do. do. do. do. November 4, 40°.94.

NEW-YORK AMERICAN.

NOVEMBER 9, 11, 12, 13, 14, 15—1833.

LITERARY NOTICES.

The Infirmities of Genius, as evinced in the habits and peculiarities of Men of Genius, by R. R. Madden, Esq., author of Travels in Turkey. 2 vols. *Philadelphia:* Carey, Lea & Blanchard.—There have appeared from time to time in our columns extracts from this work, which will, for those who recall them, serve to display its character, and the manner in which the design of the author is executed. We think well of both; and cannot but believe that for miscellaneous readers these volumes will have a great charm, while to the hard student the observations and examples with which they abound, of the wearing of the body by overtasking the mind, may be greatly useful, as a guide and a warning. Our clever countryman, Dr. Dekay, in his Sketches of Turkey, has taught us rather to distrust Mr. Madden as a traveller. Perhaps there is less room for errors of fact in the volumes before us, which are rather a collection of curious incidents and circumstances connected with the career of a few eminent men, such as Byron, Cowper, Scott, &c., with the reasonings and illustrations furnished by their pursuits and habits, of the influence upon life of literary avocations.

Mechanics' Magazine and Register of Inventions, &c. Vol. II. No. 10. *New York:* D. K. Minor.—In addition to the usual and instructive variety furnished by this deserving periodical, we have in the present number a detailed statement of all the articles exhibited at the late Fair of the Institute in this city, and moreover, the address of Mr. Kennedy, at the Chatham street Chapel, before the Society of the Institute and a large assemblage of citizens. This address is certainly clever. It is as a whole an ornate and attractive declamation in favor of a protective Tariff, and against the system of free trade—claiming, which we confess surprised us not a little, that even Mr. Huskisson's doctrines, applied to this country, are the doctrines of the Tariff party! There is both ingenuity and talent in the general construction of the address, and in the selection of its topics; and it could not therefore fail to be highly acceptable to the Society before whom it was delivered. We cannot leave this Magazine without again saying that it seems to us to have a strong claim on the support of all the industrious classes connected with manufactures and the mechanic arts.

Life of Oliver Cromwell; by the Rev. M. Russell, L. L. D. 2 vols. New York: *J. & J. Harper.* Constituting Vol. LXIII and IV of the Family Library.—The life and career of Cromwell have been the theme of unmeasured censure, and equally unmeasured admiration, according to the political bias of the parties discussing them. Mr. Russell has endeavored to present an impartial view of both; and considering how difficult impartiality is, even for those in the habit of, and with the qualifications for, forming an opinion for themselves, he has succeeded pretty well. The leaning, if any, is against Cromwell, whom, in the sketch of him with which the history closes, and which we extract, he rather underrates, as we think, in the qualities of greatness.

The great art of attaining success, in all commotions excited by political or religious change, is founded on the knowledge of character, and on the talent of directing to a particular object the passions of the multitude, and the ambition of their more active leaders. By this mastery over the feelings and designs of his contemporaries, Cromwell, there is no doubt, acquired the means of accomplishing the most arduous parts of his undertaking. He thereby broke the power of Parliament, from whom he first derived his authority; wielded the mighty influence arising from religious sentiment; and, finally, induced the majority of a democratical government to accede to his desire of ascending the throne, as the avowed monarch of three kingdoms which he had in effect subdued.*

Of Cromwell it may be said that he was rather a remarkable man than a great one, and that the story of his life excites in the mind of the reader more of surprize than admiration. The elements of true greatness were deficient in his character: he wanted especially self-denial, sincerity and gratitude. He was even destitute of that sensibility, or delicacy of feeling, without which no man can attain the higher degrees of excellence. The mere circumstance, for example, trifling as it may appear, of his occupying at Whitehall one of the king's beds while his majesty was under the hands of his jailer in the Isle of Wight, argues a base spirit; and the disgust which arises from this contrast is not a little increased, when we are told, that while in the possession of the royal bedchamber, and even reclining on the couch, he gave audiences to the principal persons of the republican government.

It is indeed mortifying to human pride to reflect how mean and worthless, on many occasions, are the individuals who start up from obscure life to seize the loftiest and most commanding positions of society. In the case of Cromwell, however, we see qualities which were adapted exclusively to the period in which he lived, and which, at any other time, by being confined to a very limited range, could not have produced any deep or permanent impression on public affairs. His enthusiasm, and fanatical propensities would, at a more tranquil epoch, have spent themselves on local objects and domestic reformation. He might have figured at a county meeting or a Bible society, and under the mask of his natural dissimulation, have acquired a character for zeal, patriotism, and independence; but in a peaceful, settled period, such as that we have supposed, his abilities would not have enabled him to surmount the obstacles that attached to his condition in life, and to reach any marked distinction in civil or military pursuits.

In comparing what Cromwell actually accomplished with the means of which he was possessed, no writer has been more successful than Cowley; who, in the discourse already referred to, speaks of him in the following terms. "What can be more extraordinary, than a person of mean birth, no fortune, no eminent qualities of body, which have sometimes, or of mind, which have often, raised men to the highest dignities, should have the courage to attempt, and the happiness to succeed in, so improbable a design as the destruction of one of the most ancient and solidly founded monarchies upon earth; that he should have the power or boldness to put his prince and master to an open and infamous death; to banish that numerous and strongly-allied family, to do all this under the name and wages of a parliament; to trample upon upon them, too, as he pleased, and spurn them out of doors when he grew weary of them; to raise up a new and unheard of monster out of their ashes; to stifle that in the very infancy, and to set himself up above all things that ever were called sovereign in England; to oppress all his enemies by arms, and all his friends afterwards by artifice; to serve all parties patiently for awhile, and to command them victoriously at last; to overrun each corner of the three nations, and overcome with equal facility both the riches of the south and the poverty of the north; to be pleased and courted by all foreign princes, and adopted a brother to the gods of the earth; to call together parliaments with a word of his pen, and scatter them again with the breath of his mouth; to be humbly and daily petitioned that he would please to be hired at the rate of two millions a year to be the master of those that hired him before to be their servant; to have the estates and lives of three kingdoms as much at his disposal as was the little inheritance of his father, and to be as noble and liberal in the spending of them; and, lastly (for there is no end to all the particulars of his glory), to bequeath all these with one word to his posterity; to die with peace at home and triumph abroad; to be buried among kings, and with more than regal solemnity; and to leave a name behind him not to be extinguished but with the whole world, which, as it is not too little for his praises, so might have been too for his conquests, if the short line of his human life could have been stretched out to the extent of his immortal designs?"†

The life of Cromwell may be studied with special advantage in our country, as showing the gradual and crafty, but sure devices which have so often led, and which will again, in spite of history and experience, often lead popular masses, contending, as they believe, for freedom, into the clutches of those, who, with fair seeming, and loud professions in the cause of liberty, aim only at the possession of office and power.

Illustrations of Political Economy, No. XIX. Berkley the Banker; Part I, No. —: Our Parish. By *Harriet Martineau.* Stereotype edition. *Boston, L. C. Bowles; New York, C.S. Francis.*

These two little volumes—we hope all Miss Martineau's illustrations may be in like manner stereotyped and widely circulated in our country—though adapted to the peculiar state of society in England, especially in respect of its poor laws and banking system, are yet so sensible, so clear, so natural, and withal so attractive as mere stories, that we soon lose the impression that they lack that immediate application here which they must find in every town and village of England. From Berkley the Banker we make a single extract. It is the letter of the daughter of the banker, written to her mother on hearing of the failure of the father's bank—a failure by which that family would be reduced from wealth to self-dependence. It will make our readers anxious, we are sure, as we are, to see in the sequel of the tale how this family is borne through its reverse of fortune.

"Dearest Mother,—The news which Horace has brought grieves me very much. My great trouble is that I am afraid Fanny and I know too little at present what will be the extent of such a trial to feel for my father and you as we ought. We are aware, however, that it must be very great and long-continued to one who, like my father, has toiled through a life-time to obtain the very reverse of the lot which is now appointed to him. There is no dishonor, however, and that, I think, is the only calamity which we should find it very difficult to bear. Your children will feel it no misfortune to be impelled to the new and more responsible kind of exertion of which their father has kindly given them frequent warning, and for which you have so directed their education as to prepare them. Fanny and I are too well convinced that the greatest happiness is to be found in strenuous exertion on a lofty principle, to repine at any event which makes such exertion necessary, or to dread the discipline which must, I suppose, accompany it. I speak for Fanny in her absence as for myself, because I have learned from her to feel as I do, and am sure that I may answer for her; and I have written so much about ourselves, because I believe my father in what he has so often said,—that it is for our sakes that he is anxious about his wordly concerns. I assure you we shall be anxious only for him and you and Horace. Horace, however, can never be long depressed by circumstances; nor do I think that any of us can. I mean to say this in the spirit of faith, not of presumption. If it is presumption, it will certainly be humbled: if it is faith, it will, I trust, be justified. In either case, welcome the test!

"I expect Fanny home by the middle of the day to-morrow; and I hope we shall see you in the evening, or the next day at farthest. My father may rely on perfect freedom from disturbance. I shall provide that nobody shall come farther than the white gate, unless he wishes it. I send you some grapes, and my father's cloth shoes, which I think he must want if he has to sit still much at his writing. I shall send you more fruit to-morrow; and

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* "I have often observed, with all submission and resignation of spirit to the inscrutable mysteries of Eternal Providence, that when the fulness and maturity of time is come that produces the greatest confusions and changes in the world, it usually pleases God to make it appear, by the manner of them, that they are not the effects of human force and policy, but of the divine justice and predestination; and though we see a man like that which we call a Jack of the clock-house, striking as it were the hour of that fullness of time, yet our reason must needs be convinced that the hand is moved by some secret, and, to us who stand without, invisible direction. And the stream of the current is then so violent, that the strongest men in the world cannot draw up against it, and none are so weak but they may sail down with it. These are the spring-tides of public affairs, which we see often happen, but seek in vain to discover any certain causes."—[Cowley's Essay on the Government of Oliver Cromwell.]

† Cowley's Discourse on the Government of Oliver Cromwell.

the messenger will wait for any directions you may have to give, and for the line which I am sure you will write, if you should not be coming home in the evening.

"Lewis, who has been a very good and pleasant companion, sends his love, and his sorrow that anything has arisen to make you unhappy.

"Farewell, my dear father and mother. May God support you, and bring blessings out of the misfortune with which He has seen fit to visit you! With His permission, your children shall make you happy yet.—Your dutiful and affectionate daughter,

"Melea Berkeley.

"P. S.—No one has been so anxious about you as Henry Craig. If he thought it would be any comfort to you to see him, he would go over to D—— on the instant. He said so when we were only in fear. I am sure he will now be more earnest still. As soon as Horace is gone, I shall write, as he desires, to Reading, and Manchester, and Richmond. If there are any more, let me know to-morrow. I hope you will not exert yourself to write to anybody at present, except Fanny or me."

Popular Essays on Naval Subjects; by the Auther of 'A Year in Spain.' New York: Geo. Dearborn.—These Essays, dedicated most appropriately to the junior officers of the Navy, by one who is himself an ornament to that service, appeared originally, though not, as at present, connectedly, in the *Encyclopædia Americana*. In their present condensed form, they furnish information useful to the young officer, and valuable to all, in a style easy and polished, and, at the same time, unambitious.

The extract we subjoin, on the origin of the art of navigation, will witness for us how well the volume deserves our praise:

Horace has well said, that his heart must needs have been bound with oak and triple brass, who first committed his frail bark to the tempestuous sea. Nothing, indeed, conveys a higher idea of human daring than the boldness with which man rushes forth to encounter the elements; nothing speaks louder in praise of human ingenuity than that wonderful art by which he is enabled to forsake the land, stretching forth until it fades from the horizon, and nothing visible remains but the hollow heavens above, and a trackless waste below; driven from his course by adverse winds, yet, by dint of perseverance, wearying out the elements; and at length arriving, with unerring certainty, at the haven where he would be. And if the daring and ingenuity of the navigator deserve our admiration, the result of his efforts will not appear unworthy of the means. It is to the exercise of his wonderful art, that we are indebted for the improvement of our condition, which arises from the exchange of the superfluity of one country for that of another, the whole world being penetrated, and every clime made tributary to every other, until the whole globe is reduced to one common country. Above all, to navigation are we indebted for that higher and nobler advantage,—the interchange of sense and sentiment, which makes wisdom common to the world, and urges man onward to perfection.

Yet it has not always been so. Time was when the canoe, or the raft, constituted the only ship of the sailor, and when the narrow precincts of a lake or river set bounds to his roving disposition, and confined him within view of familiar objects. Advancing a step farther, we find him venturing from headland to headland, or from island to island, with a view of gratifying his curiosity, or bettering his condition, until a gale, driving him to some unknown coast, increases at once his knowledge and hardihood. Meantime, his bark adapts itself to nobler functions, enlarges its size, and improves in form; the rudder is added, the mast is better sustained, and the sails receive a more favorable application. And thus the art by which the ship is made, and that by which it is conducted, advance with equal steps. Deprived of the aid of surrounding objects, the land withdrawn from view, and nothing within the verge of the horizon but a waste of trackless water, the mariner casts his eye in despair to the overhanging heavens. Aid is granted to his prayers: the constellations assist him in his course: among many revolving stars, he finds one steadfast, and makes it his perpetual guide. Such do we find the actual state of navigation among the savage tribes of our own day; and such was also the progress of the art among the earliest nations that improved it. Not the least of the improvements which we have made in this art, is that simplification in practice, by which it is rendered available with little study and capacity.

Anomalous as it may seem, yet it is true that more study, more experience, and laboriously acquired information, were necessary to form an Acestes, or a Palinurun, than are now required to furnish forth a La Perouse or a Parry. The master, or pilot, of ancient times, who had the command of the sailors, and directed all the evolutions, was not merely required to know whatever related to the management of the sails, the oars, and the rudder: he was to be familiar with all the ports that lay in the track of his navigation, the landmarks by which they were designated, and all the rocks, quicksands and dangers of the intervening deep: he was to know the course of the winds and the indications that preceded them; also the movements of the celestial bodies, not merely for the purpose of directing his course by them, but to understand the winds and weather, which some of them, as Arcturus and the Dog star, were believed to portend. Moreover, he had to be skilled in reading the various omens, which were gathered from the sighing of the wind in the trees, the murmurs of the waters, and their dash upon the shore; the flight of birds, and the gambols of fishes. A voyage was, in those days, a momentous and awful undertaking. When the time arrived for the sailing of a ship or fleet, the masts were raised, the sails bent, and all made ready with solemnity, and great parade of preparation. If, as was most usual, the ships were hauled up on shore, the mariners placed their shoulders at the stern of the ships, and, at the word of command, pushed their bows forward into the sea, leaping aboard when they floated. Levers were used to move the heavier vessels, and in later times, the helix (probably jack-screw.) which Archimedes had invented for that purpose. Before putting to sea, the Gods were ever solemnly invoked and propitiated by numerous sacrifices; thus we find all Homer's heroes sacrificing to the gods before they undertake a voyage; and Virgil's Anchises ventures forth only after having devoted a bull to Neptune and a bull to Apollo.

Nor did the voyagers alone supplicate protection: the crowds of friends and countrymen, who thronged the shore, joined fervently in prayers for their deliverance from danger, and like the Venusian poet, commended their departing friends to the presiding deities of the winds and waves. All omens were carefully regarded; the entrails of the sacrifices examined, with every possible prognostic of good or evil; and a very small matter, the perching of swallows on the ships, or an accidental sneeze to the left, was enough to delay departure. As this, however, never took place without the most favorable auspices, it was always joyful. The ships were adorned with streamers and garlands of flowers; and, when the signal was given from the admiral ship, by sound of trumpet, a shout of rejoicing rang through the fleet, sent back by the responding blessings of the friends that remained. After advancing a short space, doves, which the mariners had brought from their homes, were released, and their safe arrival—not unfrequently charged with the last adieu of a departing lover—was considered auspicious of the return of the fleet. The admiral led the van, conspicuous by his painted sails and streamers, and opened a path in which many followed. In moderate weather, the ships often sailed side by side; but, as the wind freshened, and the sea grew rough, the order became more open, to avoid contact. At all times, they kept close to the land, following the indentations of the coast. When night approached, it was customary to anchor, or else to beach the vessels, that the crews might repose, each rower sleeping on his bench, ready to renew his labors with the returning sun. If the amenity of the weather, the friendly aid of the moon, or the open nature of the navigation, admitted of sailing during the night, the plummet or the sounding-pole directed their course, or it was shaped, as by day, from headland to headland. If the land were not visible, the known direction of the wind continued, with the aid of the stars, to guide them. Cynosura was the favorite of the Phœnicians: the Grecks abandoned themselves to the direction of Helice.

Having escaped the multiplied dangers of such a navigation, and having accomplished their object, the ships returned home with songs and rejoicings. If they were to be stranded, the sterns were turned towards the shore, and the vessels forced backwards upon it with the oars, until the crew landing, drew them beyond the reach of the surf. Sometimes they were taken into the beautiful moles, or artificial harbors, which the ancients construc'ed, with great labor and ingenuity, within the natural ones. These were in the shape of crab's claws, or horns, the ends, which formed the entrance, so overlapping as to exclude the swell of the sea. Castles defended their approach, and a light-tower, placed at the entrance, guided those who sailed along the coast, or desired to enter by night.—It was called Pharos, from the island at the mouth of the Nile, where the first tower had been erected. Here the vessels were not hauled up, but simply fastened to the rings, or pillars, provided for the purpose, while at the inner ports were docks and stores for building and reparing. In this port, too, were temples devoted to the Gods, and especially to the patron of the place, where propitiatory sacrifices were made, and vows fulfilled and recorded: here, too, were numerous taverns, and places of more licentious gratification. Whether, however, they stranded their vessels on the beach, or moored them in the harbor, the mariners, before repairing to these resorts, fulfilled the vows made before departure, or in seasons of peril, offered thanks to Neptune, and sacrifices to Jupiter, for having granted them release from the durance of their ships. Upon those who had escaped shipwreck, gratitude was more deeply incumbent. In addition to other sacrifices proportioned to their means, they usually offered the garment in which they were saved, together with a picture descriptive of the disaster. If nothing else remained to them, the hair was shorn from the head, and consecrated to the tutelar deity; hence offering the hair was the last vow of the distressed mariner.

There is much that is beautiful in these simple acts of piety; but, except in some Catholic countries of the Mediterranean, where pictures of rescue and garments are still hung before the shrine of an invoked intercessor, and where processions are still made, after escape from shipwreck, none of these touching customs now remain. What can be more beautiful than the grateful sense of divine interference with which Columbus and his followers hasten to return their vows after their safe return to Palos? Such piety, if it availed not to avert present danger, at least served to inspire confidence to meet it; and, when past, the gratitude which it occasioned must have tended to refine the sentiments and ennoble the heart.

Sketches and Eccentricities of Colonel David Crockett of West Tennessee; N. York, J. & J. Harper.—We hardly know whether this is a burlesque or real history of a man quite remarkable in our annals, and in some sort the type of a race, which steamboats and the rapid extension of civilization in the far West are fast extinguishing. It is in this sense a curious book, which we have read, we confess, with some interest and much incredulity.

Scott's Works.—Four numbers more of Conner & Cooke's cheap edition are before us. They contain the Talisman, Woodstock, the Highland Widow, the Chronicles of the Cannongate, and Anne of Gierstein.

The National Portrait Gallery, Part VII; by *Jas. Herring* of New York, and *Jas. B. Longacre* of Philad.—This number furnishes the portraits and biographies of *Daniel Webster*, *Bishop White* and *Chief Justice Shippen* of Philadelphia. The first and the last portraits are good—of Bishop White we have seen a better. The memoirs are brief and well written.

We conclude, as usual, and as we hope now regularly to do, with No. 3 of our correspondent H.

Harrisburgh, Pa. Oct. 22.

I write to you from the banks of the Susquehannah. A dull steady rain prevails out of doors, and after wading through the mud about the purlieus of this place for an hour, I am glad to be housed at last for the rest of the day. I see the capital of Pennsylvania under every disadvantage, but still am pleased with it. Although a city in miniature (and this contains only four or five thousand inhabitants) is generally odious to one who has resided in a metropolis—reminding him perhaps of Goose Gibbie in jack-boots, at the Review of Tullietudlem—there is much in the appearance of Harrisburgh to reconcile the most captious to its assumption of civic honours. The manner in which the place is laid out and built, the substantial improvements going forward, and the degree of wealth and enterprize manifested in those already made, and above all, its beautiful scite, make it an exception to the generally uninteresting character of country towns.

The chief part of the town lies on a piece of Champagne land about 40 feet above the level of the Susquehannah; the handsomest street in the place, though occupied chiefly by petty tradesmen and mechanics, verging on the waters of that lovely stream. The other streets run at right angles to, and parallel with, the river which is nearly straight, when it washes the town with a graceful bend near the suburbs of either end. Facing the Susquehannah at the upper part of the town, and only a few hundred yards

from the river, is a sudden elevation rising into a level platform about 60 feet above the surrounding plain. Upon this eminence, fronting the river through a broad street, stands the Capitol and State buildings containing the chief public offices. The centre edifice and one standing detached on either side, are all ornamented with Grecian porticos, and their size, their simple design and just architectural proportions, would make an imposing display and impress a stranger favourably until he ascertained the paltry material of which they are built. But I defy any one, unless he may have written sonnets to Time in the ruins of Babel, to have one respectful association with a structure of *brick*. Putting the perishable nature of the material entirely out of the question, though a sufficient objection to its use in a public building, its size alone is fatal to effect in a structure of any pretension. For it is massiveness in the details as well as in combination, which impresses the beholder in architectural form: and the pyramids of Egypt themselves if reared of boyish marbles, though they might be so ingeniously put together as to awaken curiosity, could never inspire awe. The disciple of Malthus perhaps might busy himself in calculating how many urchins it took —supposing every one in the dominions of Cheops capable of bearing marbles to have contributed his mite to complete the fabric—but where would have been all those ingenious surmises with which antiquarians, since the days of old Herodotus, and who knows how many centuries before, have puzzled the brains of their readers—where would be that reverence with which mankind in every known age have regarded these monuments of the power of their race in the early vigor of its creation—where would be the awe with which we now regard these artificial mountains that rear their stupendous forms in proportions that mock at modern art; and, rivalling in their heaped up rocky masses the masonry of Nature herself, speak of the labours of a race for whom the Mastodon of our own continent would have been a fitting beast of burthen?

What a singular perversion of taste is that existing in the towns and villages through which I am passing, which induces the inhabitants to make their barns and cow-sheds of solid stone, and their ornamental buildings of brick and stucco. I sometimes see Gothic churches of the first and Grecian fronts of the last; and these not unfrequently planted in the midst of a cluster of gray mansions whose towering gables, huge stone buttresses and deep cut narrow windows, make the former show like some pert poplar thrusting his dandy figure among a clump of hoary oaks. Still one cannot but admire the air of comfort—I might almost say of opulence—which prevails throughout the country I am passing over. This, in the village of Reading, through which we passed yesterday, is particularly the case. It has a population of about 7000 inhabitants; and the numerous stages filled with passengers which pass daily through it, the wagons loaded with produce that throng the streets of the place, and the rich display of goods and fancy articles in the shops give Reading a most flourishing appearance. It is prettily situated on the Schuylkill, with a range of high rocky hills in the rear; but its position wants the picturesque beauty of Harrisburgh. Here the Susquehannah is, I should think, full half a mile wide. It is studded with wooded islets, and flows between banks which, though not very bold in themselves, yet rise with sufficient dignity from the margin, and blend with the undulating country, until its arable slopes and sunny orchards are bounded by a distant range of mountains.

The prospect from the Capitol is, I am told, uncommonly fine; but the thick mist which limited my view to a very narrow compass while walking along the banks of the river an hour ago, has hitherto prevented me from trying the view. I shall visit the spot from which it is to be had in the morning.

Yesterday I had, for the first time, the gratification of hearing a sermon pronounced in German—the common language of this part of the country. I walked some distance through a pelting shower to the Church, in Wornelsdorf, and though the preacher was prevented by sudden indisposition from giving more than the exordium of his discourse, I was sufficiently delighted with his clear mellow enunciation, and the noble sound and volume of the language which he spoke in all its purity, to regret most deeply an often deferred resolution of mastering that manly tongue. One must think more strongly in such a muscular language. I have frequently had occasion to admire the expressiveness of the German in poetry when Goethe or Schiller were quoted by others, but I had not till now a conception of the effect in oratory of that language which gave energy to the torrent of Luther's denunciations and richness to the flow of Melancthon's eloquence. I listened, it is true, not understandingly, but like one who admires the compass of an instrument though ignorant of the air that is produced from it. I conceived however that I could follow the preacher in his preliminary address; and indeed the tone of fervid feeling and unaffected solemnity in which it was made would have impressed, if it did not bear along, the most ignorant listener. The congregation, owing to the weather, was but small. The two sexes sat apart from each other and I had a separate entrance to the building. I was not aware of this at my entrance, and as a matter of good taste took my seat among the ladies, when an active master of ceremonies, probably the sexton, insisted upon showing me to another place, and after a while induced me to change my situation, after having once or twice declined with thanks what I conceived to be an officious act of politeness on his part. The young *Vrouties* appeared to regard our interchange of civilities with particular interest, and I am half persuaded that had I not struck my flag to the gentleman-usher just when I did, the womankind (as Jonathan Oldbuck presumes to call the suzeraines of the lords of creation) would have risen to a man (Hibernicé) in my favor and insisted upon keeping me among them.

I shall keep open this letter till to-morrow evening and add every thing I have to say on this side of the Alleghanies—For the present, good night.

October 23.—The rain still continued when I left Harrisburg this morning, and the view I promised myself from the Capitol was not to be had. My disappointment at not having seen more of the Susquehannah is not slight, and the feeling is enhanced by a delicious glance I caught of its waters in the sunlight as the clouds parted for a moment just as a turning of the road shut out the view behind us. I almost grew melancholy, while recalling with a sort of home feeling the delight with which, years ago, I first beheld its sources, to remember now that it was the last stream that ran eastward I should see for a long time to come. And then those calm, gentle waters, which flow as smoothly as the verse of him who has immortalized them, once seen are never to be forgotten nor passed again without interest. The Susquehannah has its birth in one of the loveliest of lakes, and it bears with it the impress of its parentage wheresoever it wanders—the bright green surface and transparent depths below, the winding current which, unbroken by cascade or rapids, whether it steals through the rich fields and beautiful glens of Otsego, or smiles on the storied vale of Wyoming, loiters alike beside its fertile banks, as if reluctant to pass them on its long journey to the ocean. For grandeur of scenery, indeed, the Hudson far surpasses it; and where is the stream that can match that lordly river! But there is a gentle beauty about the Susquehannah which touches without striking, and wins while you are unawed. The one, like a fair face lit up with glorious intellect, commands and exacts your homage; with the other, as with features softened with tenderness, you leave your heart as an offering.

We are now, you will observe, on the main road from Philadelphia to Pittsburgh, and as our stopping places, instead of being in those mongrel establishments, half inn, half farm-house, will probably be at the stage offices along the route, but little opportunity will offer for observing the manners of the residents. Thus far I cannot speak too warmly of the civility and kindness of the people among whom I have passed the last week; with the exception of the amusing little incident detailed in my first letter, not a circumstance has occurred to qualify this opinion. The general appearance of the country east of the mountains, you have already gathered from the two previous letters. Latterly we have ridden so continually in the rain, that I have had no opportunity of seeing it to advantage. But the only change I observe in the face of the country is that, instead of being broken up into small hills, where forest and cultivation are most happily mingled—as around Bethlehem—here the vales spread out into plains, and the high grounds receding, swell off till they show like mountains in the distance. I miss too those fine barns upon which I have dwelt with so much pleasure, nor do the better fencing and spruce looking dwelling-houses compensate for the loss of the imposing appearance of such huge granaries in an agricultural country. I thought when first observing the change and marking the herds of cattle and droves of sheep that sometimes throng the roads, that we had got at last completely into a grazing region. But the delicious wheat bread met with at the humblest inns with the little stock to be seen in the fields, seems to indicate that such is not the case. It seems odd in a country so thickly settled, where one meets a hamlet at every two or three miles, with scattering houses at frequent intervals between them, that wild animals should be yet abundant. But I was told at Bethlehem that it was not uncommon to kill bears upon the neighbouring hills; and a gentleman informed me this morning that they frequently drove deer into the Susquehannah within a few miles of Harrisburgh. I can account for it only by the fine forests which are every where left standing isolated in the midst of cultivated tracts, making so many links in the chain of woodland from mountain to mountain across the country, and tempting the wild animals, while it extends their range, to venture near to the settlements. In New-York you may be aware that owing to the wholesale manner in which clearings are made, the deer are swept off with the forests that sheltered them, and retreating into the mountain fastnesses of the northern counties, or the rude wilds of the southern tier, are there crowded so thickly as to be butchered for their skins. In the former region, while fishing, within a few weeks since, among the picturesque lakes which there stud the surface of the country, I have seen the deer grazing like tamed cattle on the banks. It was a beautiful sight to behold a noble buck calmly raising his head as the skiff from which we trolled approached the margin, and then, after standing a moment at gaze, toss his antlers high in air and with a snort of defiance bound into the forest.

Farewell. You shall hear from me again so soon as we pass the Alleghanies, the first purple ridge of which I can already see limning the sky in the distance. In the meantime I will note down anything of interest which catches my eye, and endeavour to give you hereafter some idea of the lofty landmark which, before you read this, will be placed between us. H.

FOREIGN INTELLIGENCE.

LATER FROM EUROPE.—The packet ship Virginia, Harris, from Liverpool, brings us London papers to the 7th ult.

From Portugal, the news is not so late as we have direct by the way of St. Ubes and Boston. There are some details supplied, however, which, if true, may be deemed important to the cause of the Queen. No new attack on Lisbon had been made, but the defeat of that of the 14th, on a particular point of the lines of defence, is magnified by the Pedroites into something so important, as, with other causes, to have led to the resignation of Marshal Bourmont and the French officers who accompany him. It will be seen that the fact of this resignation is strongly averred in the extracts we subjoin, but there may yet be error in it. If it *be* true, it must, we apprehend, have a decisive influence against Miguel.

It is however to be borne in mind, that as yet on manifestations have appeared in the interior of Portugal, friendly to Don Pedro and his daughter, whose armies only possess Oporto and Lisbon, and a narrow strip on the seaboard. Although, therefore, the forces of Don Miguel may discontinue their attacks on Lisbon, it does not seem to follow that the war will be speedily concluded. If, indeed, the attempt which Don Carlos will undoubtedly make to gain for himself the crown of Spain, be at all successful, his cause and that of Miguel will unavoidaly become united, and together may draw all Europe into the vortex of the family quarrels of the Peninsula.

Donna Maria arrived in her capital on the 23d of September, and was, as of course on all such occasions, received with every demonstration of joy and attachment, such being a regular part of the performance, let who may be the object.

The death of the King of Spain is also reasserted, and with a probability, greater than heretofore, of its truth. The Queen Regent is said to have assumed the reins of Government, without making any change in the old Ministry. Don Carlos, if he hopes to reassert his claims to the crown, must strike soon.

The speculations on the late meeting of the sovereigns of Russia and Austria, seem now to have resolved themselves into the conclusion, that a Congress of Ministers is agreed to be held in Vienna during the winter, in which the state of Germany, particularly as to the freedom of the Press, is to be discussed and proper bonds are to be contrived against too much liberty of discussion.

The Cotton Market at Liverpool had revived, and prices are quoted at a *half penny* advance on the lowest previous prices.

[*From the Liverpool Albion of the 7th.*]

Foreign.—The Conference of Munchengratz is really over. The Journals are nearly silent respecting its objects and its cause, and, perhaps, for the best of reasons, that there was, in fact, nothing important belonging to its determinations. The daughter of Prince Polignac is dead. She had frequently implored permission for her father to pay her a last visit, well guarded, and on giving his parole d'honneur, but it was refused! The Archduches Maria Lonisa has ceded to Madame Letitia, the mother of Napoleon, the whole of the property of the late Duke de Reichstadt including the legicies left him by his illustrious father. Madame Letitia has since executed a formal act, granting the arms of Napoleon to the Museum of France, and the fortune of her grandson to the French hospitals.

Letters from Tampico to Oct. 9th, were received yesterday, via. New Orleans. The *conducta*, from Zacatecas, was expected to arrive in a day or two. The Rob Roy would be despatched for this port immediately after the arrival of the conducta.

The last account from the seat of war, stated that St. Anna had then a force of 10,000 men, which was amply sufficient to overcome his opponents, Arista and Duron.

SUMMARY.

[*From the Daily Advertiser.*]

A singular phenomenon was exhibited in the heavens, on Wednesday morning, which excited the admiration of all who witnessed its extraordinary appearance, and is well worthy the investigation of scientific enquirers. About 4 o'clock in the morning a large meteoric body, resembling a globe of fire, exploded in the zenith of the heavens, and poured a continuous stream of flaming particles on the sky beneath. The increasing scintillations from this luminous globular body were showered down like drops of falling rain, illuminatng the whole visible horizon, and scattering rich rays of light on each airy path as they fell. After this meteoric shower of fiery rain had some time descended, a luminous serpentine figure was formed in the sky, which, on its explosion, produced a shower of fire equally brilliant and incessant. The inflammable particles then apparently cohering in one ignited mass, rolled up in a ball to the zenith; and from this lofty elevation burst, and shot out streams of electric fire from its luminous orb, which continued to fall until the hour of six in the morning, when the dawning day put an end to their glory and their flight. The cause of this splendid and unique appearance of the heavens, and the magnificent phenomenon, with which we have been visited, is left to the wise to interpret. From them we invite a solution of this wonderful visitation.

Rumors and Commotions.—Our city to-day is full of strange rumors, concerning a phenomenon in the heavens, observed about five o'clock this morning. It is related by certain milk-men and market people, who were up and stirring at that early hour, that several stars were observed to leave their stations in the space above, and fall to the earth, scattering their brilliancy in a thousand particles of light and heat. Some allege that strange noises were heard, and others that meteors and comets sailed through the air in majesty and splendor unexampled. A piece of falling star is said to have been picked up, in the neighborhood of the city, by a milk girl, wearing a green calash, which was about the size of a *piece of chalk.*

We note these matters on hearsay evidence, not having risen this morning until fifteen minutes after the strange phenomenon was observed.—[Phila. Gaz. 13th inst.]

The Marco Bozzaris.—The steamboat Marco Bozzaris, Capt. Sutton, which left this port on the 15th Oct., bound to Buenos Ayres, to ply as a packet between that port and Montevideo, put into Bermuda on the 28th, to repair damage, having sprung aleak. She struck on the rocks at the "West End" on the night of the 25th, but did not sustain much injury. A letter from a correspondent at Bermuda dated Nov. 1st, says, "The Marco Bozzaris is now *beached*, to undergo repairs. It is feared that this cannot be effectually accomplished without taking out all her machinery. The schr ——, from Baltimore, arrived last evening in six days. The Vernon, bearing the flag of Vice-Admiral Cockburn, is just arrived from Halifax."—[Jour. of Com.]

Water.—The report of the Engineer who was appointed to examine the best route for supplying this city with pure and wholesome water, was presented last Monday in the Board of Aldermen, and ordered to be printed. It is voluminous and accompanied by many plans and maps of the ground between this and the Croton river, the only unfailing source, whence a sure and adequate supply can be drawn. In a matter of this primary importance and magnitude, we hope the decision will be taken at once to do whatever is undertaken upon a scale adequate to the wants and means, present and prospective, of this great city. There will be no economy, and certainly no credit, for the sake of diminishing present expenditure, in adopting temporary expedients. Let the work be done for posterity, as well as for the existing generation; and posterity will not then have reason to complain of being burdened with a portion of the expense its proper execution may require.

The Rail Road Accident.—The particulars of the dreadful accident near Hightstown, as given in the papers, were in the main correct. We have since been informed, that Mr. Lex, of Lebanon, Pa., who was so shockingly mangled as to render it impossible to bring him to the city, expired at Hightstown, in a few hours after the accident. Capt. Vanderbelt, also left behind, is doing well. He had been previously hurt by the oversetting of a gig, near New York: and was, in consequence, much more liable to injury. Mrs. Bartlett and family are out of danger, with the exception of one of her children, who lies in a very languishing state, at Congress Hall.—The remainder of the wounded are said to be in a fair way of recovery. They are Miss Whitehead, of Newport, R. I., one arm broken; Rev. John West, R. I., leg broken, and bruised; Mr. King, R. I., severely bruised; Mr. Dreyfous, of this city, bruised, not dangerously; Mr. Charles, injured severely in the thigh; a medical gentleman from Philipsburgh, Pa., name not ascertained, ribs broken, and bruised.—[Philadelphia paper.]

Law of Patent.—Yesterday afternoon, an important case, which has occupied a week, was decided in the Circuit Court of the United States for this District,—John Ames, of Springfield, against Charles Howard and Wells Lathrop, of South Hadley. The action was brought for the infringement of a patent right, and damages were claimed for the unlawful use of two of his patent Cylinder machines for making paper, from October 26, 1832, to April 9, 1833 The defence rested on the alleged invalidity of the patent for various causes. A *crowd* of witnesses were examined during four days of last week, on behalf of either party. Counsel for the plantiff, W. Bliss, of Springfield, and B. Rand of this city; and Geo. Bliss, of Springfield, and R. Fletcher, of this city, for the defendants. The jury returned a verdict for the plaintiff for $412 50, which being tripled as the law requires, is $1237,50 damages. It is stated that the result of this trial is of very great importance to the paper manufacturers; about 500 of the machines being in use by them, who will each be liable for damages, in an amount of nearly half a million of dollars.

The defendants, we understand, have decided on having it go to the Supreme Court of the U. States, and Daniel Webster has been retained by the plaintiff.—[Boston Centinel.]

We are glad to see that there is some prospect of a peaceable termination of the difficulties in Alabama. The Mobile Commercial Register states that the Marshal has given public notice that the settlers on the Creek lands will not be disturbed before the 15th of January. This will afford time for the present excitement among the people of the State to cool in some measure, unless the Governor should persevere in his determination to render the United States officers accountable to the laws of the State for past proceedings, without waiting to ascertain the sense of the Legislature, or until the matter is brought before Congress.

Sparks' Life of Morris.—The Paris Journal des Debats of the 10 September contains a review of this work, which as it declares has already fixed the attention of Europe. The attention of the reviewer is principally directed to the writings of Mr. Morris on the subject of the French Revolution.

[*From the Sacket's Harbor Courier of Nov.* 7.]

Great Fire at Kingston, U. C.—We learn that on Friday night last, at about half past ten o'clock, a fire broke out in a small back shop in the most central and business part of Kingston. It immediately communicated to other buildings, consuming in all rising of *twenty* valuable buildings. and among them, we regret to learn, the Printing Office and Bookstore of Mr. Macfarlane, Editor of the Kingston Chronicle and Gazette. Value of property destroyed, from 80,000 to $100,000, upon which there were insurances to the amount of about $40,000.

Flatbush Property.—Several acres of woodland at Valley Grove, three miles from Brooklyn, adjoining the turnpike, were lately sold by G. L. Martense, at five hundred dollars per acre. Two acres owned by Mr. M. Clarkson, in the same neighborhood, three and a half miles from the ferry, sold for one thousand dollars per acre.—[Brooklyn Star.]

New Orleans, Oct. 24.—We take pleasure in stating that the account of the loss of the steamboat Rapide, which was published in some of the morning papers, is an error. She arrived at this port this morning.

Naval Department.—Extract of a letter from Doctor Wm. Turk, the fleet surgeon of the U. S. naval forces in the Mediterranean, received at the Navy Department, dated the 13th July, 1833, on board the Frigate United States.

"One year has elapsed since I entered on the duties of Fleet Surgeon: during that period only one man has been lost by disease on board this ship.

"It was formerly too much the practice to wet the decks, without sufficient regard to the weather, or the opinion of the medical officers on the subject. I am happy to say there is a great improvement in this respect, to which may be ascribed, in some measure, the greater share of health enjoyed by our crews at present."

U. S. Frigate Brandywine.—We understand that orders have been issued by the Navy Department, for the equipment of the United States frigate Brandywine, now lying at the Navy Yard, Brooklyn. She has recently been hove down, thoroughly overhauled, and recaulked, and will be ready for sea by the first of February.

It was only necessary to witness the great trouble and expense of heaving down this large ship, to have satisfied any one of the great importance of a *Dry Dock* at this naval station. We hope that Congress will, at its approaching session, make an appropriation for this object.—[Gazette.]

[*From the Globe.*]

We understand that the *ArcadeBank* at Providence, R. I., and *The Farmers and Mechanics' Bank* at Hartford, Conn., have been selected by the Secretary of the Treasury as depositories of the public money at those places.

[*From the Daily Advertiser.*]

Preparing for publication in a volume, *The Letters of Major Downing, originally published in the New York Daily Advertiser*, ornamented with engravings illustrating some of the most interesting scenes described in them, from designs by the most distinguished artist in the United States in this species of drawing. This edition will be corrected, improved, and enlarged, by the illustrious author;—an advantage which no other edition can enjoy. It will contain no letters, except those written for, and published in, the above-mentioned paper, and such as may be added to the number by the same author, who, we are happy to say, has kindly consented to continue his labors occasionally for the benefit of his country.

Much has been said about the "original Major Downing." We have taken no part in the controversy, being perfectly satisfied that our correspondent has shown more originality than any other writer under that title, or almost any other; and no man's works have received more decisive proofs of public approbation, and universal popularity.

The publication will be forwarded as soon as the illustrations can be prepared.

Accident.—The Steamboat North America arrived yesterday afternoon from Albany considerably disabled. We learn that on Monday evening about seven o'clock, when opposite Catskill, the North America was run into by the sloop Gen. Livingston, bound to the latter place. The bowsprit entered the side of the steamboat about 50 feet from the bow, carried away one of her chimneys, and caused other damage. The sloop lost her bowsprit and mast, which fell upon the steamboat. No person injured.—[Mercantile.]

The beautiful new ship Havana, Capt. Correja, is now in her berth on the west side of Old Slip; and as she is to sail for Havana on Sunday next, those who admire perfection in ship-building will do well to visit her. There is a combination of strength, beauty, and accommodation, seldom, if ever exhibited in a vessel of her size. Nothing to our eye, is wanting, nor is there any thing about this vessel superfluous, unless it be the splendor of her finish. We understand her state-rooms are all engaged, which accommodate twenty-four passengers.—[Gazette.]

Another new ship, named the Caledonia, was launched from one of the ship yards of Baltimore on Saturday last. She is 140 feet long and 550 tons burthen, and is intended for one of the packets to ply between Virginia and Liverpool. Messrs. J. J. Brander & Co. merchants of Petersburg, are her owners. We rejoice, says the Philadelphia Inquirer, at these evidences of Southern enterprize in the way of commerce. They will in their results, prove excellent antidotes to nullification.—[Gazette.]

Colonization.—In the Tennessee House of Representatives, Oct. 30th, the following resolutions were adopted:

Resolved, That the select committee on the subject of the American Colonization Society, be instructed to enquire into the expediency of memorializing Congress to make an appropriation of $100,000 annually, to be applied by the said Colonization Society in transporting to Liberia the free coloured population of the United States.

Resolved, That said committee inquire into the expediency of making an appropriation by this general assembly of $500 annually to aid the Auxiliary Colonization Society to be said society in transporting to the the free colored population of th

OFFICIAL.—Order No. 97.

H. Q. of the Army, Adj. Gen's Office, Washington, October 31st, 1833.

1. The following list of Promotions and Appointments in the Army of the United States made by the President since the publication of the "Order" No. 60, of July 6th, 1833, is published for general information:—

I. Promotions.

First Regiment of Artillery.

1st Lieutenant Giles Porter, to be Captain, 30th September, 1833, vice Smith, resigned.

2d Lieutenant John McClellan, to be 1st Lieutenant, 30th September, 1833, vice Porter, promoted.

2d Lieutenant John Williamson, to be 1st Lieutenant, 30th September, 1833, vice Prescott, resigned.

Brevet 2d Lieutenant William H. Pettes, to be 2d Lieutenant, 30th September, 1833, vice McClellan, promoted.

Brevet 2d Lieutenant Lorenzo Sitgreaves, to be 2d Lieutenant, 30th September, 1833, vice Williamson, promoted.

Third Regiment of Artillery.

Brevet 2d Lieutenant Erasmus D. Keyes, to be 2d Lieutenant, 31st August, 1833, vice Chase, resigned.

Brevet 2d Lieutenant William Wall, to be 2d Lieutenant, 30th September, 1833, vice Hackley, resigned.

Fourth Regiment of Artillery.

Brevet 2d Lieutenant John N. Macomb, to be 2d Lieutenant, 30th September, 1833, vice Norton, resigned.

Brevet 2d Lieutenant, Edward Deas, to be 2d Lieutenant, 31st October, 1833, vice Pendleton, resigned.

First Regiment of Infantry.

1st Lieutenant Jefferson Vail, to be Captain, 11th July, 1833, vice Harney, resigned.

2d Lieutenant Joseph H. Lamotte, to be 1st Lieutenant, 11th July, 1833, vice Vail, promoted.

Brevet 2d Lieutenant Ingham Wood, to be 2d Lieutenant 30th September, 1833, vice Covington, resigned.

Third Regiment of Infantry.

1st Lieutenant Benjamin Walker, to be Captain, 31st August, 1833, vice Webb, resigned.

1st Lieutenant Lewis N. Morris, to be Captain, 31st October, 1833, vice Green, promoted.

2d Lieutenant Wm. R. Montgomery, to be 1st Lieutenant, 31st August, 1833, vice Walker, promoted.

2d Lieutenant John Archer, to be 1st Lieutenant, 31st October, 1833, vice Morris, promoted.

Brevet 2d Lieutenant Albert G. Blanchard, to be 2d Lieutenant, 31st August, 1833, vice Montgomery, promoted.

Brevet 2d Lieutenant James H. Taylor, to be 2d Lieutenant, 31st October, 1833, vice Archer, promoted.

Fourth Regiment of Infantry.

2d Lieutenant Timothy Paige, to be 1st Lieutenant, 17th October, 1833, vice Trenor, appointed Captain of Dragoons.

Brevet 2d Lieutenant Bradford R. Alden, to be 2d Lieutenant, 15th September, 1833, vice Harford, resigned.

Brevet 2d Lieutenant Frederick Wilkinson, to be 2d Lieutenant, 17th October, 1833, vice Paige, promoted.

Fifth Regiment of Infantry.

Brevet Major John Green, Captain of the 3d Infantry, to be Major, 31st October, 1833, vice Bender, resigned.

1st Lieutenant William E. Cruger, to be Captain, 1st October, 1833, vice McCabe, resigned.

2d Lieutenant Alexander S. Hooe, to be 1st Lieutenant, 1st October, 1833, vice Cruger, promoted.

Brevet 2d Lieutenant William Chapman, to be 2d Lieutenant, 1st October, 1833, vice Hooe promoted.

Seventh Regiment of Infantry.

2d Lieutenant Washington Seawell to be 1st Lieutenant, 12th July, 1833, vice Morton, resigned.

II. Appointments.

Staff.

Samuel G. I. De Camp, Assistant Surgeon, to be Surgeon, to take effect 1st December, 1833, vice McMillan, resigned.

Samuel W. Hales, to be Assistant Surgeon, 23d ly, 1833.

George F. Turner, to be Assistant Surgeon, 23d 1833.

Gardner, to be Assistant Surgeon, 9th

Leavenworth, to be Assistant Surgeon,

Assistant Surgeon, 25th Oct.,

Wm. Hughey, to be Assistant Surgeon, 25th October, 1833.

William S. Harney, to be Paymaster, 1st May, 1833.

Edwards S. Fayssoux, to be Military Store Keeper, 24th August, 1833.

Regiment of Dragoons.

Appointments to fill original vacancies.

Captains.

1. Eustace Trenor,
2. Nathan Boone,
3. Lemuel Ford,
4. Jesse B. Browne,
5. Jesse Bean.

1st Lieutenants.

1. T. B. Wheelock,
2. C. F. M. Noland,
3. James W. Hamilton,
4. B. D. Moore.

2d Lieutenants.

1. James W. Shaumburg,
2. James Clyman,
3. W. Bradford,
4. John L. Watson.

Brevet 2d Lieutenant John S. Van Derveer, of the 6th Infantry, to be brevet 2d Lieutenant, 1st July, 1830.

Brevet 2d Lieutenant William Eustis, of the 3d Infantry, to be brevet 2d Lieutenant 1st July, 1830.

Brevet 2d Lieutenant George W. McClure of the 5th Infantry, to be brevet 2d Lieutenant, 1st July, 1830.

Brevet 2d Lieutenant E. G. Eastman, of the 2d Infantry, to be brevet 2d Lieutenant, 1st July, 1831.

Brevet 2d Lieutenant Thomas J. McKean, of the 4th Infantry, to be brevet 2d Lieutenant, 1st July, 1831.

Brevet 2d Lieutenant Lus. B. Northrop, of the 7th infantry, to be brevet 2d Lieutenant, 1st July, 1831.

Brevet 3d Lieutenant Gaines P. Kingsbury, of the Mounted Rangers, to be brevet 2d Lieutenant, 1st July, 1832.

Brevet 3d Lieutenant James M. Bowman, of the Mounted Rangers, to be brevet 2d Lieutenant, 1st July, 1832.

Brevet 3d Lieutenant Asbury Ury, of the Mounted Rangers, to be brevet 2d Lieutenant, 1st July, 1832.

Brevet 3d Lieutenant Albert G. Edwards, of the Mounted Rangers, to be brevet, 2d Lieutenant, 1st July, 1832.

III. Casualties.—*Resignations.*

Major.

George Bender, 5th Infantry, 31st October, 1833.

Captains.

Walter Smith, 1st Artillery, 30th September, 1833.
Wm. S. Harney, 1st Infantry, 11th July, 1833.
Stephen H. Webb, 3d Infantry, 31st August, 1833.
Robt. A. M'Cabe, 5th Infantry, 1st October, 1833.

1st Lieutenants.

Jonathan Presscott, 1st Artillery, 30th September, 1833.
Alex. H. Morton, 7th Infantry, 12th July, 1833.

2d Lieutenants.

George E. Chase, 3d Artillery, 31st August, 1833.
Charles W. Hackley, 3d Artillery, 30th September, 1833.
William A. Norton, 4th Artillery, 30th September, 1833.
Eras. F. Covington, 1st Infantry, 30th September, 1833.

Brevet 2d Lieutenants.

Wm. H. Sidell, 1st Artillery, 1st October, 1833.
John E. Bracket, 2d Artillery, 31st August, 1833.
Henry Waller, 2d Artillery, 9th October, 1833.
Wm. N. Pendleton, 4th Artillery, 31st October, 1833.
Joel Riggs, 1st Infantry, 9th October, 1833.
Lewis Howell, 7th Infantry, 31st October, 1833.
Nathl. W. Hunter, 7th Infantry, 1st October, 1833.

Surgeon.

Robert McMillian, to take effect 1st December, 1833.

Assistant Surgeons.

Henry Stevenson, 31st August, 1833.
Robert E. Kerr, 31st August, 1833.

Died.

Assistant Surgeon.

Jos. D. Harris, 26th September, 1833.

2. The officers *promoted* will join their proper stations and companies; those on detached service, or who may have received special instructions from this office, will report by letter to their respective Colonels.

3. Brevet 2d Lieutenant *Benj. E. Dubose*, of the 3d Regiment of Infantry, a graduate of 1833, having failed to join his Regiment on the 1st day of October, is, in conformity with the Regulations, *dropped* from the rolls of the Army, to take effect from that date.

By order of Major General Macomb.

R Jones. Adjt. Gen'l.

MISCELLANY.

Mechanical Ingenuity.—M. Droz being at Madrid, he exhibited to the king of Spain a clock, upon which were figures of a shepherd, a dog, and a negro. The shepherd played six airs upon his flute, the dog in the meantime approaching and caressing him. The king expressed his admiration of this, when M. Droz, replied that the gentleness of his dog was but the least of his good qualities. If, he added, your majesty will deign to touch one of the apples in the basket by the side of the shepherd, his dog will evince his fidelity also. The king did so, when the dog flew at his hand, and barked so loudly, that a living dog, which was in the room, gave tongue; and the courtiers, with the exception of the minister of marine hastily left the room, not doubting but M. Droz was a sorcerer. The king, who, of course, was in the secret, desired the minister of marine to ask the negro what o'clock it was. He did so, and obtained no answer. M. Droz, informed him, that, as the negro was ignorant of Spanish, the question should be asked in French. The minister asked it accordingly, and the nergo answered so much to the consternation of the minister that he took flight, vowing it was the work of no one but the devil.—[Agassiz's Jeurney.]

Remarkable Women.—It is worthy of notice that those women whose excellences have obtained the esteem of posterity have invariably united to their more remarkable qualities the gentleness and delicacy characteristic of the sex. Had they not done so, they would, indeed, scarcely have been loved; and love is the sentiment, with regard to the future as well as the present, which ought to be the chief ambition of a woman to excite. She should desire to be remembered, not only with admiration, but with tenderness; and, therefore, in her nothing can compensate for the absence of those qualities which call forth affection. In looking back, then, upon our celebrated women, it is with pleasure that we remark, that kindness and sweetness gave the polish to their characters. They were not the stern mentors of society; on the contrary, they were as distinguished for mildness as for any other virtue; and we feel that besides being the objects of our esteem, they would have been, had we known them, the companions of our choice. Their humility is no less deserving of praise. There has always been an absence of pretension in superior women, which is consistent with our our preconceived notions of what they ought to be, and with our own actual observation. The position which they occupy is conceded to them, not because they assume it, but because it naturally belongs to them. And the influence they exert is of a quiet and gentle kind. In considering the lives of the most illustrious amongst them, we cannot but be struck with the power they possessed of swaying opinion. Contrast, for instance, the influence of Lady Russell and Mrs. Hutchinson with that of ordinary women. The latter may be, indeed, allowed the control in all minor matters, may be supreme in their domestic arrangements, may be petted and indulged; but if their minds can take no higher range, they will either not be consulted in things of greater moment, or their opinion will have no weight. Yet lady Russel and Mrs. Hutchinson never obtruded their advice, or made any show of their power: their counsel was asked because it was needed, and followed because it was found to be of value. The influence of such women has not been confined to domestic life, but has embraced and adorned an ampler sphere. To say nothing of the effect of their example, the success that has sometimes attended them as authors may be considered a gratifying tribute to their usefulness. Society will acknowledge the debt it owes to those of them who, as moral and religious writers, have attracted public attention, and so materially affected the tone and habits of their sex. Of this, perhaps the most eminent example has shed its lustre on our own day.—[Mrs. Sanford's Female Worthies.]

Dr. Chalmers and Robert Hall.—On the day he preached a sermon in reference to the Luddites, a circumstance occurred which disconcerted all his feelings, and unfitted him for his public engagement.

Dr. Chalmers, then of Glasgow, was on his way to London, and informed him by letter that he intended onthat day to be one of his auditors. Unfortunately the message did not arrive till Sabbath morning, within an hour of the commencement of public worship. Mr. Hall had formed so high an estimate of the abilities of this unexpected visiter that he was actually deterred from entering the pulpit; nobody could persuade him to it, and a member of the church was obliged to supply his place. Mr. Hall did not recover his tranquillity the whole of that day. At the close of the morning service Dr. Chalmers called on him at his own house, not knowing but his absence had been occasioned by ill health. After much hesitation he at length consented to preach in the afternoon, on condition that his reverend friend would deliver an evening lecture. This was agreed to; but from the agitated state of his feelings, Mr. Hall was heard to great disadvantage. This was often the case, on much slighter occasions; the appearance of some distinguished stranger, any thing like prying curiosity, or secular applause, would at any time discompose him; and his loftiest strains of eloquence were seldom heard but when he emerged from the depths of private devotion to be embosomed among his own people. In the evening, Dr. Chalmers followed up the subject of the afternoon's discourse, with one on the necessity of immediate repentance, which produced a very powerful sensation on the auditory. Mr. Hall heard with rapturous delight, and said afterwards to a friend, "He stops the people's breath sir: they cannot breathe under such a preacher." And certainly the sermon was one of great merit, though some passages were a little obscured by the Highland pronunciation. The parties spent the remainder of the evening together at Mr. Hall's. The unnerved preacher now recovered in some degree his elasticity, and was ready to launch into a wild field of conversation; but nothing of any importance transpired. The visiter who had frightened Mr. Hall from his propriety now seemed frightened in return; nothing could be elicited, no topic of the smallest interest was brought forward, except that Mr. Hall offered some remarks on various books and authors, to which Dr. Chalmers readily assented, and especially on the absurd attempt of Professor Kidd to reduce the doctrine of the Trinity to a metaphysical theory, to be illustrated by the analogies of nature. A cautious reserve was manifest, accompanied perhaps with a silent admiration of the orator who appeared only in dishabille, and had not that day put forth half his strength.—[Morris's Biographical Recollections of Robert Hall.]

Folly of Objections to Education.—It is not easy to conceive in what manner instructing men in their duties can prompt them to neglect those duties, or how that enlargement of reason which enables them to comprehend the true grounds of authority and the obligation to obedience should induce them to disobey. The admirable mechanism of society, together with that subordination of rank which is essential to its subsistence, is surely not an elaborate imposture, which the exercise of reason will detect and expose. The objection we have stated implies a reflection on social order, equally impolitic, invidious and unjust. Nothing in reality renders legitimate government so insecure as extreme ignorance in the people. It is this which yields them an easy prey to seduction, makes them the victims of prejudice and false alarms, and so ferocious withal, that their interference in a time of public commotion is more to be dreaded than the eruption of a volcano. —[Robert Hall.]

The Banks of Newfoundland.—These banks extend over a space of forty thousand miles, and are from thirty to forty-five fathoms below the surface of the ocean. The shoals are inhabited by innumerable tribes of muscles and clams, to which it is a favorite residence, as they can easily bury their shells in the soft sand. They have enemies to contend with. The codfish resort to this coast to prey on them. They keep a constant watch, and swim about a foot above the sub-marine sands; when a muscle opens its shell, it is immediately seized and devoured. At other times the fish do not wait: they are provided with a horny protuberance round their mouths; with these the burrow in the sand, and capture the muscle in its shell. The fishermen of various nations, French, English, and Americans, who resort to these banks, take annually from eight to ten millions of fish; on opening them they find the remains of twenty or fifty muscles in each—sometimes the muscle-shells are found either wholly or partially dissolved. The first care of the fishermen, after taking their stations, is to ascertain the depth of water: the lines must be regulated so as to lie on the bottom, where the fish are always engaged in this species of sub-marine war.

The consort of the Emperor of China died at Pekin on the 15th of July. A general mourning has been ordered in consequence. The Mantshur *employés* are for 28 days to wear garments of coarse white linen, and caps without tassels or buttons; during a hundred days they must not shave their heads. The mongolian *employés* are to assume the same mourning, with the exception of the white garments. The Chinese must leave their heads unshaved for the same period, and are to wear no tassels on their caps for seven days. The right of nominating the Empress belongs to the Emperor's mother, who solicits, within three years, one of the five spouses of her son for that office.

Slaughter of Whales: their strong affection for their young.—After dinner I went to view the whales: what a slaughter! One of the gentlemen who was present at the taking of one of them yesterday told me, that the water of the bay for a mile distant from the place of attack was dyed with their blood. The Shetlanders having succeeded in driving them into shallow water, where they could not swim freely, attacked them with spears, and even swords, and so dextrous are these islanders, that in general they pierced their hearts at the first thrusts, so that most of them were killed in an instant! About fifty persons were present at the attack, and it is the custom here, that each person has share and share alike. Mr. Robinson, a respectable merchant of this place, amused me by the following anecdote:—'Hearing of the shoal of whales that had entered the bay, five poor women got a boat, and set off hovering on the skirts of the scene of action: a large whale, that had received his death wound, and was striving to regain the ocean, failed: the women perceived him, rowed up boldly to him, entangled him, his strength being nearly gone, made him fast to their boat, and towed him safely off to a landing-place near to their own dwelling!' In this shoal there were a few young ones, and it is the young in general that occasion the capture of the old ones; for they heedlessly run into the shoal water, and so attached are these monsters to their offspring that they will risk their lives to save them. A friend told me that he saw one of the female whales take her wounded young under her breast fin, and endeavour to make her escape with it. He saw another young one, which appeared to be greatly terrified, dash itself upon the shore, where it was soon killed: the mother, which had been near the shore, had turned and was regaining the deep water; but missing her young one, and finding no doubt by instinct, or smell, that it had gone ashore, she turned to again, took the same direction, and absolutely dashed herself on shore aside her young, where she also was immediately speared.—On examination of several of these females, I found two cavities near the navel, on each side, in which their teats were included, and which they can extrude at pleasure, in order to suckle their young; thus exemplifying Lam. iv., 3, "*The Sea monsters draw out their breasts to their young.*"—[Life of Adam Clark.]

POETRY.

[For the New-York American.]

The author of the following lines, is one deeply tried in the furnace of affliction, a young and interesting female, for nine wearisome years, the victim of excruciating, uncompromising disease, deprived of nature's sweet restorative—sleep—unless obtained by artificial means, and of most of those comforts which scarce serve to alleviate the sufferings of many more fortunate, tho' perhaps not more happy, who recline on beds of down—she is a christian.

In the restless watches of the night she composed many pieces of poetry, touching from their strain of simple pathos, and extraordinary, as the productions of a secluded, self-educated girl, whose reading has been quite limited, her favorite author Cowper. Unable to endure the fatigue of writing, she at some convenient time, perhaps after the lapse of weeks, dictated to an amanuensis, her aged and most venerable father, these effusions of her innocent mind. It was a beautiful sight to look upon. The poor girl, from her bed of suffering, repeated her verses line by line to the patient old man (now in his seventy-eighth year and rapidly declining) while he carefully listened to her words and committed them to paper.—Strange to say, though quite hard of hearing when addressed by others, he caught every sound from the lips of his loved child of sorrow, though uttered in a low and plaintive voice. It is probable that a collection of her poems will ere long be published. The present one appeared in an eastern paper, but probably has not met the eye of many of your readers. L.

ODE TO THE POPPY.

Tho' varied wreaths of myriad hues,
As beams of mingling light
Sparkle replete with pearly dews,
Waving their lucid leaves profuse,
To captivate the sight:
Tho' fragrance sweet exhaling bland
With the soft balmy air,
And gentle zephyrs, wafting wide,
Their spicy odors bear;
While to the eye,
Delightfully,
Each flowret laughing blooms,
And, o'er the field
Prolific, yields
Its lucense of perfumes;
Yet, one alone o'er all the plain
With lingering eye I view;
Hasty I pass the brightest bower,
Heedless of each attractive flower,
Its brilliance to pursue.
No odors sweet proclaim the spot
Where its soft leaves unfold,
Nor mingled hues of beauty bright,
Charm and allure the captive sight,
With forms and tints untold;
One simple hue the plant portrays,
Of glowing radiance rare,
Fresh as the roseate morn displays,
And seeming sweet and fair;
But, pressing close, its nauseous breath
Disgusts the bright and gay,
And from the hand, with eager haste,
Is careless thrown away,
Unthinking that, in evil hour,
Disease may happiness devour,
And that fair form, elastic now,
To Misery's wand may hopeless bow.
But reason leads woe sorrow forth,
To seek the lonely flower,
And blest experience kindly proves
Its mitigating power.
Its own bright hue the sight can trace,
The brilliance of its bloom;
Tho' misery veil the weeping eyes,
Tho' sorrow choke the breath with sighs
And life deplores its doom,
This fated flower,
In desperate hour,
A balsam mild shall yield;
When the sad sinking heart
Feels every aid depart,
And every gate of hope forever sealed,
Then shall its potent charm
Each agony disarm,
And its all healing power shall respite give.
The frantic sufferer then,
Convulsed and wild with pain,
Shall own the sovereign remedy and live.
The dews of slumber now
Pass o'er the aching brow,
And o'er the languid lids balsamic fall,
While fainting nature hears,
With dissipated fears,
The lowly accents of soft Somnus' call:
Then will affection twine
Around this magic flower,
And grateful memory keep
How in the arms of sleep
Affliction lost its power.

1825 C. T.

SONNET.—A VILLAGE TOMBSTONE.

Approach! thou visitant of gorgeous tombs,
And costly mausoleums, whose august
And sculptured massiveness bespeaks the dust
Beneath once noble,—*here* no statue glooms
Rebuke from its dark niche, nor earth resumes
Her own with ghastly pageantry; nor bust,
Nor aught of grandeur's dim heraldic trust,
Here flatters the poor clay that clay consumes.
Approach, and mark where last the soul hath heaved,
And trace one record of the lowly dead,—
"He lived—he died." What sculptor e'er achieved
More on rich marble, trusted not when read?
This simple stone speaks truth, and is believed.

Bishop Wearmouth. G * * * *.

MARRIAGES.

Last evening, at Carroll Place, Bleecker street, by the Rev. J. B. Seixas, I. M. Henriquez, Esq. late of Kingston, Jamaica, to Esther, daughter of the late David Nunes, Esq. also of Kingston, Jamaica

On Thursday evening, by the Rev. John Goldsmith, Samuel Lehrich, to Sarah, daughter of the late Jesse Leverich, Esq. of Newtown, L. I.

On the 4th inst. Thos. Shaks, to Isabella, eldest daughter of the late John Westray, all of this city.

In Brooklyn, L.I. on Tuesday evening, 12th instant, by the Rev. Mr. Dwight George Worthington Dow, (of the firm of Josiah Dow & Co. New York,) to Miss Anna De Bt Vortse, daughter of the late Christopher Prince.

At Albany, on Tuesday morning, the Rev. Wm. Lehman, Professor of Modern Languages in the University of Georgia, to Miss Harriet Maria, youngest daughter of Abm. Van Vechten, Esq. of Albany.

At Greenwich, (Conn.) on the 28th ult. S. H. Seaman, of Albion, N. York, to Miss Eunice R. Hobby, of the former place.

At Philadelphia, Selby Bradford, to Mrs. Mary Wood.

At the same place, Wm. Duane, Jr. Esq. to Louisa Brooke.

DEATHS.

This morning, at the City Hotel, Mr. Joseph Haertl, a native of Bavaria, aged 23 years.

Mr. Haertl was one of those accomplished musicians from Bavaria, whose concerts have delighted so many parts of our country. His remarkable bass voice will be long remembered. The deceased, who, with his comrades, was exposed to such great peril by the conflagration of the Hotel in Montreal last winter, never recovered from the cold he took on that occasion; and after lingering, with occasional temporary improvement, until now, has sunk at last in a strange land; and yet not among strangers, for he had made many friends; and those, moreover, so long his companions in his beautiful art, were faithful and assiduous around his death bed.

On Wednesday evening, Mr. Joseph Hill, in the 32d year of his age.

Friday night, 8th instant, at ¼ before 12 o'clock, in full assurance of a blissfull immortality, after an illness of 18 months, which he bore with a patience peculiar only to the Christian, Mr. John Young, aged 39 years and 21 days.

At Philadelphia, on Monday, 4th inst., in the 77th year of his age, R. E. Griffith, Esq.

At his residence in Stillwater, on Monday, the 28th ult. Major Ezra Beall, in the 90th year of his age. So fall our Revolutionary patriots. He was an officer in the Revolutionary army for six years; but at the battle of Bemis's Heights he left his company and became a pilot for Gen. Gates's army, and led every brigade to its station. In the battle of October 7, 1777, he was wounded in the side at the time of leading Col. Morgan into action, but did not leave the field. He was never married, but lived with one family upwards of sixty years.

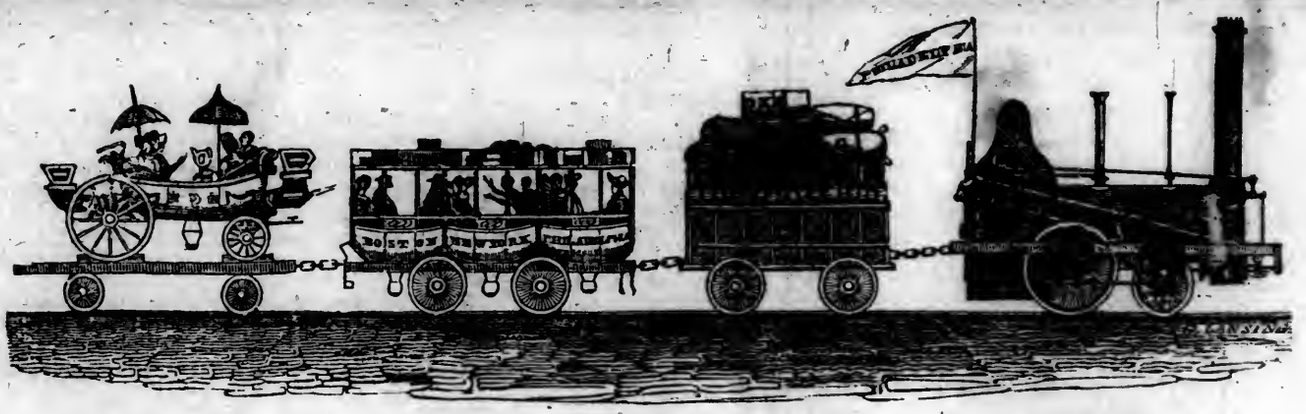
In St. Mary's county, Md., on the 19th ult. the Hon. Raphael Neale, formerly member of Congress, for that District.

At Washington, on Saturday last, Mr. Lewis Clephane, aged about 81 years Mr. C. was a native of Scotland. He emigrated to this country and settled in New York in the year 1782.

On the 17th of Oct. at her residence, New Smyrna, East Florida, Mrs. Mary Dunham, widow of the late David Dunham, of this city.

At Fort Smith, Arkansas, of fever, on the 26th of September last, in the 30th year of his age, Josiah Dwight Harris, M. D. Surgeon to the corps of Rangers—son of the late Rev. Wm Harris, D D President of Columbia College.

It is seldom we have the task of noticing the death of so promising a young man. In his profession Dr. Harris stood first among its junior members in this city, and would no doubt (had he possessed pecuniary advantages) have attained its highest honors His examination for his situation in the army was brilliant, showing an accuracy and degree of acquirement seldom equalled by one so young—he passed first and received the highest honor that could be conferred. Dr. Harris had warmly endeared himself to those with whom he was associated, and his loss is deeply lamented by an afflicted family and a large circle of friends—but the "brilliant noon" of his existence has been curtailed by "death's gloomy night," and the fair promise of his rising greatness is shrouded in the tomb.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, NOVEMBER 23, 1833.** [VOLUME II.—No. 47.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 23, 1833.

☞ FIVE Numbers more will complete the second Volume of the Railroad Journal. It was stated in a previous number that *thus far* it had not paid its expenses—at the same time a suggestion was made to *Railroad Companies*, and to individuals who feel a deep interest in the success of *Internal Improvements*, and especially of the Railroad cause, that they would probably promote, not only their own, but also the public interest, by ordering a few copies of the Journal from its commencement, *bound*, in volumes or parts, as well as one or two additional subscriptions to the ensuing Volume, and thereby insure its continuance, and increase its usefulness. In reply to that suggestion, several liberal and highly complimentary communications have been received from gentlemen in different parts of the country, from which little doubt is entertained by the proprietor of the success of the measure which he adopted to insure its continuance, and increase its utility to the public. It is proper, however, for him now to state, that, in order to insure its success and prosperity, it will not be sent to any subscriber, after the close of the *present* volume, who shall *then* be in *arrear* for the work—until payment shall have been made for the past, and *in advance for the then current volume.* It is also proper for him to state, that, should it be continued in its present form, he will print, of the ensuing volume, a small number *only* in addition to what will be necessary to supply those who shall *commence with the year*—and that those extra copies will be designed *expressly* for those who may desire it from the *commencement* of the work.

It has been suggested to us by several friends of the Journal, that it would be more serviceable, because *better preserved*, if it were to be issued in *semi-monthly* or *monthly* parts, stitched in a cover, instead of weekly numbers, as heretofore. Of the importance of this suggestion scarcely a doubt can be entertained, as there would be fewer losses in the mails, and they would be much more easily preserved; yet many of its readers desire to learn more frequently than once a month what new improvements are being made, and therefore prefer its present arrangement. Others, again, have recommended an increase of price to *four*, instead of *three* dollars. To *this* suggestion *we* certainly should not object, if we thought our subscribers generally would cheerfully comply with it. In order, therefore, to ascertain their opinion upon both suggestions, and at the same time show the work in a *semi-monthly* form, with a cover, we shall issue the *two* last numbers of the present Volume together, with a Title Page and Index to the second or last half of the Volume, that they may then say how they prefer to receive it the ensuing year.

*** Necessity, and *necessity only*, will compel a discontinuance of many *exchange* papers; and the Proprietor trusts that those Editors who may not receive the Journal after the first number of the ensuing volume, will attribute its discontinuance to the true cause, viz. a want of patronage to meet its necessary expenses, and not to a want of inclination to reciprocate their favors. Should a different state of affairs result from his present exertions, he will be happy again to renew the acquaintance. He regrets also that he is entirely unable to comply with the oft-repeated "Please exchange," which meets his eye from every quarter of the Union. Nothing would afford him more pleasure than to exchange with all who may desire it—*except* such an increase of patronage as would afford him a handsome income over all expenses.

New-York and Erie Railroad Convention.—A convention of delegates from the counties immediately interested in the propesed railroad from this city to Lake Erie, through the southern tier of counties, assembled in this city on the 20th instant, and continued the meeting by adjournments till the evening of the 21st.

Delegates appeared and were recognized from the counties of Chatauque, Cattaraugus, Allegany, Steuben, Tioga, Broome, Otsego, Cortland, Delaware, Sullivan, Orange, Rockland, and New-York.

The convention was organized by the appointment of his Honor Gideon Lee, President;

George D. Wickham, Esq. of Orange, and James Pumpelly, Esq. of Tioga, Vice-Presidents;

William W. McCay, Esq. of Steuben, and David Ruggles, Esq. of Orange, Secretaries.

Much information was communicated respecting the practicability and incalculable importance of the proposed thoroughfare through so extended a section of the State, which is destitute of adequate facilities to our commercial metropolis; and also respecting the deep and universal interest felt by the inhabitants on the route, and their disposition to aid to the utmost of their ability in the furtherance and accomplishment of the enterprize.

Numerous resolutions were adopted on the subject; and also a petition to the Legislature for aid to the southern counties, through the medium of the New-York and Erie Railroad Company, in the execution of the work; these counties having long been encouraged to expect the assistance of the State, in opening an avenue to market, by which they may be placed on a footing corresponding in some measure to the advantages which have been conferred, by the legislation and funds of the State, on the more northerly counties.

Provision was made likewise for an address to the public on the subject of the railway.

A more particular statement of the proceedings, together with the resolutions, petitions, &c. &c. will be given in our next number.

Railroad Meetings.—We give to-day the proceedings of two meetings called in different sections of the United States, for the purpose of promoting the cause of *Railroads*; and it may be proper for us here to observe, that it is our intention to notice, hereafter, in a concise manner, *all* meetings called for the purpose of promoting the cause of *Internal Improvements*, which may fall under our observation, that those of our readers, who may desire to know what works of the kind are in contemplation, may not have occasion to look elsewhere for the information.

A Comparison of the Expense of Transporting 5000 Tons of Coal 100 miles by Locomotive Engines, and by Canal Boats, deduced from actual Work performed on the Little Schuylkill Railroad, and on the Lehigh and Delaware Canas. [For the American Railroad Journal.]

It is proper to premise that a locomotive engine has for a considerable time during the past summer made three trips a day, with forty-four tons of coal at each load; thus transporting one hundred and forty-four tons per day, from Tamaqua to Port Clinton. The usual business is however ninety-six tons for one engine; this is done with ease in short days, and could very conveniently be increased, if the daily distance to be passed was greater.

It is proposed in the following estimate to allow for the work of the engine, one hundred tons a day for twenty miles, or twenty tons a day transported one hundred miles, for two hundred and fifty days.

CAPITAL EMPLOYED.

Cost of engine and tender, -	$5,000 00
One-fifth additional is estimated,	1,000 00
Sixteen coal waggons at $100 each, - - - -	1,600 00
One-fifth extra, - - -	320 00
	$7,920 00

ANNUAL EXPENSE.

Interest at 6 per cent., -	$475 00
Repairs at 10 per cent., -	792 00
Depreciation 5 per cent., -	396 00
One engineer at $2, - -	500 00
One fireman at $1, - -	250 00
Two breakmen, - -	450 00
Oil, 375 gallons at $1.12½, -	422 00
Two cords pine wood per day at $2, - - - - -	1,000 00
20×250=5000)	$4,285 20
	$87 07

Or 87$\frac{7}{10}$ cts. nearly per ton, for 100 miles.

The following estimate of the expense of transporting 5000 tons on the Lehigh and Delaware Canals is deduced from statements furnished by boatmen, of the work actually done by them. This, it may observed, can be increased but little without running in the night. The boatmen say that they could gain nothing by a relieve of horses, the locks are so frequent that the horse rests and feeds sufficiently.

It is further to be remarked, that the railroad waggons are loaded in or at the mouth of the mine from whence the coal is carried to the depot, and that as the boat cannot be brought to the mine, the expense of transporting the coal from the mine to the boat and unloading it into the boat is an additional expense incidental to the canal, and the waste of coal by this operation is also in addition, for these items not being precise data, $8 per ton are allowed. The labor of unloading the coal from the boat at the wharf is also greater than that of unloading from waggons, and a part thus handled must be shovelled on the screen, which is not required when the coal is unloaded from waggons, for this labor $10 per ton are estimated.

Estimate.—It is ascertained from experience that 2 good horses, with 4 men and 2 boys, will haul 100 tons of coal in 2 boats 100 miles on the Lehigh and Delaware Canals, and return in 12 days; hence 24 horses with 48 men and 24 boys take 100 tons in 24 boats 100 miles in 1 day and return.

To transport the same quantity 20 miles a day, or one fifth of that distance, will require 48 horses, 9.6 men, 4.8 boys, and 4.8 boats. To simplify the calculation, 5 horses, 10 men, 5 boys and 5 boats, are supposed to be employed and the proper deduction made from the aggregate.

CAPITAL EMPLOYED.

Five boats at $600 each -	$3,000 00
One fifth extra - - -	600 00
Five horses at $80 each -	400 00
One fifth extra - -	80 00
Five harness at $6 - -	30 00
	$4,110 00

ANNUAL EXPENSE.

Interest at 6 per cent., - -	$246 00
Repairs of boats 5 per cent., -	180 00
Depreciation of do. and horses 15 per cent., - - -	616 50
Keeping 5½ horses at $20 per year - - - - -	625 00
Wages of 5 men at $1 per day, (250 days) - - - -	1,250 00
Wages of 5 men at 90 cts. - -	1,125 00
Wages of 5 boys at 75 cts. - -	937 50
	$4,979 00
As 5 : 4079.60 :: 4.8 :	4,760 42
Unloading waggons from mine to boat, and waste 8 cts. per ton,	400 00
Additional expense for unloading boats and screening $10 -	500 00
	5,660 42

Which ÷5000=$1.13.11 : or 1.13\frac{3}{5}$ per ton for 100 miles.

The above statements are made from actual performance on the railroad and canals referred to, and the expense thus ascertained *for transporting* on the canal, viz.: 95½ cents per ton for 100 miles, is almost precisely the same that it paid for boating coal on the Lehigh and Delaware Canals, exclusive of the charge for loading and unloading, which is paid for in addition. Yours, &c. I.

Chenango Canal Notice.—Sealed proposals will be received by the canal commissioners until the *thirtieth day of November* next, for constructing about *thirty-eight miles of said canal, to wit: from the Erie canal near Whitesborough, to the village of Sherburne*, and also, *eighty-seven locks*, five or six of which are to be combined locks, of stone masonry, and also the lock on the level, connecting with the Erie canal; *two aqueducts of stone masonry, two aqueducts with wooden trunks*, and the necessary *bridges, culverts, and waste weirs.*

For the Sections.—The propositions should state a specific price for grubbing and clearing the section, for extra grubbing and clearing by the acre, for extra side chopping and clearing by the acre, a price per cubic yard for common excavations, for solid slate, and quarried rock, for cemented clay and gravel, or cemented sand and gravel, for quick-sand, for embankments, for lining, for puddling, and for slope wall.

For Locks with Wooden Chambers.—The propositions should state a specific price per cubic yard for excavation, for embankment, for masonry laid in hydraulic cement, for dry wall masonry, a price per cubic foot for oak, pine, and hemlock timber, a price per M. feet, board measure, for oak, pine, hemlock, and cedar plank, boards, and scantling, a price per foot run for bearing piles, and a sum in gross for all wrought and cast iron, excepting paddle gates.

For Stone Locks.—The propositions should state a specific price per cubic yard for the masonry, which is to include the cutting of the hollow quoins, the coping and culverts, the face of the lock to be hammered work, the propositions in other respects to be the same as for the locks with wooden chambers, excepting the dry wall.

Aqueducts of Stone Masonry.—The propositions should state a specific price per cubic yard for foundations, for masonry in the arches, and for other masonry, a price per cubic foot for oak, pine, and hemlock timber, a price per M. feet, board measure, for pine and hemlock plank, boards, and scantling, a price per pound for the iron work, and a price per foot run for bearing piles.

Aqueducts with Wooden Trunks.—The propositions should in all respects be the same as for the aqueducts of stone masonry, excepting the arches.

Culverts.—The propositions should state a specific price per cubic yard, for excavating for the foundation, for masonry in arches, and for other masonry, a price per cubic foot for hemlock timber, a price per M. feet, board measure, for pine and hemlock plank and boards.

Bridges.—The propositions should state a specific price per cubic yard, for excavating for the foundation for stone masonry laid in quick lime mortar, a price per cubic foot for oak, pine, and hemlock timber, a price per M. feet, board measure, for pine and hemlock plank, boards, and scantling, a price per pound for iron work, a gross sum for painting with two coats of white lead.

Waste Weirs.—The propositions should state a specific price per cubic yard, for excavating for the foundation, for stone masonry in hydraulic cement, a price per cubic foot for oak, pine, and hemlock timber, a price per M. feet, board measure, for oak, pine, and hemlock plank, boards, and scantling.

The prices for the enumerated items, in the structures above mentioned, are to include the expense of every kind of material and labor necessary for their construction.

The oak and pine timber is to be cut in the month of February, 1834; the oak timber for gates in the locks and waste weirs to be sawed previous to the first day of October, 1834, and put under cover; the timber for the pine plank, boards, and scantling, to be cut in February, 1835, and sawed and put under cover previous to the first of June of that year.

The contracts are to contain stipulations prohibiting the use of ardent spirits, and subcontracting the work, except for delivering materials, and are to be completed by the fifteenth of October, 1836.

Security will be required for the performance of the contracts, and the propositions should be accompanied by the names of responsible persons, signifying their assent to become sureties. If the character and responsibility of those proposing, and the sureties they shall offer, is not known to the undersigned, or the chief or resident engineer, a certificate of good character, and the extent of their responsibility, signed by the first judge or clerk of the county in which they severally reside, will be required.

No transfer of contracts will be recognized.

The line of the canal and the maps and profiles, and the plans for the different structures, with specifications of the kind of material and manner of construction, will be ready for examination by the 11th of November. The chief and resident engineers will be on the line or in its vicinity, to give all necessary information, and will furnish blank propositions. The undersigned and the chief engineer will attend at the village of *Hamilton*, from the 25th to the 30th of November, to receive propositions.

The party to the propositions which may be accepted will be required to enter into contracts immediately after the 30th of November.

Wm. C. Bouck,
Acting Canal Commissioner.

October 22, 1833.

P. S.—Publishers of papers in the State of New-York will confer a public favor by giving the above one or two insertions in their paper.

Suspension Railway.—The Boston Transcript, in noticing the proposed improvements in East Boston, that is, we suppose in the islands in Boston harbor, has the subjoined account of a suspension railway:

We were particularly interested with the novelty of a Suspension Railway, located across the marshes, for the purpose of testing, as we are informed, this truly American invention, and to correct, by actual demonstration, the many misconceptions relative to this very eco-

nomical and highly important mode of transporting passengers and merchandize. Great curiosity was evinced to see how a car, intended to convey twenty or thirty passengers on two wheels only, one *before* the other, could run upon a single rail, which it did with perfect steadiness, and without the possibility of accident of any kind. There seemed to be but one opinion on the subject, and all were strongly impressed with the usefulness and importance of the invention. A locomotive engine was running upon the railway all the afternoon, but being in an unfinished state, it was not attached to the car. We sincerely wish success to the several projects contemplated on this island, and that the growth and prosperity of this new city may equal the hopes and industry of its enterprizing owners.

STEAM CARRIAGE.—The following paragraph on this subject, is from a late Birmingham paper:

On Wednesday last, Messrs. Heaton, of Birmingham, made another experiment with their steam coach, to ascend the hill at Bromsgrove Lickey, which is a loose sandy surface, so much so, that the wheels of their machine, above fifteen hundred weight, carried a hill of sand before them about three inches deep. The hill is about seven hundred yards long, and rises on an average one yard in nine, and in some places one yard in eight, and is declared by eminent surveyors to be the worst piece of road in the kingdom. The hill was mounted by their machine, with a mail-coach attached, fifteen hundred weight, and nine persons, in nine minutes. They then took up a number of their friends, and proceeded on to Bromsgrove, as far as the market place, there they turned the machine round, and returned to the Crab Mill Inn, about fifteen miles; this was accomplished in two hours and twenty-two minutes, including all stoppages. Having staid a considerable time at the Crab Mill Inn, they returned home, having accomplished the greatest undertaking in the history of steam locomotion on the common road. They arrived in Birmingham, bringing with them up Worcester street, an ascent of one yard in twelve, thirty-two persons.

Load of a Locomotive Engine. By HENRY D. BIRD. [From the Petersburg Intelligencer.]

GENTLEMEN,—The following account of the performance of one of our engines will no doubt interest you and many of your readers.

On Monday last, the Liverpool brought in a train, consisting of 15 cars, and one coach, carrying 127 bales of cotton, 364 bushels of wheat, 162 bushels of corn, and about 30 persons, including passengers and agents of the company. The gross weight in motion may be summed up as follows:

Produce and passengers,	83,620 lbs.
Cars, Coach and Engines,	67,500
	151,120

or nearly 62½ tons. The weight of produce alone was upwards of 35 tons. This load was put in motion with great ease by the engine, and on level ground was carried at a speed of 15 miles per hour. It was set in motion on ascents of 30 feet to the mile, (on which we had occasion to stop, and set down passengers,) and carried them up at a rate varying from 8 to 10 miles an hour.

This is the largest load which has ever been on the road at any single time, and when we compare it with the small size of the engine, and consider the various ascents on the railroad, it may well be called immense. The Liverpool weighs about five tons, and has 9 cylinders, with a stork of 18 inches, and drives four wheels. Her general working pressure is 50 pounds, ranging up to 60, which the lock-up valves blows off. I add the technical details in order that the performance of this engine may be justly appreciated by professional men.

Yours, respectfully, HENRY D. BIRD.

Specification of the Patent granted to RICHARD TREVETHICK, *of St. Aith, in the County of Cornwall, Engineer, for an Improved Steam Engine.* Dated Feb. 21, 1831. [From the Repertory of Patent Inventions.]

To all to whom these presents shall come, &c. &c.—*Now know ye*, that in compliance with the said proviso, I, the said Richard Trevethick, do declare that the essential points in my improved steam engine for which I claim to be the first and true inventor, are

Firstly, The placing of the boiler within the condenser in order to obtain the additional security of the strength of the condenser to prevent mischief in case the boiler should burst, and also by the same arrangement to conveniently make the condenser with a very extensive surface, enabling me to condense the steam without injecting water into it:

Secondly, The enclosing of the condenser in an air water vessel, by which the intention of safety from explosion is further provided for, and my engine, really rendered what I denominate it, *a high pressure safety engine:*

Thirdly, The condensing of the steam in the condenser by means of a current of cold air or cold water forced against the outsides of the condenser:

Fourthly, The returning of the condensed steam from the condenser back again into the boiler, to the end that sediment and concretion in the boiler may be prevented: and,

Fifthly, The blowing of the fire with the air after it has been heated by condensing the steam.

In forming my improved steam engine, I employ several or all of these points according to convenience, in combination with the other necessary parts of steam engines in common use.

These my essential points will admit of various modifications as to form and proportions, such as must be and are quite familiar to every competent steam engine manufacturer, and therefore it will be sufficient for the perfect description of my improved steam engine that I explain some of the modes of forming and combining the essential points of my invention with the other parts of steam engines in common use.

In my most favorite form of engine, in which I condense by a current of cold air, the fire-place and flue, the boiler, the condenser and the air-vessel, are made of six concentric tubes, standing in an upright position. The inner or first tube forms the fire-place and flue, and at the same time the inner side of the boiler. This tube is conical having its small end upwards. The next or second tube is cylindrical, about six inches larger in diameter than the lower end of the first tube, and forms the outside of the boiler, leaving a space all around of about three inches at the bottom, and so much more at the top as the flue is taper, for holding water and steam between the two tubes. The third tube is about two inches larger in diameter than the second, in order to allow a space of about an inch for powdered charcoal or some other slow conductor of heat. This tube also constitutes the inner side of the air-vessel. The fourth tube is about two inches larger than the third, and forms the inner side of the condenser. The fifth tube, about two inches larger than the fourth, forms the outside of the condenser; and the sixth tube, about two inches larger than the fifth, forms the outside of the air-vessel and at the same time the outside of the whole of the generating and condensing apparatus, consisting of fire-place, flue, boiler, condenser, and air-vessel. These tubes are made of wrought-iron plates rivetted together, and are all cylindrical except the first, which is conical, the bottom or fire end being the largest.

The first inner tube is closed at the bottom, but has an opening on one side near the bottom, through which the fire-bars are introduced and the ashes and clinkers taken away. To this opening a neck-piece about three inches long is rivetted, having a flanch to fit against the inside of the second tube, when the two tubes are concentric; through the side of which second tube is an opening corresponding with that in the first tube, and the flanch is screwed to the second tube so as to make one opening through the sides of the two tubes. The second tube extends downwards about five inches below the first tube and has a flanch turning inwards, to which a round plate of iron is screwed, forming the bottom of the boiler.

The first tube has an external flanch at the top, and the second tube an internal flanch, both of the same height, and screwed to a cast iron circle plate or cap-piece, which extends wide enough around the boiler to form also the cover for the air-vessel. This plate has a hole in the middle as large as the flue. The sides of the condenser and air-vessel are formed of four concentric tubes, each about two inches larger than the one within it. The inner and outer of these tubes constitute the sides of the air-vessel, and are each furnished with an external flanch at the top, by which they are screwed to the cap-piece. The two intermediate tubes constituting the sides of the condenser are rivetted together at the top, leaving a space of about an inch between their upper ends and the cap-piece, so as to allow of a free communication over them between the outer and inner parts of the air-vessel. The inner tube of the air-vessel extends downwards about an inch below the boiler, and is closed by a flat plate screwed on to a flanch projecting inwards from the tube. The two tubes of the condenser descend about three inches lower than the boiler, the inner tube has an internal flanch to which a flat circular plate is screwed to close up the tube. The outer tube of the condenser is of the same length with the inner, and provided with an external flanch about three inches broad. The outer tube of the air-vessel has an external flanch two inches broad, and is just long enough to come down upon the broad flanch of the condenser last described, and these two flanches are together bolted upon a bottom piece of cast-iron, which is a dish of four inches deep, and equal in diameter with the diameter of the outer tube, and having a flanch the same breadth as the flanch of the outer tube, and the bottom piece is secured to the air-vessel, and the outer tube of the condenser by bolts going through all the three flanches.

An opening is made through the sides of all the four tubes of the condenser and air-vessel, opposite to, and as wide as the fire-place, opening through the side of the boiler. The upper part of both openings to be of the same height, but the outer opening is made as low as the bottom of the boiler, in order to allow room for a pipe to enter that part of the boiler for forcing the water into it, and also another pipe and cock for drawing off the water or sediment, in case foul water be used by accident or carelessness. These two openings through the condenser and air-vessel, and through the boiler, constitute one fire doorway through all the six tubes for access to the fire-place. A ring is placed between the two tubes of the condenser around the fire doorway, so as to cut off all communication of the steam in the condenser with the air in the doorway. Another similar ring is placed between the condenser and the outer tube, to prevent the escape of air into the fire doorway. And a half ring is placed in the lower part of the fire doorway, between the condenser and the inner tube of the air-vessel, to prevent ashes from falling into the air-vessel, and yet allow a free passage for the air from the inner part of the air-vessel into the upper part of the fire doorway. These two rings and the half ring are secured in their

places by rivets passing through all of them and through the tubes, and uniting all firmly together, the interstices being filled with iron cement. A ring is also placed between the boiler and the air-vessel around the fire doorway, against the outside of which ring the charcoal powder is tightly rammed, and will hold the ring in its place without the necessity of either rivets or screws. That part of the fire doorway which is above the fire bars is supplied with an inner door to shut the fire-place even with the outside of the boiler, and exclude all access of air to the fire, except through the grating. The whole of the fire doorway is enclosed by an outer door even with the outside of the air-vessel, to exclude all air except that which comes through the air-vessel.

A pipe is fixed in the bottom or dish-piece leading to a forcing pump ,to draw the water out of the condenser and force it into the bottom of the boiler through the pipe before described.

A blowing cylinder of about ten times the content of the main cylinder is screwed against the outside of the air-vessel, and opposite the two outlet valves of the blowing cylinder, two apertures are made in the air-vessel, through which the air is forced in.

The main cylinder of the engine of the usual dimensions, according to power wanted, is also screwed against the outside of the air-vessel, high enough above the blowing cylinder to allow room for the main crank shaft to work between them.

The forcing pump before mentioned is also screwed to the outside of the air-vessel, and thus my improved steam engine becomes more compact and convenient than any preceding steam engine.

For the purpose of supplying the boiler with distilled water in case there should be a deficiency in it, a small vessel made of two upright tubes, one within the other, is placed on the cap-piece, the inner tube is of the same diameter as the flue, and forms a continuation of it, the outer tube is about six inches larger than the inner, and the space at the top and bottom between the two tubes is closed by two ring-shaped pieces. This vessel may be about eighteen inches high; a cock is fixed in the top of this vessel to which a bent pipe is fastened, leading to and united with a pipe which arises from the top of the condenser, and passes through a hole in the cap-piece, and thus a communication between the supplying vessel and the condenser may be opened or shut at pleasure. Another pipe also furnished with a stop-cock arises from the vessel, and communicates with a water cistern, to receive its supply of water when required. A third pipe, having a cock in it, opens into the vessel near the bottom, to let out the sediment; a small cock to let the air out is also fixed in the top of the vessel, which cock may also be used for letting air out of the condenser.

In order to supply the boiler with water, by means of this vessel, the stop-cock leading to the condenser is shut, and that leading to the cistern is opened, and at the same time the air cock is opened to allow the air to escape, that the water may fill the vessel. When the vessel is nearly full of water, the air-cock and the cock from the cistern are shut, and that in the pipe leading to the condenser is opened: the water being then heated by the flue, is converted into steam, which passing into the condenser is there reduced to water again, leaving the sediment or salt in the supplying vessel, which sediment or salt may be occasionally blown out through the bottom pipe by filling the vessel with water, shutting the water, steam, and air cocks, and opening the cock of the outlet pipe at a time when the steam in the vessel is strong.

But the supply of water from the condenser being always equal to that converted into steam and used in the engine, there is no tendency to a variation in the height of the water in the boiler, except there be leakage or waste of steam in some part of the engine. An upright glass tube, having an iron tube of communication with the lower part of the boiler, and another iron tube of communication to the upper part of the boiler, is conveniently placed against the outside of the air-vessel, to indicate at all times the height of the water in the boiler, as is usual in steam-boilers. A valve is placed on the top of the air-vessel, to allow of the escape of a portion of the air in case that the quality of the fuel should not require so much air for perfect combustion as the steam requires for good condensation. The degree of the condensation of the steam may be increased at pleasure, by increasing the velocity of the air passing into and through the air-vessel.

The other parts of my improved steam engine, such as the steam-pipes, the throttle valve, the safety valve, the vacuum valve, the working valves, crank, connecting rods, cross heads, pistons, piston rods, and various other minor parts common to engines in general use, may be made in the usual forms and placed in the most convenient situations. They cannot therefore need any description.

When it is intended to use water for condensing instead of air, my improved steam engine must be made as before described, except that the communication between the air-vessel and the fire-place must be closed, which may be done by a perfect ring of iron surrounding the opening leading to the fire-place, instead of the half ring before described, and a forcing pump must be employed to draw water from a reservoir, and force it into the vessel, which I have herembefore denominated the air-vessel, but which, in this mode of working, would more properly bear the name of water-vessel. In this case a blowing cylinder, the dimensions of which must be calculated according to the quality of the fuel to be used, may be worked to blow the fire through a pipe leading into the ash-pit. This however will not be necessary where there is a chimney high enough to create a strong draft.

In respect to proportions, my improved steam engine admits of considerable latitude, and it will be sufficient direction to any practical engineer to say, that for engines working with steam of 120 pounds to the inch, used expansively till it be nearly reduced to atmospheric strength and then condensed, a ten horse engine may have a fire-place of twenty inches diameter, the flue at the top ten inches diameter, and a boiler of ten feet high; a sixty horse engine, a fire-place of thirty-six inches diameter, a flue of sixteen inches diameter, and a boiler of twenty feet high.

In boat engines, and in other cases where height cannot be allowed, the diameter must be increased. The thickness of the two tubes constituting the boiler sides of a ten horse engine, may be one eighth of an inch. That of a sixty horse, a quarter of an inch, and so in proportion for engines of other power. The tubes constituting the condenser, and inner tube of the air-vessel, may in all cases be an eighth of an inch thick. The outer tube may be three-eighths of an inch thick to afford stability to the working cylinder, the blowing cylinder, and the forcing pump fastened to this tube, and as an ultimate perfect barrier against explosion.

The respective distances of the other tubes, constituting the outside of the boiler, the condenser and air-vessel, will be the same as hereinbefore given, and therefore their diameters will depend upon the diameter of the fire-place; the cap-piece in small engines may be half an inch thick, and in large engines an inch. The bottom of the ash-pit and bottom of the boiler must have about half an inch of thickness for every foot of diameter, or they may be cast with ribs to afford equivalent strength.

The fuel is supplied through a door in the flue at the top of the boiler, consisting of coke or coals, the least liable to swell with heat. The flue may be filled to about one-third of the height of the boiler, and the water fill about three-fourths of the boiler, leaving one-fourth for steam.

Having clearly explained my improved steam engine, so that any person competent to make a steam engine, can, from the description, understand my invention, and carry the same into effect in as beneficial a manner as myself, I proceed to observe, that the extreme safety of my improved steam engine will be seen from considering that in case the boiler should explode inwards into the flue, the power of the steam would be first reduced by filling the flue and fire-place, and could not escape through the chimney and fire doorway faster than it would diffuse itself and be condensed by mixing with the surrounding air, and thus lose all its force. But should the outside of the boiler burst, part of the force of the steam would be spent in filling up the interstices between the particles of the charcoal, and would then probably be too weak to effect a breach through the inner tube of the air-vessel, and should such a second breach be effected, the space within the air-vessel would allow the steam to expand and partly condense, and a portion to escape into and through the fire doorway, where it would divide itself, and proceed harmlessly up the flue and out at the doorway, so that the outer case being a reserve of strength would to acertainty withstand force remaining in the steam after the ,before mentioned successive reductions of power.

In witness whereof, &c.

Specification of the Patent granted to WILLIAM JESSOP, *of Butler Hall, in the County of Derby, Esquire, for certain Improvements in constructing Railways.* Dated June 1, 1833. [From the Repertory of Patent Inventions.]

To all to whom these presents shall come, &c.—*Now know ye*, that in compliance with the said proviso, I, the said William Jessop, do hereby declare the nature of my said invention, and the manner in which the same is to be performed, are fully described and ascertained in and by the following description thereof, reference being had to the drawing hereunto annexed, and to the figures and letters marked thereon: that is to say,

My invention relates to the manner of constructing the chairs in which the rails are fixed, that is, in place of the usual mode of fixing and supporting the chair upon a stone block, wood, or other sleeper, the chair is made distinct from the pedestal which is attached to the stone block, wood, or other sleeper, and the chair and pedestal are connected by a universal joint or hinge, which permits the pedestal to adapt itself to any irregular sinking of the block or other support upon which it rests, and insures a firm and solid bearing on its base; or this may be effected by the combined motion of a hinge-joint, or other means, permitting motion between the pedestal and chair, and a moveable joint formed at the junction of the chair and rail, so as to produce the same effect, and thereby answer the purpose of a universal joint.

DESCRIPTION OF THE DRAWING.—For the better understanding the improvements, I will now describe the drawing which represents several simple methods of constructing the universal joint, although it may be effected by other means familiar to the practical mechanic. R R are the rails. C C, the chairs. P P, the pedestals; and B B, the blocks or sleepers. J J are junction bars of cast or wrought iron, by which the opposite chairs are connected together, and the rails are thereby held parallel to each other, and at a proper distance apart, and are also retained in a suitable position to insure a flat bearing on the surfaces of the rails for the wheels to travel upon. S S are cast iron bed-plates or sleepers, which may be used to support the rails where stone is expensive, so constructed that the pedestal may be readily adjusted, by the introduction of a wedge or packing to a proper level, without disturbing the seat which the bed-plates may have acquired on the ground; the same method of construction being applicable to the pedestals, when they are attached to stone blocks.

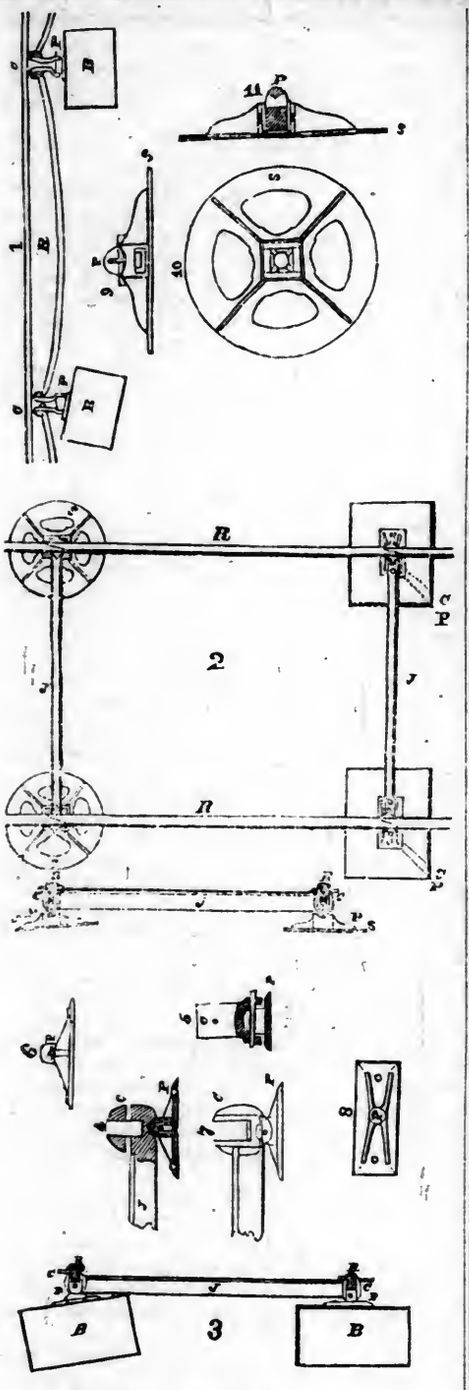


Fig. 1 is a side view of the railway.

Fig 2, the plan.

Fig. 3, the cross section; two of the stone blocks B are drawn in an inclined position, to show the action of the pedestal.

Figs. 4 and 5 are sections of the pedestal and chair, showing an obicular universal joint, by means of which, the pedestal adapts itself to any irregular sinking of the stone block or other sleeper, whilst the connecting or junction bars retain the rails in their proper gauge, and their opposite surfaces in the same plane or straight line.

Figs. 6, 7, and 8, are other views of the pedestal and chair.

Figs. 9, 10, and 11, are a side view, plan, and section of a cast iron bed-plate, used as a substitute for the stone blocks: showing also the method of adjusting the rails by means of wedges or packings introduced between the bed-plates and the base of the pedestal, which is made to fit in the recess formed on the bed-plate, and secured laterally by means of a wedge or key.

Having now described the nature of my invention, and the manner in which the same is to be performed, I would have it understood that I lay no claim to various parts shown and described, but do hereby confine my claim of invention of improvements in constructing railways, to the using of chairs and pedestals, which are capable of turning or moving an universal or other similar joints, as above described, whereby the railway will not be so liable, as heretofore, to be deranged by the sinking of the blocks or sleepers, whether of stone, wood, iron, or other material.

In witness whereof, &c.

RAILROAD ACCIDENTS.—The late unfortunate accident on the Camden and Amboy railroad has caused many remarks on the danger of railroad travelling.

Although we admit that there may be danger in travelling on railroads at *high* velocities, we still remain of the same opinion, often expressed in this Journal, that the danger is no *as* great on railroads as on steamboats, at least at equal velocities. We are desirous however, to do all in our power to prevent accidents in either case, and therefore, it is with great pleasure that we lay before our readers the following communication from E. L. MILLER, Esq., a gentleman of much experience and reflection upon the subject of railroads and steam engines.

Danger of Travelling on Railroads. By E. L. MILLER. [For the American Railroad Journal.]

Since the late fatal accident on the Camden and Amboy railroad, the danger of this mode of travelling has become a common topic of conversation, and a subject of frequent remark, in our public journals, and the inquiry from all quarters appears to be, is there no way of preventing the recurrence of similar accidents?

In the few remarks I propose to make on the subject, I have not the vanity to expect that I can offer any suggestions which may produce this desirable result; the most that I hope to effect, is to call the attention of those who have the more immediate superintendance of these works, to some mode of obviating the danger, if, as I believe, this desideratum be attainable.

Fortunately passengers travelling by this improved mode of conveyance are almost wholly exempt from the danger arising from the explosion of steam boilers; not that the boiler of a locomotive is less liable to explode, than the boilers of other engines, but the small quantity of water it contains, and the distance that the passengers are removed from the boiler, render them in a great measure secure from this source of danger.

The principal danger to be apprehended arises from the breaking of either the wheels or the axles, from obstructions on the road, or from passing the turnouts, and it must be very obvious that the danger in all these cases must be increased in proportion to the velocity. I have never been an advocate for travelling at a very high speed upon railroads, and believe that all their useful purposes may be as fully attained by a speed of twelve or fourteen miles per hour, as by the more dangerous one of twenty or thirty.

With regard to the wheels and axles, I have little doubt but a due attention to their construction would obviate most of the danger. Since the outside bearing on the axles has been adopted, in order to save friction, it has been common to reduce this part of the axle to an inch and a half, or an inch and three quarters in diameter. This would doubtless be sufficient if we could always be sure of the best quality of iron, and a perfect exemption from flaws, but as we can never be sure of these, would it not be advisable to sacrifice a little power to the increased resistance, and make the bearings of the axles 2¼ or 2½ inches in diameter? If this were done, and the axle, faggoted from the very best quality of iron, they would possess so much extra strength, as to render them *perfectly safe* under all circumstances, provided due attention were paid to keep them oiled.

With regard to the wheels, *cast iron should never in any case be used for passenger cars.* The altogether wrought iron wheels is doubtless the most safe. Next to this is the wooden wheel, with wrought iron rims, similar to those used on the Liverpool road, and adopted on the Camden and Amboy railroad. An interesting experiment is now being made on the Trenton road, of a new kind of wheel made of gun-metal, which is thought to possess so much tenacity as to render it safe from the danger of breaking, and if the abrasion is not too great, must be a very valuable improvement in wheels for railroad carriages.

The danger from obstructions in the road is in a great measure obviated by the guards which have been adopted on most of the engines, and as regards the turnouts, the only security lies in passing them at a very moderate speed.

Now, as it is well understood by those familiar with the subject, that the danger lies not in the simple act of the car getting off the road, but from its being forced on in this situation by the momentum of the train, and the power of the engine, until the car is literally broken to fragments, and the lives of the passengers endangered, I would suggest to those having the management of railroads, that much of the danger to be apprehended in such cases might be obviated, provided some plan could be devised for attaching the cars to the engine, and to each other, which when the resistance became increased in a certain ratio beyond that required to start or keep them in motion on the road, the car to which any accident might occur, should be self-detached from those which preceded it. This idea has been suggested to my mind from having witnessed two instances of cars getting off the road. In one of these, the cars were attached to the engine by a rope which broke the moment it met with increased resistance by the car getting off the road, and although this car contained thirty passengers, no injury was sustained except the breaking of the car. In this case I have not the least doubt that had the attachment of the cars to the engine been permanent, the car which was off the road would have been dragged on by the momentum, and the power of the engine, until it had been entirely broken to pieces, and most of the passengers killed or maimed.

The other instance to which I refer occurred under similar circumstances, with this exception, that the attachment of the cars to the engine was more permanent, and the result much more disastrous, the carriage being entirely destroyed, and several of the passengers maimed for life.

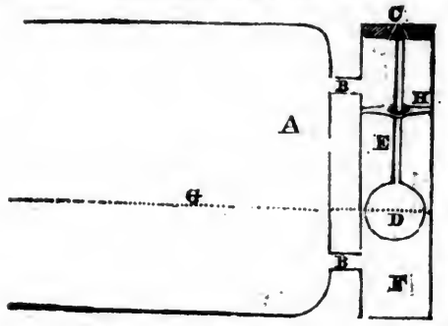
To obtain this important desideratum in attaching the cars to each other and to the engine, I have thought that a spring might be used which should operate so as to detach itself whenever the power of traction was increased to a certain point; the strength of the spring to be graduated in proportion to the working resistance, those next the engine being the strongest, and thus having a proportionate decrease of strength, to the end of the train. The importance of rendering this mode of conveyance, as safe as it is expeditious and convenient will, I have no doubt, call forth and enlist in its accomplishment the mechanical talent of the country, and it would afford me the highest gratification, if I could flatter myself that the suggestions I have here offered should in the smallest degree contribute to this desirable result.

E. L. MILLER.

New-York, November 20, 1833.

[*From the Mechanics' Magazine.*]

STEAMBOAT SAFETY APPARATUS.—That the explosion of steam boilers often arises from an insufficiency of water therein is a fact too well established to admit of a doubt. Much ingenuity has been displayed in the various methods that have been suggested for giving early notice to the engineer and firemen whenever the water gets too low in a boiler. A sketch of a plan has been handed in to us by Mr. E. White, of this city: we submit it for the consideration of those more competent to decide on its merits and practicability than we pretend to be. Its cheapness and simplicity of structure are strong recommendations in its favor. This



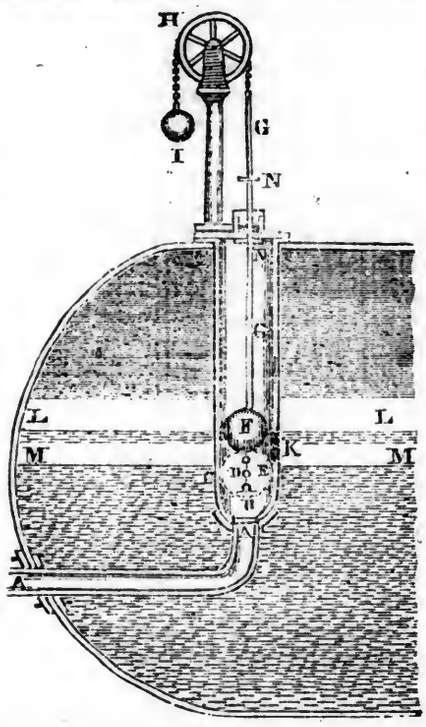
apparatus, denominated a *Tell-tale*, consists of a sheet iron or copper pipe, of about two to three inches diameter, marked in the drawing, F, closed at both ends, and attached in an upright position to the head of the boiler, A, and communicating therewith by the lateral connecting pipes, B B. The upright pipe having within it a floating metal ball, D, to which the valve rod E is attached. On the end of this rod is formed a papal valve, having its seat in the under side of the head of the pipe at C. H is a guide to keep the rod in its true position. It is apparent that the water in the pipe will always be on a level with that in the boiler, and that as long as the water in the boiler is kept to the water line G, the floating ball will prevent the valve rod from leaving its seat, but, on a fall of the water below a certain line, will also cause the float to fall, by which the valve will be opened, and the escape of steam will address itself to the *ears* of those intrusted with its management.

At the Franklin Institute, in Philadelphia, experiments are making, under the superintendance of Mr. Johnson, (who was appointed by a vote of Congress,) to increase the safety and certainty of steam boilers. All that is known at present of the result of their labors will be found at page 30, Vol. II, of this Magazine. Every friend of humanity must most heartily wish that their exertions may be successful, and if any of the suggestions on the subject elicited from our correspondents, now or at any future time, should in any way be of use to them, we shall be gratified; in the mean time we would call the attention of some of our legislators to the following fact:

"In England, every boiler of a steamboat is required by law to be tested quarterly, at three times the strength it is licensed to use. The safety valve is inaccessible to all except the officers of the government. Mark the result—since the regulation was adopted, *not a steamboat explosion has happened.*"

We have in the pages of this Magazine alluded more than once to this subject; descriptions and drawings of other plans will be found at page 153, Vol. I, and at pages 12 and 20 of Vol. II. It is occupying the attention of scientific persons of all descriptions. As it is a matter of the first importance, we shall introduce several other suggestions which have come under our notice; the first we extract from the London Mechanics' Magazine of May last.

"SIR,—The above sketch exhibits a plan of an apparatus for the supplying of high-pressure steam boilers with the necessary quantity of water, a desideratum which has for a considerable period occupied the attention of the scientific world. It is not my intention to place this before the public as a scheme not liable to be improved upon, but merely to contribute, as far as my abilities will allow, to the accomplishment of an arrangement in the economy of the steam engine, which is admitted by all to be of paramount importance.



"A represents the feeding pipe coming from the small water pump of the engine, which is made without a discharge valve. B, a valve placed at the bottom of the small cylinder, C, answering to the discharge valve of the small water pump (before mentioned.) C, a cylinder, having the valve B ground into the bottom of it, and to which is attached the pipe A. D, a chain connecting the valve B with the metal ball F. E, a dotted circle, which represents the ball F when the water in the boiler is low. F, a metal ball shown in the position of the boiler being full; this ball is suspended to a thin rod, passing through the stuffing box in the top of the cylinder. G, a slender rod, to which the ball F is attached, and which has a small chain or cord passing over the pulley H to the counter-balance I. H, a pulley, and I, the counter-balance, to which the ball F and valve B are suspended. K, an oblong hole, about two inches long and one broad, to allow the water to pass from the cylinder C into the boiler. L, the high water line, and M, the low water line, within the boiler. N N, two keys, to prevent the rod going too high or descending too low within the cylinder.

"The action is as follows: The small water pump is continually at work from the engine; but, as the apparatus now stands, there will be a free communication between the boiler and the cylinder of the pump: therefore, each time the piston ascends, instead of the water rising from the well, a quantity will proceed from the boiler through the valve B, and back again into the boiler with the descent of the piston; nor will the water ever increase upon the boiler till it shall have evaporated down to the line M, when the ball F will descend to the dotted circle E, on which the valve B will fall into its seat, and act as the discharge valve to the small pump, until the water shall have risen high enough to float the metal ball F to its present position, when its action will cease. To adjust the counter-balance to the ball F, it should be of equal weight, subtracting the weight of an equal bulk of water, and the pressure of the steam upon the area of the rod G. The oblong hole is limited to the difference of the height of the water in the boiler.

"Yours, &c. E. F. W."

We have another plan, with an engraving, from the West-Point Foundry, which we are compelled to omit, in consequence of having lost part of the description. It will be given in our next.

The following suggestion we copy from the New-York Commercial Advertiser:

"Let three bells be suspended in the boiler, of different tones, at different elevations—let a wire or rod pass through each head of the boiler, and after a convenient number of revolutions of the water-wheels, be made to twitch sufficiently to ring all the bells—the height of the water would be indicated by the sound of each bell—the highest bell should be above the surface of the water when the proper quantity is in the boiler—the sound of this, in such case, would always be clear; and if too much water in the boiler, the sound would be deadened, because the bell would be covered with water; and when the water was too low, that and the next bell below would sound clear; and if then it should be found that the supply-pump or pipe were out of order, the fire should be dropped out of the grate. This may be effected by constructing the grate so that it would be suspended on one side upon joints or hinges, and sustained on the other side by chains attached to a lever, which could be released or let go in an instant, and all the fuel thus dropped into the water without a moment's delay.

"It is obvious that all the passengers would be apprised of the danger, and the engineer put up to attention."

From the Rockland Advertiser, we copy the following pertinent remarks of Mr. Wm. Jones, of Haverstraw:

"To prevent explosions, nothing more is necessary than to have proper *safety-valves* to regulate the pressure of steam the engine should work at, and regulate the water in the boilers, which should be done as follows—

"In the first place, no condensing engine should be allowed to carry more steam than 14 pounds to the inch, and should be regulated to this by having *two safety-valves* to each boiler, independent of the one of which the engineer has the care. These two valves should be weighted properly, as above named, *inside the boiler*, and may be put at a little distance from each other, over which a cast or wrought iron box, pierced with sufficient holes, of about an inch in diameter, to allow the steam to escape, should be screwed on to the boiler *with the nuts inside*, so that they could not be got at by any person except when the boilers are not in use. The reason why *two* safety-valves should be used is, that something may cause one not to act, although in upwards of twenty-five years' practice I have never known such a thing to occur. The steam-gauge should likewise be put in the most conspicuous place for the engineer and engine-tender to see at what pressure the steam is in the boilers, in case something may cause the valves to be inactive, which is almost impossible.

"It is also necessary that the water in the boilers should be regulated, so that the engineer and engine tender should know when there is too little in them, as many boilers have burst for want of a proper quantity. To prevent this, a valve should be placed on all boilers with *a float inside*, which will follow the water as it fluctuates. In this valve a whistle should be placed, that will give notice the moment the water is getting too low in the boiler, so that the engineer and all persons belonging to the boat will know the water is getting short, as it will continue whistling till the water gets to its proper quantity.

"Many persons may say, all boilers have safety-valves, and cocks to regulate the water in the boiler. I admit it. In the first place, however, the safety-valve on the top is a lever, exposed to the engine-tender or any other person, who may go and remove the weight to any place he chooses, which I have seen done to crowd the engine with steam to no purpose except a bad one, and at a time when the piston has wanted packing, or the air pump, and at times when the valves have not worked regu-

larly. In the next place, there are cocks to tell the height of the water. These cocks will not tell when the water is too low, without the aid of the engineer or engine-tender; nothing in this case can be equal to a self-acting machine. The whistle at all times will give notice of the water being too low, and the safety-valves blow off the steam when there is too much, when landing passengers, and at all times when there is too great a pressure in the boilers. In fact, no engine is complete without them; and it would be well for the Legislature to take cognizance of the subject, and pass a law, not permitting any boat to go on the water, unless fitted with these two means of safety. These two things being done, which would cost but a few dollars, would prevent the dreadful accidents that have of late so often happened, and save a great number of lives."

AGRICULTURE, &c.

[*From the New-York Farmer.*]

American Wine: *Power of Knowledge.*—Mr. Sidney Weller, in a communication to the American Farmer, gives his testimony in favor of agricultural information derived from reading. He speaks frankly, not egotistically.

In making wine, this season, I used for mashing the grapes such rollers as are described by Mr. Herbemont, and that they have fully answered the purpose he named. And I will state too, that my grapes being fully ripe and some partly shrivelled, the must, when I came to taste its strength with an egg, was found sufficiently strong to make wine without the addition of either sugar or brandy. I have no doubt of its keeping if due care be taken; for some I made in the same way, more than three years since, is now good wine, or pronounced such by competent judges.

Nearly four years since I removed to my present residence,—and with very narrow resources, commenced improving my three hundred acres of nearly worn out land. Not to mention the cost and trouble of fencing and other repairs of a common kind on a farm in a state of dilapidation, I pursued a regular system of manuring, by hauling straw, pine and other leaves, into my yards and lots, and having my trash pens and other receptacles for making manure. Some, who thought my labors almost lost, seeing barren fields thereby made to produce good cotton and corn, now adopt the same plan, and consider it less trouble to make poor land productive by manure, than to clear new timbered tracts after the old syetem.

Some have now changed their opinion, who formerly considered me a visionary man, about to ruin my affairs, because I went to the expense and trouble of buying and sowing grass seeds, made cross fences, and took my cattle out of the woods to turn them into fields, and because I fed my calves milk and gruel in pasture lots, instead of letting them remain with their dams; and not to mention new instruments of husbandry, such as harrows, rollers, skimmers, &c. because I ploughed hilly ground horizontally, and planted corn in drills; seeing my grapes flourish, my cattle thrive, and that two or three of my cows afford more milk and butter than a dozen or two of theirs, and that my calves bid fair to become superior cattle, and that my grounds produce more, and washing is prevented by the horizontal and drill system.

But my attempts to rear a vineyard at first excited here the greatest incredulity. But few attempts of the kind have been made in this state, and if I have been informed correctly, none of consequence in the county of Halifax. And yet a county, I believe, as to soil and climate, as well calculated for success in rearing the vine as any in the Union. Some thought it impracticable, on my poor land, to make vines flourish at all; and again, if the vines could be reared, the business would be unprofitable, and if entered into any way largely, would ruin even a man of capital.

And indeed the expense of hiring, connected with this and other improvements, brought me into debt and some embarrassment. And I know not the consequence, had not Providence, who uniformly favors all laboring to avail of and make his own nature's works valuable to man, afforded me a substantial friend, in my neighbor, Gov. G. H. Burton, a gentleman of enlarged benevolence, extensive information and liberal views—for taking me by the hand, purchasing my rooted vines, and liberally rewarding me for superintending the rearing of a vineyard for him, he shared with me some of the illiberal remarks incurred by the new, and here untried, undertaking. But, incredulity is beginning to give place to faith, in view of the rapid growth and promising condition of our vineyards. And many that were incredulous, think now that rearing the vine will eventually be a profitable business; knowing that, independent of the expected profit of wine making, I have sold rooted vines these two years to some amount, and that (with a fair prospect of selling,) I will have a considerable number of Scuppernong and other choice kinds of rooted vines to be disposed of this fall, or next spring.

Here I remark, that at every step of my efforts to attain agricultural improvements, I have been more convinced, that emphatically, in agriculture, *knowledge* is, when judiciously applied, *power*; or, that the more correct and enlarged the *theory* or *science* in this business the more efficacious and eventually profitable the *practice*. And here I must acknowledge myself greatly indebted to the pages of the "American Farmer": from which *pioneer* of agricultural periodicals, I have been constantly receiving important hints and directions. I heartily accord with Mr. Smith, (late editor of the "Farmer,") in his valedictory, that the agriculturist, as well in these as in other important pursuits of life, should read much on the subject of his business. But to persuade most agriculturists to accord practically with this sentiment is a difficult task. Some, indeed, I know, look upon the agricultural periodicals of the day as a sort of newly arisen *catch pennies* to gull them out of money.

Profits of Farming.—It is often the case that men in mercantile, manufacturing, and mechanical pursuits, are reputed to be worth much more property than they really possess. We fully believe that extensive statistical information on the relative wealth of merchants and farmers would show results favorable to the latter. The following is from the Poughkeepsie Journal.

Mr. Editor,—The business of farming is often considered less profitable than other business; and the reason is, that the income of the farm is not truly estimated. If the entire revenue of a well regulated farm were estimated, we should find the per cent. on the property not less than that of any property, that is equally safe.

My neighbor B. came to me the other day, quite discouraged on account of the small profits of farming compared with other business. Now, as I knew my neighbor to be a good farmer, and a pretty correct calculator, I attempted to convince him, from his own statements, that he is enjoying a very fair per cent. from his farm. He has a small well-improved farm, which, two years ago, was bought for $7,500; since which he has built a house that cost $1000, which, with his entire stock, &c. makes his property worth $10,000. From this my neighbor complained, that he realizes only a few hundred dollars, not more than — per cent.

But there are many things not counted which ought to be reckoned as part of his income. His house, as I said, though not necessary to the business of farming, besides the one he already had, yet agreeing well with the circumstances of his family, may be considered as yielding at least $60. Besides the team, wagons, &c. necessary for his farm, he keeps a good pair of horses and pleasure-waggon, because, you know, his wife and daughters must ride in a style that is agreeable to their circumstances and standing in society. The value of these, counting it equal to the expense, is not less than $140 per annum. And of wood, my neighbor tells me he burns more than 30 cords, which at $3 per cord is $90. Then, his garden, orchard, and fruit yard, for all these are managed in the best manner, yield him the value of $80, including his cider, &c. In addition to these we might mention the veal, the poultry, and the eggs, and the fine piece of mutton that he has now and then; for, as the Irish lord says, "he lives on his own estate and kills his own mutton." All these, though not generally estimated, are a part of the income of his farm. So here is more than $370, in addition to the four hundred which he acknowledges to have received in cash as the clear income of his farm. It is true that this is for the comforts, &c. of my neighbor's family, but such as they require, and such as, in any other business, would cost the cash. My neighbor was satisfied. And I am persuaded, Mr. Editor, that a careful examination of *facts* would lead to conclusions very favorable to agriculture. And your readers would welcome a statement of these conclusions in your paper.

Arithmos.

Ploughing with Three Oxen.—The following, from the Genesee Farmer, appears worthy the notice of those farmers who work oxen. Mr. Lacy, the writer, is spoken of as a good and thorough-going farmer.

Believing it to be the duty of every member of community to lend his aid, however feeble, in maturing and suggesting new and useful improvements, (by which means all arts and sciences have by degrees attained their present state of perfection,) induces me to communicate at this time the successful result of an experiment in the use of three oxen abreast in ploughing, which team may be drove by the man holding the plough, and the draft being apportioned to each ox equally, by means of a whipple-tree, they are not subject to unequal pulling as two yoke, from unskilful and violent driving, and lose no power by pulling from the tops of the neck, or of one yoke being removed too far from the plough, which increases the burden of the hind yoke, without any benefit to the business.

I put one pair of oxen in a common yoke, and the third ox in a single yoke made quite crooked. To the end of the double yoke I attach by a staple a chain of three or four links and a hook. To the end of the single yoke, also, a chain of about twenty inches in length is attached, of the size of a common trace chain, which is quite sufficient to unite the team.

The singe ox draws in traces hitched from the underside of the yoke to a short whipple-tree, attached to the long end of a three ox whipple-tree, which may be shorter than is used for horses.

I have a plough constructed purposely for this team by Kellum & Bingham, of Wheatland, in such a manner as to answer for two or three oxen. For three oxen the pitch should be taken entirely out by means of a key to raise the beam tenon in the plough handle, the mortice being wider than the tenon, and to set the plough on or off the land, the mortice in the beam through which the sheath passes should admit of a wedge an inch thick by the side of the sheath, by means of which the plough may be set to or from the land; in consequence of the wide mortice, an iron key through the sheath will be required.

Whoever may be induced to use a three ox team will find after a short trial that they work pleasantly, and perform the amount of labor full equal to two yoke in the common way with a skilful driver. Allen T. Lacy.

Chili, Oct. 10, 1833.

PRICE OF FARMS.—It is very evident that landed property is advanced in price by the general prosperity of the country, and from speculation. We caution farmers, however, not to come under the influence of the land mania. A few weeks ago Mrs. Parmentier's garden, of 23 acres, was purchased for $57,000. It has since been sold in building lots, at, we understand, an advance of 25 per cent. Perhaps the following are similar purchases:

We last week mentioned the sale of the Thompson farm at 80 dollars the acre. We understand the purchaser has already been offered and refused *twenty-five hundred dollars* for his bargain.

A farm, one mile from Norristown, Penn., of 145 acres, was sold on the 17th ult. for $152 per acre. The purchaser has since refused $5000 for his bargain. Norristown is a small village, situated on the Schuylkill river, 17 miles from Philadelphia.—[Poughkeepsie Journal.]

Several acres of woodland at Valley Grove, three miles from Brooklyn, adjoining the turnpike, were lately sold by G. L. Martense, at five hundred dollars per acre. Two acres, owned by Mr. M. Clarkson, in the same neighborhood, three and a half miles from the ferry, sold for one thousand dollars per acre.—[Brooklyn Star.]

COCOONS TO THE POUND.—At page 339 it is stated that 1000 balls of good cocoons will make one pound of twisted silk. In a recent conversation with Mr. Brooks, he states that his estimate was too small, a pound requiring from 1500 to 2000. The last number, however, was the basis of our calculation. The price, too, was stated to be three dollars per bushel. Those of very good quality will command four dollars.

SAXONY SHEEP.—By the following we perceive our correspondent, "a Native of Saxony," has made a sale to the Hon. Henry Clay. We take this opportunity to request Mr. G. to remember us during these long evenings.

Mr. Grove, an extensive wool grower in the town of Hoosick, has a flock of fine Saxony sheep, of superior blood and quality. Henry Clay, becoming familiar with their merit made application to Mr. G. for a few to improve his stock. *Fifteen* have consequently been sent. They were shipped at this city for Baltimore last week.—[Troy Press.]

FLORIDA ORANGES.—We learn that Florida Oranges are in unusual demand in the northern markets. So great has been the desire to obtain them, that already one half the crop on the St. Johns has been taken away. The crop at St. Augustine probably amounts to 2,000,000, and are ripening very fast, and will be fit for market soon.

The superiority of the Florida Oranges over those of foreign growth is fully admitted, and it only needs a little more attention and enterprize to supercede the use of the former altogether.—[Florida Herald.]

REMARKS.—Florida Oranges retail in the streets of New-York at 25 cents per dozen. They are not considered quite as sweet as those from tropical climes, but have a fresh appearance and pleasant flavor.—[ED. N. Y. F.]

ORCHARD GRASS.—The graziers of the valley pronounce it more nutricious than either Timothy, Clover, or Herds Grass, and it is by uniting this grass with the two first that the proverbially fine pastures and meadows of the central counties of Pennsylvania are found. It resists the heat of our summers, and recovers from the effects of the hoof and the tooth very rapidly. For seed lots two bushels should be sowed to the acre; and for the scythe, or for pasture, the mixture should be one bushel of orchard grass and one gallon of timothy seed, over which a gallon of clover should be scattered in March.—[Kanawha Banner.]

CAPT. RILEY, so well known to the public by the account of his sufferings while a captive among the Arabs of the African desert, as well as for his benevolent character, has recently returned from a voyage to Mogadore, and presented to the American Colonization Society *twelve bushels of Barbary wheat*, in hopes that it may be better adapted to the soil of Liberia than the grain of this country. This wheat is thought the best in the world, and flourishes in a climate where frosts are never known. Should it suit the Liberia climate, it must prove a most valuable grain for the colony.

THE FIRST WHEAT IN NEW ZEALAND.—The difficulty of introducing the greatest improvements among people who need them most, is prettily illustrated by Williams' account (in the vegetable world), of the manner in which wheat was first cultivated in New-Zealand by a native chief who had visited the English settlements in New-Holland. On leaving Port Jackson the second time, to return home, he took with him a quantity of it, and much surprized his acquaintances by informing them that this was the very substance of which the Europeans made biscuit, such as they had seen and eaten on board of their ships. He gave a portion of it to several persons, all of whom put it into the ground, and it grew well; but before it was well ripe, many of them were impatient for the produce; and, as they expected to find the grain at the roots of the stems, similar to their potatoes, they examined them, and finding no wheat under the ground, all except one pulled it up and burned it.

The chiefs ridicnled Duaterra about the wheat, and all he urged would not convince them that wheat would make bread. His own crops and that of his uncle, who had allowed the grain to remain, came in time to perfection, and were reaped and threshed; and, though the natives were much astonished to find that the grain was produced at the top, and not at the bottom of the stem, yet still they could not be persuaded that bread could be made of it.

A friend afterwards sent Duaterra a steel mill to grind his wheat, which he received with no little joy. He soon set to work before his countrymen, ground some wheat, and they danced and shouted with delight when they saw the meal. He afterwards made a cake, and baked it in a frying-pan, and gave it to the people to eat, which fully satisfied them of the assertions. From this time there was of course no difficulty in making the culture a fashionable one.—[Poulson's Daily Advertiser.]

ELEPHANTS FOR PLOUGHING.—Elephants are now used in Ceylon for ploughing the rice fields, and in preparing new ground for the cultivation of coffee, pepper, &c. An elephant will perform the work in one day which twenty bullocks were in the habit of performing before. In a country like Ceylon, which is very thinly inhabited, by this system of employing Elephants, much time is saved, and a great deal of agricultural work performed. An Elephant may be purchased in Ceylon at any time for 10 or £15.

CULTURE OF POTATOES.—A frequent change of seed is necessary. Any sort may be continued fertile and profitable by removing them from one county to another every fourth or fifth year, or by raising them alternately on very different descriptions of soil. In the cultivation of this useful plant, it appears from many experiments that it requires ample space. In field culture, placing the sets of the strong growing kinds in every third furrow, and those of the dwarfer sorts in every second, are eligible distances. There are different opinions held respecting the necessity of earthing up potatoes. On very thin soils, however, it is absolutely necessary. On deeply ploughed, or trenched ground, earthing up the stems is certainly less necessary, because as the under ground runners, which produce the tubers, are inclined to extend themselves as deeply in the soil as the roots, they do not seem to require any additional depth of earth immediately over them. But this depends entirely upon the open porousness of the soil, and the manner of growth of some of the kinds. Plucking off the flowers increases the size and number of tubers. It is founded on a law of nature, disposing a plant, constituted to produce at the same time both seeds and tubers, to yield either one or the other more abundantly, according as either is destroyed. If tubers be not allowed to form, many flowers and apples will be the consequence; and if the flowers be destroyed as soon as they appear, the tubes will be increased. It is bad management to plant the refuse, or odds and ends of last year's crop, for the sets of this. If potatoes are planted at all, they should be planted well.—[Bc. Far. Mag.]

OBSERVATIONS ON TRANSPLANTING TREES.—As success in transplanting trees depends much on the treatment they receive in that operation, we have thought it advisable to present a few remarks for the observation of those who have had but little experience on the subject. On removing trees from the nursery, care should be taken to prevent the roots from dying previously to planting them, otherwise they may receive considerable injury, and in executing our orders for trees, particular care is taken to preserve them from drying winds before packing. Immediately on their receipt the bundles should be unpacked, the roots well watered and "laid in," until the ground in which they are to be planted be ready to receive them. By laying in is to be understood the making of a trench sufficiently large to admit the roots, into which they are placed: the earth having been previously made fine, is then filled in around them, and a gentle watering given, in which situation they may remain with safety until planted. The holes in which it is intended to plant them, should, for an ordinary sized nursery tree, be from 2½ to 3 feet in diameter, and about the same in depth; the earth from the bottom should be thrown aside; and its place filled up with good compost or black mould, (no fresh stable manure should be used in the compost.) The tree should be planted one or two inches deeper than it stood in the nursery; the roots and fibres being spread out horizontally, and during the process of filling in the earth, the tree should be shaken several times, so as to admit the soil between the roots, and also fill up any cavities that might otherwise remain. The earth should then be trodden down and gently watered; in a short time it will have settled, and any hollows that may have formed should be filled up—finishing by forming a basin around the trunk to receive the rain or watering which it may be necessary to give it, if the ensuing season should prove dry; to prevent the winds from loosening the earth around the roots, they should be secured to a stake by bands of straw.

The proper season for transplanting trees in this latitude is from the middle of October until the first or middle of May, during which time they may be safely transported; when they are destined for the south, the autumn and winter months, perhaps, are preferable, but when for this latitude, or northerly, spring and autumn are equally good—evergreens are thought to succeed better when transplanted in the spring; much however depends upon the nature of the soil; if heavy, we would in general prefer the spring. Bulbous and other flowering roots, such as hyacinths, tulips, ranunculus, anemone, crocus, &c. &c. are taken out of the earth in June, from which time to November or December they can be transported without risk.

Green-house plants can be transported by water, and for short distances by land, at almos

any season, though the autumn, winter, and spring months are preferable, as they may then be closely packed, and require no attention on the passage.

WASTE OF CORN IN AGRICULTURE.—It is estimated that only one-third of the seed-corn sown on the best land grows; the other two-thirds are destroyed. The number of cultivated acres in Great Britain and Ireland amounts to 47,000,000; 30,000,000 of which are under the plough. Two-fifths of the latter, or 12,000,000 acres, are annually under the cereal crops. The average allowance of seed for the three kinds of corn may be stated at four bushels and two-thirds per acre. The quantity of seed annually sown thus amounts to 7,000,000 quarterly. If two-thirds of this quantity are rendered unproductive by some agency which has hitherto been uncontrolled, then 4,666,666 quarters of corn are annually wasted! The quantity thus lamentably wasted would support more than 1,000,000 of human beings. —[Quarterly Journal of Agriculture.]

RAILROAD MEETINGS.

[From the Long Island Star.]

At a meeting of delegates for the several towns of Suffolk county, held this day, pursuant to notice, at the house of William Griffing, in Riverhead, James Hallock, Esq. of Southold, was appointed chairman, and William F. Blydenburgh, secretary: it was

Resolved, as the sense of this convention, That a railway from Williamsburgh, or Jamaica, through the Island, to Greenport, &c. is both desirable and feasible.

Resolved, That the inhabitants of Kings and Queens counties be invited to appoint delegates to meet delegates from this county, in convention, at the inn of Thomas Hallock, in Smithtown, on the first Tuesday of December next, at 10 o'clock P. M. to concert and adopt measures in reference to a railroad through the Island.

Resolved, That Gilbert Carle, Wm. Wicks, Moses Rolph, Silas Wood, Platt Carle, Josiah Bowers, William F. Blydenburgh, Abraham Smith, George S. Phillips, William N. Mills, J. B. Smith, Richard Blydenburgh, Tredwell O. Scudder, H. W. Vail, Eliphalet Smith, Richard Udall, James H. Weeks, S. B. Strong, R. W. Smith, L. H. Davis, J. M. Williamson, Brewster Woodhull, Charles Osborn, Dr. J. Fanning, George Miller, Noah Youngs, Chapman Davis, Jr., John Clark, 3d, B. S. Wiggins, J. H. Goldsmith, Caleb Dyer, S. S. Gardiner, S. B. Nicoll, John P. Osborn, A. S. Rose, S. T. Griffing, Jonathan S. Conkling, Samuel Miller, B. F. Wells, Israel Fanning, and David Gardiner, be the delegates from Suffolk county to the above convention.

Resolved, That a committee of three be appointed by the chairman, to copy and enclose to the inhabitants of Kings and Queens counties the above resolutions. The chairman having appointed Elijah Terry, Joshua Fanning, and W. F. Blydenburgh, as such committee. it was

Resolved, That the subscriptions for a survey, by a competent engineer, to ascertain the most elegible route for a railroad through the Island be continued.

Resolved, That the above resolutions be signed by the chairman and secretary, and published in all the newspapers printed on the Island.

JAMES HALLOCK, Chairman.
WM. F. BLYDENBURGH, Secretary.

[From the Milledgeville, Geo., Journal.]

Pursuant to appointments of public meetings of the citizens of Savannah and Macon, committees representing such citizens convened in the Senate Chamber on Thursday evening, Nov. 7th 1833, for the purpose of devising such plans as may be most expedient for establishing an internal communication between said cities, and extending to the town of Columbus.

Present from Savannah, John McPherson Berrien, W. W. Gordon, and W. C. Daniell, Esqrs,

From Macon, C. J. McDonald, Henry G. Lamar, Robert A. Beall, Robert Collins, John Rutherford, and Nathan C. Munroe, Esqrs,

The meeting organized by calling Judge Berrien to the Chair, and appointing N. C. Munroe secretary.

The following resolutions were adopted and the meeting adjourned subject to the call of the chairman.

It being important that a survey of the country for the purpose of a canal or railroad communication between the cities of Savannah and Macon, and between Macon and Columbus, be made by a competent Engineer, at as early a period as possible, and the season of the year being that best adapted for the purpose: Resolved, that an application be made by this joint committee to the legislature for the appropriation of the sum of $20,000 to defray the expenses of such survey, and that the necessity of an early appropriation be strongly urged on the legislature, that the contemplated survey may be made before the expiration of the proper season.

Resolved, That a committee be appointed to confer with such gentlemen as are now in attendance at Milledgeville, and who are interested in the contemplated railroads from Augusta to various parts of the interior of the state, for the purpose of reconciling, as far as possible, conflicting interests and views, and to produce a union in such a scheme as will most conduce to the general prosperity of the state.

Resolved, That a committee be appointed to draft a memorial to the legislature for a charter to such persons as may think proper to associate for the purpose of erecting a railroad or canal from the city of Savannah to Macon, and from the latter place to Columbus, and also to prepare a bill to accompany said memorial, and that the same be submitted to this joint committee.

The following gentlemen compose the several committees:

On the first resolution, Messrs. Berrien, Gordon, and Beall.

On the second, Messrs. Berrien, Gordon, McDonald, Lamar, Collins, Rutherford and Munroe.

On the third, Messrs. Lamar, McDonald, and Gordon.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 5th to the 18th of November, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Novem. 5..	6 a. m.	29	30.55	NNE—N	moderate		clear
	10	32	30.57	N	light	NNW	fair
	2 p. m.	40	30.53	..	..	..	..
	6	38	30.50	..	..	..	..
	10	35	30.48		..		
" 6..	6 a. m.	35	30.36	WSW	..	W	cloudy
	10	38	30.36	SW by W	..	..	..
	2 p. m.	44	30.27	..	..	..	..
	6	42	30.22	..	..	..	
	10	42	30.20	SW	moderate		fair
" 7..	6 a. m.	41	30.25	..			..
	10	47	30.25	..	light		clear
	2 p. m.	52	30 26	..	..	SSW	fair
	6	51	30.26	S by W	..	W by N	cloudy
	10	50	30.28		..		..
" 8..	6 a. m.	48	30.30	SSW	..	WSW	fair and smoky
	10	54	30.28	..	..	..	.. ..
	2 p. m.	60	30.24	S—SSE	..	W by S	.. ..
	6	58	30.18	SSE	..	..	.. .. —haze at WSW
	10	38	30.15	SW	moderate	..	cloudy
" 9..	6 a. m.	57	29.00	WSW	..	..	..
	10	60	29.95	..	fr'h—strong	..	
	2 p. m.	60	29.80	..	fresh	SW by W	rainy, and clouds brisk by SW by W
	6	59	29.72	..	..	..	cloudy
	10	56	29.69	..	..	..	..
" 10..	6 a. m.	49	30.95	WSW—WNW	light		clear
	10	53	30.00	WNW	moderate		..
	2 p. m.	57	30.01	W—WSW	light		..
	6	52	30.06	WSW	..		..
	10	49	30.11	..	..		..
" 11..	6 a. m.	45	30.17	..	..	W by S	fair
	10	50	30.16	SSW	..	WSW	..
	2 p. m.	58	30.10	S—SSE	..	..	cloudy —rainy
	6	52	30.00	..	..	..	rain
	10	53	29.88	S	..	..	rainy
" 12..	6 a. m.	47	29.71	SW	moderate	..	cloudy
	10	58	29.68	WSW—W	fresh	..	.. .. —rainy
	2 p. m.	60	29.70	W	gale	..	fair
	6	52	29.82	..	strong		clear
	10	45	29.90	WSW	..		..
" 13..	6 a. m.	41	29.97	..—W by S	moderate		..
	10	46	29.99	W	strong	WNW	fair
	2 p. m.	50	29.98	W—WSW	fresh	..	..
	6	47	29.98	WSW	moderate		clear
	10	45	29.99	..	..		..
" 14..	6 a. m.	42	29.90	SSW	..		..
	10	51	29.85	..—S	..	SW	fair
	2 p. m.	58	29.75	S	fresh	SSW	..
	6	54	29 65	..	moderate	..	..
	10	49	29.58	..	light	..	..
" 15..	6 a. m.	43	29.48	WSW	moderate	..	cloudy
	10	44	29.50			..—WSW	rainy —fair
	2 p. m.	47	29.54		fresh	WSW	
	6	44	29.58		..		clear
	10	40	29.69		moderate		..
" 16..	6 a. m.	33	29.77		..	..	fair —clear
	10	39	29.80	SW by W	..	SW	..
	2 p. m.	43	29.79	WSW	fresh	..	fair
	6	36	29.80	..	..	SW by W	..
	10	34	29.84	SW by W	..		..
" 17..	6 a. m.	32	29.84	..	..	..	..
	10	36	29.84	WSW	..	WSW	.. —squ'ly
	2 p. m.	41	29.78	..	modarate	..	..
	6	39	29.76	..	..	..	..
	10	38	29.82	..	..	..	..
" 18..	6 a. m.	35	29.98	SW by W	..		clear
	10	41	30.04	WNW—W	..	NNW	
	2 p. m.	44	30.05	W	..	W	fair
	6	40	30.12	..	..	W by S	..
	10	36	30.18	..	..	WSW	..

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LITERARY NOTICES.

THE LIFE OF ARCHBISHOP CRANMER, by C. W. LE BAS. 2 vols. New York: J. & J. HARPER.—We are glad to see this continuation of the *Theological Library*, of which these volumes constitute No's 5 and 6 of the series.

The character of Cranmer is one that has been extolled and depreciated immoderately, according to the religious tenets of those who discuss it. The aim of Prof. Le Bas in these volumns—while giving all the material facts in the history of Cranmer, the Primate of three reigns, accompanied by the expression of his own sense of gratitude as a member of the Church of England, to the great founder and champion of that Church, and the early advocate of the general distribution of the Bible in the English tongue to all classes—is to leave to his readers the materials and opportunity of forming their own judgment.—The career of Cranmer, and his dangerous association with Princes, exposed him to great temptations and difficulties; and if he did not always—especially in the matter of the marriages and divorces of that monster of lust and blood, Henry VIII—acquit himself as became a Christian minister; and although on the approach of a painful death, his truth and courage faltered for a while—there was that in his fervor, sincerity and zeal, in the devotion of his life to the great object of his calling—the inculcation of the truth as it is in the Scriptures—and in the courage and calmness of his death, to entitle him to the gratitude and admiration of the whole Protestant world. Of that cruel death we subjoin the story, as it is told by our author:

We now proceed to the consideration of the archbishop's conduct in the closing scene of his eventful life.

The sixth paper of submission was dated on the 18th of March. It contained a prayer for mercy; and the answer to this petition was an order for his almost immediate execution. From the very first it had been determined that he should suffer as a heretic; but his enemies waited awhile, that they might fix upon him the infamy of cowardice and unfaithfulness; and when artifice and temptation had done their worst, the fire was speedily lighted for his destruction. By way of preparation for the solemnity, the provost of Eton College, Dr. Cole, had secret instructions from the queen to prepare a sermon for the occasion; and, lest the feelings of the people should break out into violence and tumult, many of the neighboring gentry and magistrates were assembled in Oxford, with their servants and retainers, to keep the peace and witness the execution. On the 20th of March, the day before he suffered, the archbishop was visited in his prison by Dr. Cole, and interrogated by him, whether he continued firm in the Catholic faith, as he had recently professed it? The answer of Cranmer was somewhat equivocal. He said that, by God's grace, he would be still more confirmed in the *Catholic* faith; a reply which most probably intimated that he had begun to repent of his weakness, and to form a resolution to return to the profession which he had seemingly abandoned. How the interval between that time and the day after was passed by him, we have no certain information; but it is at least likely, that it was employed in preparing the prayer, the exhortation, and the repentant confession of apostacy, which were actually delivered by him immediately before his execution. On the next day, Saturday, the 21st of March, he was again visited by Cole at an early hour, and asked by him whether he was provided with money. Being answered in the negative, Cole supplied him with fifteen crowns; an indirect, but very intelligible mode of apprizing him that he must prepare for death; it being then a sort of funeral custom for persons condemned to die, to distribute alms among the people. This intimation must, in all probability, have dissipated every hope of mercy, and have convinced him that the time was come for publicly abjuring the dissimulation which had wounded his conscience and his fame, without preserving his life. Some time after Cole had retired, the friar Garcina made his appearance in the prison and urgently besought him to transcribe a retraction of his doctrine, to be delivered by him at the stake. It is uncertain whether the document thus tendered to him was the *fifth* of the submissions ascribed to him in Bonner's printed account, but which as we have seen had hitherto been suppressed by the council; or whether (which is the more probable supposition) it was nothing more than the brief revocation of his doctrine respecting the Eucharist, which, in the printed account of his submissions, is called "the saying of Thomas Cranmer, a little before his his death." But however this may be, it appears that Cranmer consented to transcribe it, and thus to leave the friar under the impression that it was his intention to deliver it before the public, when he came to execution. In this, undoubtedly, there was some appearance of deception; but it was an expedient to which he was almost driven by the necessity of the case. He well knew, that if he had *then* rejected the proposed paper, and had apprized Garcina of his design to revoke his former submissions, he never would have been allowed to address the bystanders for that purpose, and would thus have perished under the imputation of impenitent apostacy. But though he consented to transcribe the friar's document, there is no reason whatever to believe that he ever set his name to it; for the seventh paper attributed to him in Bonner's printed statement appears there, unlike the other six, without the signature of *Thomas Cranmer:* although the account affirms that it was written with his own hand. It may therefore be reasonably concluded, that he agreed to transcribe it purely for the purpose of ridding himself of the friar's solicitations, and of thus securing an opportunity of proclaiming his repentance before he died.

The facility afforded him for this public confession was, accidentally, beyond his hopes. Between nine and ten o'clock on the 21st of March, the Lord Williams, with others of the neighboring gentry, arrived in Oxford, for the purpose of presiding at the sacrifice of the reclaimed arch-heretic. The morning, however, happened to be so rainy, that instead of conducting him at once to the stake, they brought him to St. Mary's Church, in the full expectation that he would there complete the triumph of the Romanists, by proclaiming, with his dying breath, his adhesion to their communion. On his way thither he was placed between two friars, whose office it was to murmur out certain psalms, which it was conceived, were appropriate to his mournful situation. On his entrance into the church, the *Nunc Dimittis* was chanted; and the archbishop was then led forward to a scaffolding or platform, raised in front of the pulpit. When he had ascended it he knelt down to pray; and wept so bitterly, that many of the spectators were also moved to tears; more especially those among them "who had conceived an assured hope of his conversion and repentance."

Dr. Cole then commenced his sermon; in which he stated that Dr. Cranmer had been the prime agent in all the pernicious changes by which the realm had been for so many years distracted. He had usurped the office of pronouncing the divorce between Henry VIII and Queen Catherine; and though he might have been impelled rather by the suasions of other men, than by any malicious motive, yet he had thus become the chief author of all the confusion that had followed. He had, moreover, not only been the notorious patron of all the heresies which had burst into the kingdom, but had persisted in maintaining them, both by disputation and by writing: and so long a perseverance in error had never, but in time of schism, been pardoned by the church. The preacher also stated, that in addition to these causes of Cranmer's execution, the queen and her council were moved by certain other reasons, which it would not be fit or convenient to disclose.

Having next exhorted the bystanders to profit by the melancholy example before them, Dr. Cole addressed his discourse to Cranmer himself. He reminded the prisoner of the mercy of God, who will not suffer us to be tempted beyond what we are able to bear; expressed a good hope that he would, like the penitent thief, be that day with Christ in Paradise; encouraged him to meditate on the deliverance of the three children, to whom God made the flame seem like a pleasant dew; on the rejoicing of St. Andrew in his cross, and the patience of St. Laurence on the fire; and assured him that if in his extremity he should call on God, and on such as have died in his faith, he would either abate the fury of the flame, or else would give the sufferer strength to endure it. He gloried in the final conversion of Cranmer to the truth, which could only be regarded as the work of God: and concluded with many expressions of commendation, and with a promise that masses should be sung for his soul in every church in Oxford.

Having finished his sermon, the preacher desired that all who were present would offer up their supplications for the prisoner. On this Cranmer himself immediateiy knelt down in secret prayer. His example was followed by the rest of the congregation. They all of them prayed together, as by one consent. Those among them who once hated him as an incorrigible heretic, were now melted by the spectacle of his repentance; while others who had loved him before, were yet unable suddenly to hate him, and fondly clung to the hope that after all he would return to his former profession, and make a public acknowledgment of his fall. This general feeling of compassion had been powerfully heightened by the appearance of the archbishop during the sermon. He had stood before the people the very image of sorrow; his face bathed in tears, his eyes sometimes raised to heaven in hope, sometimes cast down to the earth in shame, but still preserving throughout a venerable aspect, and quiet solemnity of demeanor.

When his silent devotions were concluded, Cranmer rose from his knees, and turning towards the people, heartily thanked them for their prayers. He then said, "I will now pray for myself, as I could best devise for my own comfort, and say the prayer, word for word, as I have here written it;" and remaining still on his feet, he recited from his manuscript the following supplication:—

"O Father of Heaven; O Son of God, Redeemer of the world; O Holy Ghost, proceeding from them both, three persons and one God, have mercy upon me most wretched caitiff, and miserable sinner! I, who have offended both heaven and earth, and more grievously than any tongue can express, whither then may I go, or whither should I fly for succor? To heaven I may be ashamed to lift up mine eyes; and in earth I find no refuge. What shall I then do? Shall I despair? God forbid. O good God! Thou art merciful, and refusest none that come unto thee for succor. To thee therefore do I run. To thee do I humble myself: saying, O Lord God, my sins be great, but yet have mercy upon me for thy great mercy. O God the Son, thou wast not made man, this great mystery was not wrought, for few or small offences. Nor thou didst not give thy Son unto death, O God, the father, for our little and small sins only, but for all the greatest sins of the world; so that the sinner return unto thee with a penitent heart; as I do here at this present. Wherefore have mercy upon me, O Lord, whose property is always to have mercy. For although my sins be great, yet thy mercy is greater. I crave nothing, O Lord, for mine own merits, but for thy name's sake, that it may be glorified thereby; and for thy dear Son Jesus Christ's sake."

Having finished this act of devotion, he knelt down, and repeated the Lord's Prayer, all the congregation on their knees devoutly joining him. Then, rising on his feet once more, he addressed a solemn exhortation to the people, in which he warned them that *the love of this world is hatred against God;* enjoined them to remain in cheerful and willing obedience to the king and queen; besought them to live together like brethren and sisters; and, lastly, entreated the wealthy to lay up in their hearts the saying of our Lord, *It is hard for a rich man to enter into heaven;* and also the words of St. John,—"*Whoso hath this world's goods, and seeth his brother have need, and shutteth up his bowels of compassion from him, how dwelleth the love of God in him?*" He then continued his address to the people, in the following memorable words:—

"And now, forasmuch as I am come to the last end of my life, whereupon hangeth all my life past, and my life to come, either to live with my Saviour Christ in heaven, in joy, or else to be in pain ever with wicked devils in hell; and I see before mine eyes presently either heaven ready to receive me, or hell ready to swallow me up; I shall therefore declare unto you my very faith, how I believe, without color or dissimulation. For now is no time to dissemble, whatsoever I have written in times past.

"First, I believe in God the Father Almighty, Maker of heaven and earth, &c., and every article of the Catholic faith, every word and sentence taught by our Saviour Christ, his apostles, and prophets, in the Old and New Testament.

"And now I come to the great thing that troubleth my conscience more than any other thing that ever I said or did in my life: and that is, the setting abroad *of writings contrary to the truth. Which here now I renounce, and refuse, as things written with my hand contrary to the truth which I thought in my heart, and writ for fear of death, and to save my life, if it might be: and that is, all such bills, which I have written or signed with mine own hand, since my degradation; wherein I have written many*

things untrue. And forasmuch as my hand offended in writing contrary to my heart, therefore my hand shall first be punished. For if I may come to the fire, it shall be first burned. And as for the pope, I refuse him, as Christ's enemy and Antichrist, with all his false doctrine."

The amazement and confusion of the assembly at the utterance of this speech may very easily be imagined. All his judges, and doubtless a very large portion of the audience, expected nothing more from his lips but an open and penitent abjuration of his Protestant opinions. Instead of this, he proclaimed that he had nothing to repent of but his unworthy professions of the Romish faith. It was to no purpose that Lord Williams vehemently reminded him of this submission and dissembling, and exhorted him to remember himself and play the Christian man. The archbishop remained unshaken. "Alas! my lord," was his reply, "I have been a man that all my life loved plainness, and never dissembled till now against the truth, which I am most sorry for; and I cannot better play the Christian man than by speaking the truth, as I now do." He farther protested that, with regard to the doctrine of the Sacrament, he still believed precisely as he had written in his book against the Bishop of Winchester.

By this time the exasperation of the Romanists had become outrageous. The assembly broke up, and the archbishop was hurried to the place of execution. On his way thither, one of the friars, foaming with rage and disappointment, assailed him with reproaches for his inconstancy, and bade him remember his recantation; repeatedly crying out, "Was it not thy own doing?"† On his arrival at the stake, he put off his garments with alacrity, and even with haste, and stood upright in his shirt. When his caps were taken off, his head appeared so bare, that not a single hair could be discerned upon it. His beard, however, was long and thick, and his countenance altogether of such reverend gravity, that neither friend nor foe could look upon it without emotion. While the preparations for his death were completing, a bachelor of divinity, accompanied by two Spanish friars, made one desperate effort to recall him to his apostacy. But their attempts were utterly fruitless. The archbishop was only moved to repeat that he sorely repented of his recantation, because he knew it was contrary to the truth. On this the friars said, in Latin, to each other,—"Let us leave him to himself; the devil is surely with him, and we ought no longer to be near him." Lord Williams became impatient of further delay, and ordered the proceedings to be *cut short*. Cranmer, therefore, took his surrounding friends by the hand, and bade them his last farewell: while his defeated monitor, the bachelor, indignantly rebuked them for touching the heretic, and protested that he was bitterly sorry for having come into his company. He could not forbear, however, once more, to urge his adherence to his recantation. The answer of Cranmer was—"This is the hand that wrote it, and therefore it hall suffer punishment."

The fire was, now, speedily kindled; and Cranmer immediately made good his words, by thrusting his right hand into the flame. He held it there with unflinching steadiness, exclaiming from time to time—"This hand hath offended,—this unworthy hand!" So immoveable was his fortitude, that the spectators could plainly perceive the fire consuming his hand, before it had materially injured any other part of his frame. At last, the pile became completely lighted, and then the fire soon did its work upon him. To the very last, his resolution continued firm. When the flames mounted, so that he was almost enveloped by them, he appeared to move no more than the stake to which he was bound. His eyes, all the while, were steadfastly raised towards heavens; and, so long as the power of utterance remained, his swollen tongue was repeatedly heard to exclaim, 'This unworthy hand!—Lord Jesus, receive my spirit.'

That Cranmer's "patience in the torment, and courage in dying" were worthy of the noblest cause, is amply and generously attested by the Roman Catholic spectator who has left us an account of his last sufferings. "If," says the writer of that narrative, "it had been either for the glory of God, the weal of his country, or the testimony of the truth,—as it was for a pernicious error, and subversion of true religion.—I could worthily have commended the example, and matched it with the fame of any father of ancient time." There is a sort of traditional story that, after he was burned, his heart was found unconsumed in the midst of the ashes. The tale is scarcely worth repeating. It is, indeed, just possible, that when the flames had nearly consumed the parts more immediately exposed to their action, the heart may have been separated from the body; and may have accidentally fallen upon a spot where the fire was less fierce: and there it may have been found comparatively uninjured, or, at least, in a state which might enable a spectator to distinguish it. And this may have given birth to a report, which credulity or superstition might exalt into a miracle.

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* This exhortation was rendered very appropriate, by the severe scarcity then prevalent at Oxford.

† *Nonne feceisti.* Foxe.

Thus perished Archbishop Cranmer;—a man, to whom the obligations of this country must ever be "broad and deep:" for to his conscientious labors, and incomparable prudence and moderation, we are, under Providence, mainly indebted for the present fabric of our Protestant church. The brightness of his last hour was preceded, it is true, by an awful interval of darkness. The shadows, however, most happily passed away from him; and his name resumed its lustre in the midst of the fires of his martyrdom.

MEMOIRS OF THE COURT OF KING CHARLES THE I., by LUCY AIKEN, 2 vol. 8vo. *Philadelphia*, CARY, LEA & BLANCHARD.—Historical memoirs, combining as these do, the graver facts of history, with less noticed but often not less influential personal incidents—which at one moment exhibit before us on the stage, in all the illusions of a brilliant reality, the march of great men and great events, and then taking us behind the scenes show us these same men and the agents in these great works, in their natural dimensions and colors,—Memoirs such as these are always found most attractive as well as instructive. The former works from the same pen, on the Court of James, and of that on Elizabeth, dispense us, by the success they met with, from enlarging on the qualifications which Miss Aiken brings to the task. We content ourselves, therefore, with an extract, which may serve to show how well she narrates: it is that which presents the closing days of the trial and execution of Charles. (It will be found at page 750, of this Journal.) We have taken this, both on account of the interest attached to the event itself, as for the sake of affording means of comparison between the record of this political martyrdom—as all good royalists call the death of Charles—and the religious martyrdom of Cranmer, of which an account from another source is inserted above:

THE GEOGRAPHICAL ANNUAL, FOR 1834. Philadelphir, CAREY, LEA & BLANCHARD.—The beautiful, and useful as beautiful cabinet atlas, which these publishers gave us last year, they have this year republished, with increased luxury of execution, as an Annual; and, inasmuch as it vies in externals with the other Annuals, and has abundant well colored maps to supply the place of a few engravings, we deem it by far the best of these publications, and one, moreover, that does not lose its value.

THE LADIES' AND GENTLEMEN'S POCKET ANNUAL, FOR 1834: Edited by EDWIN WILLIAMS, author of the New York Annual Register. *New York:* J. DISTURNELL.—An almanac, a register of public functionaries in the general and state governments, of the army and navy, with blank pages for memorandums, (more than will be improved we fear,) and some selections in prose and verse, make up this Pocket Book, which we commend as both ornamental and convenient.

THE JUVENILE REPOSITORY; vol. 1. *Boston:* B. G. GREENE and LEO. C. BOWLES, New York H. N. Kimball 110 Fulton street. This little collection prepared by a lady, is made up of stories, anecdotes, and information written in a style suited to the capacity and intelligence of children, and calculated to improve their habits and understanding. There are wood cuts which add always to the attraction of children's books.

We have several other works on hand which we are prevented from noticing this week; but they shall not be passed over.

No. IV.

Bedford, Pa. Oct. 24th, 1833.

We have commenced ascending the Alleghanies. A cold, difficult ride among the hills, has brought us at last to an excellent tavern in the little town, from which I write. A blazing fire of seasoned oak in a large franklin, sputters and crackles before me; and, after having warmed my fingers, and spent some twenty minutes in examining an extensive collection of Indian arms and equipments, arranged around the room with a degree of taste, that would not have disgraced the study of Sir Walter Scott, I sit down quietly to give you my first impressions of this mountain region.

We entered these highlands yesterday. It was about an hour before sunset that we commenced ascending a mountain ridge, whose deep blue outline, visible for many a long mile before we reached the base, might be mistaken in the distance for the loftier rampart of which it is only the outpost. The elevation, which showed afar off like a straight line along the horizon, became broken in appearance as the eye at a nearer view measured its ragged eminences, but it was not till we were winding up a broad hollow scooped out of the hill-side, and through which the beams of the declining sun played upon the fields and farm-houses beyond, that the true character of the adjacent region opened upon us. The ridge we were ascending, still rose like a huge wall before us, but the peaks, which had seemed to lean against the clear October sky like loftier summits of the same elevation, now stood apart from the frowning barrier, towering up each from its own base—the bastions of the vast rampart we were scaling. Each step of our ascent seemed now to bring out some new beauty, as, at the successive turns of the road, the view eastward was widened or contracted by the wooded glen up which it led. But all of these charming glimpses, though any of them would have made a fine cabinet picture, were forgotten in the varied prospect that opened upon us at the summit of the ridge. Behind, toward the east, evening seemed almost to have closed in upon the hamlet from which we had commenced our ascent, at the base of the mountain, but beyond its deepening shadow, the warm sunset smiled over a thousand orchards and cultivated fields, dotted with farm-houses, and relieved by patches of woodland, whose gorgeous autumnal tints made them show like the flower-beds of one broad garden. Southwardly, the bold upland which here heaved at once from the arable grounds beneath us, while it swelled higher, rose less suddenly from the plain. At one point the brown fields seemed to be climbing its slopes, while here and there a smooth meadow ran like the frith of a sea within its yawning glens, and now again peak after peak of this part of the range could be traced for leagues away, till the last blue summit melted into the sky, and was finally lost in the mellow distance. Such, while our horses' heads were turned to the northwest, was the rich and varied view behind us—the prospect from the Catskills is the only one I can recollect that rivals it in magnificence. But another scene more striking, though not so imposing, was also at hand,—a ridge like that we had just crossed rose before us; but beneath our very feet, and apparently so near that it seemed as if one might drop a stone into its bosom, lay one of the loveliest little vallies into which the sun ever shone. It was not a mile in width, beautifully cultivated, and with one small village reposing in its very centre,—the southern extremity seemed to wind among the lofty hills I have already attempted to describe, but its confines toward the north were at once determined by a cluster of highlands, whose unequal summits waved boldly forth in the purple light of evening. The sun, which had now withdrawn his beams from the scene behind us, still lingered near this lovely spot, and his last glances, before they reached the hill-side we were descending, flashed upon the windows of the village church, and creeping unwillingly up its spire, touched with glory the gilded vane; then from the sweeping cone of a pine above us, smiling wistfully back on the landscape he was leaving, yielded at last to coming night.

The descent of the mountain, from its multiplied windings, consumed more time than I had anticipated. The faint rays of a young moon were just beginning to compete successfully with the fading tints of day, before we had neared the village sufficiently to hear the lowing of cattle, and the shrill shout of the cow-boy, driving his charge homeward; and her maturer beams were softened by the thin haze which rose imperceptibly from a brook winding through the valley, before we reached our destination for the night. The occasional jingling of a wagoner's bells in the distance, and the merriment of a group of children playing by the moonlight in a grassy lot near the stream, were the only sounds which broke the stillness of the scene as we drove up to the door. I thought of the happy valley of Rasselas, and wondered whether the inhabitants of this secluded spot could really ever wish to wander beyond its beautiful precincts.

The gradual, successive, and delicious blending of lights, as I have attempted to describe them, under which I first beheld the little valley of M'Connelsville, will doubtless account for much of my admiration of it: and indeed some of its features were changed, and not for the better, when viewed under a different aspect the next morning. A sharp north-easter, in spite of the barriers which had seemed to shelter it, drove down the valley: a cold drizzling rain, with its attendant mist, shut from view the mountain tops around; and the village dwellings, lining one long narrow street, and now no longer gilded with the hues of sunset, nor standing clearly out in the silver light of the moon, showed like the

miserable hovels they were; the snug stone house where I had passed the night seemed to be almost the only tolerable building in the village, and I was not sorry to pass its last straggling enclosure, and commence ascending the arduous height beyond. The summit of this attained, another valley, about double the width of that just passed, lay before us; and as the rain subsided at noon, leaving a gloomy lowering day, we could discover through the cold gray atmosphere ridge succeeding to ridge leaning like successive layers against the western sky.

A half a day's rough ride among these wild ravines brought us at last to the banks of the Juniata, along which an excellent road is cut for some distance. The stream, though in the midst of scenery of the boldest description, keeps its way so calmly between its rocky banks, that the dead leaf upon its bosom floats for nearly a mile, before a ripple curls over its crisped sides, and sinks the little shallop to the bottom. We dined near nightfall at a small hamlet known, from a brook that runs through it, as "The Bloody Run." The stream which bears this startling name is a rill so small, that its existence is barely perceptible, as it creeps through the pebbles across the road, and hastens to hide its slender current in the long grass of an orchard beyond; but its waters will be pointed out by the villagers with interest, so long as they dampen the channel where they once flowed in all the pride and fulness of a mountain torrent.

It was several years before the revolution, according to the statement given to me by one of those distinguished persons who in country towns always figure after a snow-storm or freshet, as the 'oldest inhabitant of the place,' that a large party of colonists, on their march toward Fort Du Quesne, were here cut off by the Indians. The ambushed foe had allowed the main body to pass the brook, and surmount the heights beyond; and the rear-guard, with the cattle they had in leading for the use of the troops, were drinking from the stream, when the onslaught was made. The Indians rushed from their covert, and burst upon their victims so suddenly, that fifty whites were massacred almost before resistance was attempted. Those who were standing were dropped like deer at gaze by the forest marksmen; and those who were stooping over the stream, before they even heard the charging yell of their assailants, received the blow from the tomahawk which mingled their life's blood with the current from which they were drinking.

The retribution of the whites is said to have been furious and terrible; the body of men in advance returned upon their tracks, encamped upon the spot, und after duly fortifying themselves, divided into parties, and scoured the forest for leagues. My informant, who gave me only the traditioin ary account of the village, could not tell how long this wild chase lasted; but that it must have been fearfully successful, is proved not only by the oral record of the place, but by the loose bones, and Indian weapons, which are at this day continually found amid piles of stone in the adjacent woods; the Indians probably returning to the valley after the storm had passed over, and heaping their customary *cairn* over the bodies of their dead kindred.

What a contrast was the peaceful scene I now beheld, to that which the place witnessed some seventy years ago; a train of huge Pennsylvania wagons were standing variously drawn up, upon the very spot where the conflict was deadliest; the smoking teams of some were just being unharnessed, a few jaded beasts stood lazily drinking from the shallow stream that gurgled around their fetlocks, while others, more animated at the near prospect of food and rest, jingled the bells appended to the collars in unison with their iron traces which clanked over the stones, as they stalked off to the stable. To these signs of quiet, and security, were added those true village appearances which struck me so pleasingly on my approach to McConnelsville. A buxom country-girl or two could be seen moving through the enclosures bearing the milk-pail to meet the cows which were coming in lowing along the highway, while the shouts and laughter of a troop of boys just let loose from school, came merrily on the ear as they frolicked on a little green, hard by. My companion stood in the midst of them, holding a piece of silver in his fingers, while a dozen little chaps around him were trying who could win the bright guerdon by standing on one leg the longest; the ridiculous postures of the little crew, with the not less ludicrous gravity of my friend, who was thus amusing himself, of course, put an end to my sober musings; but I could not help, while advancing to the scene of the sport, fancying for a moment the effect of the war-whoop breaking suddenly, as ere now it often has, upon a scene apparently so safe, sheltered, and happy.—Good night.

SOMERSET, Oct. 26th.

You have read in the newspaper, of the recent destruction of this place by fire; it must have been large and flourishing, judging by the extensive ruins which I have just been trying to trace by the frosty light of the moon now shining over them. The appearances of desolation here are really melancholy, the tavern where we put up is the only one left standing out of five or six, and it is so crowded with the homeless inhabitants that I find it difficult to get a place to write in. I was not a little amused, while sitting an hour perforce in the bar room, to hear half a dozen fellows, who had lost their all, making themselves merry with a thriving tailor, who, saving every thing but a pair of spectacles, and his *goose*, makes more ado about his losses than any of the sufferers. A large collection for their relief has been made among the charitable of the neighbouring villages, and Tape, it is said, insists upon appearing before the financial committee to receive a consideration for his ruined spectacles and his timelessly wasted goose.

We are now in the bosom of the Alleghanies,—thescenery passed to day is beautiful, most beautiful. The mountains are loftier, as well as more imposing in form, than those which skirt these wild regions eastwardly; whichever way the eye directs itself, they are piled upon each other in masses which blend at last with the clouds above them. At one point they lie in confused heaps together; at another, they lap each other with outlines as distinct as if the crest of each were of chiselled stone,—some, while the breeze quivers throguh their dense forests, rear their round live backs like the hump of a camel boldly near, and some swelling more gradually from the vales below, show in the blue distance like waves caught on the curl by some mighty hand, and arrested ere they broke on the misty region beyond. Then for their foliage! the glorious hues of autumn are here displayed in all their fulness, and brilliancy, and power—volume upon volume, like the rolling masses of sunset clouds, the leafy summits fold against the sky—calm at one moment as the bow of peace whose tints they borrow, and at another flaming, like the banners of a thousand battles in the breeze.

But why should I attempt to describe what baffles all description. The humblest grove of our country is, at this season, arrayed in colours such as the Italian masters never dreamed of; and woods like these assume a pomp which awes the pencil into weakness. Such forests, such foliage were unknown when our language was invented. Let those who named the noble-sounding rivers that reflect their glories, supply words to describe them.

Farewell. I shall write to you next from Wheeling, Virginia, and if you do not think me tedious, will touch again upon the beauties of the region through which I am now passing.

H.

SUMMARY.

APPOINTMENT BY THE PRESIDENT.—Richard Pollard, of Virginia, to be Consul of the United States in the city of Mexico, in the place of James S. Wilson, resigned.

Benjamin Franklin Butler, of New York, to be Attorney General of the United States, in the place of Roger B. Taney.—[Globe.]

We are confident that, at no distant day, the Southern manufactories will far outstrip those caried on to the North,—for the simple reason, that *slave labor* can be successfully and most profitably employed.—The time was when such an opinion would have found no favorers. Now, we believe, it is getting to be universally admitted. We think we see clearly the dawning of a new era in the prospect of the South, from this fact alone. We have recently seen statistical statements, which satisfy us that when the Cotton Factories now talked of are put into operation, in the Southern country, we shall find slave labor more valuable and usefnl than it has yet been to the people in our section of country.—[Alexandria Phœnix.]

The annexed article, from the Buffalo Journal, on the meteoric phenomena of the 13th, differs in two important particulars from all other accounts we have seen, of that occurrence—1st, in describing the luminous bodies as shooting *upwards* as well as in all other directions; and 2d, in stating that the Aurora borealis was visible, during the whole time.

The absence of the Aurora was particularly remarked here, as, by a communicstion now before us, we see it was at Keene, N.H., and so in all the other accounts we have seen.

[*From the Buffalo Journal.*]

Very interesting atmospherical phenomena were visible, a little before daylight this morning, in this city. My attention was first called to them about half past four, A. M. The wind, which had been very heavy for many hours, had abated considerably, every vestige of clouds had disappeared, and the stars were shining through an unusually clear atmosphere. The air from within twenty feet of the earth to, apparently the ordinary height of the clouds, (half a mile,) was filled with phosphoric particles, which were continually and successively becoming luminous. They all passed, while visible, with great velocity through the air, but in no uniform direction—some rose, some fell, others moved horizontally, and others again, at every conceivable angle, to these several courses. Their color was a vivid white, resembling that of the flame of steel wire burning in oxygen. Their sizes were various, but mostly about the apparent size of stars of the second magnitude. The distance of their luminous flights were various and not easily calculated. Many of them in their passage, left a luminous line in the air, of their own color, which was often several yards in length, and usually remained visible from one to three seconds. I have said there was no cloud; there was none, but the whole atmosphere was constantly, at very short intervals, illuminated by flashes of light, in no way differing from ordinary silent electrical explosions The *Aurora Borealis* during the whole time of my observations, which was about half an hour, was distinctly visible, though by no means so brilliant, or so active as that meteor usually is, when visible here.

Upon the whole, the scene was by far the most sublime meteoric display I ever beheld; and I only regret that the unfavorable hour of its occurrence deprived me of an opportunity of observing the influence that such a singular electrical state of the atmosphere may be supposed to have exerted upon the magnetic needle.

H.

Buffalo, Wednesday, Nov. 13, 1833.

[*From the New Haven Herald.*]

THE METEORS.—About day-break this morning, our sky presented a remarkable exhibition of Fire-Balls, commonly called *Shooting Stars*. The attention of the writer was first called to the phenomenon about half past five o'clock, from which time until near sunrise, the apperrance of these meteors was striking and splendid, beyond any thing of the kind he has ever witnessed or heard of.

To form some idea of the phenomenon, the reader may imagine a constant succession of fire-balls, resembling sky rockets, radiating in all directions from a point in the heavens near the zenith, and following the arch of the sky towards the horizon,—They proceeded to various distances from the radiating point, leaving after them a vivid streak of light, and usually exploding before they disappeared. The balls were of various sizes, and degrees of splendor: some were mere points, but others were larger and brighter than Jupiter or Venus; and one, seen by a credible witness, before the writer was called, was judged to be nearly as large as the moon. The flashes of light, though less intense than lightning, were so bright as to awaken people in their beds. One ball that shot off in the northwest direction, and exploded near the star Capella, left, just behind the place of explosion, a phosphorescent train, of peculiar beauty. This line was at first nearly straight, but it shortly began to contract in length, and dilate in breadth, and assume the figure of a serpent folding itself up, until it appeared like a small luminous cloud of vapor. This cloud was borne eastward by the wind, opposite to the direction in which the meteor had proceeded, remaining in sight several minutes. The light was usually white, but was occasionally prismatic, with a predominance of blue.

A little before six o'clock, it appeared to the company, that the point of radiation was moving eastward from the zenith, when it occurred to the writer to mark its place, accurately, among the fixed stars. The point was then seen to be in the constellation Leo, within the bend of the *sickle*, a little to the westward of Gamma Leonis, and not far from Regulus. During the hour following, the radiant point remained stationary in the same part of Leo, although the constellation in the mean time, by the diurnal revolution, moved westward to the meridian 15 degrees. By referring to a Celestial Globe, it will be seen, that this point has a right ascension of 150 degrees, and a declination of about 20 degrees. Consequently it was 20 degrees 18 minutes south of our zenith.

The weather had sustained a recent change. On the evening of the 11th, a very copious southerly rain fell, and on the 12th, a high westerly wind prevailed, by gusts. Last evening the sky was very serene; a few falling stars were observed, but no so numerous as to excite particular attention.

The writings of Humboldt contain a description of a singular phenomena observed by Bonpland, at Cumana. It is worthy of remark that this phenomenon was seen nearly at the same hour of the morning, and on the 12th of November.

As the cause of "Falling Stars" is not well understood by meteorologists, it is desirable to collect all the facts attending this phenomenon, stated with as much precision as possible. The subscriber, therefore, requests to be informed of any particulars which were observed by others, respecting the *time* when it was first discovered, the position of the *radiant point* above mentioned, whether progressive or stationary and of any other facts relating to the meteors.

DENISON OLMSTED.

Yale College, Nov. 12, 1833.

The rain of stars which has excited so much speculation, and, in some quarters, consternation here, extended to Boston on the East and Richmond on the

South of us. The Philadelphia Gazette of Saturday gives us the following account of a similar phenomenon in the year 1799:

An antiquarian friend furnished us yesterday with an extract from the Newburyport Herald, of December, 1799, in which allusion is made to a display of shooting stars, precisely similar to that witnessed a few days since. What is certainly remarkable in this statement, is, that the phenomenon was observed about *the same day of the month*—the 12th of November—just thirty-four years ago. We subjoin the extract from the Herald:

"*Remarkable Phenomena, seen by Capt. Woodman and crew of the brig Nymph.*—On my late passage home from the Island of St. Domingo, being in lat. 29, long. 71, on the 12th of November, 1799, at half past one o'clock in the morning, the weather being very clear and pleasan', the wind to the eastward, the moon near the full, and shining very bright, observed the stars to shoot in great numbers from every part of the compass, and at two o'clock the whole atmosphere appeared to be full of stars; I may say thousands of thousands, shooting and blazing in every direction, in a most extraordinary and alarming manner, and so continued till day light. The day following, the wind came round with the sun, till it got to the northward, and the whole atmosphere was filled with smoke, attended with a strong smell like the burning of wood, and so continued for several days, until I got lat. 35 N. And further, on my arrival at the Vineyard, I met with there several masters of vessels, who were on their passage at the same time, and said that the stars made the same appearance to them on the night above mentioned, though they were then several degrees to the northward of me."

The phenomenon alluded to above, is spoken of in Barritt's Astronomy, as having been seen by Mr. Andrew Ellicott, who was sent out by our Government to fix the boundary between the Spanish possessions in North America and the United States. "I was called up," says Mr. Ellicott, "about three o'clock in the morning to see the shooting stars as it is called. The whole Heavens appeared as if illuminated with sky rockets, which disappeared only by the light of the sun after day break. The Meteors, which at any one instant of time appeared as numerous as the stars, flew in all possible directions except *from* the earth, *towards* which they were all inclined more or less, and some of them descended perpendicularly over the vessel we were in, so that I was in constant expectation of their falling on us."

Humboldt also witnessed the phenomena, at Cumana, South America, at the same time. His description of it is as follows:—

"Towards morning of the 12th November, 1799, a very extraordinary display of luminous meteors was observed in the east by M. Bonpland, who had risen to enjoy the freshness of the air in the gallery. Thousands of fire balls and falling stars succeeded each other during four hours, having a direction from north to south; and filling a space of the sky extending from the true east 30 degrees on either side.—They rose above the horizon at E. N. E. and at E. described arcs of various sizes, and fell towards S. some attaining a height of 40°; and all exceeding 25° or 30°. No trace of clouds was to be seen, and a very slight easterly wind blew in the lower regions of the atmosphere. All the meteors left luminous traces from five to ten degrees in length, the phosphorescence of which lasted seven or eight seconds. The fireballs seemed to explode, but the largest disappeared without scintillation; and many of the falling stars had a very distant nucleus, as large as the disk of Jupiter, from which sparks were emitted. The light occasioned by them was white,—an effect which must be attributed to the absence of vapors; stars of the first magnitude having within the tropics, a much paler hue at their rising than in Europe.

As the inhabitants of Cumana leave their houses before four, to attend the first morning mass, most of them were witnesses of this phenomenon, which gradually ceased soon after, although some were still perceived a quarter of an hour before sunrise.

The day of the 12th November was exceedingly hot, and in the evening the reddish vapour reappeared in the horizon, and rose to the height of 14°. This was the last time it was seen that year.

The researches of M. Chladni having directed the attention of the scientific world to fireballs and falling stars at the period of Humboldt's departure from home, he did not fail to inquire during his journey from Caraccas to the Rio Negro, whether the meteors of the 12th November had been seen. He found that it had been observed by various individuals in places very remote from each other; and on returning to Europe was astonished to find that they had been seen there also.

It is now about three years and a half since the travelling on the Baltimore and Ohio Rail Road was commenced, and more than three hundred thousand passengers have since travelled on it without, it is said, a single instance of serious injury, to life or limb, having occurred to any one of them.

Veto Miseries.—The navigation is so badly obstructed that neither Steamboats nor other Vessels can pass the Overslaugh. The Steamboats Erie, De Witt Clinton, Constitution, and Sandusky, with several Tow-Boats, and a fleet of Schooners and Sloops are now aground. The consequence is, that an immense amount of property is embargoed just as the cold weather threatens to close the Canals! * * * * As Congress is about to meet, this question should be urged upon its immediate attention. The navigation of the Hudson River must be improved, or Albany becomes a deserted city.—[Alb. Eve. Jour. of Wednesday.]

Railroad Accident.—A slight fall of snow, early on Tuesday morning made the tracks of the Railroad in State st. so slippery, that the brake was entirely useless, in holding back the first car, which came over the road, down the hill towards the car-house. The door being shut, one of the horses attached to the leading car, wrs seriously crushed, and subsequently died. Some sand sprinkled on the ice, which covered the rails, obviated the difficulty.—[Albany Daily Advertiser.]

The Cincinnati Advertiser gives the following particulars of the loss of the steamboat *New Brunswick*, on her passage from New Orleans to St. Louis:—

She took fire among some chairs on deck, that were matted, while the passengers were at dinner, which had burnt into the ladies' cabin before it was discovered. The boat was immediately run on shore, from the apprehension she would blow up, the alarm of powder being on board having been spread among the passengers; the passengers and crew had scarcely got on shore, when she blew up, and is a total loss, vessel and cargo, with passengers' baggage. No lives lost.

A numerous body of Operative Mechanics met last Monday at the North American Coffee House for the purpose of petitioning the Legislature to abolish the practice of employing convicts in the various branches of manufacturing, and mechanics; several resolutions were passed unanimously, and a Committee of twenty-five appointed with power to add to their number to take such measures as they shall deem most expedient to further the wishes of the meeting.

New Quarterly Review.—We have before us the Prospectus of the *United States Quarterly Review*, to be published in Philadelphia, by A. Waldie, under the charge, as editor, of Prof. *Vethake*, late of the University in this city.

The land is full of portents which we take not upon us to read or interpret. In addition to the accounts of hurricanes and falling stars heretofore published, we have in the annexed extract of a letter from the vicinity of Hudson in this State, the notice of another very unusual occurrence:

"Woodburn, near Hudson, Nov. 15.

"A singular occurrence took place on my farm some days ago, which has excited a good deal of speculation among all who have since visited the spot. A beautiful and well grown little wood which you remember on the left of the road as you approach the house, containing about an acre and a half, suddenly sunk down about thirty feet, most part of it perpendicularly; so that where not long since the roots of the trees were to all appearance firmly imbedded, the topmost branches now peep out. The wood is bounded by the creek, of which the sides and bottom are blue clay. The land near the bank, from some unexplained cause, seems to have given way all at once, and slid into the creek; which, by the mass thrown into it, is so filled up, that from its previous width of fifty feet, with an occasional depth of twenty, it is reduced to a little rill, which one might easily jump across. A strip of land adjoining the road of about thirty feet wide and of considerable length, has sunk straight down, so that where the surface was before level, there is now a perpendicular bank of thirty feet. The spectacle altogether is most curious, but, as you may imagine, presents no great improvement to the appearance of my farm."

Mobile, Nov. 4.—*Important.*—We are indebted to the Marshal of this District for the following extract of a letter of instructions to the Secretary of War, under date of the 19th of Oct. We hasten to lay it before our readers:—

"A commission has been instituted which will proceed immediately to the location of the Creek lands. They have been directed to lose no time in the performance of this service, in order that the Indians may be removed upon their own reservations, and the necessity of your action in the affair, obviated at as early a day as possible.

"They will probably commence their labors at Fort Mitchell by the 1st of November."

Great Fall, New Hampshire, 16th Nov.—*Hurricane.*—On Saturday night last, about 11 o'clock, we were visited by a hurricane from the north west, which lasted about thirty minutes, and for the time was uncommonly severe and threatening. Many houses rocked and shook to an alarming degree, and we learn that several chimnies were blown down in Dover; in one case the bricks broke through the roof and some of them fell on a bed on which a person lodged, who fortunately escaped unhurt. We also learn that considerable damage was done to fences, &c. in the vicinity lying in the range of the storm. The Boston papers speak of it as being violent in that quarter. Some damage was sustained in Cambridgeport and other places adjacent, and had it coutinued any considerable time, would have terminated in an extensive and serious catastrophe. The N. W. corner of Rev. Mr. Gannet's meetinghouse was blown entirely clear of the building, and the joists and rafters carried by the hurricane 300 feet distant.

Important from Mexico.—A passenger in the brig Spark, communicates to us the subjoined intelligence:—

An estafette that left Mexico on the 10th ult. arrived at Vera Cruz on the 12th, and brought official information of the total defeat of the insurgents. The principal points of Guanajuato were taken by the government troops, and the commandant of the station offered to capitulate, in order to save the horrors of an assault. The Vera Cruz Journal of the 12th, contains his correspondence with Santa Anna upon the subject.

The traitor Escalado has been unanimously condemned to death, and was to have been hung on the 12th, in the capital.

Mr. Tadeo Ortiz, former Mexican consul at Bordeaux, died of cholera on board thn Spark, during the voyage. He had obtained a concession from his government authorizing the colonizing of strangers upon the banks of the Rio Brassos.—[New Orleans Bee.]

From St. Vincents.—By the Br. brig Jabez the Editors of the New York Daily Advertiser have received files of papers to the 24th Oct. They are filled with the proceedings in the House of Assembly on the subject of the act for abolishing slavery. A solemn Protest against the British act of Parliament had been brought in and adopted; in which they state that the course pursued by the mother country is most fatal to the interests of the Planters, and ruinous to the Island; that the compensation to be allowed is not one tenth the value of the property, &c., and reserve the right of demanding a further compensation. The Council refused to act on the Protest. The Assembly, in transmitting the Protest to the Lieut. Governor, says:—

"We assure your Excellency that, notwithstanding this precautionary mode of proceeding, there is a determination on the part of the Assembly to give their best support to such plans as may, from time to time, be proposed by the supreme Government at home to carry into effect the abolition of slavery in this Colony, and to lay the foundation of future industry and prosperity; without, however, incurring, in the remotest degree, any portion of the great and fearful responsibility of a measure, which will introduce such hazardous changes into the various relations of society.

"I have the honor to be, your Excellency's most obedient, and humble servant.

(Signed) J. P. Ross, *Speaker.*

His Excellency the Lieutenant Governor."

The Proclamation of the King is published, wherein all slaves are to be apprenticed to their masters on the 1st August, 1834, and on the 1st August, 1840, they are to be for ever free. As might be expected, this Proclamation caused the greatest excitement. The Journals, however, admit that they have no power to resist; that they are weak and feeble; and that they have no other course left but to submit, and carry their complaints to the foot of the throne.

[*From "Memoirs of the Court of King Charles I."*]

On the 27th the trial was resumed, when, the court being called, sixty-eight members besides the president answered to their names. "As the king comes in, a cry made in the hall for execution, justice, execution." The king pressing repeatedly to be heard, was told that he must first hear the court; and the president, in a prepared speech, set forth the conduct of the king in contumaciously refusing to answer his charge and denying the jurisdiction of the court, and when overruled in that, still "refusing to submit or answer;" wherefore the court, that they might not be wanting in the trust reposed in them, "nor that any man's wilfullness prevent justice," had taken into consideration the contumacy, and "the confession that in law doth arise upon that contumacy;" also the notoriety of the facts charged upon the prisoner, —and on the whole had considered and agreed upon a sentence. But, as he desired to be first heard, the court did consent to hear him, warning him before of "that he had been minded of at other courts," that he would not be heard against their jurisdiction. "You have offered it," added the president, "formerly, and you have indeed struck at the root, that is, the power and the supreme authority of the commons of England, which this court will not admit a debate of, and which indeed is an irrational thing for them to do, being a court that acts upon authority derived from them, that they should presume to judge upon their superior, from whom there is no appeal." If the king had any thing to say in defence of himself, in respect of the matter charged, it was announced that the court would hear him.

Charles said, in answer, that if he had not thought more of the peace of the kingdom and of the liberty of the subject than his own life, he should have made a defence, by which he might at least have delayed "an ugly sentence," now, he believed, ready to pass upon him; that now, as "a hasty sentence once passed may sooner be repented than recalled," he desired that before the sentence, he might be heard in the Painted Chamber before the two houses of Parliament. The delay could not hurt, and "therefore," he said, "I do conjure you, as you love that you pretend, I hope it is real, the liberty of the subject and the peace of the kingdom," to take it into consideration. The president answered, that this was in effect but a further declining of the jurisdiction of the court, which he had been limited in before. This the king endeavored to deny. "Sir," said the president, "you say you do not decline the jurisdiction of the court?" "Not," warily replied the king, "in this that I have said."

The president rejoined, that it was in fact a motion both for delay and a coordinate jurisdiction, which this court, now prepared to give sentence, was not obliged to grant; yet the commissioners would retire for half an hour and consider of it.

It was, however, a request which evidently could not safely be conceded by a court erected by an ordinance of the house of commons not only without the concurrence, but in defiance of the dissent of, the house of lords; and on the return of the commissioners, the prisoner was informed that his proposition was inadmissible; that he had too long delayed the court by his contempt and default, and they were unanimously resolved to proceed "to punishment and to judgment."

The king persisted for some time in reiterating his proposition, but was at length put to silence. The president then addressed him in a speech designed to prove to him his own guilt, and the rightfulness and justice of the sentence. He told the king that it plainly appeared he had held very erroneous principles; "for, sir, you have been nowise subject to the law, or that the law had not been your superior. Sir, the court is very well sensible of it, and I hope so are all the understanding people of England, that the law is your superior, that you ought to have ruled according to the law. . . . I know very well that your pretence hath been that you have done so; but, sir, the difference hath been, who shall be the expositors of this law; whether you and your party out of the courts of justice shall take upon them to expound the law, or the courts of justice, who are the expounders;—nay, the sovereign and high court of justice, the parliament of England, that are not only the highest expounders, but the sole makers of the law. Sir, for you to set your single judgment and those that adhere unto you, against the high courts of justice, that is not law. As the law is your superior, so truly, sir, there is something superior to the law, and that is, the people of England. For as they are those that at the first did choose to themselves this form of government, even for justice' sake, that justice might be administered, that peace might be preserved; so, sir, they gave the laws to their governors according to which they should govern; and if these laws should have proved inconvenient, or prejudicial to the public, they had a power in them, and reserved to themselves to alter them as they shall see cause. . . . . The end of having kings or any other form of government, is for the enjoyment of justice. Now, sir, if so be that the king will go contrary to the end of his government, he must understand that he is but an officer in trust, and he ought to discharge that trust, and they are to take order for the animadversion and punishment of such an offending governor. This is not law of yesterday, sir, since the time of the division betwixt you and your people, but it is law of old. And we know very well the authorities that do tell us what the law was in that point upon the election of kings, upon the oath that they took unto their people. And if they did not observe it, there were those things called parliaments; the parliaments were they that were to adjudge (the very words of the authority,) the plaints and wrong done of the king and queen, or their children; such wrongs especially when the people could have nowhere else any remedy. That hath been the people's of England's case; they could not have their remedy any where but in parliament.

"Sir, I speak these things the rather to you, because you were pleased to let fall the other day, that you thought you had as much law as most gentlemen in England. It is very well, sir, and truly it is very fit for the gentlemen of England to understand that law under which they must be governed. And then the Scripture says, 'They that know their master's will and do it not'—What follows? The law is your master, and the acts of parliament." After some remarks on the dignity and antiquity of parliaments, and reproaches against the king on account of his plots for "crushing and confounding" that great bulwark of the people's liberties, which God had been pleased to confound, and to bring him into custody, "that he might be responsible to justice," the president adverted to another topic. "Sir, we know very well, that it is a question much on your side pressed, by what precedent we shall proceed. Truly, sir, for precedents, I shall not upon this occasion institute any long discourse; but it is no new thing to cite precedents of almost all nations where the people, when power hath been in their hands, have made bold to call their kings to account, and where the change of government hath been upon occasion of the tyranny and misgovernment of those that have been placed over them." And he proceeded slightly to recall many examples, several foreign, a considerable number Scottish, some English. Having then asserted the existence of a contract, or bargain, between king and people, and mutual obligations, he thus proceeded to comment upon the delinqueneies of the king. "Sir, that we are now upon, by the command of the highest court, hath been and is, to try and judge you for these great offences of yours. Sir, the charge hath called you tyrant, traitor, a murderer and a public enemy to the commonwealth of England. Sir, it had been well if any of these terms might rightly and justly have been spared; if any one of them all." The king uttered an interjection of surprize and indignation. The president then affirmed him a *tyrant* from the arbitrary government he had sought to establish; a *traitor*, as guilty of breach of trust towards his *superior*, the kingdom. "And therefore, sir," he added, "for this breach of trust when you are called to account, your are called to account by your superiors."—A *murderer*, because all the bloody murders acted or committed in the late wars were to be laid to his charge. After which he thus wound up the whole proceeding: "Sir, all that I shall say before the reading of your sentence, it is but this: The court does heartily desire you will seriously think of those evils that you stand guilty of. Sir, you said to us the other day, you wished us to have God before our eyes; truly, sir, I hope all of us have so; that God that we know is a king of kings and lord of lords,—that God with whom there is no respect of persons,—that God that is the avenger of innocent blood. We have that God before us that does bestow a curse upon them that withhold their hands from shedding of blood; which is in the case of guilty malefactors, and that do deserve death: That God we have before our eyes. And, were it not that the consequence of our duty hath called us to this place and this employment, sir, you should have had no appearence of a court here; but, sir, we must prefer the discharge of our duty unto God and unto the kingdom before any other respect whatsoever; and although at this time many of us, if not all of us, are severely threatened by some of your party what they intend to do, we do here declare that we shall not decline or forbear the doing of our duty in the administration of justice even to you, according to the merit of your offence, although God should permit these men to effect all that bloody design in hand against us." He concluded by urging the example of David's repentance on the king's imitation.

King. "I would desire only one word before you give sentence; and that is, that you would hear me concerning these great imputations that you have laid to my charge."—*President.* "Sir, you must give me now leave to go on, for I am not far from your sentence, and your time is past." Again the king pressed to speak, but was again reminded that he had not owned the court, and "too much liberty and delay had been given him already," and a fresh exhortation to repentance was bestowed upon him. The sentence was now read, and the president affirmed it for "the sentence, judgment, and resolution of the whole court," all the members of which stood up as assenting to it.—*King.* "Will you hear me a word, sir?"—*President.* "Sir, you are not to be heard after your sentence. No, by your favor, sir. Guard, withdraw your prisoner." The king again attempted to speak, but being again intterrupted, said, "*I* am not suffered to speak; expect what justice other people will have." The court dispersed.

Thus concluded the most memorable, and in all its circumstances the most unprecedented, judicial proceeding on record. It is exceedingly remarkable that no legal advisers were assigned to the king by the court, and that he made no application for such assistance either before or during the trial. We may perhaps infer, that his resolution was fixed from the beginning to make no acknowledgment of the authority of a court so irregularly constituted in every possible respect, and consequently no defence. By this determination he consulted the interest of his reputation for dignity and consistency, and certainly without sacrificing any chances of acquittal. In the preliminary admission that the source of all power is in the people, and the kingly office a trust of which they are entitled to require an account, he would have pronounced his own sentence of condemnation; for the facts charged were of such a nature as to admit of no denial. In his appeal to the two houses alone there was some compromise of his great principle of irresponsibility. It has been supposed that it was his intention to have abdicated in favor of his son; but as he failed to take any other means of making known that purpose, it is probable that the conjecture is erroneous; and that the design of his appeal was no other than to improve to his advantage the dissension already subsisting between the lords and that packed assembly which called itself the house of commons. Delay might still have afforded scope to some efforts in his favor,—so at least his strange faculty of hoping what he desired may have persuaded him. Yet from what quarter should they arise? No domestic party, it was plain, could attempt his release from the iron grasp of armed force which held him; and with respect to foreign aid, it was now his turn to repeat with Strafford in despair, "Put not your trust in princes!" The potentates of Europe, even those most nearly connected by blood or alliance, viewed his fate with silent apathy. No ambassador from any power or state was sent to intercede in his behalf, excepting one from the United Provinces, commissioned by desire of the prince of Wales, who was not heard till the day before the execution of the king's sentence, when he proved himself but a "cold solicitor."

The prince performed the idle ceremony of sending to the parliament a signed *carte blanche* as ransom for his father's life. Henrietta had previously caused a letter to be delivered by the French ambassador to the Speaker, in which she desired that the house of commons would grant her a pass to come to England that she might use her influence with the king to grant all that they desired, or that at least she might attend upon him in his extremity. But the house would not suffer the letter to be read.

Now first perceiving his death to be inevitable and imminent, Charles commenced his preparations for the event with dignity and composure. Having obtained the attendance of bishop Juxon, he passed the greater part of his last days in the offices of devotion. He declined the offered visit of his nephew the elector of Palatine; but requested that his two children remaining in England, the princess Elizabeth, then in her thirteenth year, and the duke of Gloucester, in his ninth, might be brought to take a last farewell of their father. The sorrowful parting, and especially the bitter tears and lamentations of the young princess, moved "those to pity that formerly were hard-hearted." Together with his prayers and blessings, the father distributed to them a few jewels —all the wealth that was now left him to bestow upon his children.

On the last night, colonel Hacker, who commanded the guard, "would have placed two musqueteers in the king's bedchamber, which his majesty being

acquainted with, he made no reply, only gave a sigh;" but by the entreaties of bishop Juxon and of Herbert he was induced to reverse this unfeeling order.

Charles had lodged at St. James's for two or three nights, whilst the scaffold was preparing in front of Whitehall. On the fatal morning, about ten o'clock, the king was conducted through the garden of the palace and the park to the spot. In the park several companies of foot soldiers were drawn up, with drums beating and colors flying, who formed a line for the king to pass, and his immediate guard of halberdiers attended him, with some of his own gentlemen before, and some behind, walking bareheaded. Juxon went on the right hand of the king, and colonel Tomlinson, to whose custody he was now confided; on the left, the king conversing with him as they went. On arriving at Whitehall, his majesty passed along the galleries to his own bed chamber, where after a little repose the bishop went to prayer; and this being concluded, the king partook of a little bread and wine. Soon after, Hacker came to the chamber door and gave his last signal; on which the bishop and Herbert weeping, fell on their knees, and the king gave them his hands to kiss. He was conducted with the same attendance as before, through the galleries into the banqueting house, and thence, by a passage broken in the wall, upon the scaffold. As he passed along, with a cheerful countennnce, many, both men and women, crowded in to gaze upon him, and he could hear them praying for him, "the soldiers not rebuking any of them; by their silence and dejected faces seeming afflicted rather than insulting." Having first looked earnestly at the block, and asked if there were no higher one, the king prepared to speak, addressing himself chiefly to colonel Tomlinson, who stood by his side, aware, as he said, that he should "be heard of few." His speech was an attempted vindication of his political conduct, in which he thought proper to call to witness that God before whom he must shortly appear, that he "never did intend to encroach upon the privileges" of the two-houses of parliament," but that they "began upon" him by laying claim to the militia. He also said, that an unjust sentence which he had suffered to take effect, was now punished by an unjust sentence upon himself. He asserted that he was as much a friend to the liberty and freedom of the people as any one, but that these consisted in having government, and those laws by which their lives and goods might be most their own. To have a share in the government was "nothing pertaining to them, a sovereign and a subject being clean different things." At the suggestion of the bishop, he made a declaration of his adherence to the Church of England as it had been left to him by his father; and thus concluded: "I have a good cause, I have a gracious God, and I will say no more."

He then laid down his head upon the block, and after a few moments spent in prayer, he gave the signal by streaching forth his hands, and it was severed at a single blow. At that awful moment, all other sentiments were lost in grief and horror, and "a dismal universal groan" burst forth from the congregated thousands.

French Colony in Africa.—Boujeiah, the place against which the French expedition from Toulon is directed, lies about half way between Algiers and Constantine, and close to it is the mouth of the Zowah, the most considerable river of the Regency, and upon which is situated the city of Constantine. The harbor is very spacious, much larger than that of Algiers, but not so secure. The Spaniards landed here in the beginning of the sixteenth century. During the minority of Charles I, of Spain, under the regency of Don Ferdinand of Arragon, Cardinal Ximenes, in the year 1509, obtained permission to undertake the conquest of Oran, then a flourishing place, and a kind of republic, under the protection of the Bey of Tremessn, and which, if conquered, was to remain to the Cardinal and his successors in the sea of Tolodo, till the Regent should repay the charge of the expedition, as the Cardinal furnished everything except the transports. Having equipped an armament consisting of 10,000 infantry and 4,000 horse, and taking as second in command Count Pedro Navarro, the Cardinal set sail, and landed at Boujeiah. Disembarking all the infantry and 2,000 horse, he ordered the vessel with the rest of the cavalry, to sail direct for Oran. The Moors not conceiving that any of the force had been sent around, went out and gave the Spaniards battle; but after gallantly defending themselves, seeing the Christain flag flying on the walls of their city, they gave way, and were soon dispersed and cut to pieces. Cardinal Ximenes then returned to Alcala, where he was founding an university, leaving the command of the whole to Don Pedro Navarro, who, assuming the title of General of the forces, conquered the kingdom of Boujeiah, and forced the Beys of Tunis and Tremesan to become tributaries, as also the city of Algiers, until, passing his conquests too far, he suffered a defeat, and in 1510 was routed before Tripoli, when he lost several thousand of his best men. The Regent of Spain, however, being determined to carry on the war, declared he would go in person, and ordered vast preparations to be made throughout the kingdom. This had its desired effect of intimidating, for without striking another blow, it brought the Moors to submission, obliged them to restore all the Christian slaves, to become his vassals, and to pay him annually large tributary sums.

Oran was kept in possession by the Spaniards till 1708, when it was retaken; they, however, became masters of it again in 1732. In 1790 nearly the whole of the city was destroyed by an earthquake, when 2,000 persons perished; since which the Spaniards have evacuated it, and it is now in the occupation of the French.

Charles the First of Spain, with Don Lewis of Portugal, having together 140 ships of war and gallies, and 260 vessels of smaller size, also landed at Boujeiah in 1534, when they took the fortress of Goletta, the greatest naval and military deposit belonging to the Bey of Tunis, which the Spaniards retained till 1574, when Selim the Second took it from them.

In June last the French forces in Algiers amounted to 17,000 men, 4,000 forming the garrison of that place, conjointly with the 5,000 National Guards, and the remaining 13,000 were quartered in the different forts and advanced posts; and the present expedition preparing for Boujeiah will make, it is said, an addition of 4,000 more. All the officers to be employed on the occasion have been furnished with a map of the town of Boujeiah and its environs.

Geography of Mars.—In this planet we discern, with perfect distinctness, the outlines of what may be continents and seas. Of these, the former are distinguished by that ruddy colour which characterizes the light of this planet (which always appears red and fiery) and indicates, no doubt, an ochrey tinge in the general soil, like what the red sandstone districts on the Earth may possibly offer to the inhabitants of Mars, only more decided. Contrasted with this (by a general law in optics) the seas, as we may call them, appear greenish. These spots, however, are not always to be seen equally distinct, though, when seen, they offer always the same appearance. This may arise from the planet not being entirely destitute of atmosphere and clouds; and what adds greatly to the probability of this is the appearance of brilliant white spots at its poles, which have been conjectured with a great deal of probability to be snow; as they disappear when they have been long exposed to the sun, and are greatest when just emerging from the long night of their polar winter. By watching the spots during a whole night, and on successive nights, it is found that Mars has a rotation on an axis in a period of 24h. 36m. 21s. in the same direction as the Earth's, or from west to east.—[Sir J. Herschel on Astronomy.—Cabinet Cyclopædia.]

Archery.—In the "United Service Journal" we find the following account of archery as it *was;* which is curious, and seems to us to exhibit the *beau ideal* of the art and mystery, rather than any thing upon which one could strictly rely as facts, however supported by historical authority. It says:—

"The test of good archery with Edward VI. was that a hundred of his youth, in rank, should send, at one discharge, their hundred shafts clear through an inch board of heart of oak, at the distance of 240 yards. This was the minimum of military archery with youth. It was at the battle of Falkirk, in 1298, that the power of English archery became supreme. Edward I. interspersed his long bowmen among his other troops of every description, and the battle was little less than an unresisting slaughter of the best of the Scottish warriors. At the battle of Flodden Field the Scottish Monarch, enraged at the slaughter of his troops, directed sixty of his brave knights, in Italian armor, to rush on a body of the English archers, and at the first discharge, every knight was killed by an arrow through the body. P. de Comines, speaking of the military power of England, France, and Scotland, lays it down that 'the might of the realm of England standeth on her archery;' and it is curious to trace the excessive fastidiousness and care of our ancestors with respect to it. Edward IV. directed that the long-bow should be made of ewye, wyche hazel, ash, awnrub, or reason tree, but the ewye, (yew) was the preferable wood. The string was to be made of hide, gut, horse hair, woman's hair, hemp, or silk. The bow was directed to be the precise height of the archer, and one of six feet long was the maximum of power. The most anxious care was bestowed on the arrow. Its length was to be exactly half that of the bow. The feathers were not to be plucked from the goose, but were to drop from the bird at between the age of two and three years. Two of the feathers were to be from the gander, whilst the third, always placed uppermost in the act of shooting, was to be dropped by the goose. The arrow was pointed with flint or steel; and the punishment severe if the directions were in any respect violated. It was illegal, and, what was perhaps worse, it was disgraceful, to shoot at a less distance than 200 yards. The longest shot upon record was that of the Lancashire archer, who shot his shaft a mile in three shots. This has been nearly equalled within these few years. A Turkish Ambassador in London discharged an arrow 480 yards, and a Turk at Athens sent his shaft 584 yards, which is only three yards short of the third of a mile. It was a test with our archers to send the cloth yard shaft at 320 yards distance, through an oaken plank, from one to three inches in thickness, and to lodge the arrow in a board placed many yards in the rear."

This is good—we suspect a musket ball fired at 320 yards from a three inch plank, would, if it hit it, be satisfied with staying in it very quietly, and express neither a desire nor an intention of travelling to a board placed many yards in the rear, that day. Sending a shaft 584 yards is a wonderful thing, but sending it 350, with the intervention of a three inch plank, is what we suspect could only be done with a very long bow indeed.

POETRY.

TO MARY—IN ITALY.

And thus all things have comforting
In that, that doth them comfort bring;
Save I, alas! whom neither sun,
Nor aught that God hath wrought and done,
May comfort aught; as though I were
A thing not made for comfort here:
For, being absent from your sight,
Which are my joy and whole delight,
My comfort and my pleasure too,
How can I joy!—how should I do?

Earl of Surrey's Poems.

I WAIT for thy coming
In the sweet-scented eves,
When the birds are humming
In the gloom of the leaves;
And the fountain danceth,
Its path along,
Like a creature that loveth
To speak in song.
The bird and the fountain
Rejoice in their lot;
But my spirit is sad,
For I see thee not.

I wait for thee, love:
On the emerald deep
The sun, like a warrior,
Is sinking to sleep.
I see the leaves shining
Around the dove's nest.
Why doth she sit pining
Alone in her nest?
Her companion returneth
From the cool orange tree;
But thy feet return not—
Return not, to me!

I am weary of listening
To the voice of the breeze,
And the white bird glistening
Among the almond trees;
It leapeth on the boughs,
While its silver wings glow
With the light through the leaves,
As it darts to and fro.
I turn away in tears
From the fountain and tree;
I care not for bird or flower,
If thou comest not to me.

MARRIAGES.

On Sunday evening, by the Rev. Mr. Ludlow, Mr. JONES, to Miss MARGARET ELDERT, daughter of Frederick A. Schaeffer, Esq. all of this city.

On Saturday evening, by the Rev. Dr. Westbrook, Sylvanus Kapelje, Esq. of New York, Deputy U. S. Marshal of the South District of N. Y., to Miss RACHEL ANN, daughter of the late W. R. Van Voorhis, Esq.

On Monday evening, Mr. JONAH NEWTON, formerly of Southborough, Mass. to Mrs. ISABELLA G. STEWART, of Scotland.

At Trinity Church, in New Haven, Conn. on Saturday, 9th inst. by the Rev. Harry Croswell, RICHARD R. CRAWFORD, Esq. of the District of Columbia, to Miss HARRIET A. daughter of W. H Jones, Esq. of the former place

DEATHS.

Yesterday, in the 74th year of her age, ESTHER ROGERS, widow of ARCHIBALD GRACIE.

Friday evening, Nov. 15, Dr. E. L. KNAPP, in the 28th year of his age.

After a lingering illness, JOHN MORRY, Esq. a native of Berkshire, Eng. aged 69.

On the 19th inst. after a lingering illness, in the 32d year of his age, CHARLES U. THERIATT.

On Saturday evening, Mr. WM. A. S. SMITH, painter, aged 32 years, after a long and painful illness.

Last evening, ANN W. wife of George Langdon Storer, in the 39th year of her age.

This morning, of Hæmorrhage of the Lungs, in the 34th year of her age, SUSANNAH MAGDALENE, wife of William Morgan, and daughter of Isaac Coutant, deceased.

In Morristown, New-Jersey, on Monday last, of scarlet fever, Miss PHEBE JOHNSON.

At Millstone, N. J. Nov. 18th, in the 84th year of his age, Capt. ABRAHAM VAN NEST, a soldier of the Revolution.

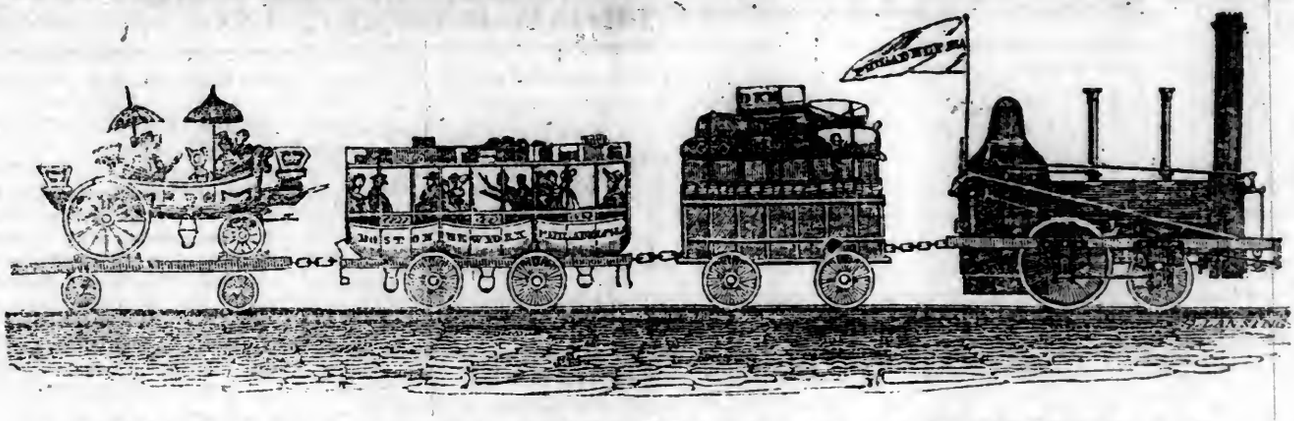
At Bedford Academy, Westchester County, on Thursday, the 14th inst., JOSEPH, eldest son of Joseph Hoxie, of this city, in the 13th year of his age.

At Hudson, on the 12th ult., Mr. JOHN GREENE, late of this city, in the 77th year of age

At Port Gibson, Mississippi, on the 24th ult., of yellow fever, THOMAS B. REED, Esq., Attorney and Counsellor at Law, of Vicksburg, son of the late Thomas B. Reed, of the U. S. Senate, in the 23d year of his age.

At New Orleans, Capt. DAVID WHEATON, of the steamboat Whale.

On the 25th of September, at Southampton, (Eng.) Major PHILIP VAN CORTLANDT, in the 68th year of his age.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, NOVEMBER 30, 1833. [VOLUME II.—No. 48.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, NOVEMBER 30, 1833.

☞ For the Proceedings and Address of the New-York and Erie Railroad Convention, see pages 757 and 760.

COMPARATIVE SAFETY OF TRAVELLING BY STEAMBOATS AND RAILROADS.—It will be recollected by most of our readers that we recently copied from another paper, two paragraphs, one in favor, and the other against the safety of *railroad* travelling, upon which we expressed an opinion that a much greater amount, both of life and property, has been destroyed, *in proportion to the business done*, by steamboat than by railroad accidents; and we have thus far seen nothing to change, but much to *confirm*, the opinion then expressed; indeed, several serious accidents have since occurred, so many indeed, that we were about to collect them together, by way of showing that our opinion upon the subject was not without the most conclusive reasons, when we found the following statement ready made to our hand in the Journal of Commerce. In making this comparison, we would disclaim the idea of a desire to prejudice any person against that delightful and expeditious mode of travelling by water, in steamboats; yet we would at the same time say, that we desire to guard from prejudice that more pleasant and more expeditious mode of travelling by land, which *now* bids fair to increase the comforts, convenience, and wealth of this country, in a ratio equal at least to that of steamboats and canals united; and at the same time endeavor to arouse the genius of our country to the rescue of the *life* and property of those who are, from circumstances, obliged to travel by steamboats and railroads.

We shall be indeed happy if our columns should be the medium of some plan, or invention by which so desirable an object shall be effected. We shall, as heretofore, continue to give, with the necessary drawings, such plans as may be submitted to us by gentlemen who have leisure and experience to devote to it, and therefore shall give in our next number one submitted to us by a gentleman of science, and, as we believe, much reflection on the subject.

STEAMBOAT DISASTERS.—In looking over our file for the last *six weeks*, we find that we have recorded no less than *twelve* steamboat disasters, attended with a loss, in the aggregate, of more than a HUNDRED LIVES! they are as follows:

New England,—	boilers burst,	15 lives lost
St. Martin,	burnt,	30 or 40
Illinois,	boiler burst	13 to 20
Thos. Yeatman,	do	7
Columbia,	sunk,	4
Paul Pry,	boiler burst,	1
	Total,	71 to 88

Geo. Washington, wrecked; Rapid, sunk; Black Hawk, burnt; Peruvian, sunk; Chippewa, sunk.

With the exception of the New England, Geo. Washington, and Paul Pry, all the above boats plied on the western waters. The New England plied between this city and Hartford,—the Geo. Washington and Paul Pry, on the Lakes.

During the former part of the season there was an unusual exemption from accidents of this kind, considering the great number of steamboats (more than 300) constantly afloat in one part of the country or another; but the frequent and appalling disasters which have occurred within the last few weeks, will render the year memorable in quite another manner.

Is there no way to prevent the recurrence of such disasters; or at least, the destruction of so many lives? In the case of boats sinking or burning, except when suddenly blown up, a supply of *cork jackets* would save every life on board. And in case of the bursting of boilers, the safety of *passengers* might, we think, be effectually secured by adopting the mode of construction recommended by Professor Hare, of Philadelphia; i. e. by placing the boilers on the guards, with a strong breast-work of timbers between them and the body of the boat, and only such a thickness of plank outside the boilers as should be sufficient to protect them from the water. The shipping of powder on board steamboats employed for the conveyance of passengers, should be prohibited under the severest penalties; and the smuggling it on board without the consent of the captain, should be punished with death. But our object is not so much to suggest means of preventing such disasters and securing the safety of passengers, as to express a hope that Congress will take up the subject in good earnest at the approaching session, and adopt such measures as the collected wisdom of the nation may devise. We own we should wish, if possible, to avoid legislative interference in such a matter,—but things have come to such a pass, that something must be done, or this expeditious and delightful mode of travelling will lose its attractions. Why is it that English steamboats are so safe to travellers, and American steamboats so unsafe? Why is it that more lives are lost on board American steamboats in one year, than on board English steamboats in ten years! Cannot the difference be partly accounted for by the fact that, in England, very strict regulations are prescribed and enforced by the government in relation to steamboats, and in the United States none! If not, can any man tell how the fact is to be accounted for?—[Journal of Commerce, Nov. 23.]

UNDULATING RAILWAYS.—We find in a Liverpool paper, received by the Roscoe, an account of experiments made by Mr. Badnall upon the Liverpool and Manchester railway, with two locomotive engines and a train of 13 cars, which appear to have made proselytes to the cause amongst some of the eminent engineers of the day. The plan of Mr. Badnall, who, by the by, we understand is an American, (a Yanke , of course,) is exciting, we perceive no small degree of interest. It has brought out one of our most valuable correspondents, whose communication will appear in our next. It is, indeed, a matter of vast importance to this country that the *tryth* of the principle should be settled, and we may also add the *affirmative* of the plan established, as it would, if so established, save a vast amount which will otherwise be expended in excavations, embankments, engines, and circuitous routes, to overcome and avoid elevations and depressions.

May we not hope that some light will be communicated to those so deeply interested in its success through the RAILROAD JOURNAL! A work which, we trust, will not be *hereafter*, however it may heretofore have been, *undulating*, for want of patronage sufficient to defray its *necessary* expenses; that is, of *materials and labor*.

On destroying the Bad Effects of Smoke from Wood, Coal, &c. By WATSON FARRIS. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—I have recently ascertained by experiment on light, heat, &c. that by a very simple constructed furnace, I have succeeded in destroying all the bad effects of smoke raised from wood, coal, or other fuel, and thinking it may be beneficial when applied to steam carriages, I am induced to write to you for information, as my business will not allow me to visit the city of New-York very soon. You will excuse me for addressing you on the subject, as I have not sufficient knowledge of steam carriages, or of the people who are interested in them, to pursue a more proper course; and you will confer a favor on me, whether the improvement is beneficial or not, to give me a letter in answer as soon as convenient. Respectfully, WATSON FARRIS.

Nantucket, 11mo. 15, 1833.

[If our correspondent has accomplished the construction of such a furnace as he describes, he will render an essential service to the world by taking measures to bring his invention into immediate practical operation. If he purposes to secure a patent, we advise him to do it forthwith; and when we can publish a full description of it, with such drawings as may be necessary, without prejudice to his interest, we shall gladly do so, if he will favor us with them.]

Internal Improvements, No. II. By F. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

SIR,—To reflecting minds it is a matter of astonishment how little influence the dissemination of knowledge on this all important topic of interest has exercised in tempering the judgment of speculators; how little effect it has produced in the correction of errors that ignorance alone can palliate; and how little regard it has excited in the present as a warning against the experience of the past. This infatuation, if so it may be termed, in its effects so prejudicial to the true interest of the cause, is mainly ascribable to the spirit of rivalry, but has of late prevailed to such an extent among advocates of different modes of inland communication, and until this spirit be quenched it is much to be feared that examples, however numerous and fatal their consequences may be will continue to pass by unheeded; the same errors will be committed and the same rewards attend the acts of the designing stock-jobber. For it is this misplaced excitement that has caused the minds of men to stray from the path of common sense, and by bias of either one favorite project or another, led them into speculations, and realized blunders and mistakes, which, for absurdity and extravagance, can scarce find a parallel. It is now time that the reign of ignorance should cease, and that intelligence under the guidance of sound judgment should assume the sceptre, to mark out the path and direct our exertions to the development of those riches which nature has so prolifically bestowed on us.

The beneficial effects resulting from a well organized system of internal communications are now generally acknowledged by all classes, and it is therefore only necessary in this place to lay before you an investigation of the different means resorted to for producing those effects; and to point out, in as brief a manner as the nature of the subject will admit, their particular adaptation to the several cases in which they may be applied successfully for that purpose.

It was not until the time of the ancient Romans, that any material improvement was effected in the primitive means of intercourse between distant places. It was then, when extensive military operations demanded additional facilities for the transportation of armies with their necessary accoutrements, that the works known under the name of *Viæ Romanæ* were first introduced. These works are universally characterized by marks of grandeur, permanency and utility, that every succeeding age has admired, and which the havoc of time, during an interval of exceeding two thousand years, has scarce been able to efface. It may not be deemed irrelevant to our subject to occupy a few moments in noticing the *modus operandi* pursued in the construction of these noble monuments of antiquity; which, while serving as a parallel to judge that now adopted by modern nations, may, at the same time, act as a guide to their future improvement. As to durability, we cannot hope to dispute the palm: and our claim to excellence, if any we have, must rest upon improved principles as modified by economy in construction. It must be remembered that the Romans were a warlike nation, despised commerce, and placed their whole reliance for maintenance in their scabbards; and in constructing works of this character, their advantages in a military point of view were alone regarded. If these could be made manifest, no obstacles of a fiscal nature could for a moment militate against their expectation. Men and means were forthwith provided, and the work was soon in a rapid state of progression. But the revolution that has since taken place in the organization of civil society renders the construction of similar works in one day next to impossible; and although we may no longer hope to see the spirit of former times emulated in the present, by the erection of monuments to ennoble our country and to record its genius, we may hand down to posterity such memorials and devices of the present age as the love of gain may suggest for the furtherance of individual interest.

But to return to our subject. These ways were commenced by making a deep excavation of the necessary width. Either side of this excavation was then protected by walls erected for the purpose, and crowned with parapets, to give solidity to the way and to serve at the same time as an elevation for the convenience of those who travelled on foot. The space between the walls was then filled with layers of different materials, cemented together by a mortar made of the volcanic produce called puzzalano. Above these materials, thus formed into a solid bed, they placed the hardest stones that could be procured, constructing their salient angles so as to form a large mass, and cementing them together as before. At certain intervals they placed stones of a greater height than the parapets for the convenience of horsemen. The ways were then ornamented with temples, monuments, and shrubbery; and the distances marked on columns of stone. Some idea may be formed of the time and labor bestowed on these works, when it is remarked that, in the construction of the Appian-way, the hardest quality of stone was used that could be procured, which were smoothed and squared under the hands of the most skilful workmen, and joined together so nicely that the lines could scarcely be traced, and the appearance for miles was that of a single unbroken slab.

It is not contemplated in this place to trace the history of road making through its different gradations down to the present time; indeed, such a narration, independent of its want of interest, would be but a record of blunders founded on erroneous systems and mistaken principles. Telford and McAdam are undoubtedly the individuals of all others the most entitled to commendation for such improvements as now exist in the modern method of construction, and although the former's plan has since entirely given way before that of the latter, it still lays claim to some attention as an improvement on that of his predecessors, and perhaps as a preliminary step to the elucidation of those principles which were afterwards made known by his successor.

His plan consisted in first paving a foundation seven or eight inches in depth with rubble stone, laid in contact with each other on their flat and broadest sides, and paving their sharp points up. On these a covering of clean gravel and very small fragments of stone were laid to the depth of four inches, and rammed into the interstices of the paving until the whole was solidly imbedded in a mass. The road-bed presented by this process was sufficiently solid; but both more expensive and less enduring than that adopted by McAdam; and on a careful examination and comparison of the two methods, it will appear that it was moreover characterized by faults, on the absence of which all the fundamental principles of good road-making depend; and that, without their correction, no road, however faithfully executed, could possibly for any length of time retain its solidity of structure and evenness of surface. This, however, may be better explained after laying down Mr. McAdam's plan.

The stones most generally made use of in constructions after this plan are flint and limestone; the first because of its greater durability, the second because of its greater facility of amalgamation. These stones are to be broken in fragments of not exceeding two inches in thickness either way, and laid on a surface previously prepared for its reception by a covering of gravel to the depth of six inches. This is called the first layer, and is to remain for the space of two months, when a second layer of the same material and four inches in thickness is to succeed; and again, at the expiration of two additional months, a third layer, in all respects similar to the second, finishes the work. Due attention must be observed in the interim to preserve the surface even until the whole body becomes consolidated,—to prevent the introduction of round pebbles which render a complete amalgamation of the angular stones impossible,—and above all, to exclude from the superstructure, earth, clay, and chalk, which being absorbents either hold or conduct water to the soil, and thereby cause its speedy destruction. This system is based on the presupposition that the native soil, when perfectly free from moisture, is capable of sustaining any amount of pressure without yielding. A moment's reflection will convince of this fact, and once admitted as an axiom, it requires no further argument to demonstrate that the solidity of a road bears no proportion to, and is altogether independent of, the thickness of the superstructure, and that its permanency, where the crust has been rendered perfectly impervious to water, depends entirely on the character of the stone used in its construction. It is a misapprehension on this important point that has been at the bottom of all the failures in the attempts at McAdamization made in this country. Stones are broken up in fragments of the requisite size, but sufficient care is not observed in the formation to exclude all such ingredients as can in any way act as conductors or absorbents. The mal-effect of the introduction of such ingredients is almost too obvious to need explanation. The moment that

frost appears, the expansion, by congelation of the water absorbed, displaces the materials of which the road is composed, and thereby furnishes a passage to the soil for the deposite of under water. Directly this effect is produced the soil is effected, gives way, and deprives the crust of its natural support, when, as a consequence, it must necessarily go to ruin. The same effect is apparent in Telford's plan, by the introduction of *pebbles* in the superstructure; and the Romans, though guarding against it by the nicest workmanship, were evidently ignorant of the fundamental principle, that the native soil must sustain the whole pressure of the superincumbent weight.

The time that should elapse between the deposition of the different layers of the road is, of course, dependent on, and varies with, the amount of travel upon it. The principal care should be in a due observance that the surface of each distinct layer be preserved in a uniform state of smoothness, and that the layer be fairly consolidated before it is charged with the superincumbent covering.

A rigid adherence to these instructions cannot fail in producing a road of the greatest durability and uniformity of surface; and it is matter of no little surprize and vexation to us, that, notwithstanding the plain and simple manner in which McAdam has laid down and elucidated the principles of his system, and the particular directions which he has furnished for carrying them into execution, men should be found so pertinaciously bent on pursuing their own crude notions as to disregard them *in toto*, and in violation of all common sense and experience, to multiply absurdities that the merest tyro might detect.

It is reasonable to ascribe the commission of these absurdities to the ignorance of superintendants; but if not, they must emanate from a less venial source: and in either case it is high time that such measures be taken as will place the construction of roads hereafter in more competent hands, so as to insure to the public, at least, a more satisfactory expenditure of their money, than, we regret to add, it has been their fate yet to acknowledge. The faults in Telford's plan have been fairly pointed out and explained—why not correct them! McAdam's system has been experimentally proved to be the best, whether it be regarded as to quality, durability, or economy in construction—then why not adopt it?

We might enlarge this subject to a much greater extent, and numerous examples might be adduced in corroboration of what is stated above concerning the inefficiency of persons engaged in the construction of public roads; but this Journal is already so rich in materials of this description that it would be superfluous to add any thing further here, and we therefore take our leave in recommending the numbers alluded to to the careful perusal of all persons interested in the subject, with an assurance that their time will be fully compensated.

F.

New-York, Nov. 23, 1833.

On Objections to the Received Theory of Rain. By U. A. B. [For the American Railroad Journal and Advotate of Internal Improvements.]

An article in the 44th number of the Railroad Journal, entitled "Objections to the Received Theory of Rain," taken from Field's Naturalist's Magazine, contains some sentiments that are not perfectly accurate. As you are desirous of correcting all errors, more especially such as have appeared in your publications, I send you a short comment upon that article.

The author expresses the theory which he objects to in the following words: "It is the received opinion that rain is caused by the heat of the sun's rays raising water in a state of vapor into the higher regions of the atmosphere, and, being there condensed by the cold, descends again, and thus forms rain." It has always been admitted that water sometimes rises in the atmosphere in the state of vapor, in the absence of the sun's rays, though not often in large quantities. Aqueous vapor is condensed into snow or drops of water, in the lower as well as in the higher regions of the atmosphere, when the quantity of vapor is great and the temperature reduced sufficiently. The first objection there offered is as follows: "That water requires a heat equal to sixty degrees of Fahrenheit's thermometer, to raise it into vapor, according to the commonly received opinion, when experience proves that we have the most rain when it stands below temperate, which is 55 degrees; for instance, the snow in frost and the rain after." Aqueous vapor exists in the atmosphere at all temperatures, though the warmer the air is the larger quantity can be suspended in it. It was formerly supposed that the atmospheric air had an affinity for water, and that this affinity of the air for water increased in such a ratio, that, as the temperature of the air increased in an arithmetical progression, the quantity of water which the air could hold in solution increased nearly in a geometrical progression. But the experiments on this subject made by Dalton, Clement, and some other modern philosophers, have convinced most people who have attended to the subject, that the watery vapor which exists in the atmosphere, is not chemically combined with it, but that it is a gas which supports its own weight independently of the atmospheric air; and that the same space could contain no more of this vapor if the atmospheric air did not exist; that is, when a vessel is exhausted of the air, it will hold no more vapor than when filled with air. But I have reasons to believe that the aqueous vapor is not totally independent of the atmosphere; that, at least, some of it is chemically combined with the air, and that it meets with some difficulty in passing through it. The space which the particles of air or vapor occupy is very small, compared with the interstices or spaces between the particles. The elastic force of this vapor, and consequently the quantity of water which can be suspended in the air, increases as the temperature increases. At the temperature of 55°, its elastic force is sufficient to support a column of water 6·01 inches high; if a greater pressure than this be applied to the vapor, it will be condensed into water; hence, when the temperature of the air is at 55°, which is the same as that of the vapor which exists in it, it may support a quantity of vapor which is equal to a sheet of water 6·01 inches in thickness; if the quantity of vapor over any part of the earth's surface exceeds this, while its temperature is at 55°, it will be condensed into water. The wind, by agitating the vapor, may produce a rather greater, or rather less pressure on it than the weight of its superior part; hence the quantity of vapor, which may be sustained in the atmosphere, may be a little different from that above assigned. At the above mentioned temperature and pressure, the weight of a cubic foot of vapor, or the quantity contained in a cubic foot of air is 5 1-1000 grains. As the temperature of the vapor diminishes in an arithmetical progression, its elastic force diminishes nearly in a geometrical progression; so that at zero its elastic force is sufficient to support only a weight of vapor equal to a sheet of water 0·83 inches thick. When the pressure on any place is greater than the elasticity which corresponds to its temperature, it condenses into drops of water. When the temperature of water is higher than the temperature which corresponds to the pressure on it, produced by the incumbent vapor, the water evaporates.

Several theories of the condensation of vapor into drops of water have been advanced, but they have been strongly opposed. The causes assigned seem hardly adequate to the production of as large quantities of rain as frequently happens. I will therefore state what I suppose to be the greatest cause of the sudden condensation of aqueous vapor. There is much proof, which it is not necessary to detail here, that the aqueous vapor which exists in the air does not always move at the same velocity with the air, or even in the same direction; hence the vapor, by passing into cold air, is condensed into rain. The assertion that there is more rain (including snow) in cold, than in warm weather, seems to be at variance with known facts; though perhaps it may be true as applied to some particular places. According to the experiments of Mr. Hoyle and Mr. Dalton, made during three successive years, the mean quantity of rain in the three winter months, was equal to a sheet of water 7·46 inches in depth; and the mean quantity during the three summer months, was 10·18 inches.

His second, third, and fourth objections need no further consideration than I have already given in treating his first.

His fifth objection is as follows: "There is no vapor arises from the water when the sun has the most influence; for, place a looking-glass over a river, when the sun shines with its meridian force, and it will not so much as dim it; but when the sun is gone down, the vapor rises so as to be visible." During the hottest days, the rivers and ponds are much cooler than the air or any small body which has been exposed to the rays of the sun, at a little distance from the earth or water. It should not be supposed that the vapor would be condensed on any thing which is warmer than that from which it had just arisen. I suppose that the fact that water evaporates faster during the heat of the day, than in the night, was too obvious to be questioned. It requires a long time for large bodies of water to warm or cool, therefore the water, especially in the fall, is usually warmer during the night than the air; for this reason, the vapor which rises during the night frequently condenses so as to produce fogs near the water. It sometimes happens that fog is produced by warm damp airs passing over cold water; this fog *seems* to arise from the water, though it does not. In the spring, when the air is very warm and damp, in its passing over something which will absorb the heat rapidly, as a pond, or a bank of snow, which is more effectual, the vapor is condensed into fog, which has very much the appearance of arising from the snow or water.

His sixth and last objection is this: "If the old theory be true, there would always be the most rain in the tropics, where the sun is vertical, which is not the fact." Evaporation is generally much more rapid in warm than in cold climates; but much of the water which rises in the state of vapor in warm climates is carried to colder regions, where it descends as rain. But there is generally a larger quantity of rain in warm than in cold

climates. According to the observations of M. de Costanzo, the quantity of rain which falls annually at Vera Cruz, in latitude 19° 12′, is 62½ inches. According to Dr. Young, the quantity of rain which falls at Charleston, S. C., in latitude 32° 40′, is 50 9-10 inches. The usual quantity of rain which falls at Perth, in latitude 56° 723′, is about 21½ inches. In places where the temperature is nearly uniform, a quantity of vapor is produced as great as the temperature can sustain, when evaporation would cease if the vapor were not transported to some other region. In climates subject to great changes of temperature, a sudden diminution of temperature in some part of the atmosphere, will produce a copious rain if that part of the atmosphere be damp, which by diminishing the quantity of vapor, will cause evaporation to go on rapidly. In England, where the temperature of the air is not subject to such great changes as in the United States, the air is usually damp, evaporation is slow, and the quantity of rain less than in most parts of the United States. U. A. B.

Lowell, Nov. 12, 1833.

On the Southern Termination of the Boston and Providence Railroad. [For the American Railroad Journal.]

Mr. Editor—Respecting the southern termination of the Boston and Providence Railroad, you copied an article in the Journal of Nov. 2, from the Boston Daily Advertiser, by "A Boston Stockholder," in reply to some remarks in your Journal of October 12; and as the writer does not comprehend my views, I will make an extract from that communication in order more fully to explain them, viz.:

"It is suggested that this road may terminate in Massachusetts, opposite Providence, and may be connected with the Stonington road by a ferry below the city of Providence. By this mode the trade of Providence would not only be greatly inconvenienced, but the travel and transportation to New-York, via Stonington, would be, in a great degree, impaired. Not only would the distance be increased considerably, but the ferry would be an insurmountable obstacle at some seasons of the year, and an objection at all seasons. If the Rhode-Island Company are not permitted to enter the Boston and Providence road on equitable and reciprocal terms, will not some other mode be discovered to continue the Stonington road to Boston, to accommodate the city of Providence and the New-York travel! Some persons may not think so, but I have no doubt there will, from what information I can collect; and I would ask the Directors of the Boston and Providence Company to pause before it is too late, and prevent the consequent evils that must ensue to the stockholders, if there is not a mutual good understanding. There is a harmony of interest between the several companies which demands of each that it promote the interest of the other."

The writer, "A Boston Stockholder," in answer says, "There are always two sides to every story." That is true; there always is a right and a wrong side. He thinks "the writer has hastily entered his protest against locating the southern terminus in Massachusetts." On review, he will find that he has not read correctly (perhaps he has read "*hastily*;") that I do not protest against the termination of the road in Massachusetts: and were it not for this erroneous construction, his remarks generally would appear to be, as they in fact are, inapplicable to the main position taken in mine of Oct. 12—that of locating the road to accommodate the city of Providence, the public generally, and the New-York travel and transportation via Stonington.

The writer lays great stress upon locating the whole road in Massachusetts. It seems difficult to understand how a Massachusetts railroad should terminate any where but in Massachusetts; and it seems equally difficult to know how a railroad, going into three states, should be solely within the jurisdiction of any one.

The object I had in view in writing, was to promote the true interest of a continuous line of railroad from Boston to Stonington, thereby furnishing a route to New-York far superior to any other that can be effected. Should, however, narrow views and feelings predominate, and an exclusive spirit be adhered to, this road may be ruined by an effort to monopolize all the advantages to Massachusetts and their own company, that should be common to the several companies and the several states. It has been the policy of Bostonians generally, to endeavor to discourage this enterprize and promote the Worcester railroad, preferring rather to get a road through to Albany or Hartford, or even Norwich, (thereby extending their intercourse with the interior), than to bring that city much nearer to New-York by such an improvement.

The true interest of the state of Massachusetts, not less than the interest of the stockholders, demands that this road be well located, to unite and promote all interests, as it derives as much benefit by the business and growth of Providence as it would from any place built up at the expense of that city. There has been a large amount of business transacted between the cities of Boston and Providence, and the continuance of it depends upon a liberal spirit and a liberal policy, as New-York is desirous of cultivating an extension of trade and intercourse with that city.

Provided the Boston and Providence Railroad Company allow a union of their road with the roads in Rhode-Island at such place and places as business may demand, it is quite immaterial where they carry or where they end their road; the business would take its natural channel, and the loss to the company be limited to that part of the road which should be unnecessarily built.

The objection of being under the jurisdiction of different states, if an evil, is inevitable; but practically it does not prove to be so, as we find the different states uniting to promote a common object. Rhode-Island and Connecticut have united their roads, and I have no doubt that Massachusetts will pursue a like honorable course. That the legislature of Massachusetts will not act upon narrow principles we have assurances of, in their reservation of their authority to permit other railroads to enter the Boston and Providence, wherever they shall deem expedient; and will most certainly exercise their power, if the Boston Company should act upon exclusive principles. We are aware of the progress made in locating the road, and the opposition manifested by the directors of the Boston and Providence Company to a union with the Rhode-Island road; and should the present board of directors make any serious mistakes, it will remain for the board that comes after them to repair the damage as well as they can, and I hope it will not be too late to prevent irreparable injury.

"I did not lay much stress on increased distance, though it is important, every thing else being equal: nor do I upon the additional expense, as the engineer and agents of the work no doubt find money plenty enough. But I do lay great stress upon compelling (if it were practicable) passengers and freight to cross a ferry when it is unnecessary. We all know the inconveniences of a ferry. A hundred tons of freight to be passed over, and a detention takes place; in the mean time passenger cars arrive; passengers are delayed and aggrieved. Nothing appears more idle or frivolous than to *prefer to cross a ferry* when there is a clear way open; and notwithstanding very wise men may advocate it, yet the time will come, should this mode be adopted, when the stockholders of both roads will be fully sensible of it, and have cause to remember with much regret, the fallacy of that reasoning which produced it.

The mill dam at Boston was built by a person who was at the head of his profession, and enjoyed public confidence; he wrote a book to demonstrate the profit and utility of the enterprize; besides other sources of revenue, an almost unlimited amount of water power was to have been gained. It was carried forward by infatuated men, who, had they exercised their own common sense, would have been spared the consequent loss; but this they abandoned to the schemes of this *scientific* theorist.

A like result will no doubt attend the various wild projects to connect the Boston and Providence with the Stonington railroad, which may be classed, in point of absurdity, in the following order:

1. To connect the two roads by a dam below Providence.

2. To connect them by a bridge with a draw.

By the above modes, the entire capital of both companies would not be adequate to pay half the damage to the city of Providence.

A third mode is to ferry across the Providence River; by some it is proposed to cross at Kettle's Point, by others at Fox Point, the former several miles below Providence, and in winter would be subject to obstructions by ice, and continually subject to great expense.

"A Boston Stockholder" disposes of the reasons assigned against "increased distance and ferry transportation" in a summary way, by saying they "are not of a serious character;" the public have claims to the reasons, rather than the mere opinion of an anonymous writer, who, though he says he has devoted much time to the subject, appears to have but a superficial acquaintance with the point at issue, viz.: the best mode of uniting the Massachusetts with the Rhode Island Railroads.

It appears a waste of words to talk of ending the road three miles from Providence to accommodate that city, and cross a ferry, that is unnecessary, to promote the travel to New-York.

Provided the Boston and Providence Railroad Companies should not form a union with the Rhode Island Companies, another route nearer, and no doubt less expensive may be found than the one they occupy, and what security can the Boston and Providence Company have so effectually to prevent this as a union with the Rhode Island Companies, availing themselves of their exclusive privileges.

It may be said that there is no objection to have a spur at Providence, and another at Pawtucket, let that be done and the argument as to public accommodation will cease.

"A Boston Stockholder" appears ignorant of a petition of the Boston Company to the Legislature of Rhode Island for the purpose of going into Providence.

Why ask for another charter when one already exists with ample privileges? It may be to avoid paying for one turnpike and paying damages to another; but a more conclusive answer, probably, is they want the charter under their entire control to subserve some speculative purposes, either in land at Providence, or to promote a favorite object of building up a town in Massachusetts.

Why such an array of names, when their request appears so moderate, so reasonable, and as the petitioners contend, for public benefit? Is it not that they may by an overwhelming influence attain their object, and more effectually overawe and resist a company who already hold a charter which secures, and secures exclusively, the very privileges they ask for. I feel a very high respect for the character of the petitioners generally, who I believe are ignorant that they thus trespass upon the rights of another company, and I seriously ask those gentlemen to examine the subject, and if they find they are doing manifest injustice, to withdraw their names from that petition; or if they wish to promote the best interest of the whole

city, rather than an isolated point at a distance from the centre of business, then also would I ask them to withdraw their names from that petition.

The Providence and Boston Railroad Company have undeviatingly devoted themselves to the true interest not only of the several companies, but to Providence and the State of Rhode Island also, by endeavoring to form a union of the roads, and have no slight claims on the Legislature of Rhode Island to guard and protect them, and we trust they will be protected, as the honor, interest, and dignity of the State demand.

This company have for years been urging a union of the roads upon the Massachusetts Company, and that the public may better understand the course pursued and object desired, I will give the substance of a recent proposition to which they have received no reply.

"The Providence and Boston Railroad Company proposed to the Massachusetts Company an amalgamation of the stock of both companies, making a joint stock." Provided the foregoing was not acceptable, it was proposed

"That the several roads be united, each company travelling on the road of the other at the same rate of toll, subject to the same regulations," and to prevent so desirable an object to the interest of both companies being defeated, it was proposed further,

"That, in case the two preceding propositions should not meet the views of the Boston and Providence Company, they propose any mode more agreeable, which, provided it be equitable and reciprocal, will be assented to."

MORE HEREAFTER.

NEW-YORK AND ERIE RAILROAD CONVENTION.—We are gratified to find that the friends of this very important, and justly termed NATIONAL improvement, are resolved to urge its claims upon our State legislature for aid to carry it at an early day into operation. It seems to us that argument is unnecessary to convince any *disinterested and unprejudiced* man, or body of men, of the importance of the contemplated work, or of the just claims of the inhabitants of the southern part of the State, to an equal share with their more fortunate northern neighbors, in the execution of works of public utility, more especially to such works as this, which will contribute to the prosperity of so large a territory, and so numerous and industrious a population.

We shall have much more to say upon this subject hereafter.

NEW-YORK AND ERIE RAILROAD CONVENTION.

Proceedings of the Convention of Delegates from the south and southwesterly counties of this State, held in the city of New York, on the 20th, and continued, by adjournment, till the evening of the 21st of November, 1833, on the subject of a railroad from this city through the southern tier of counties to Lake Erie, as contemplated in the charter of the New York and Erie Rail Road Company.

The Convention was organized by the election of the following officers, viz:

His Honor Gideon Lee, Mayor of the City, President.

James Pumpelly, Esq. of the county of Tioga, and George D Wickham, Esq. of the county of Orange, Vice Presidents.

William W. McCay, of the county of Steuben, and David Ruggles, of the county of Orange, Secretaries.

The following gentlemen attended, and were recognized as delegates and members of the Convention, viz: from the county of

Chatauque—Thomas W. Harvey.

Cattaraugus—Anson Gibbs.

Allegany—Henry H. Cruger.

Steuben—William W. McCay and Ira Davenport.

Tioga—James Pumpelly, Theodore North, and Latham A. Burrows.

Otsego—Hon. Sherman Page.

Cortland—Hon. Samuel G. Hathaway.

Delaware—Hon. Noadiah Johnson.

Broome—Joshua Whitney and William M. Waterman.

Sullivan—Platt Pelton and Hiram Bennett.

Orange—George D. Wickham, Moses Philips, and David Ruggles.

Rockland—Cornelius I. Blauvelt.

City of New York—Gaold Hoyt, Eleazar Lord, Benjamin Wright, Richard M. Lawrence, Samuel B. Ruggles, William G. Bucknor, John Duer, Silas M. Stilwell.

C. L. Livingston, Esq. of the Senate, and Messrs. Myers, Hertell, Titus, and Hone, members of the Assembly, having been informed of the meeting and objects of the convention, were present during a part of its sessions.

The objects of the meeting having been stated, and a full report having been made of the proceedings recently adopted on the subject of the Railroad in the several counties on the route, by a member who had lately visited them, committees were appointed to prepare a petition to the Hon. the Legislature of the State, for aid to the proposed work, and suitable resolutions for the consideration of the Convention.

The Committee on that subject reported the following resolutions, which, after the views of several of the members had been expressed, were unanimously adopted:

Resolved, That the construction of a Railroad from the city of New York to Lake Erie, as proposed by the New York and Erie Railroad Company, is, in the opinion of this Convention, an object of the highest importance to the commercial interests, growth and prosperity of the State, and especially of the southern tier of counties, and the city of New York.

Resolved, That such a thoroughfare is most urgently required through the southern counties of the State; which have no facilities of communication with the Atlantic; and that such a work, being alike eligible for travel and transport in winter as in summer, and connecting our commercial metropolis with the Lakes and Western States, by a short and direct route, would be productive of results no less beneficial than those of the Erie Canal.

Resolved, That the construction of the proposed Railway is called for, and recommended at the present period, by the immediate interests of the counties on the route, and the prosperity, and advancement in population, agriculture, manufactures, trade and wealth, to which their relative position, climate, soil, and other natural advantages, adapt and invite them; and by the consideration that the Erie Canal has so far surpassed all anticipation, in respect to its local and public benefits and its productiveness of revenue, as to justify and sanction the expediency of the proposed work; and in respect to the demand for its use, as to be even now scarcely capable of passing the commodities which seek conveyance on it from its populous and fertile borders, and from the states and territories beyond its western termination.

Resolved, That the expediency and importance of the proposed Railway, in its relation to the growth and prosperity of this State, and especially in its relation to the vast and rapidly extending interests of our trade and intercourse with the Lakes and Western States, is evinced by the arduous and powerful efforts of individuals, corporations and public authorities, to direct that trade and intercourse through other States and to other commercial ports, by constructing Canals and Railways on far more difficult and more extensive routes, in the confidence that if such diversion can be accomplished, no measure which can afterwards be adopted in this State will retrieve our loss.

Resolved, That the same view of the subject is enforced by the measures of the British government for securing the commerce of the Lakes to the ports of Canada, by opening Canals for large vessels around the rapids of the St. Lawrence, and perfecting the sloop Canal between Lakes Ontario and Erie.

Resolved, That the evident merits of the proposed work, its objects, its relative bearings, and all the considerations of public and local benefit which it involves, recommend it to the favor and confidence of the people and government of this state not only as capable of adding more to her natural and commercial advantages, and the fame of her liberal policy, than any other work now possible within her limits, but as the noblest and most valuable thoroughfare from the Atlantic to the West which is possible within the limits of the Union.

Resolved, That in the opinion of this Convention, founded on local knowledge of the several counties, on the survey for a state road made under the authority of the Legislature in 1825–6, and on the examinations and surveys more recently performed by engineers of the United States, the entire route of the proposed Railway is practicable, presenting no very formidable elevations or other physical obstacles to be overcome, and with respect to a large portion of the distance, affording unusual advantages and facilities for the object.

Resolved, That the most liberal encouragement and aid of this undertaking are due from the inhabitants and proprietors on and adjacent to the route, on account of the local and permanent benefits of the work to them, in augmenting the value of their lands, occasioning rapid accessions to their population, extending their agriculture, manufactures and trade, enhancing the value of all the products of their soil and industry, and multiplying the means of moral and social improvement; and that it be earnestly recommended to them to assist and co-operate with the Company in the measures which are necessary in the promotion of the enterprize.

Resolved, That this Convention regard the proposed work as involving the strongest claims on the countenance and patronage of the Legislature, on account of its extending near 400 miles through so valuable a portion of the State, and connecting our mart of commerce with the Lakes and Territories of the west, its merits as a thoroughfare of business and intercourse, requiring for its construction a large expenditure of capital, and its location through a range of healthy and fertile counties which are favored with no adequate or even tolerable facilities of access to market.

Resolved, That in the opinion of this Convention, the Southern tier of counties, which contain between Lake Erie and Hudson River, about 7,000.000 of acres, and a population of about 300,000, are entitled, by their extent, their relative position, their co-operation in the great public works in other parts of the State, and every view of equity and of common interest and benefit, to look to the Legislature for a liberal share in the policy of internal improvement, and especially for facilities and aid, in respect to the proposed thoroughfare to the city of New York, by which they may be placed on a footing corresponding in some measure with the advantages conferred by Legislative liberality and the funds of the State on the more northerly counties.

Resolved, That this Convention highly approve of the intended application, on the part of the Company, to the inhabitants and proprietors on and near the route, for cessions of the land and materials necessary for the location and construction of the Road, and for donations of lands and money in aid of the work; and that it be recommended to the inhabitants, in consideration of the benefits of the work, and of the necessity of all the aid and support they can render, to accede to such application by prompt and liberal grants, on condition that the Rail Road is completed through their respective districts in conformity with the charter.

Resolved, that it be earnestly recommended to the inhabitants of the Southern Counties to support by their petitions an application on the part of the Company to the Legislature of the State at its next session, for aid to this work by way of subscription to the capital stock.

Resolved, That with the patronage and aid of the Legislature and the harmonious co-operation of the counties on the route, there is, in the opinion of this Convention, abundant ground of confidence in the success of this undertaking, and in its productiveness; that the territories on either side, within 40 miles of the road, comprising an area, without including the first 50 miles from Hudson River, of 28,000 square miles, or about 18 millions of acres, will furnish it abundant occupation, without detracting from the utility or the revenues of the Erie Canal; and that it will be productive of incalculable benefits, without detriment to any other section of the state.

Resolved, That the city of New York is, in the opinion of this Convention, directly and vastly interested in the accomplishment of this work, considered as the shortest and most eligible thoroughfare of trade and intercourse with so extended a region of the interior, and with the lakes and western states, during the whole year; and as a new avenue from the remote interior, which, without impairing the use or value of existing channels will originate an immense amount of business on its route, and accommodate and secure to this port the growing commerce of the waters and territories of the west, and which, by its facilities and relations, will supply what in respect to the competition of other sea ports, is wanting, to the advantage of this commercial metropolis, and add incalculably to its trade, population and enduring prosperity.

[*See page* 760.]

Of the Orders of Architecture. [Continued from page 615.]

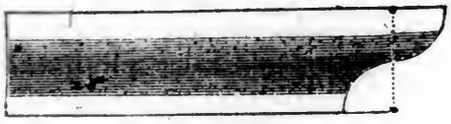
Mouldings.—Mouldings are those parts which project beyond the face of a wall, a column, &c. and are employed as ornaments in most Architectural operations.

The regular mouldings are eight in number, and are represented by the following figures.

Annular List, or Square.

Astragal, or Bead.

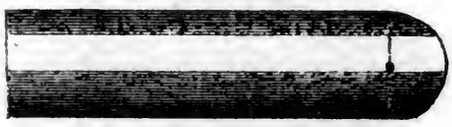
Cima Reversa, or Ogee.



Cima Recta.

Cavetto, or Hollow.

Ovolo, or Quarter Round



Scotia.

Torus.

The forms of all mouldings are referred to a section at right angles to their longitudinal direction, when prismatic, or passing through the axis, if annular; and this is simply denominated the *section*, on account of its frequent use, as oblique sections only occur in mitres. The names of mouldings depend upon their form and situation.

If the section is a semicircle which projects from a vertical diameter, the moulding is called an Astragal, Bead, or Torus; if a torus and bead be both employed in the same order of architecture, they are only distinguished by the bead being the smallest. The tori are generally employed in bases and capitals.

If the moulding be convex, and its section be the quarter of a circle or less, and if the one extremity project beyond the other equal to its height, and the projecting side be more remote from the eye than the other, it is termed a Quarter-Round; this, in Roman architecture, is always employed above the level of the eye.

If the section of a moulding be concave, but in all other respects the same as the last, it is denominated a Cavetto. They are never employed in bases or capitals, but frequently in entablatures.

If the section of a moulding is partly concave and partly straight, and if the straight part be vertical and a tangent to the concave part, and if the concavity be equal or less than the quadrant of a circle, the moulding is denominated an Apophyge, Scape, Spring, or Conge: it is used in the Ionic and Corinthian orders for joining the bottom of the shaft to the base, as well as to connect the top of the fillet with the shaft under the astragal.

If the section be one part concave and the other convex, and so joined that they may have the same tangent, the moulding is named a Cymatium; but Vitruvius calls all crowning or upper members cymatiums, whether they resemble the one now described or not.

If the upper projecting part of the cymatium be a concave, it is called a Cima recta; they are generally the crowning membres of cornices, but are seldom found in other situations.

If the upper projecting part of the cymatium be convex, it is called a cima reversa, and is the smallest in any composition of mouldings, its office being to separate the larger members: it is seldom used as a crowning member of cornices, but is frequently employed with a small fillet over it, as the upper member of architraves, capitals, and imposts.

If the section of the moulding be the two sides of right angles, the one vertical, and the other of course horizontal, it is termed a *fillet*, *band*, or *corona*. A fillet is the smallest rectangular member in any composition of mouldings Its altitude is generally equal to its projection; its purpose is to separate two principal members, and it is used in all situations under such circumstances. The corona is the principal member of a cornice. The beam or facia is a principal member in an architrave as to height, but its projection is not more than that of a fillet.

Tar from Pit Coal, a Cheap Substitute for Paint, for the Roofs of Houses. By F. H. [From the Farmers' Register.]

I applied to a painter in Richmond last summer to furnish me a bill of paints, &c. for a small building then erecting, who advised me to use what he called coal pit tar, for the roof, instead of paint. I have followed his advice, and am very much pleased with the result. The color produced from the tar is a beautiful glossy dark slate. Time only can determine whether it will be lasting; but I see no reason to doubt it. The tar is obtained from the pit coal in its process of distillation for the production of gas. It cost me in Richmond $5 50 per barrel of 33 gallons. In Baltimore, where it is manufactured, the cost would probably be much less. F. H.

Frederickshall, Louisa,
Sept. 20, 1833.

Method of pressing Oil in Corfu.—The manufacture of oil is the principal, and the machines employed in it are the rudest possible. The olives are pressed under a perpendicular stone wheel, which revolves in a large sized horizontal stone of a circular form, somewhat hollowed in the centre. A horse or mule sets the machinery in motion, and a peasant runs before and shovels the olives under the approaching wheel, the action of which is necessarily confined to a limited space, while its power is very insignificant. The bruised mass is then transferred to a bag made of rushes or mat, which is subjected to a heavy pressure; this pressure is increased by means of a screw, wrought by two men at irregular intervals; for the labor is so violent that they cannot possibly continue long at it. They ship two strong bars after the manner of a capstan, and then, with a most savage yell, they urge them forward by a simultaneous dart, the effect of which is marked by a quantity of oil oozing through the mat, and falling into a hole cut in the ground for its reception. After an interval of forty or fifty seconds, the laborers dart forward again with similar violence, and with a bodily effort which must strain their whole frame. The quantity of oil that two expert laborers can express in a day is estimated at ten or twelve jars of rather more than four gallons each.—[Hennen's Medical Topography of the Mediterranean.]

Precautions against Fire—Improvements suggested. By William Reed. [From the London Mechanics' Magazine.]

Sir,—I would beg to impress on architects and builders of new houses, the propriety of introducing stone staircases. The difference in cost would not be much in the long run, perhaps nothing at all, while the additional security to life and property would be immense. In all large houses with two staircases, the back stairs ought at all events to be of stone; but even in the third or fourth rate class of houses I do not see why stone should not be employed. Supposing a ground floor to be 12 feet in height, that will require a stair of 20 steps, of about three feet in width, which will only take up a space of 6 feet by 12; and, for the sake of commodiousness, there may be a landing at the tenth step, half way up, all as shown in the following rough sketches, of which fig. 1 is a side elevation, fig. 2 an end view, and fig. 3 a plan.

Fig. 1.

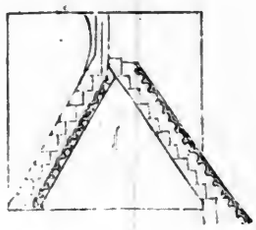
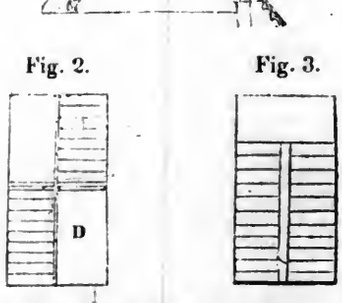


Fig. 2. Fig. 3.



The width of three feet will, I conclude, be quite sufficient for the removal of such articles of furniture as are in common use among the inmates of such houses. By building the stair in two divisions, those hateful triangular steps, called winders, which have caused many a serious fall, would be got rid of. D will be the thoroughfare or door. The stone stairs may have bars of iron under them for their better support, as I have seen here in many instances. They

should, of course, have wrought iron balustrades.

Another suggestion I have to offer relates to fire plugs. When it is dark or the streets are muddy, or a crowd has collected on the spot before the engines arrive, there is generally a good deal of difficulty in finding the plugs, and much time lost in consequence. I would therefore propose that, exactly opposite to every fire plug, there should be a lamp, with a glass of pink color, so that the driver of a fire engine might drive up to the very spot without the delay of a single instant. The cost of such a lamp would be so trifling that I dare say that the fire companies would themselves defray it.

Your obedient servant,
WILLIAM REED.

Peterhoff, Jan. 10, 1833.

On the Power of the Wind. By G. K. O.

[For the Mechanics' Magazine.]

SIR,—The wind is a natural agent, of much power, not often at rest, and accessible to any one, but is not applied to many mechanical purposes, by reason of its extreme irregularity. It is the design of this article to suggest a method of obviating this difficulty. Let a wind-mill cause an air-tight forcing-pump to condense air in a suitable vessel: for instance, a steam boiler. If a cylindrical vessel, ten feet in length and five in diameter, be thus made to sustain a pressure of 75 pounds on the inch, it will furnish 100 cubic inches per second of air of twice its ordinary density, for one hour, and exert force sufficient to raise 1000 pounds 450 feet, and, though unsupplied by the forcing-pump, at the end of the hour sustain a pressure of 30 pounds on an inch. The air may be applied directly to a wheel, or used as steam to work an engine. The quantity emitted would of course be regulated by a governor, and a fly-wheel may be employed for further uniformity.

The same object may be attained by causing the wind, whenever it may blow, to raise water into a reservoir, whence it may be drawn at pleasure to work a wheel or hydraulic engine. One thousand cubic feet of water raised 25 feet, would, in descending, exert force sufficient to raise 1000 pounds 1,562 5-10 feet high.

Two heavy weights may also be employed: 27 cubic feet of iron, specific gravity 7 5-10, descending 25 feet, exert force sufficient to raise 1000 pounds 316 4-10 feet. By means of double gearing one weight may be raised by the wind while the other is working, and when no work is doing, both may be raised. Whatever advantages may attend these means of regulating the force of wind are obvious. Yours, &c.

G. K. O.

ON THE PROXIMATE CAUSES OF WINDS AND STORMS.—The four following propositions may be regarded as statements of general facts, which have been sufficiently established by numerous observations in various parts of the world.

1st. That part of the great ocean which lies between the thirtieth parallel of latitude on both sides of the equator is constantly swept by a wind varying but a few points from the east.

2d. Between the latitudes of 30 and 60 degrees in both the northern hemispheres, westerly winds predominate over those from the east quarter, in a ratio probably somewhat greater than that of three to two.

3d. There is in all latitudes (a few trades of limited extent where local causes have a decided effect excepted) a predominance of winds blowing from the poles towards the equator, over those moving in the opposite direction, but this predominance is not so well marked and decided as that of the westerly over the easterly winds, between the latitudes of 30 and 60 degrees.

4th. During the warm weather within the temperate, and at all seasons within the limits of the torrid zone, the fall of rain is often accompanied by lightning, thunder, and violent winds, constituting what is commonly called a thunder-storm. Thunder-storms generally commence between mid-day and sun-set, and move from west to east.—[Prof. Mitchell.]

STEAM CARRIAGES ABROAD.—We learn, from a correspondent at Brussels, that King Leopold is taking a very active part in the introduction of steam carriages into Belgium, which, being generally a flat country, is extremely well suited to vehicles of this description. His Majesty has appointed a commission, consisting of Count Hompesch (president), Count Vilain XIV., M. Eagleo, banker, Colonel Schenofsky, and M. Jobard, manufacturer, to watch over the progress of this improved mode of transport, and to facilitate its general adoption by every possible means. The chief Belgian competitors in this line, at present, are M. Deitz, senior, (the inventor, we believe, of the steam-engine lately described in this Journal,) and a M. Couchans, of Charleroi, both of whom have been making experimental trials, with carriages of their own construction, in the neighborhood of Brussels. The carriage of Deitz seems, from the description sent to us, to be rather a stupendous affair—eight tons weight, and fourteen feet high! It is hung, however, on springs—enormous steel springs (*sur d'enormes ressorts d'acier.*) The boiler is composed of six elliptical chambers, placed in pairs one above the other, which contain altogether 240 square feet of heating surface. There are two pistons, which turn two cranks, which turn two pullies, which carry two endless chains, which turn the two hind wheels, by which (alone) the carriage is propelled. There is but one wheel in front, and that is used as a guide wheel. The engine is stated to be able, in ascending hills, to exert a power of 120 horses, and there appears to be some arrangement by which in such cases the wheels may have the help of cogs (*sont garnies de billets de bois de bout.*) The river steam-carriage of M. Couchans has four wheels. The circumference of the wheels is stated to be "elastic," which means, we presume, that they are constructed on the give and take principle of our Messrs. Jones and Company's patent wheels. The results of experiments hitherto made with these carriages are but indifferent. The greatest speed realized is likened to the "*galop d'un bon cheval.*" However, every new exhibition attracts "*une grande affluence de curieux,*" and is concluded "*au milieu des bravos de la foule;*" and at Brussels, as in London, no doubt is entertained, by the generality of people, that the day is close at hand when steam carriages will be the only vehicle in vogue on common roads.—[Mechanics' Magazine.]

AGRICULTURE, &c.

[*From the New-York Farmer.*]

BONE DUST AS MANURE FOR TURNIPS.—Although the quantity of bone dust usually applied to an acre is two quarters, yet one quarter will suffice if mixed with one or two quarters of riddled coal ashes. The bones should be carefully and equally mixed throughout the mass, which will be best effected by frequent turnings with the shovel. To expedite the drying of the ashes, strew a little hot lime, while turning the mass. The compost is sown with the usual machine. Turnips raised with this compost of bone dust and ashes, in the quantity alluded to, have been sold for £7 per acre, to be eaten off with sheep. They possess the same characters of a close crop, firm root, and hardiness to resist the rigor of winter, as turnips raised with bone dust alone evince. Perhaps peat, or vegetable ashes of any kind, would be equally as beneficial to mix with bone dust as those of coal.—[Jour. of Agricul.]

SAXONY WOOL.—To the late King of Saxony, when Elector, is due the merit of having first brought the breed of Spanish Merino sheep into Germany, which has since transferred the valuable trade in fine wool almost wholly from the Spanish to the German soil. From the period of its first introduction until 1814, when Europe once more began to enjoy the blessings of a general peace, this wool was gradually, although slowly, spreading itself over the surface of the kingdom of Saxony; but when the continental trade was thrown quite open, by the events of the short campaign of 1815, and the minds of men were set at rest by the final catastrophe of Napoleon, the Saxon wool dealers began to open a regular trade in the article to England, and they soon discovered the real value of this new branch of German commerce. In the first year, viz.:

In 1814, there were imported into England only 3,593,146 pounds; in 1819, 4,557,933; in 1824, 15,432,657; in 1828, 23,110,882. This prodigious increase in the demand for German wool naturally excited the emulation of the States lying contiguous to Saxony; and the flock masters of that kingdom carried on, for a considerable period, a very prosperous trade in rams and ewes with the land owners of Silesia, Bohemia, Austria, and other parts, who were desirous of changing the nature of their flocks to this more profitable breed. All the superabundance of grain, which had no external vent to carry it off, was given to the sheep, in order to accelerate their approach to the maximum degree of fineness of which their wool was susceptible; thus actually creating a profitable consumption for their corn, through the eagerness exhibited in England to obtain a superior quality of wool.—[Quar. Journal.]

TO DESTROY WOODLICE.—Perhaps in cucumber or melon frames nothing is more destructive than woodlice. Confining a toad in the frame or pit is an effectual remedy for the evil, but many persons would think the cure as bad as the disease itself, for they would be unable to eat the produce, from the recollection that the toad might have touched them. One method pursued with success is to make in the soil, close round the edges of the frame, a kind of hollow basin about six inches wide, and to fill this up with short hay to about the thickness of two inches. This, in the course of the first night, will become a place of retreat for them, and at about nine or ten o'clock in the morning, having opened the frame, pour upon this hay, with a wide rose watering-pot, a considerable quantity of boiling water. Then remove the hay and dead woodlice, and place a fresh supply of dry hay. Repeat this operation for two or three days, and you will see no more woodlice. Another system is to sink a pan half full of water in the soil, its rim being level with the surface, then to throw in a few slices of ripe fruit, and place a slate or piece of pot over it, leaving only sufficient room for the entrance of the depredators. Examine this every morning, and destroy all such as are found therein. The pan may also be filled with hay and pieces of fruit, such as apricot, &c. being laid in, they will quickly entice these depredators, which on removing you may destroy. Another very effectual method, is to slice the tuberous roots of the Bryony (brionia dioica,) a well known plant, and very common in our hedges, and to put a few of these slices into a common feeder, covering them over with a little moss or short hay, and placing them in different parts of the beds. Take out the pans the next morning, and after having removed the moss and baits, cast the woodlice into boiling water.—[Hor. Reg.]

RUBUS RORIDUS. *Dewy Bramble.*—This rare species is a native of Madagascar, and strikingly different from all the known species of simple leaved brambles, in its finely cut stipules and bractæ, which are covered over with numerous little transparent green glands, giving all the parts that surround the petals an appearance of being sprinkled with green dew. Its flowers are white, and by no means showy. We presume it requires the green-house, and may be easily multiplied by layers.—[Bot. Reg.]

(Continued from page 757.)

Resolved, That the friends and patrons of this undertaking ought with confidence and unanimity to persevere in their endeavors to secure its accomplishment; that its merits in respect to the commonwealth entitle it to universal approbation and encouragement, and the present and prospective interests of both city and country call for its execution: that so far from being premature and visionary, the claims and recommendations of the work arise from and are commensurate with its extent and relations; and that, in the opinion of this convention, the views and measures of the New York and Erie Rail Road Company, so far as they have been made known, are appropriate to their object, and worthy of the concurrence and support of the public authorities and of their fellow citizens.

The committee on the subject of a petition to the Legislature, reported the following, which was unanimously adopted:

To the Honorable the Legislature of the State of New York.

The convention of delegates from the city and county of New York, and the counties of Rockland, Orange, Sullivan, Delaware, Otsego, Broome, Tioga, Steuben, Cortland, Cattaraugus, and Chatauque, assembled on the 20th day of November, 1833, in the city of New York, hereby respectfully represent:

That the inhabitants of the counties above named are deeply interested in the construction of a Railroad from the city of New York to Lake Erie, as proposed by the New York and Erie Railroad Company;

That the present and future interests, growth and prosperity of those counties essentially depend upon the opening of such an avenue of business and intercourse with the city of New York;

That the route prescribed presents no discouraging physical obstacles, and is not only practicable but for the most part unusually favorable for the graduation of a Railroad; and that the magnitude and importance of the measure, opening a direct and rapid communication between the Atlantic ocean and the great western Lakes lying wholly within our own jurisdiction, and at the same time strengthening our bonds of union with the distant portions of the republic, peculiarly entitle it to the favorable consideration of the State of New York;

This convention, therefore, being deeply sensible that such a thoroughfare only can furnish to the inhabitants of the southern counties of the State the facilities of access to market which their interests require, and afford to their enterprize and industry advantages corresponding with those which legislative aid has extended to other interior districts of the State, and relying on the favorable disposition of your honorable bodies to relieve this portion of the State and provide for the developement of its resources and the rapid increase of its population and wealth, thereby adding to the prosperity and strength of the Commonwealth, do earnestly and respectfully recommend this great object to your consideration, and in concurrence with the petition of the said Company, humbly petition the Legislature to encourage and foster the undertaking by such liberal subscription to the stock of the Company as the extent, prospects, and incalculable importance of the undertaking may deserve.

On motion, it was resolved, That the said petition be signed by the officers of the Convention, and duly forwarded to the Legislature.

The proceedings and resolutions of the meetings recently held in most of the southern counties were read, exhibiting the deep interest felt in these counties on the subject of the proposed railway, their sense of its incalculable importance to their present and future interests, their readiness to do the utmost in their power for its accomplishment, and their confide it reliance on such aid from the Legislature as they believe to be due to that portion of the State, and indispensable to the success of the undertaking.

After an extended discussion respecting the importance and necessity of such a thoroughfare through the southern tier of counties; its relations to the interests of the commonwealth, and to the trade and intercourse of the Western States; the needful resources and means of its accomplishment; and the claims which it presents to the patronage of the Legislature, and the aid of the inhabitants and proprietors on the route, it was deemed expedient that an address on the subject should be made by the Convention to the citizens of the State.

Whereupon, the following members were appointed to prepare such address, to be published with the proceedings of the Convention, viz: Messrs. Page, Johnson, Whitney, North, and Lord.

The following resolutions were unanimously adopted, viz:

Resolved, That the respectful acknowledgments of the Convention be tendered to the President of the Merchants' Exchange Company, and to the Board of the Stock Exchange, for the accommodation afforded to this meeting in the use of their room.

Resolved, That the thanks of the Convention be presented to the President and the Vice Presidents for their very acceptable services on the present occasion.

Resolved, That the proceedings of the Convention be signed by the officers, and that the same be published.

The Convention then adjourned.

GIDEON LEE, *President.*

JAMES PEMPELLY, } *Vice Pres'ts.*
GEO. D. WICKHAM, }

WM. W. MCCAY, } *Secretaries.*
DAVID RUGGLES, }

Address of the Convention of Delegates from the Southern Counties of the State, held in the city of New-York, Nov. 20, 1833, on the subject of a Railroad from the city through those counties to Lake Erie.

FELLOW-CITIZENS:

The policy of opening avenues of internal communication is established and vindicated by the experience of this state. The Erie Canal has probably added a million of population and a hundred millions of value to this commonwealth. It has doubled our productions, and enhanced in a still greater degree our resources and strength. Its local and public benefits indeed exceed calculation, and are annually increasing.

In the policy of such works, this state exhibits the first great example in regard to the productiveness and complete success of her undertakings. Her position, in respect to the ocean and the lakes, affords the most extraordinary advantages for the extension of such works to every part of her territory. Is her progress in this career to be suspended! With such unparalleled experience of benefits, and such ample accessions of strength and resources, is she to pause on the threshold of the advantages which her efforts have developed, and which, by her position and her means, are placed at her command! Are there no other sequestered districts requiring avenues of trade and business as urgently as those which have been penetrated: no routes offering the like benefits, and deserving equally the liberal patronage of the state! These are questions for the people to consider. They involve vast and permanent interests. An inspection of the map will show large districts of the state which continue unproductive and almost without population or value, for want of easy access to market. Of these the most extensive, most sequestered and necessitous region, is comprised in the southern tier of counties, which present a natural, direct, and feasible route from our commercial metropolis on the Atlantic, to the lakes and territories of the west, through a country capable of supporting a dense population, and of yielding an immense amount and variety of productions.

This route, though ineligible for canals, is highly favorable for a railroad. Such a road, by furnishing the necessary facilities of intercourse and business, would open the country on its borders to cultivation, and fill it with inhabitants; and be productive of benefits no less valuable than those which proceed from our works of artificial navigation. It would furnish the needful medium of direct and rapid intercourse, with the western states, through the winter as well as the summer months, and thereby secure to the city of New-York the growing commerce of the western waters, to which the Erie canal will soon be totally inadequate.

Shall not such an avenue be opened! Have we filled the measure of our hopes and wishes in respect to internal improvements! Shall the bare possession and discovery of our yet unoccupied natural advantages, satisfy us! Shall we supinely wait and see the commerce of the west turned off through other channels to the south, or drawn into the provinces of Canada! Will not the city of New-York deem the execution of this work essential to her interests, growth and prosperity! Is not the opening of such an avenue due to the southern counties! Is it not recommended, justified, and called for by every consideration which could be combined in such a work, viewed in its relations to the state!

The proper limits of an address will permit no more than a brief notice of the route, objects, and advantages of the proposed railroad.

The route as indicated by the formation of the country, and prescribed in the charter granted by the legislature for the execution of the work, extends from the city of New-York through the southern tier of counties to Lake Erie; the whole distance being about 400 miles. From a point on the lake, 60 or 80 miles south-westerly from Buffalo, the distance on this route to Hudson river, near the Jersey line, is greater only by a few miles than the distance on the line of the canal from Buffalo to Albany. In respect to its length, therefore, this route has the advantage of any more northerly one from the western interior to the city of New-York. It intersects the Hudson below the Highlands, where the navigation is seldom closed or obstructed by ice. From a point a few miles west from the Hudson, a valley through the Highlands affords an easy progress towards the Delaware. The course of the road from the Susquehanna river to the lake, will, on an average, be about 80 miles south from the Erie Canal. Its junction with the lake, whether at Dunkirk or Portland, will be extremely advantageous, those harbors being open and accessible whenever the westerly part of the lake is navigable.

With regard to climate, and other physical advantages, this route is peculiarly favorable for a railroad. It is unsuitable for canals, and as a great thoroughfare is secured by the formation of the country against competition.

Its relations to other and auxiliary channels of communication are numerous and important. Proceeding from the commercial capital of the Union, through so vast a region, which has at present no tolerable facilities of intercourse with the Atlantic, and terminating at the most desirable point of connection with the lakes, and the states and territories adjacent to them, it will constitute a grand avenue from the coast to the western interior and the valley of the Mississippi, with which railways and other communications will be connected at intervals throughout its whole extent. It crosses a wide range of territory in a direction generally at right angles with the numerous streams which abound in that part of the state, and with the fertile vales on their borders, thereby affording peculiar and abundant facilities for intersecting communications from every important locality, town, and district on either side.

The route crosses the Delaware and Hudson Canal, where coal from the mines connected with that work may be furnished for transport westwardly, and in the winter season to the city of New-York. It must pass the Delaware, Susquehanna, Genesee, Allegany, and several less important rivers, at points where those waters will extensively contribute to the use and value of the railway. Its connection with the Allegany, especially, will render it a very eligible medium of passage between the city of New-York and Pittsburg, Cincinnati, and the lower Ohio.

It will likewise intersect several very important artificial works which will be tributary to its success: as the Chenango canal about to be constructed from Binghampton to Utica; the railway, now nearly completed, which connects Owego with Ithaca and the Cayuga Lake; and the Chemung canal from Elmira to the head of Seneca Lake. By these avenues and by a contemplated communication from Fort Plain through Otsego county down the valley of the Susquehanna, a railway down the valley of the Unadilla, for which a charter has been granted, a canal which is in contemplation from the waters of the Allegany to those of the Genesee river, and by other proposed canals and railways from several points north of the route and from the adjoining counties of Pennsylvania, a vast amount of travel and transport from

a great distance on both sides will be secured to this main line of communication.

To these sources of direct and auxiliary use and benefit, is to be added, in estimating the important relations of the work, its connection with the lakes, which cannotfail to secure to it an immense aggregate of business, not only from the navigation of those waters, but from the remote interior through the ordinary routes of intercourse by land, and railways, which will doubtless be extended westwardly from this, through the Ohio and Erie canal, the Indiana canal from the Maumee to the Wabash river, the projected railway from Chicago to the Illinois river, and other facilities of communication with the western waters, and thence with the State and city of New-York.

The geological and topographical character generally of the counties on this route is highly favorable to the construction of a railroad. There are no ranges of mountains, nor any formidable elevations, to be passed. The ascents are gradual, and scarcely exceed in any instance, it is believed, a rate per mile which is allowable on railroads without stationary power.

Information on this head, sufficiently full and accurate to remove all doubt as to the practicability and favorable character of the route, is derived from a survey through these counties under the authority of the Legislature in 1826, an examination of the entire route, and a survey of the eastern section of it, under an officer of the United States corps of engineers; and from the testimony of individuals acquainted with the most difficult localities. Large portions of the route are level and peculiarly feasible. Among these may be mentioned more particularly a section extending 150 to 200 miles from Binghampton westward, and indeed with little exception to the lake.

The extent of territory of which this road will be the outlet and avenue of communication with the city of New-York, deserves particular notice.

Considering the distance of the route from the Erie canal on one side, and from any practicable canal or railway in the same direction on the other, the territory of which it will command the travel and transport may be safely estimated at an average width of forty miles on each side the whole distance, excepting the first fifty miles from Hudson river. This estimate would give an area of 28000 square miles, or about 18,000,000 of acres. The population now on this area amounts probably to less than 1,000,000.

There are in the southern tier of counties in this state, west of the Hudson, about 7,000,000 acres of land, and a population now estimated at 300,000.

The construction of the railroad would, in the opinion of members of this convention, resident in those counties, cause this population to be more than doubled in five years, and would add more to its numbers within ten years than will be added in a century without such a thoroughfare.

The lands, which are now for the most part wild and unproductive, would be rapidly taken up for cultivation. They are generally of a character to invite the labor and enterprize of agriculturists, and these counties possess extraordinary advantages for manufactures. Their climate is peculiarly salubrious and healthful; and, with a railroad, their various products would at all seasons of the year be readily and cheaply conveyed to market. If they are not uniformly equal in richness of soil to some other counties in the state, this defect is compensated by the excellence of their climate, the number and character of their rivers and creeks affording innumerable positions for mills and manufactories, and their possession or contiguity to inexhaustible sources of iron and coal. With regard to the latter mineral, the regions watered by the Susquehanna will be abundantly and cheaply furnished from the anthracite formation near the southern border of the county of Broome, and, further west, ample supplies are attainable from the bituminous beds which are found from 8 to 40 miles south of the line of the state.

With an avenue to market, the immense forests of pine, and other descriptions of timber, with which they abound, will be rendered valuable, and constitute an important source of wealth to these counties.

With these advantages and resources, and with means of convenient and constant access to market, towns and villages would spring up on many localities now uninhabited; manufactures, trade, and every species of industry and business, would be introduced and established; and these counties would, at no distant period, become as populous, as prosperous, and as highly privileged in their moral, religious literary and social institutions and condition, as any other section of the State.

Fellow Citizens—The merits and claims of this undertaking are thus, though but briefly and imperfectly, presented to your notice. A charter has been granted by the legislature incorporating a company for the construction of the proposed Railroad; one million of the capital stock has been subscribed, and the company has been duly organized; but the extent and magnitude of the work require for it the voice of the community, the co-operation and aid of the citizens and of the State. As a public work, extending so great a distance through the interior, and having such relations to the navigable waters, and to the agriculture, trade, growth and prosperity of the State, it is deemed to have no ordinary claims on the patronage of the legislature and the public. As a work tending more immediately to benefit the Southern Counties, and to confer on them advantages corresponding in some measure with those conferred on the Northwesterly Counties, by the construction of the Erie Canal, it justifies an earnest and confident appeal to the Legislature for liberal and efficient aid. Those counties were, by the construction of the Canal, placed in a worse relative condition than they would have been had no such work been undertaken. The tide of emigration and settlement then in their favor, was, by the commencement of that work, turned away from them. Immense tracts of land, adjacent to the Canal, were opened to cultivation, with ample facilities of access to market; and the lands in these counties, which otherwise would have been taken up and comparatively filled with inhabitants, were neglected and rendered unsaleable, in which condition they remain, for the most part, at the present hour; no more than one-tenth of their surface, on an average, being cultivated. But for the Erie Canal, it is believed that these counties would, at the present time, have been more populous than those would have been which are traversed by that invaluable thoroughfare. While the commencement of that work was in question, and a general concurrence in its expediency was unattainable, the Southern Counties rendered it their timely and efficient support.—They cheerfully shared with the rest of the commonwealth in whatever of hazard and of liability was anticipated from that new and vast undertaking; and they were encouraged to rely, and do rely, on the aid of the State being extended to their relief. They appeal to the equity and justice of the commonwealth thro' her public authorities. They look to the counties which border on our navigable waters, and to the counties which owe their prosperity and their numbers to the liberal policy, enterprize, and common bounty of the State, and to other counties which need, and by a continuance of the same enlarged and beneficent policy, may share in the like advantages, for a candid estimate of their position and their wants, and for the aid which is essential to the success of the proposed undertaking.

Let it be considered that the proposed Railway can in nowise impair or interfere with the public utility, the local benefits, or the growing use and revenue of the Erie Canal. The routes are too far asunder to admit of interference and injury to each other by competition. The inhabitants on the line of the Canal will continue to possess and enjoy the peculiar and inestimable benefits of that work. It will continue to convey their products to market as regularly and as cheaply, and to serve all their purposes as perfectly, as it now does. The construction of the Railroad will abate nothing of their advantages. Its effect will be to create additional business; to augment the population, productions, and wealth of the State, as the Canal has done; to draw on to this route a vast amount of travel and transport, which is now directed through circuitous and expensive channels, to other points beyond our territory; and to double the trade and secure the growth of the city of New York.

An appeal to the citizens for their approbation and encouragement, and to the State for aid to the proposed work, is deemed especially appropriate at the present time, on account of the increasing productiveness of the existing public works of internal improvement, and the abundant means which they will soon supply for such works as may require assistance in other portions of the State. That it will continue to be the policy of the State to husband and apply those resources in such a manner, as to confer on every district as nearly as possible equal advantages, is too obvious to be questioned, if the people continue to understand and appreciate their own and the general interests. No such reduction therefore of the tolls on the canals of the State is to be anticipated, as to constitute any objection to granting the aid which is necessary to the proposed undertaking. One half of the annual surplus revenue of the Canals, after payment of the public debt, would, in a brief period, discharge the entire cost of this Rail Road; or replace such advances as its construction may require in addition to the funds subscribed by individuals. A subscription to the stock of two or three millions by the State would inspire such confidence, as to the accomplishment of the work, as to induce subscriptions by individuals for such further amount as might be necessary.

An ultimate reduction of the tolls on the Canals to a rate sufficient only to provide for their repairs and expenses can at no period be just or reasonable, while any objects of public utility and general welfare, not otherwise provided for, require the expenditure of public money. The extraordinary pretence that the tolls are a tax on those whose products are conveyed on the Canals, ought to arrest the attention and meet the disapprobation of the public. Is it so—that those, who, by their vicinity to these channels of cheap and easy communication, provided for them by the energy and responsibility of the whole State, can receive at their doors fifty per cent. more for their products, the tolls notwithstanding, than the inhabitants of the sequestered counties can realize for theirs, after deducting the heavy expense of time and money required for the transportation of them to market over circuitous and difficult routes,—is it so that those who under such circumstances pay tolls, deem this condition of their unparalleled advantages a hardship? Let it not be believed that there is a farmer or any citizen capable of reckoning his income, who would be guilty of such a perversion; or who would not gladly see the public arm extended to confer the like advantages on every section of the State.

It may well be questioned whether the increased business on the Canals the present season, is not owing to the extraordinary abundance of the crops, and prosperity of business, rather than in any considerable degree to the diminution of the rate of tolls which has already been made. It is stated on respectable authority that the expense to individuals who hire others to forward their commodities, is, with the reduced tolls, as great this season as it was on the like articles before the reduction took place. The effect of that measure therefore is to increase the income of the carriers, rather than to relieve or benefit the owners or producers of the commodities carried.

Whether this view of the subject, however, is well founded or not, no further reduction is called for with a view to induce a further increase of business on the Canals, especially on the Erie Canal, as that is already nearly if not fully occupied, and no possible advantage can be gained in respect to expense under the present rates of toll, by those who come on to it from the Lakes, should they take any other route to an Atlantic market.

There is, then, in respect to the ability of the State, the provision of means without hardship or injury to any portion of our citizens, and with respect to the equity, reasonableness and public policy of the measure, no obstacle to the extension of the necessary aid to the work now proposed; and it is, therefore, with entire confidence, commended to the favorable consideration of the public.

On behalf of the Convention.

Sherman Page,
Noadiah Johnson,
Joshua Whitney,
Theodore North
Eleazar Lord
} *Committee.*

Rail Roads.—A Convention of Delegates from Kings, Queens, and Suffolk, will be held at the Inn of Thomas Halliock, in Smithtown, on the first Tuesday of December next, at 11 o'clock A. M., to concert and adopt measures in reference to a Rail road through Long Island. There is no region in this country where a Railroad can be made at less cost.

(Continued from page 757.)

Resolved, That the friends and patrons of this undertaking ought with confidence and unanimity to persevere in their endeavors to secure its accomplishment; that its merits in respect to the commonwealth entitle it to universal approbation and encouragement, and the present and prospective interests of both city and country call for its execution: that so far from being premature and visionary, the claims and recommendations of the work arise from and are commensurate with its extent and relations; and that in the opinion of this convention, the views and measures of the New York and Erie Rail Road Company, so far as they have been made known, are appropriate to their object, and worthy of the concurrence and support of the public authorities and of their fellow citizens.

The committee on the subject of a petition to the Legislature, reported the following, which was unanimously adopted:

To the Honorable the Legislature of the State of New York.

The convention of delegates from the city and county of New York, and the counties of Rockland, Orange, Sullivan, Delaware, Otsego, Broome, Tioga, Steuben, Cortland, Cattaraugus, and Chatauque, assembled on the 20th day of November, 1833, in the city of New York, hereby respectfully represent:

That the inhabitants of the counties above named are deeply interested in the construction of a Railroad from the city of New York to Lake Erie, as proposed by the New York and Erie Railroad Company;

That the present and future interests, growth and prosperity of those counties essentially depend upon the opening of such an avenue of business and intercourse with the city of New York;

That the route prescribed presents no discouraging physical obstacles, and is not only practicable but for the most part unusually favorable for the gradation of a Railroad; and that the magnitude and importance of the measure, opening a direct and rapid communication between the Atlantic ocean and the great western Lakes lying wholly within our own jurisdiction, and at the same time strengthening our bonds of union with the distant portions of the republic, peculiarly entitle it to the favorable consideration of the State of New York;

This convention, therefore, being deeply sensible that such a thoroughfare only can furnish to the inhabitants of the southern counties of the State the facilities of access to market which their interests require, and afford to their enterprize and industry advantages corresponding with those which legislative aid has extended to other interior districts of the State, and relying on the favorable disposition of your honorable bodies to relieve this portion of the State and provide for the developement of its resources and the rapid increase of its population and wealth, thereby adding to the prosperity and strength of the Commonwealth, do earnestly and respectfully recommend this great object to your consideration, and in concurrence with the petition of the said Company, humbly petition the Legislature to encourage and foster the undertaking by such liberal subscription to the stock of the Company as the extent, prospects, and incalculable importance of the undertaking may deserve.

On motion, it was resolved, That the said petition be signed by the officers of the Convention, and duly forwarded to the Legislature.

The proceedings and resolutions of the meetings recently held in most of the southern counties were read, exhibiting the deep interest felt in these counties on the subject of the proposed railway, their sense of its incalculable importance to their present and future interests, their readiness to do the utmost in their power for its accomplishment, and their confide it reliance on such aid from the Legislature as they believe to be due to that portion of the State, and indispensable to the success of the undertaking.

After an extended discussion respecting the importance and necessity of such a thoroughfare through the southern tier of counties; its relations to the interests of the commonwealth, and to the trade and intercourse of the Western States; the needful resources and means of its accomplishment; and the claims which it presents to the patronage of the Legislature, and the aid of the inhabitants and proprietors on the route, it was deemed expedient that an address on the subject should be made by the Convention to the citizens of the State.

Whereupon, the following members were appointed to prepare such address, to be published with the proceedings of the Convention, viz: Messrs. Page, Johnson, Whitney, North, and Lord.

The following resolutions were unanimously adopted, viz:

Resolved, That the respectful acknowledgments of the Convention be tendered to the President of the Merchants' Exchange Company, and to the Board of the Stock Exchange, for the accommodation afforded to this meeting in the use of their room.

Resolved, That the thanks of the Convention be presented to the President and the Vice Presidents for their very acceptable services on the present occasion.

Resolved, That the proceedings of the Convention be signed by the officers, and that the same be published.

The Convention then adjourned.

GIDEON LEE, *President.*

JAMES PEMPELLY, } *Vice Pres'ts.*
GEO. D. WICKHAM, }

WM. W. MCCAY, } *Secretaries.*
DAVID RUGGLES, }

Address of the Convention of Delegates from the Southern Counties of the State, held in the city of New-York, Nov. 20, 1833, on the subject of a Railroad from the city through those counties to Lake Erie.

FELLOW-CITIZENS:

The policy of opening avenues of internal communication is established and vindicated by the experience of this state. The Erie Canal has probably added a million of population and a hundred millions of value to this commonwealth. It has doubled our productions, and enhanced in a still greater degree our resources and strength. Its local and public benefits indeed exceed calculation, and are annually increasing.

In the policy of such works, this state exhibits the first great example in regard to the productiveness and complete success of her undertakings. Her position, in respect to the ocean and the lakes, affords the most extraordinary advantages for the extension of such works to every part of her territory. Is her progress in this career to be suspended! With such unparalleled experience of benefits, and such ample accessions of strength and resources, is she to pause on the threshold of the advantages which her efforts have developed, and which, by her position and her means, are placed at her command! Are there no other sequestered districts requiring avenues of trade and business as urgently as those which have been penetrated: no routes offering the like benefits, and deserving equally the liberal patronage of the state? These are questions for the people to consider. They involve vast and permanent interests. An inspection of the map will show large districts of the state which continue unproductive and almost without population or value, for want of easy access to market. Of these the most extensive, most sequestered and necessitous region, is comprised in the southern tier of counties, which present a natural, direct, and feasible route from our commercial metropolis on the Atlantic, to the lakes and territories of the west, through a country capable of supporting a dense population, and of yielding an immense amount and variety of productions.

This route, though ineligible for canals, is highly favorable for a railroad. Such a road, by furnishing the necessary facilities of intercourse and business, would open the country on its borders to cultivation, and fill it with inhabitants; and be productive of benefits no less valuable than those which proceed from our works of artificial navigation. It would furnish the needful medium of direct and rapid intercourse, with the western states, through the winter as well as the summer months, and thereby secure to the city of New-York the growing commerce of the western waters, to which the Erie canal will soon be totally inadequate.

Shall not such an avenue be opened? Have we filled the measure of our hopes and wishes in respect to internal improvements? Shall the bare possession and discovery of our yet unoccupied natural advantages, satisfy us? Shall we supinely wait and see the commerce of the west turned off through other channels to the south, or drawn into the provinces of Canada? Will not the city of New-York deem the execution of this work essential to her interests, growth and prosperity? Is not the opening of such an avenue due to the southern counties? Is it not recommended, justified, and called for by every consideration which could be combined in such a work, viewed in its relations to the state?

The proper limits of an address will permit no more than a brief notice of the route, objects, and advantages of the proposed railroad.

The route as indicated by the formation of the country, and prescribed in the charter granted by the legislature for the execution of the work, extends from the city of New-York through the southern tier of counties to Lake Erie; the whole distance being about 400 miles. From a point on the lake, 60 or 80 miles south-westerly from Buffalo, the distance on this route to Hudson river, near the Jersey line, is greater only by a few miles than the distance on the line of the canal from Buffalo to Albany. In respect to its length, therefore, this route has the advantage of any more northerly one from the western interior to the city of New-York. It intersects the Hudson below the Highlands, where the navigation is seldom closed or obstructed by ice. From a point a few miles west from the Hudson, a valley through the Highlands affords an easy progress towards the Delaware. The course of the road from the Susquehanna river to the lake, will, on an average, be about 80 miles south from the Erie Canal. Its junction with the lake, whether at Dunkirk or Portland, will be extremely advantageous, those harbors being open and accessible whenever the westerly part of the lake is navigable.

With regard to climate, and other physical advantages, this route is peculiarly favorable for a railroad. It is unsuitable for canals, and as a great thoroughfare is secured by the formation of the country against competition.

Its relations to other and auxiliary channels of communication are numerous and important. Proceeding from the commercial capital of the Union, through so vast a region, which has at present no tolerable facilities of intercourse with the Atlantic, and terminating at the most desirable point of connection with the lakes, and the states and territories adjacent to them, it will constitute a grand avenue from the coast to the western interior and the valley of the Mississippi, with which railways and other communications will be connected at intervals throughout its whole extent. It crosses a wide range of territory in a direction generally at right angles with the numerous streams which abound in that part of the state, and with the fertile vales on their borders, thereby affording peculiar and abundant facilities for intersecting communications from every important locality, town, and district on either side.

The route crosses the Delaware and Hudson Canal, where coal from the mines connected with that work may be furnished for transport westwardly, and in the winter season to the city of New-York. It must pass the Delaware, Susquehanna, Genesee, Allegany, and several less important rivers, at points where those waters will extensively contribute to the use and value of the railway. Its connection with the Allegany, especially, will render it a very eligible medium of passage between the city of New-York and Pittsburg, Cincinnati, and the lower Ohio.

It will likewise intersect several very important artificial works which will be tributary to its success: as the Chenango canal about to be constructed from Binghampton to Utica; the railway, now nearly completed, which connects Owego with Ithaca and the Cayuga Lake; and the Chemung canal from Elmira to the head of Seneca Lake. By these avenues and by a contemplated communication from Fort Plain through Otsego county down the valley of the Susquehanna, a railway down the valley of the Unadilla, for which a charter has been granted, a canal which is in contemplation from the waters of the Allegany to those of the Genesee river, and by other proposed canals and railways from several points north of the route and from the adjoining counties of Pennsylvania, a vast amount of travel and transport from

a great distance on both sides will be secured to this main line of communication.

To these sources of direct and auxiliary use and benefit, is to be added, in estimating the important relations of the work, its connection with the lakes, which cannotfail to secure to it an immense aggregate of business, not only from the navigation of those waters, but from the remote interior through the ordinary routes of intercourse by land, and railways, which will doubtless be extended westwardly from this, through the Ohio and Erie canal, the Indiana canal from the Maumee to the Wabash river, the projected railway from Chicago to the Illinois river, and other facilities of communication with the western waters, and thence with the State and city of New-York.

The geological and topographical character generally of the counties on this route is highly favorable to the construction of a railroad. There are no ranges of mountains, nor any formidable elevations, to be passed. The ascents are gradual, and scarcely exceed in any instance, it is believed, a rate per mile which is allowable on railroads without stationary power.

Information on this head, sufficiently full and accurate to remove all doubt as to the practicability and favorable character of the route, is derived from a survey through these counties under the authority of the Legislature in 1826, an examination of the entire route, and a survey of the eastern section of it, under an officer of the United States corps of engineers; and from the testimony of individuals acquainted with the most difficult localities. Large portions of the route are level and peculiarly feasible. Among these may be mentioned more particularly a section extending 150 to 200 miles from Binghampton westward, and indeed with little exception to the lake.

The extent of territory of which this road will be the outlet and avenue of communication with the city of New-York, deserves particular notice.

Considering the distance of the route from the Erie canal on one side, and from any practicable canal or railway in the same direction on the other, the territory of which it will command the travel and transport may be safely estimated at an average width of forty miles on each side the whole distance, excepting the first fifty miles from Hudson river. This estimate would give an area of 28000 square miles, or about 18,000,000 of acres. The population now on this area amounts probably to less than 1,000,000.

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The construction of the railroad would, in the opinion of members of this convention, resident in those counties, cause this population to be more than doubled in five years, and would add more to its numbers within ten years than will be added in a century without such a thoroughfare.

The lands, which are now for the most part wild and unproductive, would be rapidly taken up for cultivation. They are generally of a character to invite the labor and enterprize of agriculturists, and these counties possess extraordinary advantages for manufactures. Their climate is peculiarly salubrious and healthful; and, with a railroad, their various products would at all seasons of the year be readily and cheaply conveyed to market. If they are not uniformly equal in richness of soil to some other counties in the state, this defect is compensated by the excellence of their climate, the number and character of their rivers and creeks affording innumerable positions for mills and manufactories, and their possession or contiguity to inexhaustible sources of iron and coal. With regard to the latter mineral, the regions watered by the Susquehanna will be abundantly and cheaply furnished from the anthracite formation near the southern border of the county of Broome, and, further west, ample supplies are attainable from the bituminous beds which are found from 8 to 40 miles south of the line of the state.

With an avenue to market, the immense forests of pine, and other descriptions of timber, with which they abound, will be rendered valuable, and constitute an important source of wealth to these counties.

With these advantages and resources, and with means of convenient and constant access to market, towns and villages would spring up on many localities now uninhabited; manufactures, trade, and every species of industry and business, would be introduced and established; and these counties would, at no distant period, become as populous, as prosperous, and as highly privileged in their moral, religious literary and social institutions and condition, as any other section of the State.

Fellow Citizens—The merits and claims of this undertaking are thus, though but briefly and imperfectly, presented to your notice. A charter has been granted by the legislature incorporating a company for the construction of the proposed Railroad; one million of the capital stock has been subscribed, and the company has been duly organized; but the extent and magnitude of the work require for it the voice of the community, the co-operation and aid of the citizens and of the State. As a public work, extending so great a distance through the interior, and having such relations to the navigable waters, and to the agriculture, trade, growth and prosperity of the State, it is deemed to have no ordinary claims on the patronage of the legislature and the public. As a work tending more immediately to benefit the Southern Counties, and to confer on them advantages corresponding in some measure with those conferred on the Northwesterly Counties, by the construction of the Erie Canal, it justifies an earnest and confident appeal to the Legislature for liberal and efficient aid. Those counties were, by the construction of the Canal, placed in a worse relative condition than they would have been had no such work been undertaken. The tide of emigration and settlement then in their favor, was, by the commencement of that work, turned away from them. Immense tracts of land, adjacent to the Canal, were opened to cultivation, with ample facilities of access to market; and the lands in these counties, which otherwise would have been taken up and comparatively filled with inhabitants, were neglected and rendered unsaleable, in which condition they remain, for the most part, at the present hour; no more than one-tenth of their surface, on an average, being cultivated. But for the Erie Canal, it is believed that these counties would, at the present time, have been more populous than those would have been which are traversed by that invaluable thoroughfare. While the commencement of that work was in question, and a general concurrence in its expediency was unattainable, the Southern Counties rendered it their timely and efficient support.—They cheerfully shared with the rest of the commonwealth in whatever of hazard and of liability was anticipated from that new and vast undertaking; and they were encouraged to rely, and do rely, on the aid of the State being extended to their relief. They appeal to the equity and justice of the commonwealth thro' her public authorities. They look to the counties which border on our navigable waters, and to the counties which owe their prosperity and their numbers to the liberal policy, enterprize, and common bounty of the State, and to other counties which need, and by a continuance of the same enlarged and beneficent policy, may share in the like advantages, for a candid estimate of their position and their wants, and for the aid which is essential to the success of the proposed undertaking.

Let it be considered that the proposed Railway can in nowise impair or interfere with the public utility, the local benefits, or the growing use and revenue of the Erie Canal. The routes are too far asunder to admit of interference and injury to each other by competition. The inhabitants on the line of the Canal will continue to possess and enjoy the peculiar and inestimable benefits of that work. It will continue to convey their products to market as regularly and as cheaply, and to serve all their purposes as perfectly, as it now does. The construction of the Railroad will abate nothing of their advantages. Its effect will be to create additional business; to augment the population, productions, and wealth of the State, as the Canal has done; to draw on to this route a vast amount of travel and transport, which is now directed through circuitous and expensive channels, to other points beyond our territory; and to double the trade and secure the growth of the city of New York.

An appeal to the citizens for their approbation and encouragement, and to the State for aid to the proposed work, is deemed especially appropriate at the present time, on account of the increasing productiveness of the existing public works of internal improvement, and the abundant means which they will soon supply for such works as may require assistance in other portions of the State. That it will continue to be the policy of the State to husband and apply those resources in such a manner, as to confer on every district as nearly as possible equal advantages, is too obvious to be questioned, if the people continue to understand and appreciate their own and the general interests. No such reduction therefore of the tolls on the canals of the State is to be anticipated, as to constitute any objection to granting the aid which is necessary to the proposed undertaking. One half of the annual surplus revenue of the Canals, after payment of the public debt, would, in a brief period, discharge the entire cost of this Rail Road; or replace such advances as its construction may require in addition to the funds subscribed by individuals. A subscription to the stock of two or three millions by the State would inspire such confidence, as to the accomplishment of the work, as to induce subscriptions by individuals for such further amount as might be necessary.

An ultimate reduction of the tolls on the Canals to a rate sufficient only to provide for their repairs and expenses can at no period be just or reasonable, while any objects of public utility and general welfare, not otherwise provided for, require the expenditure of public money. The extraordinary pretence that the tolls are a tax on those whose products are conveyed on the Canals, ought to arrest the attention and meet the disapprobation of the public. Is it so—that those, who, by their vicinity to these channels of cheap and easy communication, provided for them by the energy and responsibility of the whole State, can receive at their doors fifty per cent. more for their products, the tolls notwithstanding, than the inhabitants of the sequestered counties can realize for theirs, after deducting the heavy expense of time and money required for the transportation of them to market over circuitous and difficult routes,—is it so that those who under such circumstances pay tolls, deem this condition of their unparalleled advantages a hardship? Let it not be believed that there is a farmer or any citizen capable of reckoning his income, who would be guilty of such a perversion; or who would not gladly see the public arm extended to confer the like advantages on every section of the State.

It may well be questioned whether the increased business on the Canals the present season, is not owing to the extraordinary abundance of the crops, and prosperity of business, rather than in any considerable degree to the diminution of the rate of tolls which has already been made. It is stated on respectable authority that the expense to individuals who hire others to forward their commodities, is, with the reduced tolls, as great, this season as it was on the like articles before the reduction took place. The effect of that measure therefore is to increase the income of the carriers, rather than to relieve or benefit the owners or producers of the commodities carried.

Whether this view of the subject, however, is well founded or not, no further reduction is called for with a view to induce a further increase of business on the Canals, especially on the Erie Canal, as that is already nearly if not fully occupied, and no possible advantage can be gained in respect to expense under the present rates of toll, by those who come on to it from the Lakes, should they take any other route to an Atlantic market.

There is, then, in respect to the ability of the State, the provision of means without hardship or injury to any portion of our citizens, and with respect to the equity, reasonableness and public policy of the measure, no obstacle to the extension of the necessary aid to the work now proposed; and it is therefore, with entire confidence, commended to the favorable consideration of the public.

On behalf of the Convention.

Sherman Page,
Noadiah Johnson,
Joshua Whitney,
Theodore North,
Eleazar Lord
} *Committee.*

Rail Roads.—A Convention of Delegates from Kings, Queens, and Suffolk, will be held at the Inn of Thomas Halliock, in Smithtown, on the first Tuesday of December next, at 11 o'clock A. M., to concert and adopt measures in reference to a Rail. road through Long Island. There is no region in this country where a Railroad can be made at less cost.

NEW-YORK AMERICAN.

NOVEMBER 23, 25, 26, 27, 28, 29—1833.

LITERARY NOTICES.

ABERCROMBIE ON THE INTELLECTUAL POWERS, &c. with Questions for the Examination of Students. New York: HARPER & BROTHERS.—It is some months since the first edition of this valuable treatise was published by the Harpers as one of the series of the Family Library. The rapid sale of that edition, and the inquiry for the work in many seminaries of learning, has induced the publishers to issue a new edition, with questions carefully adapted to the examination of students, in whose hands the work may be placed. These questions are all thrown together at the end of the volume, and made to refer by figures to the pages where the topics inquired of, are treated; and, according to the system upon which they proceed—a bad one in our judgment, as only tending to exercise the memory, without developing the reasoning powers—they seem to us well and carefully framed.

THE INFLUENCE OF THE BIBLE IN IMPROVING THE UNDERSTANDING AND MORAL CHARACTER, by JOHN MATTHEWS, D. D. Professor of the Theological Seminary at South Hanover, Indiana, with a preliminary essay by ALBERT BARNES. Philadelphia, HARRISON HALL.—The object of this little treatise—which was originally published in numbers in a religious periodical—is to assert the claim of the Bible to be studied, not only as the faithful record of religion, but as a literary treasure, fitted by its style, its taste, its eloquence and its adaptation to all times, and to all states of human knowledge, to improve the judgment and purify the heart. In this point of view it must be admitted that the Bible is rarely considered, and yet it is, we think, well and successfully urged by the Rev. author, that as a *classic*, the Bible is only less valuable than as a book of Faith.

LA REVUE FRANCAISE, No. 1: New York; HOSKINS & SNOWDEN.—We have here a well printed pamphlet, springing at once into existence, without any previous preliminary notice, and thus saving by a *me voici* all the trouble and circumlocution of previous announciations, promises and explanations—The design is to publish quarterly, similar numbers, to consist of choice extracts from French literature, and from the literature of other countries, translated into French. How far this can be well done by Editors to whom the French is an acquired language, may be problematical—so difficult do we deem it for any one to judge critically of the literature of a foreign tongue. It would, we think, strike us oddly to hear of an American Review, to contain extracts from, and notices of, American and English works, being projected by a Frenchman. Yet the case is analogous, and hence our doubts as to how this bold undertaking, and certainly well executed thus far, may succeed.

The contents of this number are diversified and full of interest. The first article furnishing extracts from Heyn's history of the year 1830 in France, is quite remarkable; and we shall, probably, take occasion to make some translations from it for our columns.

GREENBANK'S PERIODICAL LIBRARY, Vol. III, No. I. Philadelphia: T. K. Greenbank & Co.—The last number of this very cheap and well printed periodical, now before us, commences Tytler's Life of Sir Walter Raleigh. This publication is issued weekly, in numbers of 48 pages, well printed on good paper, making in the course of the year, four large 8vo. volumes, each containing 620 pages! The subscription by numbers is $5 per annum, or $6 50 if received in volumes.

HISTORY OF THE REBELLION IN SCOTLAND IN 1745 AND 1746; by ROBERT CHAMBERS, author of 'Traditions of Edinburg;' 1 vol.; Philadelphia; *G. C. Mie-kle.*—There is no hero of romance whose fictitious adventures surpass in interest, or equal in dignity, the real ones of Charles Edward in the rebellion of forty-five. His whole course—from the moment he landed alone and almost pennyless on a wild and secluded shore of Scotland, to that in which, in order to allay the jealousies of "the Elector of Hanover," he was forcibly and faithlessly conveyed out of the dominions of France—was that of a chivalrous knight; who, staking life and honor in the game where a royal diadem was the prize, was ever foremost in the fight, the last in the retreat, whom hardships could not daunt nor fearful odds dishearten, and who, with the single exception perhaps of the battle of Falkirk, evinced throughout, equal skill as a commander, and courage as a soldier. In this delightful volume, Mr. Chambers dwells with the fondness of an antiquary, and possibly sometimes with the partiality of a Jacobite, on all the details of the brilliant, but ill-fated Highland irruption, which shook the house of Hanover on the throne, and startled all England with the marvellous feats in arms of wild mountain hordes, held together by no other bond, than a mixed feudal and family allegiance to the head of their respective clans. It is less a history, than a collection of personal memoirs, connected with this attempt of the Chevalier to recover the crown of his fathers; and though much of it has appeared before in various shapes, there are still many anecdotes now published for the first time, and as a whole, it is probably the best notice extant of *the forty-five.*

In order to enable our readers to judge of the general style of the book, we shall subjoin a few extracts.

The following comparison between the appearance and manner of reception at Holyrood House of George IV. during his progress in Scotland, and Charles Edward, lets us at once into the feelings of the author:

Charles approached Holyroodhouse by the same path over which George the Fourth, seventy-seven years after, was drawn thither, in his daily progresses from Dalkeith. As he was parading along, the Duke of Perth stopped him a little, while he described the limits and peculiar local characteristics of the King's Park. It was observed on this occasion by an eye witness, that during the whole five minutes his grace was expatiating, Charles kept his eye bent sideways upon Lord Elcho (who stood aside at a little distance), and seemed lost in a mental speculation about that youthful adherent.

As the procession—for such it might be termed—moved along the Duke's Walk, the crowd greeted the principal personage with two distinct huzzas, which he acknowledged by as many bows and smiles. Charles did not seem to court these acclamations, or even to appreciate them in the way that might have been expected from a person under his peculiar circumstances, but, maintaing all the dignified bearing and lofty indifference of a real prince, took the whole as a mere matter of course. The general feeling of the crowd seemed to be a very joyful one, arising in some cases from the influence of political propossessions, in many others from gratified curiosity, and perhaps in still more from the satisfaction with which they had observed the fate of the city so easily decided that morning. Many had previously conceived Charles to be only the leader of a band of predatory barbarians, at open warfare with property, and prepared to commit any species of cruelty for the accomplishment of his purposes. They now regarded him in the interesting light of an injured prince, seeking, at the risk of life, one single noble object, which did not very obviously concern their personal interests. All, more or less, resigned themselves to the charm with which the presence of royalty is invariably attended. The present generation of the people of Edinburgh saw a king, *de facto*, pass over the ground which Charles was now passing over; a king who had no rival to his title, and whom the whole undivided country had agreed to honor and applaud. Yet, we doubt if the circumstances of that memorable scene, with all their exciting interest, composed nearly so fine an affair as the advent of the unfortunate Charles, equivocal as was his title, and miserable his retinue. In the case of George the Fourth, it is true, the whole population of Scotland was there to say, "God bless him!" and every body beheld, with wonder and affection, a monarch acknowledgedly the most powerful on the face of the earth. But, besides that his age prevented him from having the strictly personal charm of Charles, he was invested with none of that charm of national association which gilded the name of Stuart. He was a goodly object, and surrounded with goodly objects, to fill and please the living eye; but he excited no image of pleasure upon the mental optics that were backward cast upon the past. He was the sovereign of the understanding and the reason; but Charles was emperor over the imagination and the heart. Youthful and handsome; gallant and daring; the leader of a brave and hardy band; the commander and object of an enterprise singular beyond all former singularity, and hazardous beyond all former hazard; the idol of a sentiment equivalent to all that was generous; unfortunate in his birth and prospects, but making one grand effort to retrieve the sorrows of his fate; the descendant of those time honored persons by whose sides the ancestors of all who saw him had fought at Bannockburn and Flodden; the representative of a family peculiarly Scottish, but which seemed to have been deprived of its birth-right by the machinations of the hated English; Charles was a being calculated to excite the most fervent and extravagant emotions amongst the people who surrounded him. If the modern sovereign was beheld with veneration and respect as the chief magistrate of the nation, and with love and admiration as an acknowledged pattern of all manly politeness, the last of the Stuarts was worshipped by the devoted loyalists of that time, as a cherished idol. George might be greeted, in his splendid chariot, with cheers and smiles; but the boot of Charles is said to have been dimmed, as he passed along, with kisses and with tears!

The Chevalier triumphing as a king, was resolved or perhaps overpersuaded, to exercise a peculiar attribute of sovereignty, that of touching for the king's evil. The ceremony and its result are thus given:

While Charles held court in Holyrood, he revived, in one instance at least, a courtly practice which had been for some time renounced by the sovereigns of England. This was—touching for the King's evil. It is well known that not only was the superstitious belief in the efficacy of the royal touch for this disease, prevalent among the people so late as the reign of Queen Anne, but the Book of Common Prayer actually contained an office to be performed on such occasions, which has only been omitted in recent editions of that venerable manual of devotion. Queen Anne was the last monarch who condescended to perform the ceremony; on which account, it used always to be said by the Jacobites, that the usurping family *dared* not do it, lest they should betray their want of the royal character. We have been informed by an ancient nonjurant still alive, that a gentleman of England having applied to King George the First, soon after his accession, to have his son touched, and being peevishly desired to go over to the Pretender, actually obeyed the command, and was so well pleased with the result of the experiment, that he became and continued ever after a firm believer in the *jus divinum*, and a staunch friend of the exiled family. Whether Charles believed in the supposed power of the royal touch, we cannot determine; but it is certain that he condescended to perform the ceremony at Holyrood-House, under the following circumstances:—

When at Perth, he had been petitioned by a poor woman to touch her daughter, a child of seven years, who had been dreadfully afflicted with the disease ever since her infancy. He excused himself by pleading want of time; but directed that the girl should be brought to him at Edinburgh; to which she was accordingly despatched, under the care of a stout sick-nurse; and a day was appointed when she should be introduced to his presence in the palace. When the child was brought in, he was found in the picture gallery, which served as his ordinary audience chamber; surrounded by all his principal officers and by many ladies. He caused a circle to be cleared, within which the child was admitted, together with her attendant, and a priest in his canonicals. The patient was then stripped naked, and placed upon her knees in the centre of the circle. The clergyman having pronounced an appropriate prayer—perhaps the office above mentioned—Charles approached the kneeling girl, and, with great apparent solemnity, touched the sores occasioned by the disease, pronouncing, at every different application, the words, "I touch, but God heal!" The ceremony was concluded by another prayer from the priest; and the patient, being again dressed, was carried round the circle, and presented with little sums of money. Precisely twenty-one days from the date of

her being submitted to Charles's touch, the ulcers fortunately closed and healed; and nothing remained to show that she had ever been afflicted, except the scars or marks left upon the skin! We have derived this strange tale from a non-juring gentleman, who heard the woman herself relate it, and who had touched with his own fingers the spots upon her body which had previously been honored by contact with those of Charles.

We conclude with a summary view of some of the atrocities perpetrated after the battle of Culloden, and for which the memory of the Duke of Cumberland will be justly execrated to the latest time:

The barbarities which followed the victory of Culloden, when the fervour of battle must have been cooled, and the victors completely assured of receiving no farther annoyance from the enemy, were such as to be scarcely credible by the present age; and the writer who now undertakes to display them in their real colors, may perhaps incur the charge of exaggeration or prejudice. Neither this imputation, however, nor any sentiment of delicacy shall be allowed here to stifle the statements which so many former historians have, for these, or for worse reasons, withheld.

The most obvious chargo of barbarity which can be brought against the Duko of Cumberland, in reference to this period of the campaign, is that he did not take the pains which are usually taken by victors in civilized warfare, of attending to the wounded of the enemy in common with those of his own army. Charles, who, notwithstanding all the attempts which have been made to show him up as a monster, cannot be denied to have used his victories with moderation and humanity, had all along treated the wounded of his prisoners with the most anxious and considerate kindness; even incumbering himself, at various periods of his campaign, in order to provide for their comfort. But with the Duke of Cumberland, whose opportunities for displaying humanity were so much better, the case was very different. Not only did he permit the bloody scene already described, where the wounded insurgents were indiscriminately massacred, but he actually took a personal interest in the completion of the dreadful work. Soon after the battle, he was riding over the field, accompanied by Colonel Wolfe, the future hero of Quebec, when he observed a wounded Highlander sit up on his elbow, and look at him with what appeared to his eyes defiance. "Wolfe," he cried, "shoot me that Highlander scoundrel, who thus dares to look on us with so insolent a stare."—"My commission," said the gentle and excellent Wolfe, "is at your royal highness's disposal; but I never can consent to become an executioner." The Highlander, in all probability, was soon despatched by some less scrupulous hand; but it was remarked that from that day, the recusant officer declined visibly in the favour and confidence of his commander.

It is a fact equally authentic with the preceding, that, on the day after the action, when it was discovered that some of the wounded had survived both the weapons of the enemy and the dreadful rains which fell in the interval, he sent out detachments from Inverness, to put these unfortunates out of pain. The savage executioners of his barbarous commands performed their duty with awful accuracy and deliberation; carrying all they could find to different pieces of rising ground throughout the field, where, having first ranged them in due order, they dispatched them by shot of musketry. On the following day (Friday) other parties were sent out to search the houses of the neighboring peasantry, in which, it was understood, many of the mutilated Highlanders had taken refuge. They found so great a number as almost to render the office revolting to its bearers; but, with the exception of a few who received mercy at the hands of the officers, all were conscientiously murdered. An unconcerned eye witness afterwards reported to the writer just quoted, that on this day he saw no fewer than seventy-two individuals "killed in cold blood!" Dreadful, however, as this scene must have been, it was surpassed in fiendish wickedness by a sort of supererogatory cruelty which was acted by the soldiers in the course of their other operations. At a little distance from the field of battle, there was a wretched hut, used for sheltering sheep in stormy weather, into which a considerable number of the wounded had crawled. The soldiery, on discovering them, actually proceeded to secure the door and set the house in flames; so that all within perished, including many persons who were merely engaged in attending the wounded. In the rubbish of this habitation, between thirty and forty scorched and smothered bodies were found by the country people, after the monsters had departed from the scene of their ravages.

But by far the most horrible instance of cruelty which occurred in the course of these unhappy times, was one which took place in the immediate vicinity of Culloden House. Nineteen wounded officers of the Highland army had been carried, immediately after the battle, from a wood in which they had found their first shelter, to the court-yard of that residence, where they remained two days in the open air, with with their wounds undressed, and only receiving such acts of kindness from the steward of the house, as that official chose to render at the risk of his own life. Upon the third day, when the search was made throughout the neighboring cottages, these miserable men were seized by the ruthless soldiers, tied with ropes, and tossed into a cart, and taken out to the side of a park wall, where, being ranged up in order, they were commanded to prepare for immediate death. Such as retained the use of their limbs, or whose spirits, formerly so daring, could not sustain them through this trying scene, fell upon their knees, and, with piteous cries and many invocations to heaven, implored mercy. But they petitioned in vain. Before they had been ranged up for the space of a single minute—before they could utter one brief prayer to heaven, the platoon, which stood at the distance of only two or three yards, received orders to fire. Almost every individual in the unhappy company fell prostrate upon the ground, and expired instantly. But, to make sure work, the men were ordered to club their muskets, and dash out the brains of all who seemed to show any symptoms of life. This order was obeyed *literally*. One individual survived—a gentleman of the clan Fraser. He had received a ball, but yet showed the appearance of life. The butt of a soldier's musket was accordingly applied to his head to despatch him; nevertheless, though his nose and cheek were dashed in, and one of his eyes dashed out, he did not expire. He lay for some time in a state of agony not to be described, when Lord Boyd, son of the Earl of Kilmarnock, happening to pass, perceived his body move, and ordered him to be conveyed to a secure place, when he recovered in the course of three months. The unfortuate man lived many years afterwards to tell the dreadful tale; and the writer already alluded to appears to have derived his information from this excellent source.

The Duke of Cumberland has been characterized by his friend Earl Waldegrave, as one whose judgment would have been equal to his parts, had it not been too much guided by his passions, which were often violent and ungovernable. The cruelties, however, which distinguished his Scottish campaign, rather argue the cool malignant fiend than the violent man of anger. His courage was that of the bulldog; but he had not the generosity of that animal, to turn away from his victim when it could no longer oppose him. After fairly overthrowing his antagonist, his savage disposition demanded that he should throttle, and gore, and excruciate it, as a revenge for the trouble to which it had put him in the combat.

Scenes in our Parish, by a Country Parson's Daughter, 1 vol. New York: Harper & Brothers. They who will read these simple annals with a right spirit, will find in them both amusement and improvement. They are, we cannot doubt, real scenes, such as any parish in England may afford—portrayed with feeling, and beauty of sentiment as well as of expression, and all tending to inculcate as the sole reliance for happiness, or consolation, a belief in, and dependance on the truths and promises of the Bible.

The Book of my Lady, a Melange, by a *Bachelor Knight;* 1 vol.; *Philad.*, Key & Biddle.—Most of the rhapsodies of this prettily printed volume have appeared separately before, we believe, in annuals and other similar publications; and upon the whole, we think they might as well have been left in their scattered state, for together they are too overpowering. We may, however, very possibly be of the number of those of "Spitzbergen-like temperament," for whom the author expressly declares he does not write, and therefore unworthy to criticise, as we are certainly incapable of admiring, such soaring flights.

Canterbury Tales, first series, by Harriet and Sophia Lee; 2 vols. Philadelphia, Carey, Lea & Blanchard.—It is well to go back, amid the multiplicity of new works daily poured forth, now and then to those volumes that time and the judgment of men have tested. We are therefore well pleased to see this edition of tales well remembered in other days, and which have not, in their kind, been surpassed by any thing of later date.

Library of Select Novels, Vol. xxiii. and iv.—*Richelieu:* N. Y., Harper & Brothers.—This novel, heretofore noticed in this paper with commendation, is well entitled, in our judgment, to take its place as a standard work—as delineating both character and events with great power and fidelity.

Companion to the Christian Lyre; by Rev. Joshua Leavitt. New York: Jonathan Leavitt.—This is a republication, without the music, and with the addition of many new hymns, of the Christian Lyre, a book of devotional poetry, which appeared in 1831.

Lovell's Folly, a novel, by Caroline Lee Hentz, author of De Lara, Lemirah, &c. *Cincinnati*, Hubbard & Edmunds.—An American novel, printed in the city of the West, and very well printed too in good bold type—a lady, too, the author—what further shall we say? We had better, we believe, commit the work to the judgment of the country, without saying any thing. Under cover of the principle, which seems to be gaining ground, that what is American must not be, what is called, harshly dealt by—Lovell's Folly may gain favor, and we would not willingly intercept a ray thereof.

New Maps.—*State of New York—State of Ohio.* J. H. Colton & Co. N. Y. publishers.—These are two very well executed and well colored maps, drawn by D. H. Burr, and reduced to a size that renders them convenient for consulting, without excluding any material objects.

No. V.

Wheeling, Virginia, Oct. 20th.

I used to think our sea-board climate as capricious as it could well be; but the changing skies under which we have travelled for the last three days convince me that no where is the office of weather-cock less of a sinecure than in the region through which I have just travelled. Yet I do not complain of the weather. Far from it—I consider myself peculiarly fortunate in having, during a three days ride over the Alleghanies, seen that fine mountain district under every vicissitude of climate; and though the cold has at times been severe—the harsh rains anything but agreeable for the time—the Indian summer heat almost sultry—and lastly the *snow* most unseasonable, I could not, if I had made my own private arrangements with the clerk of the weather, have fixed it upon the whole more to my satisfaction. The still cold frosty mornings gave a vigour and boldness of outline to the mountain scenery, that extended its limits and heightened its effect. The rains which an hour afterward washed the changing leaves, brightened their tints for the noon-day sun which followed, and the warm mist of evening imbued the landscape with a Claude-like mellowness that suited the rich repose of evening among the hills.

As for the snow, nothing could be more beautiful than the effect of it at this season in the woods. We had two flurries, on successive days, each of which after covering the ground about an inch in depth, was succeeded by a bright glowing sky. The appearance the woods then presented, it would be almost impossible to describe to you. Call up in your mind the brilliant and animated effect produced by a January sun shining through a leafless grove, over the fresh white carpet that has been wound among the trees during the preceding night. How do the dead branches smile in the frosty sunbeams—how joyously does every thing sparkle in the refracted light! Now imagine the tinted leaves of autumn blushing over those rigid limbs, and reflecting warmth upon the dazzling mantle beneath them—green, gold, and purple—scarlet, saffron, and vermillion—the dolphin hues of our dying woods, glistening in the silver shower, and relieved against a surface of virgin whiteness. Let the scene lie if you choose among mountains clothed with forests as far as the eye can reach—their billowy forms now sweeping off in vast curves along the sky, and now broken by ravines, through which a dozen conflicting lights climb their shaggy sides.—or, not less striking, let it be a majestic river, whose fertile islands, rich alluvial bottoms, and wooded bluffs beyond, are thus dressed at once in autumn's pomp and winter's robe of pride; and you can hardly conceive a more beautiful combination. Such was the aspect under which I crossed the last summit of the Alleghanies yesterday—and such under which I viewed the Ohio this morning. The fine undulating country between the mountains and this place, especially after passing the stage town of Washington, on the borders of Pennsylvania, left me nothing to regret in the way of scenery after crossing the last ridge this side of Somerset. And yet nothing can be more exhilarating than a canter over those heights on a bracing October day. The

sudden breaks and turns of the mountain road open new views upon you at every moment, and the clear pure atmosphere one breathes, with the motion of a spirited horse, would "create a soul beneath the ribs of death," and rejuvinate Methusaleh himself. One must once have been a dyspeptic to estimate to the full that feeling of tangible health. For my own part, however philosophers may preach up the sublimity of intellectual pleasures, or poets dilate upon the delights of etherealizing sentiment, I confess that I hold one good burst of pure animal spirits far above them all. On horseback, especially when life quickens in every vein, when there is life in the breeze that plays upon your cheek, and life in each bound of the noble creature beneath you, who that has felt his pulses gladden, and youth, glorious indomitable youth, swelling high above manhood's colder tide in his bosom—who would give the rush of spirits, the breathing poetry of that moment, for all the lays that lyrist ever sung—for all the joys philosophy e'er proved. This I know must appear a shocking doctrine to "the march of mind" people; but as they are presumed to go on foot, they are no authority on the subject. Apropos of pedestrians, though your true western man generally journeys on horseback, yet one meets numbers of the former on this side of the Alleghanies. They generally have a tow-cloth knapsack or light leathern valise, hung across their backs, and are often very decently dressed in a blue coat, gray trowsers, and round hat, and travel about forty miles a day. Those with whom I spoke I generally found to be Germans. The horsemen almost invariably wear a drab great coat, fur cap, and green cloth leggings, and in addition to a pair of well-filled saddle-bags, very often have strapped to their crupper a convenience the last you would expect to find in the wardrobe of a backwoodsman, viz. an umbrella. The females of every rank, in this mountainous country, ride in short dresses. They are generally wholly unattended, and sometimes in large parties of their own sex. The saddles and housings of their horses are very gay, and I have repeatedly seen a party of four or five buxom damsels, mounted on sorry looking beasts, whose rough hides, unconscious of a currycomb, contrasted oddly enough with saddles of purple velvet, reposing on scarlet saddle cloths worked with orange-coloured borders. I have examined the manufacture of these gorgeous trappings at the saddleries in some of the towns in passing. They much resemble those which are prepared in New-York for the South American market, and are of a much cheaper make, and far less durable, than those which a plainer taste would prefer. Still the effect of these gay colours, as you catch a glimpse of them afar off, fluttering through the woods, is by no means bad. They would show well in a picture, and be a great assistance to a painter in relieving the shadows of a sombre landscape.

But by far the greatest portion of travellers one meets with, not to mention the ordinary stage passengers, consists of teamsters and the emigrants. The former generally drive six horses before their enormous wagons—stout, heavy looking beasts, descended, it is said, from the famous draught horses of Normandy. They go about twenty miles a day. The leading horses are often ornamented with a number of bells suspended from a square raised framework over their collars; the same being originally adopted to warn these lumbering machines of each other's approach, and prevent their being brought up all standing, in the narrow parts of the road.

As for the emigrants, it would astonish you to witness how they get along. A covered one-horse wagon generally contains the whole worldly substance of a family consisting not unfrequently of a dozen members. The tolls are so high along this western turnpike, and horses are comparatively so cheap in the region whither the emigrant is bound, that he rarely provides more than one miserable Rosinante to transport his whole family to the far west. The energies of the poor animal are of course half the time unequal to the demand upon them, and you will, therefore, unless it be raining very hard, rarely see any one in the wagon, unless perhaps some child overtaken by sickness, or a mother nursing a young infant. The head of the family walks by the horse, cheering and encouraging him on his way. The good woman, when not engaged as hinted above, either trudges along with her husband, or, leading some weary little traveler by the hand far behind, endeavours to keep the rest of her charge from loitering by the way-side. The old house dog—if not chained beneath the wagon to prevent the half-starved brute from foraging too freely in a friendly country—brings up the rear. I made acquaintance with more than one of these faithful followers in passing, by throwing him a cracker as I rode by, and my canine friend, when we met at an inn occasionally afterward, was always sure to acknowledge the intimacy. Sometimes these invaluable companions give out on the road, and in their broken down condition are sold for a song by their masters. I saw several fine setters which I had reason to suspect came into the country in this way—and the owner of a superb brindle greyhound which I met among the mountains, told me that he had bought him from an English emigrant for a dollar. He used the animal with great success after deer, and had already been offered fifty dollars for his purchase.

The hardships of such a tour must form no bad preparatory school for the arduous life which the new settler has afterward to enter upon. Their horses, of course, frequently give out on the road; and, in companies so numerous, sickness must frequently overtake some of the members. Nor should I wonder at serious accidents often occurring with these crank conveyances among the precipices and ravines of the mountains. At one place I saw a horse but recently dead lying beneath a steep, along the top of which the road led, and a little further in advance, I picked up a pocket-book with some loose leaves floating near the edge of the precipice. My companion reminded me of the story of Cardenio in Don Quixote, with the dead mule and the rifled portmanteau lying a few yards apart, among the rocks of the Sierra Morena; and we almost expected to see the grotesque figure which so excited the noble emulation of the worthy knight, leaping from rock to rock in the same guise that the admirable pencil of Cervantes has assigned to him. The apparition did not show itself, however; and we left the pocket-book at the nearest inn, to be disposed of according to the claimants that might appear. These mountains, though occasionally thus cut up by precipitous glens, are still by no means rocky—as would appear from the fact of the inhabitants hunting deer on horseback, through woods which would be almost impervious to a pair of city-bred legs. The modus operandi is very simple. The hunters collect in a troop—drive the deer in a circle—and then shoot from the saddle. You may remember something of the same kind described in Waverley. The soil must in general be indifferent, according to what was told us by the keeper of a turnpike gate, who claimed to be the father of twenty-seven children! I asked this worthy *paterfamilias* if the country was healthy? "Healthy, sir!" he replied, "that it is—healthy and poor—ten people run away where one dies in it." The soil improves much after leaving the mountains; and we crossed some rich bottom lands when fording the Youghioghany and Monongahela rivers,—the former a branch of the latter, and both fine pebbly streams navigable at certain seasons of the year.

About thirty miles from Wheeling we first struck the national road. It appears to have been originally constructed of large round stones, thrown without much arrangement on the surface of the soil, after the road was first graded. These are now being ploughed up, and a thin layer of broken stones is in many places spread over the renovated surface. I hope that Uncle Sam has not the conscience to call this Macadamizing. It yields like snow-drift to the heavy wheels which traverse it, and the very best parts of the road that I saw are not to be mentioned with a Long-Island turnpike. Two-thirds indeed of the section we traversed were worse than any artificial road I ever travelled, except perhaps the log causeways among the new settlements in northern New-York. The ruts are worn so broad and deep by heavy travel, that an army of pigmies might march into the bosom of the country, under the cover they would afford; and old Ixion himself could hardly trundle his wheel over such awful furrows. Perhaps I was the more struck with the appearance of this celebrated highway, from the fact of much of the road over the mountains having been in excellent condition. There is one feature, however, in this national work which is truly fine,—I allude to the massive stone bridges which form a part of it. They occur, as the road crosses a winding creek a dozen times within twice as many miles, continually. They consist either of one, two, or three arches; the centre arch being sprung a foot or two higher than those on either side. Their thick walls projecting above the road, their round stone buttresses, and carved key-stones, combine to give them an air of solidity and strength that is really Roman-like; and marks them as memorials of taste and power, which will tell for the country when the brick towns they bind together shall have crumbled in the dust.

These frequently recurring bridges, you can readily conceive, constitute a striking and happy feature in the landscape, as, while the road leads through a narrow valley for many miles, they appear at almost every turn spanning its deep bosom, and reflected with all their sombre beauty in the stream below.

The valley widens within a few miles of Wheeling, and the road strikes into the hill-side, whose crooked base it has long been following. It soon begins to be cut out of the solid rock, and the ascent is rapidly accelerated. Above, on the right, the trees impend from a lofty hill over your path, and far below you see the stream, so long your companion, gleaming through a small cultivated bottom, which shows like a garden to the eye. It is girded by steep hills, and seems, with its single mill and one or two farm-houses, to be shut out from all the world. You advance a pistol shot, and you look into the chimnies of Wheeling. The Ohio is beneath your feet. The town lies in so narrow a strip along the river, that, from the ridge on which you stand, you will hardly notice its crowded buildings; and that first view of the lovely river of the west is worth a journey of a thousand miles. The clear majestic tide, the fertile islands on its bosom, the bold and towering heights opposite, with the green esplanade of alluvion in front, and the forest-crowned headlands above and below, round which the river sweeps away, to bless and gladden the fruitful regions that drink its limpid waters,—these, with the recollections of deeds done upon its banks—the wild incidents and savage encounters of border story, so immediately contrasted with all the luxuries of civilization that now floats securely upon that peaceful current,—these make up a moral picture whose colours are laid in the heart, never to be effaced;—no man will ever forget his first view of the Ohio.

I descended with regret from the elevation which afforded this noble prospect, and plunging into the smoky town below, am now comfortably quartered in the best tavern in the place. I shall remain here only till a steamboat comes along, and will write to you next from Pittsburgh. H.

FOREIGN INTELLIGENCE.

The packet ship Roscoe, of the 24th ult., from Liverpool, brings us London papers of and to the 23d. They are of ususual interest. And first, of

Capt. Ross.—The item of intelligence by this arrival, however, which, we confess, touches us the most—and, if we may judge from the general gratulation with which every one we have seen receives it, will most touch our readers—is that of the safe return to England of this long-lost officer and all the companions save three of his original voyage. He, with his son, commander Ross, had reached London, after being received throughout their whole progress from the north of England, where they landed from the Orkneys, with acclamations, ringing of bells, and every sign of rejoicing. They had dined with the king, by whom they were most warmly welcomed, and from the heads of the admiralty, and in every other quarter had received the most gratifying reception. So incredulous was the public of the possibility of his having returned in safety, that when the news of it reached London, it was taken as a hoax, and although a meeting of the subscribers to Captain Back's expedition was convened in order to take measures immediately to recall that gallant and self-devoted individual, Mr. Perry the Governor of Hudson's Bay Company, in assenting to take the preliminary steps for expiditing such recall, yet spoke of the return of Capt. Ross as far from certain. Having appeared, however, in person, all doubts were at an end; and this very packet has, we dare say, brought out despatches, with orders from the Hudson Bay Company to transmit by express to Capt. Back, the gratifying intelligence of the safe return of those, of whom, amidst the discouragements and uncertainties of all others, he never despaired, and for the chance, desperate as it seemed to most, of rescuing whom, he willingly incurred the risk of much toil and suffering, and the imminent hazard of a lingering and protracted death. Truly enviable, indeed, will be his feelings, when he hears the safety of his friend, and finds, moreover, that after justly entitling himself to the whole merit of such a sacrifice as his attempt implies, he may be very honorably, and for the most sufficient reasons, exempted from the hardships and perils of further prosecuting it. There is a letter from Capt. Back in the London papers, dated 19th June, *from Norway house, Jack river*, where he was making preparations to insure a safe transport of his boats, crews, &c. to a wintering ground. An express, therefore, sent off now, will intercept him in his winter quarters.

France was agitated by the events in the Peninsula, and according to the Spectator,

"The French Government have determined to station an army of observation, fifty thousand strong, along the Pyrenees. It is destined to act only in the event of Bourmont and his fellow officers taking arms under Don Carlos; which, it is maintained, would justify French interference with the internal concerns of Spain. A story which has been circulated of a protest by Pozzo di Borgo against Louis Philip's recognition of Queen Isabella the Second, is scouted as absurd, by the Paris correspondent of the Times.

Louis Philip has gained some popularity among his subjects, by the promptitude with which he has taken part with the existing Spanish Government; but he is likely to lose it in other ways. In a spirit of servile compliance with the wishes of the Austrian Government, he has caused the arrest of a very old friend of European liberty, Buonarotti, Marquis de Canossa, the only surviving descendant of Michael Angelo. His advocate, M. Prati, has published a letter soliciting subscriptions in England in

order to defray the charges of his defence. The banished patriots of Italy, it seems, are not safe from the prosecution of their Austrian tyrants even in Paris. The Times says, in reference to this subject—

"The offence of this illustrious sufferer is his devotion to the cause of liberty from early manhood, and his Italian birth. These Northern and Eastern despots will drive the world mad with their outrages; but this is not all. The French nation, who are in earnest both where their domestic liberties and their national independence are concerned, must see with pain the obliquities of their so-called Constitutional Monarch, and his wavering but wily policy, with hatred of tyranny on his lips, and prompt subserviency to its dictates in his actions. The Regent of Spain might take a lesson from the fate of Poland, and think a little before she yields herself implicitly to the councils of Louis Philip."

HOLLAND AND BELGIUM.—There appears to be some chance of a collision between the Dutch and Belgian troops. The fortress of Maestricht, garrisoned by the Dutch, cannot be approached except through a territory declared to be neutral and inviolable: and which the King of Holland has no right to march his troops through, until he has removed the obstructions which still impede the navigation of the Maese. But the term of service of a portion of the garrison has expired, and they have become mutinous and insist upon being relieved. The question is, whether the King of Holland will, under these circumstances, attempt to replace them with fresh troops. Should he determine to do so, the Belgians who have moved a considerable force in that direction, will oppose him; and the French also would have a right to interfere, as they are parties to the convention by which the territory in question is declared to be inviolable and strictly neutral. General ST. CYR, the Commander of the French army of the North, had arrived in Brussels in order to make arrangements with the Belgian Government relative to their future proceedings.

SPAIN.—The manifesto of the Queen, published some days ago by us, had dissatisfied the liberal party in Spain and throughout Europe, without conciliating the apostolical party at home. Don Carlos had entered Spain, and the provinces of Biscay and Navarre were in a state of insurrection. Madrid however remained tranquil. The army generally espoused the cause of the young Queen, and there seemed little reason to doubt, at the latest dates, that the Regent would, by her own strength and forces, be able to subject the whole kingdom to the rule of the Infanta. If not, however, Louis Philippe, through M. de Rayneval, had openly proffered his aid to maintain the rights of the young Queen. So at least we read the professions of that functionary, though the London Times takes the whole as a mere complimentary flourish. Our own conclusion from all the accounts however is, that the Regent would of herself put down opposition: Don Carlos, though in Spain, was concealed; the military commanders of provinces had all given in their adhesion to the new dynasty, and Bourmont and his Vendeans, who had left the Portuguese service, and were performing quarantine in Estremadura, had been ordered out of the kingdom.

The acknowledgment of the young Queen by Austria had been received, but with many reservations, some of which were very unsatisfactory.

The French had fully recognized the young sovereign, and we presume—though as our papers only reach back to the 18th, we see no evidence of it—England had done likewise. The latest dates from Madrid are of 14th October.

PORTUGAL.—Every thing here was in *statu quo*. The dates are only to the 7th. Those by the Swedish brig, arrived here some days ago, were of the 12th. Great distress prevailed among the troops of Pedro both at Lisbon and Oporto. Bourmont, De la Roche Jacquelin, and other officers had left the service of Miguel, owing to disagreements with the Portuguese officers as to the mode of conducting the campaign Bourmont's son, however, and others of his countrymen, remain. Gen. Macdonald was the commander of the Miguelites.

TURKEY AND RUSSIA.—The treaty between these two Powers is at length published. We copy an abstract of its provisions, giving the supplementary article at length. That article, inasmuch as it stipulates, that upon the requisition of Russia, the Porte shall at any time close the DarJanelles to every foreign power, will not fail to be protested against by this country, as well as by France and England.

The knowledge of the treaty between Russia and the Porte has at last become public. The following is an abstract of it. It is dated the 8th of July; being, according to the Turkish chronology, the 24th day of the moon, and consists of the preamble, 6 articles, and a conclusion, signed by the Seraskier Achmet Pacha, on the part of the Porte; and Count Orloff and M. de Bouteniff on the part of Russia. By the first article it is declared that there shall be, perpetual peace, friendship and alliance, between the contracting parties, as well by land as by sea, and that this alliance has for its object the reciprocal defence against all attacks, of whatever kind, they promising to arrange mutually all affairs which may compromise the tranquillity, and to secure it respectively without any exemption, and for this object to afford each other effective assistance and conjunctive aid. The second article confirms all the preceding treatises,—viz:, that of Adrianople, of the 2d of December, 1829; that signed at St. Petersburg, on the 14th of April, 1830; and the convention relative to Greece, concluded at Constantinople on the 9th of July, 1732. The third article specifies, that in conformity to the principles laid down as the basis of the treaty, and on the consideration of this reciprocal defence, Russia being desirous of maintaining the independence and complete preservation of the Ottoman empire, his Imperial Majesty engages to afford to the Porte all those auxillary forces, both of sea and land, which circumstances may oblige Turkey to require; and in case such emergency should rise, his Sublime Highness is to decide on the number of forces both by sea and land which he may desire.—The fourth article provides, that of the two Powers, that which demands such aid from the other shall have solely to provide provisions for those auxiliaries forces. The fifth articles allows that, although the two contracting Powers have the intention of acting upon this treaty for a long time, yet, if circumstanes should arise to require any alteration of the provisions contained therein, the term of eight year isa defined for the purpose, to commence from the step of the ratifications; but if circumstances should demand an intermediate revision, the parties agree to treat thereupon. The sixth article establishes that the ratifications are to take place at Constantinople within the term of two months, or before if possible. The conclusion states that this treaty of alliance, offensive and defensive, has been negociated and contracted by the said respective Plenipotentiaries, who have consequently exhibited thereunto their full powers, in virtue of which they signed and sealed the said document.

The following supplementary article is the most important of all, at least to foreign nations:—"Supplementary article. The Sublime Porte, in pursuance of the principles, will close, in case of need, the Straits of the Dardanelles, that is to say, it will not permit the entrance of any foreign vessel, even under any pretext whatsoever. The present separate article shall be regarded as if inserted word by word, and comprised in the said treaty of alliance offensive and defensive, and shall as such be equally maintained and observed."

SUMMARY.

The meteoric phenomena of the 13th instant, which Captain Dixey, of the Algonquin arrived at Philadelphia, saw 130 miles from the coast, were seen also as far south as Augusta, (Ga.) and as far West as Cincinnati and Columbus in Ohio. The appearances were the same, it would seem, everywhere, though the hours differed somewhat.

From the Buffalo Journal of Wednesday last (20th inst.) we copy the following paragraphs:

The Weather.—Winter has set in, and the earth is once more covered with her white robe. Saturday evening the snow commenced falling, and continued with brief intervals until Monday morning, when it measured a depth of 22 inches.

Buffalo Harbor.—On Monday we counted SIXTY-FOUR sail in our harbor, including NINE Steamboats, all heavily laden with merchandize for the 'far west.' So great was the rush of passengers to the Ohio, on her leaving the wharf in the morning, that they were obliged to force some ashore. Our wharves are all bustle, and crowded with freight.

For the West.—The wind, which since Monday, has blown from the south-west hauled this morning to the northward and westward. As this is a leading wind from port, the hint was not lost upon our navigators. At half past 9 o'clock this forenoon we counted *thirty-seven* sail then in sight, and under way—outward-bound. Many others were busily unmooring in the harbor, and should the wind continue favorable, we may expect to see the harbor deserted ere sundown. Many goods are still here, and should our present stern winter permit, some, at least, of these vessels will yet take another freight. So great has been the press of goods, the whole season, that the usual supply of salt for the west could not be sent, and several thousand barrels now needed there, although ready, cannot be forwarded for want of vessels upon which to ship.

Montreal 19th Nov.—The town has now a decidedly wintry appearance; on Saturday night snow commenced falling, and remained on the ground all Sunday. All yesterday it continued to snow at intervals, and towards dusk the thermometer went down to 30—two degrees below the freezing point; hence there is little doubt of its continuance for a few days.

Burning of Monroe Court House.—On Monday morning of the 28th ult., at about 1 o'clock, the Court House at Centreville, Monroe County, was discovered to be in flames, and the building, together with almost all the public records of the county, was totally destroyed. There appears to be no doubt but it was the work of an incendiary. It was the first day of the session of the circuit court, and fortunately for parties, the trial docket was in possession of the Clerk, and many of the papers in pending suits were in the hands of the attorneys. The court was therefore opened in a neighboring building, and the business of the term was not materially impeded. Nothing had transpired when our informant left Monroe, tending to fix suspicion on the individual who committed the offence.—[Mobile Patriot, of Nov. 11.]

[*From New Orleans, Nov. 9.*]

We learn that the ship New Jersey (now at the Bar) was run into by the ship Florida, near the Hole in the Wall, and that both vessels received considerable damage. They had to put into Key West, and repair.

We understand that in consequence of the severe indisposition of his lady, the Hon. Daniel Webster will not leave Boston until about Thursday. The same cause has operated to prevent his making any preparations for an address to the members of the Franklin Institute of Philadelphia.

BALTIMORE 26th inst.—The three masted steam packet Virginia, Captain James Hart, left this port this morning on her first trip for Charleston. She had on board a number of passengers for the southern part of our country, and some on their way for New Orleans, via the Charleston and Augusta Railroad. The enterprize is a good one, and we have no doubt will be crowned with success.—[Patriot.]

The New York State Temperance Convention at Utica, closed its business on Friday evening last, at 9 P. M. after a session of three days; and nine meetings. "The circumstance (says the Albany Evening Journal), that more than 250 delegates assembled at this inclement season when the travelling is so bad, evinced a spirit most favorable to the cause. The whole proceedings, with the resolutions adopted and the debates thereon, will be published in a double number of the Temperance Recorder, to be issued immediately. The young men of Utica, and those attending the convention as delegates, had a meeting, and resolved to call a State Temperance Convention of Young Men, to assemble at Utica in May next.—The Mayor of Utica, Henry Seymour, pays Two Hundred and Fifty Dollars towards defraying the expenses of printing the proceedings."

American Publishers.—A controversy having been raised in some Philadelphia papers, respecting the sums alleged to have been paid by American booksellers to American authors, Messrs. Carey, Lea & Co., the principal booksellers of that city, and possibly the most extensive publishing house in the United States, have made the following exposition:

To the Editor of the Pennsylvania Inquirer:

Sir—Your correspondent R. calls in question the fact of $30,000 having ever been paid to authors within a year, by any bookselling house in this country. The writer of this has never seen the article to which your correspondent replies, but as the information was derived from him, he holds himself responsible for the correctness of the assertion that we have paid *more* than $30,000 to authors and editors within a year.

We have now before us a list of 50 original, 12 translated, and 17 edited works, published within five years, (of many of them several editions) for which the authors and editors have received from us $131,037. A little more time for examination would probably increase it to $135,000, or an average of $27,000 per annum, being rather less than was stated from memory. Our engagements at this moment require us to pay little less than $40,000 to authors, of which nearly $30,000 will be for two works.

We have never considered booksellers entitled to much credit for paying authors liberally, any more than we should be disposed to admit that they were entitled to censure for not paying all who think proper to write. The bookseller is only the channel through which the favors of the public are conveyed to the author. If the stream be copious he will be sure to have a full share. If there be no favor on the part of the public, the bookseller who would undertake to act in their stead would speedily be bankrupt. In these days of brisk competition, there is no author whose books will be read, who cannot be paid, and there is no such author who complains. There are, undoubtedly, at all times, men of talent who have reason to complain of the reception their works experience, but the fault lies with the public and not the bookseller, although the author is generally disposed to place upon his shoulders a large portion of the blame. We have suggested to some of our authors that a very interesting book might be made of the "Calamities of Booksellers," to match D'Israeli's Calamities of Authors. Authors have at all times taken care to let the world know their troubles, so that only one side of the question is known. We are pursuaded that there are few booksellers in extensive business who could not contribute a chapter.

Carey, Lea & Co.

An officer of the United States Ship Peacock, gives the annexed account (in a letter dated Batavia, July 12th, 1833) of the introduction of the Captain and other officers of that vessel to the King of Siam. The Peacock anchored, about the middle of February last, at the head of the Gulf of Siam.

"On the 18th, Captain Geisinger, Mr. Roberts, and a number of officers, went up in large boats sent down for our acommodation by the Government. We stayed at Pecknam the first night, and were hospitably entertained by the Governor. He is an old man, with a good humored face. We were at first very much disgusted at the abject, cringing behaviour of all who approached him. He was seated on his divan, which somewhat resembled a large bedstead. The natives, on entering the room, would squat down like dogs, and crawl about, not daring to stand in the presence of a superior. Early in the morning, we took leave of our host, and proceeded up the river, which is generally about a quarter of a mile broad. The country is low, and covered with trees. We passed an extensive fortification, constructed after the European style. After dark we arrived in the midst of the city of Bankok, the capital of Siam, and took up our quarters in the house assigned for our accommodation. It is a large building, erected by the Government for a foreign factory. I remained in the city about three weeks. The situation is low. The most remarkable feature of Bankok is the floating houses, which are constructed on bamboo rafts on each side of the river, and perhaps contain the largest proportion of three or four thousand inhabitants.

"Soon after our arrival, our whole party were honored in being permitted to pay our respects to the Phraklang, the Prime Minister. Seats were provided for us, but all his officers, and a large crowd of people, were squatting before him, in the posture of dogs, or crawling about on all-fours. He is a corpulent man, and was, according to the custom of the country, almost naked, and seated on a raised platform, ornamented with carpets and cushions. To our bows he made a slight inclination of the head. After some conversation with Mr. Roberts, we took our leave. A few days before I left, we were admitted to an audience of the King. Boats were provided by the Phraklang, and we were paddled the distance of about half a mile: on landing, we mounted the horses prepared for us, and rode about half a mile in a round-about direction, to the interior of the walls around the palace. After waiting until our patience was nearly exhausted, we were conducted to the presence of his Siamese Majesty. On each side of the road we walked were drawn up a long line of soldiers, and a number of elephants, richly clothed. At length we were shown into a large room, and found ourselves looking down upon a thousand prostrate figures, on their knees, with their faces to the floor. According to previous arrangements, we made the required number of bows, &c. to his Majesty, and seated ourselves on a carpet in the place assigned us. The perfect silence which was observed, the prostrate attitude of the courtiers, and the appearance of the King on a throne opposite, were really most imposing, and produced in us a feeling of awe.—The room was very large, and highly decorated; the throne was elevated eight or ten feet, and most beautifully ornamented. The King is a large man; he did not wear any thing on his head, and his upper dress was a light andrich gauze. He asked some questions of Mr. Roberts about our country, government, &c. and said he was glad to see the Americans.—Our audience continued twenty minutes. After taking leave, we were shown the elephants, of which the King has a great number; among them several were white, which kind are sacred amoug the Siamese. Within the ground enclosed about the palace are several temples to their gods, whose images are distributed about in great profusion, and generally in a tailor's posture. A great quantity of gilding is used in the decorations of the sacred buildings, both within and without. In the limits of a letter it is impossible for me to include any thing like a description of all that we observed. The remainder of our time at Bankok was occupied in attending their plays, tumbling, &c. and we were sometimes much amused."

The land is full of portents which we take not upon us to read or interpret. In addition to the accounts of hurricanes and falling stars heretofore published, we have in the annexed extract of a letter from the vicinity of Hudson in this State, the notice of another very unusual occurrence:

"Woodburn, near Hudson, Nov. 15.

"A singular occurrence took place on my farm some days ago, which has excited a good deal of speculation among all who have since visited the spot. A beautiful and well grown little wood which you remember on the left of the road as you approach the house, containing about an acre and a half, suddenly sunk down about thirty feet, most part of it perpendicularly; so that where not long since the roots of the trees were to all appearance firmly imbedded, the topmost branches now peep out. The wood is bounded by the creek, of which the sides and bottom are blue clay. The land near the bank, from some unexplained cause, seems to have given way all at once, and slid into the creek; which, by the mass thrown into it, is so filled up, that from its previous width of fifty feet, with an occasional depth of twenty, it is reduced to a little rill, which one might easily jump across. A strip of land adjoining the road of about thirty feet wide and of considerable length, has sunk straight down, so that where the surface was before level, there is now a perpendicular bank of thirty feet. The spectacle altogether is most curious, but, as you may imagine, presents no great improvement to the appearance of my farm."

Gosling, the blacking manufacturer, is likely to become a personage as important as his colleague the celebrated Huat, M. P., of London. After driving about the city in a wagon, with a pair of fine bays, two servants in livery, and a trumpeter; after sundry conflicts in newspapers, and contest with rivals,—a suit was commenced against him in the Court of Common Pleas, for 51*l.* 5*s.* sterling, for goods obtained in London under the name of Abraham Israel; but Gosling fought the battle manfully, and proved that Gosling was his real name; and that all his little Goslings had waddled about under the same title; that he made blacking in Paris for Louis Phillippe and Gen. Lafayette; that he was no "maker of antiquities," as he was charged withal; that he was actually *near* Paris during the three glorious days; and that the suit was trumpeted up by some malicious rival. The jury being of the same opinion, returned a verdict in his favor, confirming to him forever the envied name of Gosling. We have some suspicion that the whole trial was one of Gosling's ingenious puffs —[Star.]

Education in Kentucky.—The attention of our fellow citizens in Kentucky is beginning to be roused on the subject of primary Education. Some statistics which we read in a late number of the Maysville Eagle, showed an alarming estitution of common schools in that State, and an alarming number of persons unable to read or write. A Convention was held on the subject at Lexington on the 7th instant, composed of more than 100 delegates from 19 counties. Addresses were made by Dr. Beecher, Rev. Mr. Bullard and Dr. Drake, all of Cincinnati, and Rev. Mr. Kirk of Albany. The Convention, after continuing in session two days, adjourned to meet at Frankfort on the 9th of January next, when it is hoped the entire State will be represented. On the day previous to the opening of the above Convention, a *Convention of Teachers* was held in the same city, and was addressed by Rev. Dr. Beecher and Professor Caldwell. Both are said to have acquitted themselves with great ability and effect.—[Journal of Commerce.]

General Order.—All Midshipmen, whether passed or not, who have seen sea service, and are not on special duty or furlough, will, after their leaves of absence expire, consider it their duty in future, to repair to the Navy Yard near Norfolk, New York, or Boston, as may be most convenient, and there attend the navy school and perform such services as may be required of them, under the superintendence of the Commander of the Yard.

The Commander of each Yard will furnish those, who report under this order, suitable accommodations in the Receiving Ships or Vessels in ordinary, and suitable opportunities for professional instruction, and employment in conformity with the general regulations prescribed by this Department. As the present measure is intended to be highly beneficial to the Midshipmen, he will not, beyond the usual pay and rations, make any allowances for the execution of it. Levi Woodbury.

Navy Department, 15th Nov. 1833.

Department of State,
Washington. 16th Novemher, 1833.

The following important notice to Mariners has been sent to this Department, from the U. S. Consulate at London:

Navigation into Harwich Harbor.

Trinity House, London, 19th Sept. 1833.

Notice is hereby given, that this Corporation has caused a buoy, painted *black*, and marked on the head "*West Altar*," to be laid on the western elbow of the shoal named the Altar in the entrance to Harwich Harbor.

The buoy lies in 12 feet at low water spring tides, with the following marks and compass bearings, viz:

Harwich High Light House, its apparent width open northward of the Low Light House, bearing N. W. by N.

The first Martello Tower, eastward of Languard Fort, on with the extreme southern outworks of that garrison, bearing E. b. S 1-J S.

By order. J. Herbert, *Sec'y*

New Group of Islands.—A Sydney paper contains the following particulars respecting a group of Islands discovered by Captain Harwood, of the Hashmy, whaler, extracted from the log of that ship:—

"In coming down from Japan, fell in with a group of islands, not laid down in the charts, in latitude 5 deg. 45 min. north, and 152 deg. 35 min. east longitude,—about fifty miles N. W. of Young William's Islands; the tops of the trees on the Islands were visible a considerable distance at sea. I had the crew of the Hashmy on them refreshing, who were treated with great kindness by the natives. The islands are very thickly inhabited, with plenty of cocoa nuts, vegetables, and such refreshments as are necessary for crews coming from Japan with the scurvy. There is also an excellent harbor on the eastern part of Young William's Islands."

Fire.—The Iron Works known as *Mifflin Forge*, the property of T. Stevens, Esq. of Gettysburg, and Col. Paxton, of Millerstown, situated on Chambersburg and Gettysburg Turnpike, were destroyed by fire on the night of the 12th inst. The works were valuable, having been but recently erected. The loss of the proprietors is estimated at 5,000 dollars.

Melancholy Disaster.—On the night of Wednesday last, the dwelling of Mr. William Irvine, near Degraff's wharf, at Esopus, Ulster county, with all its contents, was destroyed by fire; and what is most distressing, three of his children, between the ages of eight and twelve years, perished in the flames.

IMPORTANT STEAMBOAT CAUSE.—*Superior Court, before Judge Oakley.*—The Fulton Steamboat Company vs. Abraham Voorhis, James Jenkins, James Hill, and John Voorhis.

This cause which, had been tried more than a year since before Chief Justice Jones of this Court, and a new trial obtained, was again tried this week. The plaintiffs owned the steamboat Washington, which on the 14th May, 1831, was run foul of, and sunk in Long Island Sound, by the Chancellor Livingston, which was owned by the defendants. The suit was instituted for the recovery of the Washington, between 50,000 and $60,000, as also damages for the loss of the profits which it was alleged would have been received by the running of the Washington during the season. The accident occurred in the night, when the Chancellor Livingston, was coming towards, and the Washington going from New York, running at the rate of 10 knots an hour—and when they first hove in sight were about 11 miles apart. They were near Stratford Light House; the Washington keeping on her course was struck by the Chancellor Livingston which was partly laying too, and in a short time the former went down, having scarcely time to save her passengers. At the former trial, in which the usages of the navigation of the Sound were introduced and proved, and in which there was a conflict of opinions, the plaintiffs recovered damages to the amount of $30,000.—In the present case, which lasted three days, after a patient hearing the jury rendered a verdict for the defendants.

The arrival of the British ship Mary, Capt. Tucker, at Natchez, from Liverpool, is spoken of in the American Standard, as a matter of great rejoicing. This we believe, is the first arrival at that place, of a ship from Europe, and it is hailed as an event of vast importance. The paper mentioned above, remarks, that when the packet was six miles below, "the ships St. Louis and Newark displayed their flags—our citizens fired a national salute, which was answered by the Mary. The Old Saratoga again thundered forth her welcom, while the steamer Bonia brought her into port in fine style, where she dropped anchor and made fast to shore."

[*From the Baltimore Chronicle of Thursday.*]

Stage Accident.—An unfortunate accident happened on Tuesday evening last, about half past 7 o'clock, on the Washington road, between Mr. Butler's, near Elk Ridge Landing, and the bridge, by the sudden coming in contact of Stockton and Stokes' stage, hence for Washington, with Beltzhoover's & Co's. stage, from Washington. The latter had in it five passengers, all of whom were thrown out, by the stage being upset, which was stove to pieces, and two of them very dangerously hurt. Mr. Delano, of Pittsfield, (Mass.) continued out of his senses last evening, with his head much bruised; and a young lady, whose name we did not learn, equally injured about the head—the other three, though badly hurt, were less dangerously so than the others. We do not learn that any *uncommon* blame is ascribed to either of the drivers.

Launch.—A new copper-fastened ship of 398 tons, built for Mr. Levi Houghton, was launched from his yard on Saturday last. She is intended for the freighting business and is commanded by Capt. C. Owen.

Another.—On Monday last, from the yard of the Messrs. Sprague, a fine new copper-fastened ship of 462 tons. She is owned in Providence, and is called the St. Lawrence.

Another.—A fine new ship of 442 tons, called the Mount Zion, was launched from the yard of Messrs. Crookers yesterday. She is owned by them and others, and is to be commanded by Captain Samuel Swanton, Jr.—[Bath (Maine) Inquirer, of 15th.]

UNDULATING RAILWAY.—A series of experiments have been some time in progress, on a part of the Liverpool and Manchester railway, for the purpose of ascertaining the practicability of a scheme suggested and very strongly entertained by Mr. Badnall, of impelling carriages upon a railway by means of a power derived from the inequalities or undulations of the line. The directors of the railway liberally allowed Mr. Badnall the use of two engines, the Rocket and the Caledonian, and though the temporary defects of the former engine did not at first allow of the experiments being carried to the certainty that the projector desired, they were yet amply sufficient to justify his confidence in the principle. "I consider," says Mr. Badnall, "the results in practice to confirm most fully the advantages shown on the models, and I have not the slightest doubt that it will be found practicable to convey far greater loads from one summit of a curve to another, whose angles do not even exceed that of the Sutton inclined plane, than any locomotive engine can move upon a level road."

There appears to us to be something extremely feasible in this plan; and being one which can be tested by actual experiment, no extraordinary credulity is involved in giving a serious consideration to its practical applicability. It rests upon one of the simplest laws of nature, which is within the daily experience of almost every individual, but heightened, by the facilities of the railway into a greater efficiency of operation. We all know that a wheeled vehicle, or any other body, moving freely down a declivity, accumulates a degree of velocity within itself which will propel it a certain distance after it has ceased to be acted upon by the descent of the road. This momentum will be greater in proportion to the greater weight of the body, which is all in favor of the object to which Mr. Badnall purposes to apply it. In order to discover how far the impetus acquired in falling down one slope of an undulating railway would be available in impelling a train of carriages over the next, the experiment is very simple: a certain degree of velocity being given to a load at the foot of an ascent, sufficient to carry it to the summit, we have only to ascertain whether an equal degree of velocity could be given to the load by its own passage down a plane of the same inclination. For this purpose it is only necessary to allow the load to traverse the plane in a reverse direction, and ascertain the velocity with which it again passes the foot of the ascent. The experiments made upon the Sutton inclined plane have fully borne out the correctness of this test, and the result has been so clear and uniform as to leave no doubt as to the soundness of the principle.

Admitting the possibility that the use of steam may be ultimately superseded by this plan, the immense saving which would be accomplished in fuel, carriages, machinery, &c. fills an amazing space in the contemplation, and would be sufficient to counterbalance many attendant disadvantages. Among the principal of these would undoubtedly be the additional capital and labor required for the peculiar construction of such a line of railway, in which a level tract of country, so important a desideratum under the present method, would present one of the most formidable obstacles. We trust, however, that the subject will meet with that serious attention which it unquestionably merits, and in the mean time we publish, with Mr. Badnall's authority, the result of his experiments on Wednesday last.

The following engineers were present, viz. Mr. R. Stephenson, senior, the Messrs. Dixons, Mr. Daglish, and Mr. Badnall, who agreed that the truth and validity of the principle would be effectually determined by the following test:

As great a velocity as possible being attained by the engine *before* reaching a given point on the inclined plane, the *time* was to be accurately ascertained which the train occupied in ascending from that point to a state of rest. The power being then reversed, the time was to be accurately measured which the train occupied in descending from a state of rest to the point from which it had previously ascended. Hence it was obvious, that if the descent was made in less time than the ascent, the velocity generated at the foot of the plane would be proportionably greater than the velocity of the ascending train at the same point, and, consequently, the demonstration would be clear, that the engine and train would not only have ascended to an elevation equal to that from whence it fell, but to a greater one, the extent of which would be in proportion to the velocity attained.

Experiment 1. The Liver engine, and a load of 13 waggons, (weighing in all about 72½ tons,) after traversing a distance of three-fourths of a mile to acquire a sufficient velocity, ran up the inclined plane 278 yards; the time occupied in performing the latter distance being 90 seconds.

Exp. 2. The power being reserved, the engine and train *descended* 278 yards, the time occupied in the descent, viz. from a state of rest to the point from which the time of ascent had been calculated, being only 50 seconds.

Exp. 3. The engine and train having traversed three-fourths of a mile to generate a sufficient velocity, ascended 278 yards in 75 seconds.

Exp. 4. The power being reversed, the descent of 278 yards was accomplished in 40 seconds.

Exp. 5. The ascent of 278 yards was made in 80 seconds.

Exp. 6. The descent of 278 yards was made in 49 seconds.

AVERAGE.

	Total space passed over to generate the velocity.	Time occupied in ascending 278 yards
Exp. 1,	1,320 yards.	90 seconds.
Exp. 3,	1,320 do.	75 do.
Exp. 5,	1,320 do.	80 do.
Total,	3,960 do.	245 do.
Average,	1,320 do.	81⅔ do.

	Total space passed over in generating velocity on inclined plane.	Time occupied in descending 278 yards.
Exp. 2,	278 yards.	50 seconds.
Exp. 4,	278 do.	40 do.
Exp. 6,	278 do.	49 do.
Total,	834	139
Average,	278	[46 1-6

It is almost needless to add that these experiments have most fully confirmed the undulating principle, and proved, beyond all doubt, that a locomotive engine and load can traverse a curve or undulation whose two summits are of equal altitude with much greater rapidity, and, consequently, with far greater economy of *time* and *power*, than a level road of proportionate length.

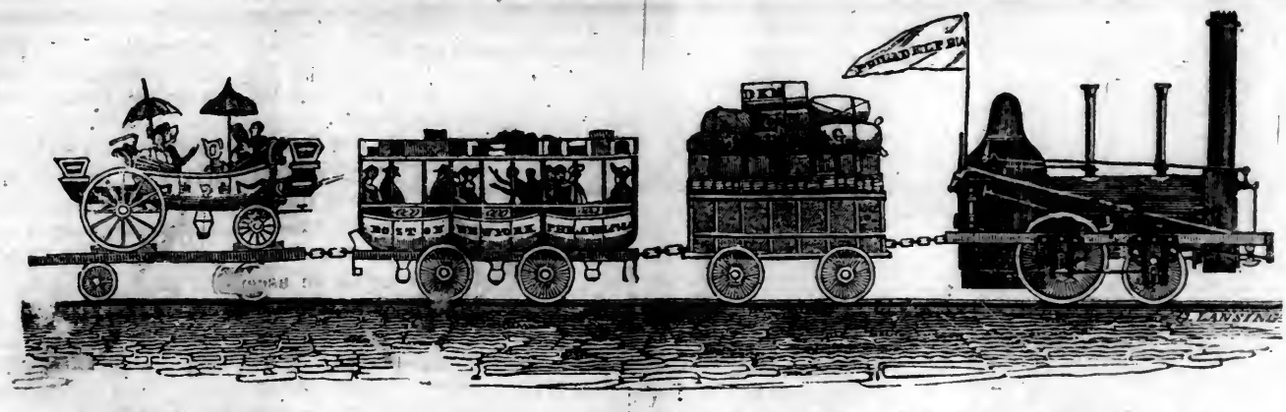
Mr. Badnall having intimated his opinion, that if a velocity of twenty miles an hour were attained at the foot of the plane by two engines, it would be proved by experiment that an engine could move from one summit of an undulation to another summit nearly, if not quite, *double* the load which that engine was capable of moving on a level, it was determined by the gentlemen present to decide this important question in the course of a few days.

We understand from a gentleman who has just passed over the Camden and Amboy Railroad, that by a very simple contrivance, adopted since the recent accident, the recurrence of a similar event need not be apprehended, as in case of breaking an axle, or even a wheel, the car will be sustained and the progress of the train be uninterrupted. We are happy to learn also, that the troublesome annoyance arising from the sparks and cinders is entirely removed on this road, as well as on the Newcastle road, although by a different contrivance.—[Philad. Gazette.]

☞ FOUR Numbers more will complete the second Volume of the RAILROAD JOURNAL. It was stated in a previous number that *thus far* it had not paid its expenses—at the same time a suggestion was made to *Railroad Companies*, and to individuals who feel a deep interest in the success of *Internal Improvements*, and especially of the RAILROAD cause, that they would probably promote, not only their own, but also the public interest, by ordering a few copies of the Journal from its commencement, *bound*, in volumes or parts, as well as one or two additional subscriptions to the ensuing Volume, and thereby insure its continuance, and increase its usefulness. In reply to that suggestion, several liberal and highly complimentary communications have been received from gentlemen in different parts of the country, from which little doubt is entertained by the proprietor of the success of the measure which he adopted to insure its continuance, and increase its utility to the public. It is proper, however, for him now to state, that, in order to insure its success and prosperity, it will not be sent to any subscriber, after the close of the *present* volume, who shall *then* be in *arrear* for the work—until payment shall have been made for the past, and *in advance for the then current volume*. It is also proper for him to state, that, should it be continued in its present form, he will print, of the ensuing volume, a small number *only* in addition to what will be necessary to supply those who shall *commence with the year*—and that those extra copies will be designed *expressly* for those who may desire it from the *commencement* of the work.

It has been suggested to us by several friends of the Journal, that it would be more serviceable, because *better preserved*, if it were to be issued in *semi-monthly* or *monthly* parts, stitched in a cover, instead of weekly numbers, as heretofore. Of the importance of this suggestion scarcely a doubt can be entertained, as there would be fewer losses in the mails, and they would be much more easily preserved; yet many of its readers desire to learn more frequently than once a month what new improvements are being made, and therefore prefer its present arrangement. Others, again, have recommended an increase of price to *four*, instead of *three* dollars. To *this* suggestion *we* certainly should not object, if we thought our subscribers generally would cheerfully comply with it. In order, therefore, to ascertain their opinion upon both suggestions, and at the same time show the work in a *semi-monthly* form, with a cover, we shall issue the *two* last numbers of the present Volume together, with a Title Page and Index to the second or last half of the Volume, that they may then say how they prefer to receive it the ensuing year.

*** Necessity, and *necessity only*, will compel a discontinuance of many *exchange* papers, and the Proprietor trusts that those Editors who may not receive the Journal after the first number of the ensuing volume, will attribute its discontinuance to the true cause, viz, a want of patronage to meet its necessary expenses, and not to a want of inclination to reciprocate their favors. Should a different state of affairs result from his present exertions, he will be happy again to renew the acquaintance. He regrets also that he is entirely unable to comply with the oft-repeated "Please exchange," which meets his eye from every quarter of the Union. Nothing would afford him more pleasure than to exchange with all who may desire it—*except* such an increase of patronage as would afford him a handsome income over all expenses.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, DECEMBER 7, 1833.** [VOLUME II.—No. 49.

CONTENTS :

AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 7, 1833.

We would call attention to the advertisement on the last page of this number of the Journal, of the *American Steam Carriage Company* of Philadelphia.

Baltimore and Ohio Railroad Report.—We are indebted to P. E. Thomas, Esq. President of the Company, for one copy, and to an unknown friend for a duplicate, of the *seventh* annual report of the proceedings of this company, a part of which will be found in this number of the Journal. It will be continued in our next, together with such of the accompanying documents as we may deem of general interest. We have also received a report of the committee of the Charleston Railroad Company, on Cars, which will be noticed in our next.

Paterson Railroad Opening.—We regret having been unable to accept of the polite invitation from the President of the Company to attend the opening to Bergen, on the 29th ult., of the *Paterson and Hudson Railroad*. We, however, copy from the New-York American an account of the event, and shall take the earliest opportunity of visiting it, and again refer to it more at length. We cannot, however, omit to call attention to the bridges, a description of one of which we take from the New-York American. It was built, we understand, by Mr. Thomas Hassard, of Baltimore, who has also built several others upon the same plan on the Baltimore and Susquehanna, the Boston and Providence, and the Boston and Worcester railroads. They are constructed upon the plan patented by Colonel Long, of the United States Army, a gentleman to whom this country is indebted for many important discoveries and inventions. We are promised a more particular description, with drawings of these bridges, which we shall take pleasure in laying before our readers; and we most cheerfully recommend Mr. Hassard to the notice of those who desire to construct works of a similar character.

"The bridge over the Hackensack, which is 1700 feet long, and which traverses the river diagonally, received and sustained the cars, travelling at a round trot, as solidly as the earth itself; so well and securely is it braced in all its parts, and yet presenting to the eye a structure remarkable for lightness of appearance. The draw—the first level one we remember to have seen—is most ingeniously contrived. When the passage is to be opened, a moveable platform of equal length with the draw, and constituting part of the road, is made to slide aside, and the draw takes its place. The machinery for effecting this is so simple, that a single man can do the whole. The draw in the bridge over the Passaic is lifted in a single piece; and as that is necessarily very heavy, being near thirty feet long, and of strong and well secured timbers, it would seem to require no trifling mechanical force to move it; yet, by means of a weight duly calculated, connected with the chains by which the draw is raised, but suspended at such a distance form the fulcrum as to furnish, as the bridge rises, a counterbalancing force to its weight, the whole mass is raised by a single man turning an ordinary crank."

Railroad Meeting.—The Dayton Journal says "We were highly gratified at witnessing the interest manifested by our citizens on the subject of railroads, at the meeting on Wednesday evening. It equalled our wishes, and even surpassed our hopes. The books were opened for subscription, and before the meeting adjourned, 811 shares were subscribed for. A committee of gentlemen were then named, to call personally upon such citizens as had not subscribed at the meeting, and receive their subscriptions, and 405 additional shares have been taken. The stock subscriced in the county at the first opening of the books previous to the survey of the route, amounted to 217 shares; so that the whole which has been taken in this county now amounts to 1432 shares, or $71,650."

Turnpike to Syracuse.—The road between this place and Syracuse, (says the Pulaski Banner of 23d November,) is a subject of general execration and complaint; and we are exceedingly glad to be able to announce that measures are about to be taken for its improvement. There is nothing which gives a place so bad an odor abroad, as impassable roads—and we are bold to say, that on the round face of Mother Earth, there can be found no other wrinkle so deep and so disgusting as the time-honored wrinkle between Pulaski and Syracuse. Every one will rejoice, therefore, that her ladyship's face, in this matter, is about to be overhauled and improved.

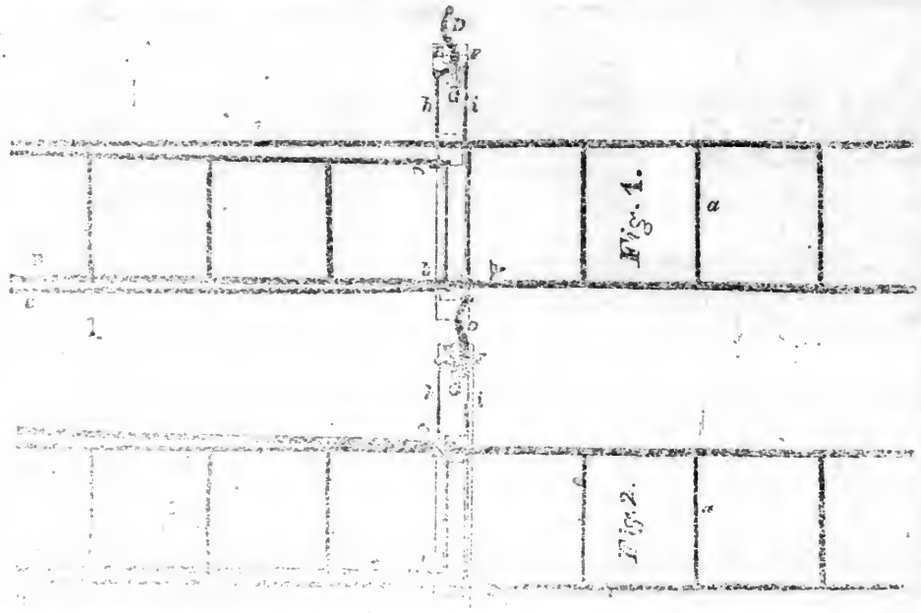
At a general meeting held at Central Square, Oswego co. on Saturday, November 9th, 1833, to take into consideration the propriety of establishing a turnpike from Syracuse to the village of Pulaski, William Ford, Esq. was called to the chair, and Edward M. Fitch appointed secretary. On motion of H. Fitch, it was resolved, That a committee, to consist of N. I. Roosevelt and Miles Hotchkiss, Central Square; John Leach, jun., Cicero; Erasmus Stand, and Benj. F. Williams, Salina; Elam Lynds and M. D. Burnet, Syracuse; Avery Skinner, Union Square; Hiram Hubbell, and L. D. Mansfield, Pulaski,—be appointed, whose duty it shall be to inquire into the practicability of constructing the above-mentioned road, and to take such measures as they may deem expedient to facilitate the object, and to make such report at the house of M. Hotchkiss, on Tuesday, the 3d of December, at one o'clock, P. M.

Resolved, That the secretary be authorized to apprise the above mentioned committee of their appointment.

Resolved, That said meeting adjourn to meet again at said place on Tuesday, December 3d, 1833.

Why a turnpike? Why not a railroad at once? As there *must* be a railroad within a few years, why not commence it at once? It is better to appropriate every dollar towards such a work as will be of lasting utility, than to construct a turnpike *now*, and then a railroad hereafter. Nothing short of a railroad should satisfy.

Cotton in Florida.—By a statement in the last Floridian we perceive that a great increase in the production of cotton is taking place every year. From two ports in Middle Florida, St. Marks and Magnolia, in 1825, 64 bales cotton were shipped. In the year from the 1st of July 1832, to the 1st of July 1833, 9675 bales were shipped from the same ports. This fact speaks for itself.



Plan for Railroad Turnouts. [Communicated by the Inventor for the American Railroad Journal, and Advocate of Internal Improvements.]

The advantages that this plan of turnout has over the various plans now in use consists in the great diminution of curvature, viz. instead of moving the portable end of the bars, A A, sufficiently to form a connection with the double track, which must be sufficient to give clearance to the flange of wheels between the rails, as in the present mode, the rails A A move only one inch, and, as per description of diagram, one rail of the turnout and one of the single track move alternately into its place, to form the required connection with the bars A A, and out of its place to give clearance to the flange of wheels; the objection to the bars *b* and *c* being loose at one end is overcome by the wheels taking a bearing upon the permanent rail of the track, laying alongside of and nearly parallel.

A A are the portable bars, or switches, on the single track; B B are bars of the same track; and C C are the bars terminating or commencing a double track. A A connects by means of cross rods *a a a a*, *b c* are connected by cross rods, and are portable at one end in like manner to A A; the cast iron arch G, the levers D E, and the vertical shaft F, are the apparatus for working the different bars by means of the connecting rods *h i*. It may be necessary to mention that E is a double lever, and the proportion from F to either end is as one is to three. *b* and *c* compose one bar of each track, and are connected to the long end of the lever E by the connecting rod *h*. A A form bars of both tracks according to their different positions, and are connected to the short end of the lever E by the connecting rod *i*. It will readily be perceived by a reference to the diagram that, by moving the lever D, fig. 1, in the position of D, fig. 2, D and E being both permanently fixed upon the vertical shaft F, which passes through the cast iron arch G, you will move the bars A A to connect with the double track, and at the same time move the bar *c* into its proper place, which, being connected with the bar *b*, is drawn out of its place, to give clearance to the flange of the wheels, and by moving the lever D in the position of fig. 1, you bring A A back in their original position; you move *b* against the bar C in its working position, and move c out of its place to give clearance to the flange of the wheel. The bars A A have been calculated in the diagram to diverge one inch from a straight line, and by running the same curvature regularly from a tangent, the permanent end of the bar c, or C C, will diverge four inches from a straight line, that is, calculating the bars to be 16½ feet long by 2 inches wide, and will give 2 inches clearance for flanges of wheels and a curvature of a fraction over 2° 15′.

On the Practical Effect of Undulating Railways. By J. S. Van De Graaff. [To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.]

Sir,—In several recent numbers of your Journal I have observed a controversy, taken from the London Mechanics' Magazine, upon the subject of undulating railways. To determine the motion of an ordinary car, when propelled by any given moving power, upon a given inclined plane, agreeably to the received laws of gravity and friction, is a problem strictly determinable by analytical computation, and it is a little extraordinary that such a subject should have remained so long a matter of *dispute*, and referred at last to experiment for decision. The object of the present article is to deduce such results from the mathematical principles of natural philosophy, as will easily guide the engineer to a correct jndgment of the practical effect of such a railway; and in order to avoid all those disputes which have arisen from the loose and unscientific method of reasoning hitherto given upon this subject, I must begin by demonstrating the theorems upon which the decision of the question will depend.

THEOREM I.

When railroad cars of the usual construction are in motion upon straight inclined planes, whether they be descending by the force of gravity, ascending by the force of inertia, or propelled by any moving power: I say, the resistance to motion, arising from the fricton of their axles, will vary in the direct ratio of the cosines of the inclinations of the planes; the weight of the cars and all other things being equal.

For in ordinary railroad cars there is no rubbing surface intervening between the point where the moving power is applied, and the point where its action takes effect upon the load; and, therefore, when such cars are drawn upon an ascending plane, the nominal pressure is that alone which is subject to any rubbing friction at the axle, with the exception only of the small force required in giving motion to the wheels and axles themselves. And in like manner the same thing may be shown to be true when the car is descending by the force of gravity, or ascending by the force of inertia; and hence the only sensible friction at the axles, in every case, will be that which arises from the normal pressure alone, and which will be proportional thereto. But the normal pressure varies as the cosine of the inclination of the plane: see Courtney's Treatise on Mechanics, art. 265, "therefore, when railroad cars of the usual construction," &c. &c. Q. E. D.

Corol. 1. And hence the friction at the axles will offer a reduced resistance to a moving power when the car is situated either upon the ascending or descending plane; but the horizontal and undulating ways are upon perfect equality as far as the accelerative force of gravity is alone connected, and it therefore follows, that any moving power considered separately from the effect of gravity, will act upon the undulating line with an effect greater than upon the horizontal line, in the given ratio of radius to the cosines of the inclination of each plane.

Corol. 2. But agreeably to the principles of trigonometry, the cosines of all arcs near the commencement of the quadrant will differ but little from radius, and the utmost practical limit of inclination must for many reasons fall within these arcs; and it therefore follows that the available reduction of friction by means of an undulating road cannot be of any practical utility in transporting upon railways. It would require an inclination of 25° 50½′ to reduce the friction at the axles even one-tenth part less than upon a horizontal road; and such an inclination it is very well known would be attended with difficulties in the practical use of the road, which would be much more formidable than the friction at the axle itself.

Scholium. The above reasoning will obtain in reference to cars of every description when they are made to ascend a plane by the force of *inertia* only. But when a car is made to ascend a plane by a force different from *inertia*, it becomes necessary particularly to discriminate the points where the power is first applied, and where it takes effect upon the load; and it is a neglect of this consideration which has led into error a writer whose signature is S. D. page 674, of this Journal, when he supposes the friction at the axle to be a different quantity when the car is ascending and descending. All that is here said must be understood in reference only to cars whose construction is such as to give no rubbing surface intervening between the point where the power is applied and the point where its action takes place upon the load. The ordinary railroad car is of this description. But it will be easy to see that, with respect to a locomotive engine car, the case will be very different as far as the axle of the propelling wheels is concerned; for the friction of the bearings of the axle will be less when the engine is travelling upon a level road than when climbing a plane of any inclination. Nevertheless, the friction at the axle of the propelling wheels upon the plane will be less than when the engine is drawing a weight

upon a horizontal road, which requires a force of *traction* equal to the gravity of the engine upon the plane.

In connection with the subject of undulating railways there remains yet another principle to be considered. That is, the whole effect of the reduced friction of the axle upon the straight parts of the planes, as explained in the preceding theorem, will not be in all cases retained in passing the concave surface connecting the two planes; for unless the velocity of the car upon the curve be below a certain determinate limit, the whole quantity of motion destroyed by friction, in passing over the whole length of the curve, will exceed the quantity which would be destroyed in moving over the corresponding distance upon the horizontal road. This I now proceed to demonstrate.

THEOREM II.

When descending and ascending straight planes are connected together by a given concave circular surface: I say the motion of a car in passing from the descending to the ascending plane, will be impeded by an increase of friction at the axle, which will be in a direct duplicate ratio of the velocity of the car.

For, the increase of friction at the axle will be proportional to the increase of pressure upon it; but the centrifugal force upon the curve is a normal pressure, which varies in a duplicate ratio of the velocity. Therefore when descending and ascending straight planes, &c. &c. Q. E. D.

Corol. 1. It therefore appears that the friction at the axle of the arc, when situated in the middle of the connecting curve, will be *greater* than the friction at the axle when the car moves upon horizontal rails, and this will be more the case as the car moves with greater velocity.

Such are the principles which must guide the engineer in an investigation of the effect of the proposed system of undulating railways. And in order to determine under what circumstances the ultimate amount of power consumed by friction upon the two planes and intermediate curve, is greater or less than the whole amount consumed by friction in moving over the corresponding distance upon the horizontal road, it would be necessary to enter into a minute analytical investigation of the circumstances under which the quantities of motion destroyed by friction in the two cases are equal. The principles of the differential and integral calculus will lead to this investigation without difficulty by means of the theorems given above, and which, therefore, for the sake of brevity, I may omit, for the results already given are sufficient to show that n material reduction of friction cannot be obtained by the undulating plan of construction, without using planes whose inclinations are altogether inadmissible in the practical use of railways.

Although the chief object of the above investigation was an inquiry into the effects of an undulating railway, yet it may be observed, that by means of the principles here demonstrated, it will be easy to deduce more accurate *formulas* for determining the amount of power required in moving railroad cars up an *inclined plane*, than has hitherto been given by Mr. Wood, and other writers.

Very respectfully,

J. S. Van De Graaff.

Lexington, Ky. Nov. 15, 1833.

Seventh Annual Report of the President and Directors to the Stockholders of the Baltimore and Ohio Railroad Company.

In presenting to the Stockholders of the Baltimore and Ohio Railroad Company, their Seventh Annual Report, the Board of Directors deem it proper to refer to the situation of the Company's affairs at the date of their late communication. On the 1st of October, 1832, when that communication was made, the main stem of the road had been completed, with two tracks as far as the Monocacy river, and with a single track to the Point of Rocks on the Potomac; a lateral road with a single track had also been finished from the Monocacy to the city of Fredieck. Between the last named place and Baltimore, there had been, with but few interruptions, a transportation of persons and merchandize, from the 1st of December, 1831; and from the Point of Rocks to Baltimore, the transportation had commenced on the 1st of April, 1832. The experience which the construction and use of the road had afforded when the Sixth Annual Report was made, justified the Board of Directors in assuring the Stockholders of their entire confidence in the final success of the work. The practicability of applying steam power profitably, for the purposes of general transportation, had been satisfactorily ascertained; the efficiency of the railroad system, in the particular district of country, had been put beyond all doubt; and new sources of revenue to the Company, not contemplated by the original projectors, had been fully developed as the adjacent quarries were opened, and the forest felled, and the railroad was employed in the transportation of their respective products. Under these circumstances, there was evident cause for congratulation upon the results that had so far been obtained: but the Board saw that much was still to be done before those pecuniary advantages could be realized to the Stockholders that had originally anticipated, and the postponement of which, had, even now begun to create feelings of disappointment in the minds of many of the friends of the scheme.

Three objects, in particular, called for the immediate attention of the Board of Directors at the commencement of the official year, that has justended. 1. The extension of the Railroad to Harper's Ferry. 2. The construction of the lateral Railroad to Washington; and 3. The perfection of the application of steam power for the purposes of transportation, together with the subject of machinery generally. All of these, it was considered, were most closely connected with the pecuniary interests of the Stockholders, and the detail of what has been accomplished in regard to them will occupy the largest portion of their present report.

1. *The Extension of the Railroad to Harper's Ferry.*—The Stockholders are already familiar with the particulars and result of the long pending controversy between the Railroad and the Chesapeake and Ohio Canal Companies, for the right of way upon the left bank of the Potomac. The decision of the Courts in favor of the latter corporation was followed by tedious negotiations, which partook, at first, perhaps of the feelings that had grown up during the legal proceedings, and which brought the parties again into collision before the Legislature of Maryland, their common parent Time, however, and a better and more correct view of their true interests than had before been taken, led ultimately to a compromise, by which the Canal Company undertook, upon the payment by the Railroad Company of the sum of $266,000, in monthly payments, to construct the Railroad along all the difficult passes between the Point of Rocks and Harper's Ferry. The payments and the construction have both been commenced by the respective parties; the whole length of the road between the two places has been advantageously located; and there is every reason to believe, should no unfavorable circumstance arise to retard the work, that, by the first of January, 1835, it will be completed to Harper's Ferry. The arrangement thus made was one which, under all circumstances, was unavoidable; and it is with gratification that the Board are enabled to inform the Stockholders, that they feel confident the conditions of the agreement will be carried into effect by the Canal Company with a liberal and friendly disposition to render every accommodation to the Railroad that may be found compatible with the interests of their own work. The Canal Company were, at the time of the compromise, the exclusive possessors of the only practicable site for a railroad at the narrow passes, with a title obtained after protracted litigation, and with power to demand their own terms: but in those which have been acceded to, the Board do not perceive that more will be paid than sufficient fully to cover, as was intended, the cost of constructing those portions of the Railroad which the Canal Company have undertaken to do, and the loss and damages to which the Canal must, while such construction is going on, necessarily be subject; certainly not more than the Railroad Company must have paid, had they undertaken the independent construction of the road at the same places. To the Railroad Company, the advantages to be expected on reaching Harper's Ferry were such as to render the continuation of the road to that place a matter of primary importance, demanding every effort to accomplish it. The Winchester and Potomac Railroad, about thirty miles in length, and terminating at Harper's Ferry, promised to transfer to the Baltimore and Ohio Railroad, to be conveyed to Baltimore, a great share of the produce of the rich valley of Virginia, which then found an outlet in other directions. Winchester itself, a large, thriving, and enterprizing town, would be brought into the closest connection with Baltimore, to the mutual advantage of both cities. Staunton, one hundred miles from Winchester, in the same great valley: the intervening distance admirably adapted to the construction of a Railroad, would, in all probability, soon become another point in the line of railway communication, under a charter already in existence; nor was it anticipating too much, to believe that, thus progressing through the individual enterprize, from point to point, the prolongation of the Baltimore and Ohio, and the Winchester and Potomac Railroads, would either continue south westwardly to the cotton growing districts of Tennessee, intersecting the proposed James River and Kenawha Railroad, or passing through Jenning's Gap, find its own way to the tributaries of the Ohio, completing, in either event, the great scheme of a union, by railways, of the waters of the Atlantic sea board with those which empty themselves through the Mississippi into the Gulf of Mexico. In the meanwhile, it was known, that Virginia was engaged in making an excellent road from Winchester, direct to Parkersburg, at the mouth of the Little Kenawha, on the Ohio, which, uniting with the Railroad at Winchester, would turn the tide of western travelling into that direction, and extensively attract to the Baltimore and Ohio, and the Potomac and Winchester Railroads, the transportation of persons and merchandize, as well as produce, which then went in other channels. Besides the advantages thus held out by the valley of the Shenandoah, on the completion of the Railroad to Harper's Ferry, it would be, at that place, in such close proximity to the Valley of the Conococheague, as to render a connection with the latter, and through it, with some of the most fertile parts of Pennsylvania, a matter of easy attainment, by which a still further amount of transportation would accrue to the road, with but small additional expense necessary to accommodate it, and which would increase the profits of the Stockholders. In addition to which, the Railroad Company, at Harper's Ferry, would still be upon the line of western communication, originally contemplated by the Valley of the Potomac, whenever circumstances made it expedient to advance in that direction. Nor, while a part of the advantages here enumerated were secured by the actual construction of the Potomac and Winchester Railroad, and the turnpike to the Little Kenawha, were the rest of them either improbable or remote. While railroads were extending themselves throughout the union, in every direction, through districts promising fewer advantages than the valleys of the Shenandoah and Conococheague, there could be but little doubt but that these last would speedily possess them. Under these circumstances, therefore, and with a view to ulterior objects, not less than to immediate pecuniary advantages, the Board felt that they were called upon to secure, by every effort, the continuation of the road to

Harper's Ferry, and in doing so, they believe that they have discharged one of the most important of the trusts committed to them.

(To be continued.)

[*From the New-York American of Nov.* 30.]

Opening of the New York and Paterson Railroad.—Yesterday, the route of this road, which is now complete from Paterson to the Bergen Ridge, was thrown open, and traversed by a large party invited by the directors of the company to witness the successful accomplishment thus far of their labors. Leaving Powles Hook about half past nine o'clock in stages, we were rapidly conveyed to the ridge, distant about two miles and a half, where cars drawn by horses were in waiting. In and on these—for they are constructed to carry outside as well as inside passengers—the party, reinforced by many gentlemen of New Jersey, who there joined them, proceeded leisurely, that is at the rate of about ten miles an hour, along the road. It passes for about five miles over the Newark salt marshes, above which it is raised upon an average four feet, until after passing Berry's creek, when it begins to ascead at the rate of thirty five feet per mile, until the embankment reaches a height of eighteen feet. Great obstacles have been overcome in constructing this road: first, the carrying such an immense quantity of earth; the uncertain bottom in many spots; the number of small creeks, in addition to two large rivers, to be passed; and therefore the necessity of bridging to a great extent, and in such way as both to preserve the requisite level and to obtain the firmness and solidity of structure essential to safety. In all these respects, the company appear to us to have fully succeeded. The bridge over the Hackensack, which is 1700 feet long, and which traverses the river diagonally, received and sustained the cars, travelling at a round trot, as solidly as the earth itself; so well and securely is it braced in all its parts, and yet presenting to the eye a structure remarkable for lightness of appearance. The draw—the first level one we remember to have seen—is most ingeniously contrived. When the passage is to be opened, a moveable platform of equal length with the draw, and constituting part of the road, is made to slide aside, and the draw takes its place. The machinery for effecting this is so simple, that a single man can do the whole. The draw in the bridge over the Passaic, is lifted in a single piece; and as that is necessarily very heavy, being near thirty feet long, and of strong and well secured timbers, it would seem to require no trifling mechanical force to move it; yet, by means of a weight duly calculated, connected with the chains by which the draw is raised, but suspended at such a distance from the fulcrum as to furnish, as the bridge rises, a counterbalancing force to its weight, the whole mass is raised by a single man turning an ordinary crank.

After stopping at, and examining, each of these bridges, the party proceeded to Paterson, where they spent some very agreeable hours. Having visited the falls, which happened to be even more picturesque than usual by reason of the high water in the river, they partook of a collation at the office of the Company.

After the entertainment—we borrow the language of the Journal of Commerce—Mr. Daniel Jackson of N. Y., gave the health of the President of the Paterson Rail Road, which drew from the President, the Hon. Ph. Dickerson, a succinct statement respecting the enterprze which had just been completed. He said that somewhat more time and money had been expended than it was at first supposed would be necessary. But the estimates were made when such works were more a novelty in our country than they are now, and he thought that those who were correctly informed, would now rather wonder that the road had been completed so soon, than that it had not been completed sooner. Some unexpected obstructions had been found in the ground, over which the road was to pass. The extent of the contracts, and the distant part of the world from which the various materials were to be brought together, necessarily required time. The rails were to be procured from Georgia, some other materials from the interior of the State of New York and Canada, the iron from Liverpool, the contractors from New England, the laborers from Ireland, and the money from the city of New York. On the whole, he thought there was reason for congratulation in reviewing the history of the enterprize. He concluded by giving "the City of New York, the heart of our Country." Mr. Charles King, at the request of the New York Gentlemen present, made a few remarks in reply, and gave, "Paterson, here nature and art conspire to give to industry an ample reward."

We have been politely furnished by Colonel Long, with the following tables and explanations, showing the performance of engines of different capacities, on different grades, at different velocities and with different loads, which we submit to our readers without having had leisure to examine, or even to read them. They will, however, lose none of their value on that account, as the source from whence they come will insure them attention.

Table I.—Performance of a four ton engine on different grades, at different speeds, and with different loads.

Statements.	1. speed	2. level	3. 5 ft	4. 10 ft	5. 15 ft	6. 20 ft	7. 25 ft	8. 30 ft	9. 35 ft	10. 40 ft	11. 45 ft
	miles	tons.	tons	tons	tons	tons	tons	tons	tons	tons	tons
No. 1	slow	60	49 4	42	36 6	32 4	29	26 4	24	22 4	20 6
2	5	30	24 7	21	18 3	16 2	14 5	13 2	12	11 2	10 3
3	10	28	23	19 6	17 1	15 1	13 5	12 3	11 2	10 4	9 6
4	15	25	20 6	17 5	15 3	13 5	12 1	11	10	9 3	8 6
5	20	20	16 5	14	12 2	10 8	9 7	8 8	8	7 4	9 9

Table II.—Performance of a five ton engine on different grades, at different speeds, and with different loads.

Statements.	1. speed	2. level.	3. 5 ft	4. 10 ft	5. 15 ft	6. 20 ft	7. 25 ft	8. 30 ft	9 35 ft	10. 40 ft	11. 45 ft.
	miles	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons
No 1	slow	76 8	63 2	54	46 8	41 6	37 2	28 8	31	27 6	26
2	5	38 4	31 6	27	23 4	20 8	18 6	16 9	15 5	13 8	13
3	10	35 8	29 5	25 2	21 9	19 4	17 4	15 8	14 4	12 9	12 2
4	15	32	26 4	22 5	19 6	17 3	15 5	14 1	12 9	11 9	10 7
5	20	25 6	21 1	18	15 6	13 8	12 4	11 3	10 3	9 5	8 5

Table III.—Performance of a six ton engine on different grades, at different speeds, and with different loads.

Statements.	1. speed	2. level.	3. 5 ft	4 10 ft	5. 15 ft	6. 20 ft	7 25 ft	8. 30 ft	9. 35 ft	10. 40 ft	11. 45 ft
	miles	tons	tons	tons	tons	tons	tons	tons	tons	tons	tons
No. 1	slow	96	79 2	67 4	58 6	52	46 6	42 2	38 6	35 6	32 8
2	5	48	39 6	33 7	29 3	26	23 3	21 1	19 3	17 8	16 4
3	10	44 8	36 9	31 5	27 4	24 2	21 7	19 7	18	16 6	15 3
4	15	40	33	28 1	24 4	21 6	19 4	17 6	16 1	14 8	13 7
5	20	32	26 4	22 5	19 6	17 3	15 5	14 1	12 9	11 9	11

Explanations of the Tables.

The computations exhibited in the foregoing tables, relate to the performance of engines of different weight, and to various other circumstances intimated in the titular heading of each table.

The vertical column, headed col. 1, exhibits the rate of speed in miles per hour for which the computations provide. The other columns headed col. 2, to col 11, inclusive, exhibit the grade of the road, ascending, in feet per mile, together with the gross load expressed in tons and parts, that may be conveyed upward, at the various rates of speed presented in col. 1.

The statements are exhibited in series running from left to right, through all the columns of the tables, and are numbered from 1 to 5 on the left of each table. The different statements relate to the different rates of speed exhibited in col. 1, varying from a speed of 2 to 3 miles per hour, which is designated in the tables as "slow," to a speed of 20 miles per hour.

The steam pressure or elasticity contemplated in all the computations, is 30 pounds to the square inch; the effective force of which, in producing locomotion, at the lowest rates of speed, is estimated at 33 1-3 per cent. of that pressure.

The series of statements designated No. 1, in each of the tables, exhibits the effective performance as just mentioned, without regard to the condition of the road, with respect to the adhesion between the rails, and the wheels of the engine. This performance can only be expected when the road is in a condition to afford the requisite adhesion. With the steam power here contemplated, the wheels will be liable to slip on the rails, when the latter are covered with mud, frost, or snow; but in the best state of the road, such a performance may be effected.

The other statements exhibit the efficiency of the three classes of engines, which may safely be counted on, in all states of the road and weather, frost and snow excepted; it being always understood that the road must be well made, and free from abrupt curvatures.

An inspection of the tables will show the loads that may be drawn on a level road, at different rates of speed, as also, the loads that may be drawn upward on acclivities, and at different rates of speed, and by traversing either table diagonally, the approximate load that may be drawn on a road of various grades from a level, to 45 feet per mile, may be found; for example, let it be required to determine the load that may be drawn upward on a road varying in its grades, from a level to 45 feet per mile, by an engine weighing five tons.

In Table No. II, statement No. 2, and col. 11, we have 13 tons drawn upwards, at the rate of 5 miles per hour, on an ascent of 45 feet per mile. In statement No. 3, and col. 10, of the same table, we have 12.9 tons, or about 13 tons, drawn at the rate of 10 miles per hour, up an ascent of 40 feet per mile. In statement No. 4, col. 9, we have the same load, at a speed of 15 miles per hour, up an ascent of 35 feet per mile, and in statement No. 5, col. 6, we have a little more than 13 tons, drawn at the rate of 20 miles per hour, up an ascent of 20 feet per mile. In the same table, we find in statement No. 1, col. 11th, that a five ton engine, when the road is favorable, is able to draw up an ascent of 45 feet per mile, 26 tons; and it may be readily inferred, that it is able to draw upwards on more moderate acclivities, the same load, at increased rates of speed.

By an inspection of Table III, it will appear, that a six ton engine is able to draw upward, on a road ascending, at the rate of 45 feet per mile, a gross load of nearly 33 tons at a slow speed, also that with nearly the same load, viz.: 32 tons, the engine is able to travel at a speed of 20 miles per hour on a level road.

It should moreover be remarked, that all the statements except No. 1, of each table, are considerably within the limits authorized by the power of adhesion between the wheels and the rails, even in the worst state of the road, frost and snow excepted.

The American Steam Carriage Company feel warranted in assuring the public, and especially those companies or individuals who maw favor them with orders for Locomotive Engines, that the foregoing conditions shall be punctually complied with, and that the performance of their engines shall be equal to those exhibited in the tables herein contained.

The subjoined testimonials will explain more fully the character and performance of the engines which this company propose to build.

There is much truth in the following remarks from the Philadelphia Commercial Herald,—and unless the citizens of New-York arouse themselves, the "Empire State" will indeed pay heavy tribute to Philadelphia, and Baltimore.

Pennsylvania.—In the hard march of Internal Improvements, which is daily producing such wonderful effects upon the prosperity of our country, Pennsylvania took the lead. Her distinguished citizen, Robert Morris, more than forty years ago, pointed out the advantages to be derived from this quarter, and projected nearly all the important improvements which the enterprize of a subsequent generation has now nearly completed. Influenced by his arguments, Pennslyvania commenced a system of Canals, designed to connect the Delaware with the Susquehanna, the Ohio, and the Lakes, long before the subject of Internal navigation had been seriously thought of in any other state. But "the race is not always to the swift." The first experiments failed, because they were in advance of the information, enterprize and resources of the times in which they were undertaken. Discouraged by this result, Pennsylvania fell back from that leading position which nature had assigned her, and which

New-York, under the auspices of her Clinton, soon after occupied.

The Grand Canal from the Hudson to Lake Erie was completed in spite of the deepest prejudice, and the most persevering opposition, and no sooner was it opened, than the wisdom which had planned, and the patriotism which had carried it into successful operation, were universally admitted and admired.

The success of this magnificent enterprize led Pennsylvania once more to reflect upon her internal resources, and to appreciate the permanent advantages of her natural position. She has again entered the glorious race of improvement, and has put forth her giant energies to secure the victory. Will not that victory be hers?

An answer to this question is contained in the Toast which we remember to have heard from the lamented Clinton, on the occasion of the commencement of the Chesapeake and Delaware Canal. Speaking of the immense natural advantages of Pennsylvania, he described her as resting "with her foot upon the Ohio, and with the other upon the great Lakes." To this he might have added,—that stretching her broad arm of the Susquehanna into the most fertile districts of the State of New-York, and holding in that hand the key of communication with the great Erie Canal, she has the means of rendering a large portion of the "Empire State" tributary to her wealth.

In *Geographical* advantages for securing the commerce of the Great West, Pennsylvania stands unrivalled. New-York has an admirable communication with the Lakes,—but her high northern position deprives her of its advantages during a large part of the year. Virginia, by the Potomac, may communicate with the Ohio,—but she wants a market on the sea-board, and has physical obstacles to encounter, certainly beyond her present resources.

It is Pennsylvania only, which, by a single line of communication, developing a great portion of her internal resources, can embrace also the unbounded water communications of the Ohio, the Mississippi, and the great Lakes. This object is now on the verge of being accomplished. Nine-tenths of the cost has already been incurred.

Let the system as originally laid out, including the improvement of the north branch of the Susquehanna to the New-York line, be completed, and the single addition of a connection with the Ohio Canal be made, and the hopes of the most sanguine must be realized.

The aggregate of tolls received from the Schuylkill, Lehigh, Union, and the *unfinished* State Canals, and from the west branch of Schuylkill, Little Schuylkill, Mount Carbon, and Germantown Railroads, for the present year, thus far, has been $785,000. Hence some idea may be formed of the revenue the whole system will yield when completed.

Internal Improvements.—We take the following account of the proceedings of a meeting of the inhabitants of the counties on the line of the contemplated canal, from Rochester to Olean. There appears to be a determination on the part of those residing near its contemplated route, to push it forward, and they will, we trust, succeed; as we deem the construction of *Canal and Railroad* banks, when judiciously and properly constructed, of far more importance to the country than *banks* of any other kind.

Canal Meeting.—At a large and respectable meeting of the citizens of the counties of Cattaraugus, Allegany, Steuben, Livingston, Genesee, and Monroe, held at the court house, in the village of Geneseo, on the 20th day of November, 1833, for the purpose of adopting measures in furtherance of the construction of the Rochester and Olean Canal, with a branch to the village of Dansville; the Hon. James McCall, of Allegany, was appointed President; and George Williams, and James Faulkner, Esqs. were appointed Secretaries.

When the following resolutions were presented by the Committee, and unanimously adopted by the meeting.

Resolved, That the object of the meeting is to harmonize with the people of Allegany and other places along the line of the contemplated route of the canal, in the object prayed for in their several memorials, with the additional recommendation of a short branch to the village of Dansville, by the valley of the Canaseraga.

Resolved, That it is the deliberate opinion of this meeting, that since the construction of the Erie and Champlain Canals, no route has been designated, which, in its bearings on the great interests of the State, in the extent to which its influence will be felt, and the financial returns which may be reasonably calculated upon, can compare with that now under consideration.

Resolved, That we cannot reconcile it to our ideas of duty to ourselves, or the State we live in, not to manifest an interest in the busy movements of our enterprizing neighbors, Pennsylvania and Maryland, whose zeal and energy are untiring and unabated, and whose eyes are steadily fixed on the growing interests of Baltimore, and Philadelphia.

Resolved, That it be recommended to the several counties embraced in the object of this meeting, to call county meetings to provide the funds and send a delegate to the next Legislature, to further the general object of this meeting.

Resolved, That James McCall, George Williams, and George Mills, in the county of Allegany; Emery Wood, Henry Bryan, and F. S. Martin, in the county of Cattaraugus; Benjamin Gardiner, J. P. Landon, and M. Stoddard, in the county of Genesee; D. H. Bissel, James Faulkner, and Eli Hill, in the county of Livingston; and A. M. Schermerhorn, F. M. Haight, and Powell Carpenter, in the county of Monroe, constitute a county Committee, in their respective counties, to promote the circulation of a memorial to the Legislature, and that such Committee be authorized to appoint sub-committees in the several towns in their several counties, for the same purpose.

Resolved, That the proceedings of this meeting be published in all the papers in the several counties interested in the contemplated Canal, and in the cities of New-York and Albany.

James McCall, Pres't.
P. C. Fuller, V. Pres't.

Geo. Williams, Jas. Faulkner, } Secretaries.

Warren, Nov. 21, 1833.

Canal Convention.—This body (says the Western Reserve Chronicle) adjourned on Friday last, sine die, after a session of three days. We cannot often witness, in this section of the country, an assemblage embodying so great a share of talents and acquirements, or representing so large an amount of capital.

The deliberations were conducted with skill, promptness and dignity; and every fact, having any relation to the great object that occasioned this meeting, was, as far as practicable, elicited and investigated.

We can assure our readers, that the subject of forming an union between the Pennsylvania canals is now taken up in earnest; and we believe that our trade is about to be diverted to a mart more convenient, more natural, and more profitable, than that to which, for the last eight years, it has been artificially directed.

The delegates from the counties and cities of Philadelphia, Alleghany, and Pittsburgh, left here on Saturday, and were accompanied by several from Beaver, Trumbull and Portage, for the purpose of examining the route of the Mahoning canal from this place to Akron. From thence they will proceed to the routes of the Beaver and Sandy canal, and of the Massillon railroad; which, having examined, they will direct their course to Pittsburgh, where they will make out their report, which will designate one of the three as the most feasible and as uniting the most advantages. This decision will probably be considered as final, by all the parties concerned; and we hope that thereafter the efforts of the people of Pennsylvania and Ohio will be unitedly exerted in favor of the fortunate one, until it shall be completed.

Nov. 13, 1833—11 o'clock, A. M.

The convention was organized by Gen. Simon Perkins taking the chair, and the Hon. Wm. Rayen and R. P. Spalding, Esq. acting secretaries pro tem.

The objects of the meeting were explained by the chairman.

Gen. Abner Lacock was unanimously elected chairman: Zalmon Fitch, Esq. and Hon. Calvin Pease, secretaries.

The following, among other resolutions, were adopted by the meeting:

Resolved, That a committee, consisting of two persons from each county represented in this convention, be appointed by the respective delegates thereof, to report to this meeting a statement of facts in relation to the proposed union of the Pennsylvania and Ohio canals; presenting, in a concise manner as possible, the advantages resulting from such connexion to the commerce of the western country generally: its vast importance to the state of Pennsylvania, and the cities of Philadelphia and Pittsburgh; and the prospect it offers to capitalists, for a profitable investment of money.

Resolved, That a committee of five be appointed to examine the charters of the several companies authorised to effect a junction between the Pennsylvania and Ohio canals, and report upon the safety with which immediate measures may be taken, under the existing provisions, towards effecting the object in view.

Resolved, That a committee of five members from the counties of Trumbull and Portage, be appointed, whose duty it shall be to collect all such statistical information as may have a bearing upon the operations of a canal to unite the Ohio and Pennsylvania canals; and if required, to communicate the same, from time to time, to the delegates to this convention, from the state of Pennsylvania.

Resolved, That the president and secretaries be directed to transmit the proceedings of this convention, together with the reports of the various committees, to the governors of Ohio and Pennsylvania, requesting that the same be laid before the legislatures of the respective states for consideration.

"The tower of Pisa, in Italy, leans sixteen feet out of the perpendicular, so that strangers are afraid to pass under it; but as the plummet or line of direction falls *within its base or foundation*, it is in no danger of falling, if its materials keep together; and hence it has stood in this state three hundred years. But were an additional erection, of any considerable elevation, to be placed upon its top, it would undoubtedly soon tumble to ruins."

"Were the number of such persons increased but a thousand-fold, so that for every twenty scientific investigators now existing, twenty thousand were employed in surveying the various localities, aspects and operations of nature, in the animal, vegetable, and mineral kingdoms, on the surface of the earth and the ocean, and in the celestial regions,—*hundreds* of new facts would, in all probability, be brought to light, for *one* that is now discovered by the present contracted circle of scientific men, from which new and important conclusions in the arts and sciences might be deduced."

Great Cargo.—The ship Braganza has arrived a New Bedford with a cargo of 4300 barrels of sperm oil, the greatest quantity that we recollect having been brought in by any previous arrival.

National Gallery of Practical Science, London. [From the Repertory of Patent Inventions for August, 1833.]

It is surprizing, amongst the numerous scientific institutions which are so liberally supported in this country, that till within a short period there should have been none which had for its express object the advancement of mechanical science. We had long considered that an institution of this character would meet with the most extensive support, and are not disappointed, for in our visits to the *National Gallery of Practical Science* we daily meet with some new subject for our consideration, though we have constantly to elbow our way to any object which we are desirous of examining, particularly should our visit be late in the day.

Several subscription *soirees*, under the patronage of His Royal Highness the Duke of Sussex, have also been held at this institution. On each evening, a conversation on some practical application of the sciences has been given; in addition to which, numerous models, and other subjects of interest, were arranged in various parts of the gallery. At some of these meetings we had the pleasure of being present, and cannot but congratulate the managers in having broken through the barrier which heretofore excluded ladies from joining these highly intellectual treats.

The object of this institution is to afford every possible encouragement and facility for the practical demonstration of discoveries in natural philosophy, and for exhibiting new applications of known principles to mechanical contrivances of general utility. In pursuance of these objects, several highly valuable and interesting experiments have already been tried; amongst others, may be mentioned a series of experiments on the production of high velocities to track-boats, such as have been some time in use on the Paisley canal. It had been stated, though not generally believed, that these boats, when caused to travel at a speed of from ten to twelve miles the hour, did not offer so much resistance as when travelling at lower speeds; this soon became a question of great importance to every engineer, as well as others; more particularly to those who were directly or indirectly interested in canal property, and hence an extensive experiment was gone into, under the superintendance of Mr. Telford, aided by other eminent engineers. The canal in the national gallery offering every convenience, the results were satisfactory, and will be highly useful in improving this description of conveyance. It was proved that, by the application of means to produce high speeds to these boats, they have a tendency to rise to the surface and displace less water, and consequently do not require a greatly increasing power to propel them as was generally considered. These experiments afterwards led to one of the Paisley boats being brought to the Paddington canal, and a continuation of experiments on the large scale. This boat was drawn by fast horses at the rate of from ten to fifteen miles the hour, and similar results were obtained as upon the smaller scale; and we believe that all parties were satisfied, that a speed of at least twelve miles an hour on our canals will soon become general, though we do not consider that horses will be so well adapted to this purpose as fixed engines.

There have also been a series of experiments made in respect to the application of undulating railroads, according to the proposition of Mr. Badnall. We were not present at any of the trials, but in our last number we gave our opinion of what might be expected to result from such an application. We have mentioned these two experiments in the first place, because they are not mentioned in the catalogue, to which we will now turn, taking the different subjects according to their numerical order.

No. 1. *Newly discovered System of generating Steam. By Jacob Perkins.*—This very simple yet beautiful system of generating steam, is, we understand, getting into use in fixed engines, in steamboats, and has been tried for a length of time on the Liverpool and Manchester railroads, with every prospect of the most decided success. The average distance which the locomotive carriages travel, before the tubes of the boiler are destroyed, is about 3000 miles. The carriage in which Mr. Perkins' system of circulation is applied, has travelled upwards of 20,000 miles without the tubes giving way. In consequence of these results, the directors have caused two new carriages to be constructed, which are to be in every way alike, excepting that to one is to be added the plates to produce the circulation of the water. The working of these two carriages will determine, in a great measure, the value of Mr. Perkins' invention, as applied to this description of boiler. But this principle of generating steam is also extensively applicable in the production and manufacture of spirits, sugar, salt, indigo, soda, soap, and other articles depending on ebullition with continuous circulation.

No. 2. *Steam Gun. By the same.*—We recommend our country, as well as our town readers, to take the first opportunity to see this destructive engine: nothing can better exemplify the powers of steam. This instrument is capable of throwing, in any direction, a stream of seventy balls in four seconds, with a strength equal to gunpowder.

No. 3. *Combustion of the Hardest Steel. By the same.*—A disc of soft iron, to which motion is given by a steam engine, attached to the boiler of the steam gun, is turned with a velocity of 5,400 revolutions in a minute; and by placing a file, or other piece of the highest tempered steel, in contact with the periphery of the disc, the friction caused by the soft iron destroys or cuts the steel, producing thereby a brilliant and beautiful combustion.

The peculiar result produced by this instrument is very interesting. A machine on similar principles has lately been patented for cutting and grooving marble, by the use of a circular disc of soft metal, which revolves with immense velocity.

No. 4. *Compression of Water. By the same.*—An apparatus which, by hydrostatic pressure, compresses water to an extent equal to a fourteenth part of its volume. The force employed is equivalent to a pressure of 30,000 lbs. to the square inch, and is applicable to other liquids.

In most of our works on natural philosophy water is treated as incompressible and non-elastic; by this apparatus the opposite of these two propositions is clearly shown. There was considerable difficulty in getting a vessel capable of resisting so high a pressure; and the chief feature of this instrument is the manner of constructing the cylinder, which is formed of a series of concentric tubes; thus the inner or smaller tube is first formed by welding, and is turned accurately on the outer surface; the next tube is then formed, and is accurately turned on the inner surface, and the bore of this second or outer tube is just too small to receive the first tube; but in order that it may do so, it is heated, till, by expansion, it is capable of receiving the first tube within it, and in cooling, the second tube shrinks on the first tube, and strongly embraces them together; a third tube, a fourth, and so on, are similarly put on till a cylinder is produced capable of withstanding any extent of pressure.

No. 5. *Steel Engraving, and Unlimited Transfer or Reproduction of the Subject or Design. By the same.*—Some of the most beautiful and highly finished engravings of the present day are produced by the exercise of this invention; to effect which a steel plate is first softened to such a state of ductility as to permit the engraver to use the finest tools with nearly the same ease as on a copper-plate. When the design is finished, the plate is hardened by a process of carbonization, and it is then not only available to the production of a hundred times as many impressions as a copper-plate would yield, but is also made the means of forming other plates, almost *ad infinitum*, by transfer of the subject thereto in perfect *fac simile*.

This transfer is made by passing a cylindrical piece of softened steel over the hardened plate, with a pressure sufficient to give it a complete impression *in relievo;* and this cylinder, being hardened, is then used to transfer the subject to any required number of soft plates, which plates may again be used, by a similar process, in endless reproduction.

To Mr. Perkins we are greatly indebted for his discoveries in this branch of the arts: he may be said to be the father of steel plate printing. In a manufacturing point of view this invention is most highly valuable: the power of multiplying plates, whether on steel or copper, by this ingenious means of transferring designs from hardened surfaces, is unlimited; any number of plates of soft metal may be produced from one engraving by the artist, which may be afterwards hardened. The printers of silks, muslins, calicoes, &c. are thus enabled to expend large sums of money in paying the best artists for designing over a small surface, and executing the same in the best manner of their art. Their design may then be multiplied to the extent required, particularly in covering the whole surface of printing cylinders, which is now very commonly practised.

A Portable Dry Dock.—A gentleman of our city, who was recently at Pittsburg, has described to us a Portable Dry Dock, which is in advantageous use there, and which should be introduced in every sea port in the United States. It is formed of strong timber, well planked at the sides and bottom, and at one end. At the other end a gate is constructed, such as is sometimes used as a lock gate, which is closed when required, so as to form a firm and perfect barrier against the admission of water. At the planked and fixed end of the Dock is placed a small engine, the cost of which did not exceed three hundred dollars. This is employed to work four pumps, by which the water is taken from the dock with rapidity and ease.

When a vessel is about to be "taken into dock," certain valves of the simplest construction are opened, and the dock is immediately filled with water: assisted by stone ballast,

it sinks to a sufficient depth to admit the vessel; the gates are then opened, and she is floated in. In five hours from the time the preparations to take in a vessel are commenced, she may be admitted into the dock and safely "shoved up," so as to enable the carpenters to work at the bottom with perfect security and comfort, and in an ample space.

The whole cost of this dock did not amount to twelve hundred dollars. It has been in constant and successful use at Pittsburg for upwards of two years, and no doubt of its competency for all the purposes of repairing the bottoms of vessels, and for all the uses of "Dry Dockage," is there entertained.

This "Dry Dock" has been used on the Ohio for the repairs of steamboats of the largest class, exceeding 600 tons in burden, and, therefore, as large as most of the shipping on the sea-board of the United States.

During the prevalence of the cholera on the Ohio last summer, a large steamboat went to Pittsburg to repair: that fatal disease was supposed to prevail on board of this boat, and objections to her repairing near Pittsburg were loudly expressed. She towed the dry dock down the Ohio, and having carried it to a proper place, she went into it, was completely repaired, and then towed it back to Pittsburg.

The inventor and constructor of this valuable work is Mr. Thomas Cunningham, of Pittsburg, now residing there: he is an ingenious, industrious, and respectable mechanic. If this notice of his work shall promote his fortune, the gentleman who has communicated this statement will be highly gratified.

It is understood that Mr. Cunningham has obtained a patent for his Portable Dry Dock.

The Marquis of Blandford's Apiary, on Mr. Nutt's System. [From the London Mechanics' Magazine.]

Sir,—From the interest which you have uniformly taken in whatever relates to the extension of Mr. Nutt's invaluable system of bee management, (see page 174 of Vol. I. of this work,) I am induced to forward to your notice a detail of the successful results of that system, in the hands of the Marquis of Blandford, at Delabere Park, near Reading.

His lordship's park is most delightfully situated, about a mile from the romantic and retired village of Pangebourne, in Berkshire. The choice of the situation for the apiary is most excellent and delightful. It is at the top of a tower, forty-six feet high, situated in the midst of a wood, and commanding a most extensive view of the surrounding country, including a great part of Berkshire, Oxfordshire, Wiltshire, and Hampshire, the face of nature being clad in its endless variety of fertility, and old father Thames gently meandering through the valley formed by the distant hills which close the scene, but affording few prospective traces of those immense physical developements of his powers which render him truly the monarch of rivers. On the top of this tower his lordship possesses four colonies in collateral hives, and one inverted hive, all of which have been started since April. In the collateral hives the labors of the bees have been highly successful. From one colony his lordship has already separated a box containing 30 lbs. of honey, whilst another box, along with three small glasses, which cannot contain together less than 40 lbs., are quite ready for taking, and which will afford the sum of 70 lbs., and this without infringing upon the stock necessary for their winter subsistence. Upon my examination, the thermometer in the end boxes did not exceed 70°, whilst exposed to the atmosphere it was at 64°. A most remarkable contrast was afforded by the superior quality of the honey contained in the end box over that in the "pavilion of nature;" this superiority, particularly in the coloring matter, was most evident. Mr. Smith, the intelligent keeper, who quite follows in the steps of Mr. Nutt, informed me that the average quantity of honey produced from a cottage hive, upon the old system of management, did not exceed 30 lbs. to 40 lbs., whilst only in one case did he obtain, from a hive enlarged by eking, the amount of 50 lbs. It is extremely satisfactory and fortunate that, for the sake of reference, Mr. Nutt's system has fallen into such good hands, as both his lordship and the keeper appear to be as devoted to the system as they have been happy in the results.

I am not able to speak much regarding the progress of the inverted hives, of which his lordship has two—the one being at the top of the tower, and the other on the lawn at the back of the house—the former containing twenty-three glasses, and the latter thirty-three: this last is really a magnificent construction, an ornamental garden appendage such as few noblemen can boast. The bees had in each filled all the intermediate parts betwixt the hives and the glasses, and were just commencing their labors in the latter. Next summer his lordship will, I anticipate, reap an extensive harvest, both from these as well as his collateral hives, which are getting into prime and excellent condition for the winter.

I have troubled you with these details, because they relate to facts, and a publication of such facts is all that is required to introduce this admirable system of bee management into universal introduction. Let the example but be extended, and the practice inculcated, amongst our rural population, and, whilst it will greatly conduce to their advantage, we need no longer look to France or Italy for a supply of treasures which our own country and peasantry could so efficiently produce.

I am, sir, your obedient servant,

Abraham Booth.

Reading, July 22, 1833.

[In no country is there more facility afforded for the introduction of some such plan as in this, and the great interest many of our readers have expressed on the subject, induces us to insert another article from one of the best periodicals of the present day.—Ed. M. M.]

Description of an Improved Bee-Hive. By Mr. William Todd, Kirkmaiden. [From the Quarterly Journal of Agriculture.]

Mr. Todd, having, for some years past, made the management of bees a subject of study, has paid particular regard to the various kinds of hives, and the modes adopted for separating the bees from a part of their work, without injury to the remainder of the bees or their combs; and after trying various sorts of hives, has found none that he would compare with the one which is the subject of this paper. It is now four years since this hive was brought to its present improved state, and the experience of that prolonged trial has served to convince him more and more that it is all that can be desired, for the two purposes of *dividing swarms* and the *abstraction of honey without killing the bees*. Mr. Todd believes that the plan is hitherto confined to himself and two or three others in his neighborhood, but is desirous that its advantages should be made known.

The annexed cuts, figs. 1 and 2, exhibit

Fig. 1.

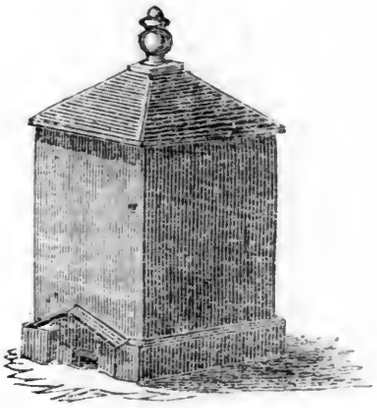
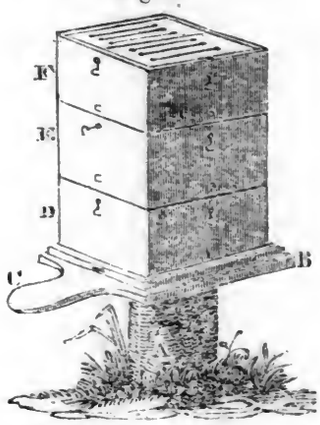


Fig. 2.



this hive, the latter in a state denuded of the external covering, the former with the cover in its place, being the ordinary working state. The pedestal A is a pillar of wood or stone, of any convenient height, and fixed securely in the ground. On the top of the pillar is fixed a piece of stout board, having at each end a perforation or mortice. The stool or basement, B, on which the hive is set, is fastened to the former by means of two staples which pass through the mortices, and secured with two iron or wooden plugs. The stool is a board 14¾ inches square, with a landing place, C, in front, which is rounded off on the upper surface to prevent the lodgement of water. Round this board, at the distance of half an inch from its outer edge, is a frame of wood 1½ inches broad, and 1 inch in thickness. This is fixed upon the upper surface of the stool, having in the front side a door of entrance for the bees. This passage may be made 2 inches in width by ½ inch in height on the outside, but widening inward to 3 inches by ½ inch in height. The side of the frame opposite to the entrance is attached to a slip bottom of ½ inch in thickness, fitted to slide out like a drawer, thereby affording the means of cleaning out the bottom of the hive, and on which a supply of food can be placed when necessary. The inside measure of this

frame should correspond to the inside dimensions of the boxes.

The body of the hive is made of deal, about one inch in thickness. Its dimensions are 10¾ inches square inside measure, and the total height about 19½ inches, but divided into three stories or compartments, D, E, F, each 6½ inches high, and separable from each other as occasion may require. Each box is furnished with a top and bottom perforated with oblong slits, as seen in the top of fig. 2; these are of hard-wood, ¼ inch thick, and each formed of two pieces. Each half of the tops and bottoms have three slits, each about ⅓ inch in width, and so arranged, that, when the bottom of one compartment or box is applied to the top of any other, the slits shall all coincide to allow free passage to the bees; the bottoms are secured with small buttons, to prevent their falling out in handling, but allowing them to be displaced with ease when the comb is to be abstracted. The boxes are united to each other with hooks and eyes, which must all be placed at equal distances from the edges of the box, to insure the application of any one box to any other of the set. One cover is adapted to fit all the boxes; it is required to be of thick wood, in order that the eyes of the hooks may be at the same distance from the edge as those of the boxes, its length and breadth being exactly the same as the body of the hive. The cover may be made of a single piece of board, or it may be improved by making it in two layers, with a vacant space between; a few small holes may then be perforated in the lower half, and one larger one in the upper portion, the latter to be stopped with a cork, and opened when occasion requires.

The above is all that is essential to this hive, but the whole may be secured by the cover, fig. 1, the outer dimensions of which correspond with those of the stool or basement, that is 14¾ inches square, and the height sufficient to admit the three boxes or compartments of the hive. A folding flap is provided on the back part of the cover, to allow the slip bottom to be withdrawn and replaced, while in the front, as seen in the figure, a small part is cut away to leave the entrance clear.

In the management of this hive, when a swarm takes place, if the swarm is large, take three boxes, but if small, two will suffice. Should three boxes have been applied, the lower one ought to be removed about the middle or end of September, as there should never be more than two boxes allowed for a hive during winter, nor till the bees have thrown the first swarm; when a first swarm is thrown, add a third box, to prevent after-casts. If it is wished that the hive should not swarm at all, let a third box be added about the 1st of June, when the hive begins to appear crowded, and afterwards a fourth box, if it appear necessary.

To divide swarms, watch the time when the hives become crowded, and when drones begin to appear in the bee garden. Place a stool or basement, with an empty box on it, on each side of the hive you mean to divide, and have at hand a spare cover. Unhook the hive, and draw through between the boxes a piece of thin wire or a thin table knife, to separate any portions of wax that may adhere. In the evening, when the bees are mostly home, move the boxes gently, and insert between them two large sheets of tin plate; lift the upper box with one of the tin sheets, and place it over the box already provided on one of the stools; close the entrance of this stool, and take out the tin plate; put the cover on the other portion of the hive, and remove it to the empty box on the other stool, and when all are properly secured, allow this division to remain open, that the stray bees may settle in it. Let it remain open during the following day, and at night shut it up, using precaution to admit the necessary air, and open the other division. Let the second be shut up, and the first open for twenty-four hours; and if the weather have been fine, you may set both at liberty; but if the weather have been unfavorable for bees going abroad, they must be kept apart a day longer. After this they will continue to work as separate swarms.

The person chiefly employed in shifting the boxes may be protected from the bees by a broad hat with a veil tied round the hat, and round the shoulders, made of calico, with a piece of gauze or cat-gut in front, and on the hands a pair of gloves, and over these a pair of woollen mittens, the clothes well buttoned up and secured.

Should the hive at killing time consist of three boxes, and the lower one be considered but partially filled, and should it, together with the middle one, be sufficient for the support of the hive, the upper box may then be taken away. To do this, disengage the upper box as before directed, and insert the sheets of tin plate; take away the upper box and lay it on a stool at 30 or 40 yards distance. Put the cover on the remaining boxes, and allow the bees free passage in both divisions. The bees in the removed box may be left alone for a little, and all that rise will fly back to the old stool, where, finding the hive as usual, they will remain. The bees in the separated box soon get tame when parted from the body of the hive, and may be blown out with bellows, or thrust out with a quill, and when once they take wing, they will go back to the old stool. Care should be taken at this season of the year to observe if the queen bee be in the separated box, that she may be preserved and put back safely to the hive.

When it is found necessary to feed bees, a trough of tinned iron, 10½ inches long, 4 inches wide, and 1 inch nearly in depth, with a floating lid of nearly the same dimensions, made of very thin fir wood, and bored like a sieve. This is filled with diluted honey, or thin syrup of sugar; and having put the floater upon it, draw out the slip behind, and put in the feeder, which must be so near the size of the opening as not to let a bee pass when it is in, and at the same time allow it to go in freely. The hive is then shut up to prevent other bees from having admission.

When weak swarms are fed in the ordinary way, without shutting them up, the bees of neighboring hives are attracted, who not only carry off the food given, but, after it is done, continue to rob the weak hive of all their store, if they have any. Feeding in this way often does harm rather than good.

In feeding, it is advisable to give the bees daily as much as the feeder will contain for a succession of days, if they continue to take it up, until they have got what may be considered proper or sufficient. During this time they are closely shut up, and after feeding is dropped, let them be kept in till they settle, and till the neighboring swarms, if they be in motion, settle also, when the passage may be left open. This prevents them from being the prey of neighboring swarms.

[*From the New-York Farmer.*]

Eggs of the Silk Worm.—On opening a cocoon and carefully taking off the shell of the chrysalis, the miller or perfect insect is exhibited entire. The insides of the miller appear to be composed wholly of eggs, without the least appearance of any other parts or members. It requires leisure and patience to ascertain the number of eggs in a single insect—a little more than we possess. Assigning the undertaking, therefore, to one of the fair sex, who sometimes, to say the least, possess the above requisites, we found the number to be about three hundred. Multiplying this number by 100, the product is 30,000 eggs, which will produce nearly as many worms. What ample and beautiful provision Providence has made to render this insect useful to man! If each one only laid a very few eggs, nearly the whole brood would be required to propagate the race, leaving so few cocoons that could be reeled, that none but queens and princesses could afford to wear the "royal purple."

Improved Live Stock.—The Hon. Henry Clay, while at his recent visit to Albany, offered for a bull and a heifer calf, six months old, belonging to Gen. S. Van Rensselaer, jr. four hundred dollars, which were refused.

They were from the famous stock of short horn Durham cattle, imported by Gen. S. Van Rensselaer in 1828, from the herd of Mr. Champion, Engla[illegible].

We are also informed that Mr. Bement, of Albany, is about importing some of the late improved breed of Durham cattle, as well as some of the much esteemed Southdown sheep.

Mr. Hawes, an English gentleman, lately settled near Albany, brought out with him last fall some of the Berkshire breed of hogs, which were very much admired at the fair, and the demand for the pigs was so great that he could not supply one half the demand.

We have two most beautiful pigs, or rather hogs, of this breed, three months old, obtained from Mr. Brientnall, of Goshen, N. Y. We have not had the pleasure of seeing Mr. Hawes' pigs, but if they are superior to ours, there is no wonder that the demand exceeds the supply.

Valuable Heifer Calf.—The famous white cow, Dulcibella, an imported full bred improved Durham Short Horn, exhibited by Mr. C. N. Bement, at the late cattle show and fair, held at the city of Albany, has since produced a heifer calf, for which, we are informed, he refused fifty dollars before she was twenty-four hours old.

Cutting off Potato Blossoms.—We have inserted notices of the increased products from this practice. A writer in the New-England Farmer made an experiment, which resulted in obtaining a less quantity from the row deprived of the blossoms.

Exhibition of Dahlias.—A gentleman who has returned in one of the late packets from England, was at an exhibition of dahlias at Cambridge, in September, shown by the Horticultural Society, and was told that upwards of *one thousand varieties* of dahlias were exhibited.

[From the Washington Globe—Extra.]

MESSAGE

Of the President of the United States to both Houses of Congress.

FELLOW-CITIZENS OF THE SENATE, AND HOUSE OF REPRESENTATIVES:

On your assembling to perform the high trusts which the people of the United States have confided to you, of legislating for their common welfare, it gives me pleasure to congratulate you upon the happy condition of our beloved country. By the favor of Divine Providence, health is again restored to us; peace reigns within our borders; abundance crowns the labors of our fields; commerce and domestic industry flourish and increase: and individual happiness rewards the private virtue and enterprize of our citizens.

Our condition abroad is no less honorable than it is prosperous at home. Seeking nothing that is not right, and determined to submit to nothing that is wrong, but desiring honest friendships and liberal intercourse with all nations, the United States have gained throughout the world the confidence and respect which are due to a policy so just and so congenial to the character of the American people and to the spirit of their institutions.

In bringing to your notice the particular state of our Foreign Affairs, it affords me high gratification to inform you, that they are in a condition which promises the continuance of friendship with all nations.

With Great Britain the interesting question of our Northeastern Boundary remains still undecided. A negociation, however, upon that subject, has been renewed since the close of the last Congress; and a proposition has been submitted to the British Government with the view of establishing, in conformity with the resolution of the Senate, the line designated by the Treaty of 1783. Though no definitive answer has been received, it may be daily looked for, and I entertain a hope that the overture may ultimately lead to a satisfactory adjustment of this important matter.

I have the satisfaction to inform you that a negociation, which, by desire of the House of Representatives, was opened some years ago with the British Government, for the erection of light-houses on the Bahamas, has been successful. Those works, when completed, together with those which the United States have constructed on the western side of the Gulf of Florida, will contribute essentially to the safety of navigation in that sea. This joint participation in establishments interesting to humanity and beneficial to commerce, is worthy of two enlightened nations; and indicates feelings which cannot fail to have a happy influence upon their political relations. It is gratifying to the friends of both to perceive that the intercourse between the two people is becoming daily more extensive, and that sentiments of mutual good will have grown up, benefitting their common origin and justifying the hope, that by wise counsels on each side, not only unsettled questions may be satisfactorily terminated, but new causes of misunderstanding prevented.

Notwithstanding that I continue to receive the most amicable assurances from the Government of France, and that in all other respects the most friendly relations exist between the United States and that Government, it is to be regretted that the stipulations of the Convention concluded on the 4th July, 1831, remain in some important parts unfulfilled.

By the second article of that Convention it was stipulated that the sum payable to the United States should be paid at Paris in six annual instalments, into the hands of such person or persons as should be authorized by the Government of the United States to receive it; and by the same article the first instalment was payable on the 2d day of February, 1833. By the act of Congress of the 13th July, 1832, it was made the duty of the Secretary of the Treasury to cause the several instalments, with the interest thereon, to be received from the French Government, and transferred to the U. States in such manner as he may deem best; and by the same act of Congress, the stipulations on the part of the U. States, in the Convention, were in all respects fulfilled. Not doubting that a treaty thus made and ratified by the two Governments, and faithfully executed by the U. States, would be promptly complied with by the other party, and desiring to avoid the risk and expense of intermediate agencies, the Secretary of the Treasury deemed it advisable to receive and transfer the first instalment by means of a draft upon the French Minister of Finance. A draft for this purpose was accordingly drawn in favor of the Cashier of the Bank of the United States, for the amount accruing to the United States out of the first instalment, and the interest payable with it. This bill was not drawn at Washington until five days after the instalment was payable at Paris, and was accompanied by a special authority from the President, authorizing the Cashier or his assigns to receive the amount. The mode thus adopted of receiving the instalment was officially made known to the French Government, by the American Charge d'Affaires at Paris, pursuant to instructions from the Department of State. The bill, however, though not presented for payment until the 23d day of March, was not paid, and for the reason assigned, by the French Minister of Finance, that no appropriation had been made by the French Chambers. It is not known to me that up to that period any appropriation had been required of the Chambers; and, although a communication was subsequently made to the Chambers, by direction of the King, recommending that the necessary provision should be made for carrying the convention into effect, it was at an advanced period of the session, and the subject was finally postponed until the next meeting of the Chambers.

Notwithstanding it has been supposed by the French Ministry, that the financial stipulations of the treaty cannot be carried into effect without an appropriation by the Chambers, it appears to me to be not only consistent with the charter of France, but due to the character of both Governments, as well as to the rights of our citizens, to treat with the convention made and ratified in proper form, as pledging the good faith of the French Government for its execution, and as imposing upon each Department an obligation to fulfil it: and I have received assurances through our Charge d'Affaires at Paris and the French Minister Plenipotentiary at Washington, and more recently through the Minister of the United States at Paris, that the delay has not proceeded from any indisposition on the part of the King and his Ministers to fulfil the treaty, and that measures will be presented at the next meeting of the Chambers, and with a reasonable hope of success, to obtain the necessary appropriation.

It is necessary to state, however, that the documents, except certain lists of vessels captured, condemned, or burned at sea, proper to facilitate the examination and liquidation of the reclamations comprised in the stipulation of the Convention, and which by the 6th article France engaged to communicate to the United States by the intermediary of the legation, though repeatedly applied for by the American Charge d'Affairs, under instructions from this Government, have not yet been communicated; and this delay, it is apprehended, will necessarily prevent the completion of the duties assigned to the Commissioners within the time at present prescribed by law.

The reasons for delaying to communicate these documents have not been explicitly stated, and this is the more to be regretted, as it is not understood that the interposition of the Chambers is in any manner required for the delivery of those papers.

Under these circumstances, in a case so important to the interests of our citizens, and to the character of our country, and under disappointments so unexpected, I deemed it my duty, however I might respect the general assurances to which I have adverted, no longer to delay the appointment of a Minister Plenipotentiary to Paris, but to despatch him in season to communicate the result of his application to the French Government at an early period of your session. I accordingly appointed a distinguished citizen for this purpose, who proceeded on his mission in August last, and was presented to the King early in the month of October, since which time no despatches have been received from him. He is particularly instructed as to all matters connected with the present posture of affairs, and I indulge the hope, that with the representations he is instructed to make, and from the dispositions manifested by the King and his Ministers in their recent assurances to our Minister at Paris, the subject will be early considered and satisfactorily disposed of at the next meeting of the Chambers.

As this subject involves important interests, and has attracted a considerable share of the public attention, I have deemed it proper to make this explicit statement of its actual condition: and should I be disappointed in the hope now entertained, the subject will be again brought to the notice of Congress in such manner as the occasion may require.

The friendly relations which have always been maintained between the United States and Russia, have been further extended and strengthened by the treaty of navigation and commerce concluded on the 6th of December last, and sanctioned by the Senate before the close of its last session. The ratifications having been since exchanged, the liberal provisions of the Treaty are now in full force; and, under the encouragement which they have received, a flourishing and increasing commerce, yielding its benefits to the enterprize of both nations, affords to each the just recompense of wise measures, and adds new motives for that mutual friendship which the two countries have hitherto cherished towards each other.

It affords me peculiar satisfaction to state that the Government of Spain has at length yielded to the justice of the claims which have been so long urged in behalf of our citizens, and has expressed a willingness to provide an indemnification, as soon as the proper amount can be agreed upon. Upon this latter point, it is probable an understanding had taken place between the Minister of the United States and the Spanish Government, before the decease of the late King of Spain, and, unless that event may have delayed its completion, there is reason to hope that it may be in my power to announce to you early in your present session, the conclusion of a convention upon terms not less favorable than those entered into for similar objects with other nations. That act of justice would well accord with the character of Spain, and is due to the United States from their ancient friend. It could not fail to strengthen the sentiments of amity and good will between the two nations which it is so much the wish of the United States to cherish, and so truly the interest of both to maintain.

By the first section of an act of Congress passed on the 13th of July, 1832, the tonnage duty on Spanish ships arriving from the ports of Spain was limited to the duty payable on American vessels in the ports of Spain previous to 20th October, 1817, being five cents per ton. That act was intended to give effect, on our side, to an arrangement made with the Spanish Government, by which discriminating duties of tonnage were to be abolished in the ports of the United States and Spain on the vessels of the two nations. Pursuant to that arrangement, which was carried into effect on the part of Spain on the 20th of May, 1832, by a royal order, dated the 29th April, 1832, American vessels in the ports of Spain have paid 5 cents per ton, which rate of duty is also paid in those ports by Spanish ships: but, as American vessels pay no tonnage duty in the ports of the United States, the duty of five cents payable in our ports by Spanish vessels under the act above mentioned is really a discriminating duty operating to the disadvantage of Spain. Though no complaint has yet been made on the part of Spain, we are not the less bound by the obligations of good faith to remove the discrimination: and I recommend that the act be amended accordingly. As the royal order above alluded to includes the ports of the Balearic and Canary Islands, as well as those of Spain, it would seem that the provisions of the act of Congress should be equally extensive; and that for the repayment of such duties as may have been improperly received, an addition should be made to the sum appropriated at the last session of Congress for refunding discriminating duties.

As the arrangement referred to, however, did not embrace the Islands of Cuba and Porto Rico, discriminating duties, to the prejudice of American shipping, continue to be levied there. From the extent

of the commerce carried on between the United States and those Islands, particularly the former, this discrimination causes serious injury to one of those great national interests which it has been considered an essential part of our policy to cherish, and has given rise to complaints on the part of our merchants. Under instructions given to our Minister at Madrid, earnest representations have been made by the Spanish Government upon this subject, and there is reason to expect, from the friendly disposition which is entertained towards this country, that a beneficial change will be produced. The disadvantage, however, to which our shipping is subjected by the operation of these discriminating duties, requires that they be met by suitable countervailing duties during your present session; power being at the same time vested in the President to modify or discontinue them as the discriminating duties on American vessels or their cargoes may be modified or discontinued at these Islands. Intimations have been given to the Spanish Government, that the United States may be obliged to resort to such measures as are of necessary self defence; and there is no reason to apprehend that it would be unfavorably received. The proposed proceeding, if adopted, would not be permitted, however, in any degree to introduce a relaxation in the efforts of our Minister to effect a repeal of this irregularity by friendly negociation, and it might serve to give force to his representations by showing the dangers to which that valuable trade is exposed, by the obstructions and burthens which a system of discriminating and countervailing duties necessarily produces.

The selection and preparation of the Florida archives for the purpose of being delivered over to the United States, in conformity with the royal order, as mentioned in my last annual message, though in progress, has not yet been completed. This delay has been produced, partly by causes which were unavoidable, particularly the prevalence of the cholera at Havana; but measures have been taken which it is believed will expedite the delivery of those important records.

Congress were informed at the opening of the last session, that, "owing, as was alleged, to embarrassments in the finances of Portugal, consequent upon the civil war in which that nation was engaged," payment had been made of only one instalment of the amount which the Portuguese Government had stipulated to pay for indemnifying our citizens for property illegally captured in the blockade of Terceira.

Since that time a postponement for two years, with interest, of the two remaining instalments, was requested by the Portuguese Government; and as a consideration, it offered to stipulate that rice of the United States should be admitted into Portugal at the same duties as Brazilian rice. Being satisfied that no better arrangement could be made, my consent was given, and a royal order of the King of Portugal was accordingly issued on the 4th of February last, for the reduction of the duty on rice of the United States. It would give me great pleasure, if, in speaking of that country, in whose prosperity the United States are so much interested, and with whom a long subsisting, extensive, and mutually advantageous commercial intercourse has strengthened the relations of friendship, I could announce to you the restoration of its internal tranquillity.

Subsequently to the commencement of the last session of Congress, the final instalment payable by Denmark under the convention of the 28th day of March, 1830, was received. The commissioners for examining the claims have since terminated their labors, and their awards have been paid at the Treasury as they have been called for. The justice rendered to our citizens by that government is thus completed, and a pledge is thereby afforded for the maintenance of that friendly intercourse becoming the relations that the two nations mutually bear to each other.

It is satisfactory to inform you that the Danish government have recently issued an ordinance by which the commerce with the Island of St. Croix is placed on a more liberal footing than heretofore. This change cannot fail to prove beneficial to the trade between the United States and that colony, and the advantages likely to flow from it may lead to greater relaxations in the colonial systems of other nations.

The ratifications of the Convention with the King of the Two Sicilies have been duly exchanged, and the Commissioners appointed for examinng the claims under it, have entered upon the duties assigned to them by law. The friendship that the interests of the two nations require of them being now established, it may be hoped that each will enjoy the benefits which a liberal commerce should yield to both.

A Treaty of Amity and Commerce between the United States and Belgium was concluded during the last winter, and received the sanction of the Senate; but the exchange of the ratifications has been hitherto delayed, in consequence, in the first instance, of some delay in the reception of the Treaty at Brussels, and, subsequently, of the absence of the Belgian Minister of Foreign Affairs at the important conferences in which his Government is engaged at London.

That treaty does but embody those enlarged principles of friendly policy, which, it is sincerely hoped, will always regulate the conduct of the two nations, having such strong motives to maintain amicable relations towards each other, and so sincerely desirous to cherish them.

With all the other European powers with whom the United States have formed diplomatic relations, and with the Sublime Porte, the best understanding prevails. From all, I continue to receive assurances of good will towards the United States, assurances which it gives me no less pleasure to reciprocate than to receive. With all, the engagements which have been entered into are fulfilled with good faith on both sides. Measures have also been taken to enlarge our friendly relations and extend our commercial intercourse with other States. The system we have pursued of aiming at no exclusive advantages, of dealing with all on terms of fair and equal reciprocity, and of adhering scrupulously to all our engagements, is well calculated to give success to efforts intended to be mutually beneficial.

The wars of which the southern part of this continent was, so long, the theatre, and which were carried on, either by the mother country against the States which had formerly been her colonies, or by the States against each other, having terminated, and their civil dissensions having so far subsided, as, with few exceptions, no longer to disturb the public tranquillity, it is earnestly hoped those States will be able to employ themselves without interruption in perfecting their institutions, cultivating the arts of peace, and promoting, by wise councils and able exertions, the public and private prosperity which their patriotic struggles so well entitle them to enjoy.

With those States our relations have undergone but little change during the present year. No reunion having yet taken place between the States which composed the republic of Colombia, our Chargé d'Affaires at Bogota has been accredited to the Government of New Grenada, and we have therefore no diplomatic relations with Venezuela and Equator, except as they may be included in those heretofore formed with the Colombian Republic. It is understood that representatives from the three States were about to assemble at Bogota to confer on the subject of their mutual interests, particularly that of their union; and if the result should render it necessary, measures will be taken on our part to preserve with each that friendship and those liberal commercial connections which it has been the constant desire of the United States to cultivate with their sister Republics in this hemisphere. Until the important question of re-union shall be settled, however, the different matters which have been under discussion between the United States and the Republic of Colombia or either of the States which composed it, are not likely to be brought to a satisfactory issue.

In consequence of the illness of the Chargé d'Affaires appointed to Central America at the last session of Congress, he was prevented from proceeding on his mission until the month of October. It is hoped, however, that he is by this time at his post, and that the official intercourse, unfortunately so long interrupted, has been thus renewed on the part of the two nations so amicably and advantageously connected by engagements founded on the most enlarged principles of commercial reciprocity.

It is gratifying to state, that, since my last annual message, some of the most important claims of our fellow-citizens upon the Government of Brazil have been satisfactorily adjusted, and a reliance is placed on the friendly dispositions manifested by it, that justice will also be done in others. No new cases of complaint have arisen: and the trade between the two countries flourishes under the encouragement secured to it by the liberal provisions of the treaty.

It is cause of regret, that, owing probably to the civil dissensions which have occupied the attention of the Mexican Government, the time fixed by the treaty of limits with the United States for the meeting of the Commissioners to define the boundaries between the two nations, has been suffered to expire without the appointment of any Commissioners on the part of that Government. While the true boundary remains in doubt by either party, it is difficult to give effect to those measures which are necessary to the protection and quiet of our numerous citizens residing near that frontier. The subject is one of great solicitude to the United States, and will not fail to receive my earnest attention.

The treaty concluded with Chili and approved by the Senate at its last session, was also ratified by the Chilian Government, but with certain additional and explanatory articles of a nature to have required it to be again submitted to the Senate. The time limited for the exchange of the ratifications, however, having since expired, the action of both Governments on the treaty will again become necessary.

The negotiations commenced with the Argentine Republic relative to the outrages committed on our vessels engaged in the fisheries at the Falkland Islands by persons acting under the color of its authority, as well as the other matters in controversy between the two Governments have been suspended by the departure of the Chargé d'Affaires of the U.S. from Buenos Ayres. It is understood, however, that a minister was subsequently appointed by that Government to renew the negotiation in the United States, but though daily expected, he has not yet arrived in this country.

With Peru no treaty has yet been formed, and with Bolivia no diplomatic intercourse has yet been established. It will be my endeavor to encourage those sentiments of amity and that liberal commerce which belong to the relations in which the independent States of this continent stand towards each other.

I deem it proper to recommend to your notice the revision of our consular system. This has become an important branch of the public service, inasmuch as it is intimately connected with the preservation of our national character abroad, with the interest of our citizens in foreign countries, with the regulation and care of our commerce, and with the protection of our seamen. At the close of the last session of Congress I communicated a report from the Secretary of State upon the subject, to which I now refer, as containing information which may be useful in any inquiries that Congress may see fit to institute with a view to a salutary reform of the system.

It gives me great pleasure to congratulate you upon the prosperous condition of the finances of the country, as will apppear from the report which the Secretary of the Treasury will in due time lay before you. The receipts into the Treasury during the present year will be more than thirty-two millions of dollars. The revenue derived from customs will, it is believed, be more than twenty-eight millions, and the public lands will yield about three millions. The expenditures within the year for all objects, including $2,572,240 99 on account of the public debt, will not amount to twenty-five millions; and a large balance will remain in the Treasury after satisfying all the appropriations chargeable on the revenue for the present year.

The measures taken by the Secretary of the Treasury will probably enable him to pay off in the course of the present year the residue of the exchanged four and a half per cent. stock, redeemable on the first of January next. It has therefore been included in the estimated expenditure of this year, and forms a part of the sum above stated to have been paid on account of the public debt. The payment of this stock will reduce the whole debt of the United States, funded and unfunded, to the sum of £4,760,982 08. And as provision has already been made for the four and a half per cents. above mentioned, and charged in the expenses of the present year, the sum last stated is all that now remains of the national debt; and the revenue of the coming year, together with the balance now in the Treasury, will be sufficient to discharge it, after meeting the current expenses of the Government. Under the power given to the Commissioners of the Sinking Fund, it will, I have no doubt, be purchased on favorable terms within the year.

From this view of the state of the finances and the public engagements yet to be fulfilled, you will perceive that, if Providence permits me to meet you at another session, I shall have the high gratification of announcing to you that the national debt is extinguished. I cannot refrain from expressing the pleasure I feel at the near approach of that desirable event.—The short period of time within which the public debt will have been discharged is strong evidence of the abundant resources of the country, and of the prudence and economy with which the Government has heretofore been administered. We have waged two wars, since we became a nation, with one of the most powerful kindoms in the world,—both of them undertaken in defence of our dearest rights—both successfully prosecuted and honorably terminated—and many of those who partook in the first struggle, as well as the second—will have lived to see the last item of the debt incurred in these necessary, but expensive conflicts, faithfully and honestly discharged, and we shall have the proud satisfaction of bequeath-

ing to the public servants who follow us in the administration of the Government, the rare blessing of a revenue sufficiently abundant, raised without injustice or oppression to our fellow citizens, and unincumbered with any burthens but what they themselves shall think proper to impose upon it.

The flourishing state of the finances ought not, however, to encourage us to indulge in a lavish expenditure of the public treasure. The receipts of the present year, do not furnish the test by which we are to estimate the income of the next. The changes made in our revenue system by the acts of Congress of 1832 and 1833, and more especially by the former, have swelled the receipts of the present year, far beyond the amount to be expected in future years upon the reduced tariff of duties. The shortened credits on revenue bonds, and the cash duties on woollens, which were introduced by the act of 1832, and took effect on the fourth of March last, have brought large sums into the Treasury in 1833, which, according to the credits formerly given, would not have been payable until 1834, and would have formed a part of the income of that year. These causes would of themselves produce a great diminution of the receipts in the year 1834, as compared with the present one; and they will be still more diminished by the reduced rates of duties which take place on the first of January next, on some of the most productive articles. Upon the best estimate that can be made, the receipts of the next year, with the aid of the unappropriated amount now in the Treasury, will not be much more than sufficient to meet the expenses of the year, and pay the small remnant of the national debt which yet remains unsatisfied. I connot therefore, recommend to you any alteration in the present tariff of duties. The rate as now fixed by law on the various articles, was adopted at the last session of Congress, as a matter of compromise, with unusual unanimity, and unless it is found to produce more than the necessities of the Government call for, there would seem to be no reason at this time to justify a change.

But while I forbear to recommend any further reduction of the duties, beyond that already provided for by the existing laws, I must earnestly and respectfully press upon Congress the importance of abstaining from all appropriations which are not absolutely required for the public interest, and authorized by the powers clearly delegated to the United States. We are beginning a new era in our Government. The national debt, which has so long been a burthen on the Treasury, will be finally discharged in the course of the ensuing year. No more money will afterwards be needed than what may be necessary to meet the ordinary expenses of the Government. Now, then, is the proper moment to fix our system of expenditure on firm and durable principles: and I cannot too strongly urge the necessity of a rigid economy, and an inflexible determination not to enlarge the income beyond the real necessities of the Government, and not to increase the wants of the Government by unnecessary and profuse expenditures. If a contrary course should be pursued, it may happen that the revenue of 1834 will fall short of the demands upon it; and after reducing the tariff in order to lighten the burdens of the people, and providing for a still further reduction to take effect hereafter, it would be much to be deplored if, at the end of another year, we should find ourselves obliged to retrace our steps and impose additional taxes to meet unnecessary expenditures.

It is my duty on this occasion to call your attention to the destruction of the public building occupied by the Treasury Department, which happened since the last adjournment of Congress. A thorough inquiry into the causes of this loss was directed and made at the time, the result of which will be duly communicated to you. I take pleasure, however, in stating here, that by the laudable exertions of the officers of the Department and many of the citizens of the District, but few papers were lost and none that will materially affect the public interest.

The public convenience requires that another building should be erected as soon as practicable, and in providing for it, it will be advisable to enlarge in some manner the accommodations for the public officers of the several Departments, and to authorize the erection of suitable depositories for the safe keeping of the public documents and records.

Since the last adjournment of Congress, the Secretary of the Treasury has directed the money of the United States to be deposited in certain State Banks designated by him, and he will immediately lay before you his reasons for this direction. I concur with him entirely in the view he has taken of the subject, and some months before the removal, I urged upon the Department the propriety of taking that step. The near approach of the day on which the charter will expire, as well as the conduct of the Bank, appeared to me to call for this measure, upon the high considerations of public interest and public duty. The extent of its misconduct, however, although known to be great, was not at that time fully developed by proof. It was not until late in the month of August that I received from the Government Directors an official report, establishing beyond question, that this great and powerful institution had been actively engaged in attempting to influence the elections of the public officers by means of its money; and that in violation of the express provisions of its charter, it had, by a formal resolution, placed its funds at the disposition of its President, to be employed in sustaining the political power of the Bank. A copy of this resolution is contained in the report of the Government Directors before referred to; and however the same may be disguised by cautious language, no one can doubt that this money was, in truth, intended for electioneering purposes, and the particular uses to which it is proved to have been applied, abundantly show that it was so understood. Not only was the evidence complete as to the past application of the money and power of the Bank to electioneering purposes, but that the resolution of the Board of Directors authorized the same course to be pursued in future.

It being thus established by unquestionable proof, that the Bank of the United States was converted into a permanent electioneering engine, it appeared to me that the path of duty which the Executive Department of the Government ought to pursue, was not doubtful. As by the terms of the Bank charter, no officer but the Secretary of the Treasury could remove the deposites, it seemed to me that this authority ought to be at once exerted to deprive that great corporation of the support and countenance of the Government in such an use of its funds, and such an exertion of its power. In this point of the case the question is distinctly presented, whether the people of the United States are to govern, through representatives chosen by their unbiassed suffrages, or whether the power and money of a great corportion, are to be secretly exerted to influence their judgment, and control their decisions. It must now be determined whether the Bank is to have its candidates for all offices in the country, from the highest to the lowest, or whether candidates on both sides of political questions shall be brought forward is heretofore, and supported by the usual means.

At this time the efforts of the Bank to control public opinion, through the distresses of some, and the fears of others, are equally apparent, and if possible more objectionable. By a curtailment of its accommodations more rapid than any emergency requires, and even while it retains specie to an almost unprecedented amount in its vaults, it is attempting to produce great embarassment in one portion of the community, while through presses known to have been sustained by its money, it attempts by unfounded alarms to create a panic in all.

These are the means by which it seems to expect that it can force a restoration of the deposites, and as a necessary consequence extort from Congress a renewal of its charter. I am happy to know that, through the good sense of our people, the effort to get up a panic has hitherto failed, and that, through the increased accommodations which the State Banks have been enabled to afford, no public distress has followed the exertions of the Bank, and it cannot be doubted that the exercise of its power and the expenditure of its money, as well as its efforts to spread groundless alarm, will be met and rebuked as they deserve.

In my own sphere of duty, I should feel myself called on by the facts disclosed, to order a *scire-facias* against the Bank, with a view to put an end to the chartered rights it has so palpably violated, were it not that the charter itself will expire as soon as a decision would probably be obtained from the court of last resort.

I called the attention of Congress to this subject in my last annual message, and informed them that such measures as were within the reach of the Secretary of the Treasury, had been taken to enable him to judge, whether the public deposites in the Bank of the United States were certainly safe, but that as his single powers might be inadequate to the object, I recommended the subject to Congress as worthy of their serious investigation, declaring it as my opinion, that an inquiry into the transactions of that institution, embracing the branches as well as the principal Bank, was called for by the credit which was given throughout the country to many serious charges impeaching their character, and which, if true, might justly excite the apprehension that they were no longer a safe depository of the public money. The extent to which the examination thus recommended, was gone into, is spread out upon your journals, and is too well known to be stated. Such as was made resulted in a report from a majority of the committee of ways and means, touching certain specified points only, concluding with a resolution, that the Government deposites might safely be continued in the Bank of the United States. This resolution was adopted at the close of the session by the vote of a majority of the house of Representatives.

Although I may not always be able to concur in the views of the public interest or the duties of its agents which may be taken by the other departments of the Government or either of their branches, I am, notwithstanding wholly incapable of receiving otherwise than with the most sincere respect, all opinions or suggestions proceeding from such a source, and in respect to none am I more inclined to do so than to the House of Representatives. But it will be seen from the brief views at this time taken of the subject by myself, as well as the more ample ones presented by the Secretary of the Treasury, that the change in the deposites which has been ordered, has been deemed to be called for by considerations which are not affected by the proceedings referred to, and which if correctly viewed by that Department rendered its act a matter of imperious duty.

Coming as you do for the most part, immediately from the people and the States, by election, and possessing the fullest opportunity to know their sentiments, the present Congress will be sincerely solicitous to carry into full and fair effect the will of their constituents in regard to this institution. It will be for those in whose behalf we all act, to decide whether the Executive Department of the Government, in the steps which it has taken on this subject, has been found in the line of its duty.

The accompanying report of the Secretary of War, with the documents annexed to it, exhibit the operations of the War department for the past year, and the condition of the various subjects entrusted to its administration.

It will be seen from them that the Army maintains the character it has heretofore acquired for efficiency and military knowledge. Nothing has occurred since your last session to require its services beyond the ordiuary routine of duties, which upon the seaboard and the inland frontier devolve upon it in a time of peace. The system, so wisely adopted and so long pursued, of constructing fortifications at exposed poiuts, and of preparing and collecting the supplies necessary for the military defence of the country, and thus providently furnishing in peace the means of defence in war, has been continued with the usual results. I recommend to your consideration the various subjects suggested in the report of the Secretary of War. Their adoption would promote the public service and meliorate the condition of the Army.

Our relations with the various Indian tribes have been undisturbed since the termination of the difficulties growing out of the hostile aggressions of the Sacs and Fox Indians. Several treaties have been formed for the relinquishment of territory to the United States, and for the migration of the occupants to the region assigned for their residence west of the Mississippi. Should these treaties be ratified by the Senate, provision will have been made for the removal of almost all the tribes remaining east of that river, and for the termination of many difficult and embarrassing questions arising out of their anomalous political condition. It is to be hoped that those portions of two of the southern tribes, which in that event will present the only remaining difficulties, will realize the necessity of emigration, and will speedily resort to it. My original convictions upon this subject have been confirmed by the course of events for several years, and experience is every day adding to their strength. That those tribes cannot exist, surrounded by our settlements, and in continual contact with our citizens, is certain. They have neither the intelligence, the industry, the moral habits, nor the desire of improvement which are essential to any favorable change in their condition. Established in the midst of another and a superior race, and without appreciating the causes of their inferiority, or seeking to control them, they must necessarily yield to the force of circumstances and ere long disappear. Such has been their fate heretofore, and if it is to be averted, and it is, it can only be done by a general removal beyond our boundary, and by the reorganization of their political system upon principles adapted to the new relations in which they will be placed. The experiment which has been recently made has so far proved successful. The emigrants generally are represented to be prosperous and contented, the country suitable to their wants and habits, and the essential articles of subsistence easily procured. When

the report of the Commissioners now engaged in investigating the condition and prospects of these Indians, and in devising a plan for their intercourse and government is received, I trust ample means of information will be in possession of the Government for adjusting all the unsettled questions connected with this interesting subject.

The operations of the Navy during the year, and its present condition, are fully exhibited in the annual report from the Navy Department.

Suggestions are made by the Secretary, of various improvements which deserve careful consideration, and most of which, if adopted, bid fair to promote the efficiency of this important branch of the public service. Among these are the new organization of the Navy Board, the revision of the pay to officers, and a change in the period of time, or in the manner of making the annual appropriations, to which I beg leave to call your particular attention.

The views which are presented on almost every portion of our naval concerns, and, especially, on the amount of force, and the number of officers, and the general course of policy appropriate in the present state of our country, for securing the great and useful purposes of naval protection in peace, and due preparation for the contingencies of war, meet with my entire approbation.

It will be perceived from the report referred to, that the fiscal concerns of the establishment are in an excellent condition; and it is hoped that Congress may feel disposed to make promptly, every suitable provision desired, either for preserving or improving the system.

The General Post Office Department has continued upon the strength of its own resources to facilitate the means of communication between the various portions of the Union with increased activity. The method, however, in which the accounts of the transportation of the mail has always been kept, appears to have presented an imperfect view of its expenses. It has recently been discovered that from the earliest records of the Department, the annual statements have been calculated to exhibit an amount considerably short of the actual expense incurred for that service. These illusory statements, together with the expense of carrying into effect the law of the last session of Congress, establishing new mail routes, and a disposition on the part of the Head of the Department to gratify the wishes of the public in the extension of mail facilities, have induced him to incur responsibilities for their improvement beyond what the current resources of the department would sustain. As soon as he had discovered the imperfection of the method, he caused an investigation to be made of its results, and applied the proper remedy to correct the evil. It became necessary for him to withdraw some of the improvements which he had made, to bring the expenses of the Department within its own resources. These expenses were incurred for the public good, and the public have enjoyed their benefit. They are now but partially suspended, and that, where they may be discontinued with the least inconvenience to the country.

The progressive increase in the income from postages has equalled the highest expectations, and it affords demonstrative evidence of the growing importance and great utility of this department. The details are exhibited in the accompanying report from the Postmaster General.

The many distressing accidents which have of late occurred in that portion of our navigation carried on by the use of steam power, deserve the immediate and unremitting attention of the constituted authorities of the country. The fact that the number of these fatal disasters is constantly increasing, notwithstanding the great improvements which are every where made in the machinery employed, and the rapid advances which have been made in that branch of science, show very clearly that they are in a great degree the result of criminal negligence on the part of those by whom the vessels are navigated, and to whose care and attention the lives and property of our citizens are so extensively entrusted.

That these evils may be greatly lessened, if not substantially removed, by means of precautionary and penal legislation, seems to be highly probable: so far therefore as the subject can be regarded as within the constitutional purview of Congress, I earnestly recommend it to your prompt and serious consideration.

I would also call your attention to the views I have heretofore expressed of the propriety of amending the Constitution in relation to the mode of electing the President and the Vice President of the United States. Regarding it as all important to the future quiet and harmony of the people, that very intermediate agency in the election of these officers should be removed, and that their eligibility should be limited to one term of either four or six years, I cannot too earnestly invite your consideration of the subject.

Trusting that your deliberations on all the topics of general interest to which I have adverted, and such others as your more extensive knowledge of the wants of our beloved country may suggest, may be crowned with success, I tender you in conclusion, the co-operation which it may be in my power to afford them. ANDREW JACKSON.

Washington, 3d Dec. 1833.

CONGRESS—TUESDAY.

In the *Senate* the message was received, and on motion of Mr. King of Alabama, 5000 copies were ordered to be printed, and 1500 of the accompanying documents.

In the *House* after electing Thomas B. Randolph Sergeant at arms and reappointing the former doorkeepers, the usual resolutions for appointing Chaplains and furnishing the members with newspapers were adopted.

Mr. Hubbard moved that all the former rules, for the government of the House, be adopted, with the exception of the 56th and 76th. One of his propositions would be to increase the number of the members of the Standing Committees from 7 to 9, and of the other Committees from 3 to 5. He also intended to propose that the members should sit uncovered, until the Speaker should otherwise direct.

Mr. Williams said, that the proposition to sit without hats had often been submitted, and had always been rejected. It had been rejected on the ground that there was no convenient place for putting our hats; but he supposed that those who proposed the change would provide a place. He doubted also, whether we should increase the efficiency of the Committees by increasing their number. He wished time for reflection; and renewed his motion to lay the matter on the table.

Mr. Patton moved that the 9th Rule be also excepted; stating that it was his intention to move a modification of the 9th Rule; to the effect that the Speaker should vote in the first instance, in all cases, and that if the House be equally divided, the question should be lost.

The motion, as modified at the suggestion of Mr. Patton, was agreed to.

WEDNESDAY, DECEMBER 4.

In the Senate, Mr. Sprague, from Maine, and Mr. Calhoun, from South Carolina, appeared in their seats to-day.

The Chair laid before the Senate a communication from the Secretary of the Treasury, enclosing the annual report of the Treasurer of the United States, and a report concerning the removal of the Public Deposites from the U. S. Bank and its branches. 5000 copies of the report, and 1500 copies of the documents, were ordered to be printed.

Rhode Island Senators.

Mr. S. Wright offered the following resolution:

Resolved. That the proceedings of the Legislature of the State of Rhode Island, now upon the table of the Senate, showing the appointment of Elisha R. Potter, as a Senator to represent that State in the Senate of the United States, be referred to a select committee of five Senators to inquire and report upon the claim of the said Elisha R. Potter to the seat in the Senate now occupied by the Hon. Asher Robbins.

Mr. Clay wished the resolution to lie over, because as the rules of the Senate gave to its President the appointment of Committees; and as that functionary was not present, though doubtless good reasons could be given for his absence, he was unwilling that so important a duty should devolve on a substitute. It might, too, in such a case as the present be deemed proper by the Senate to appoint the Committee themselves. Hence he wished for time to reflect. After some discussion, *Mr. Wright* said, in proposing the resolution, he had supposed that the Committee would be chosen by ballot, and he would not object to the gentleman from Kentucky amending the resolution to that effect. Mr. Clay declined offering an amendment, but said if the resolution were so modified, he would no longer object to taking it up. Mr. Wright said he had no objection to make the modification, and sat down; but soon after rose again, and said he desired it to be understood that he had not intended to change the form of the resolution himself; but, if an amendment should be moved, he would not object to it.

Mr. Clay then moved to lay the resolution on the table.

And it was so ordered without a division.

In the House of Representatives the whole day was spent without any result on the question whether Mr. Moore, claiming to have received the certificate of three out of five sheriffs of the counties composing his congressional district, should be admitted to his seat, preliminary to the decision whether he or Mr. Letcher be entitled thereto.

[*From the Norfolk Herald, of 2d inst.*]

"FORTRESS MONROE, 1st DEC. 1833.

"The following is a list of officers and companies embarked on board the ships Herald and Jane, bound to Savannah, for the Alabama expedition:

"Companies A. H. and I. of the 1st Regiment of Artillery; B. and H. of the 3d; A. B. and C. of the 4th.

"The Regiment is commanded by Major Heileman of the 2d Artillery. His staff is composed as follows:—

Lieut. S. Dusenbury, 1st Art., Qr. Master.
Lieut. J. Gates, Commissary of Subsistence.
Lieut. J. B. Johnston, 4th Art., Adj't.
Ass't Surgeons Heiskell and Beny.

The Company Officers are—

1st *Artillery*—Capt. F. Whiting,
Capt. Giles Porter,
Capt. H. W. Griswold,
First Lieutenant Fras. Taylor,
Second Lieuts. Edm'd French, Lorenzo Sitgreaves, and Wm H. Pettis,
Brevet 2d Lieut David B. Harris.

2d *Artillery*—Capt. Upton C. Frazer.
First Lieut. Samuel Ringgold,
First Lieut. Campbell Graham,
Second Lieut. Wm. Bryant.
Brevet 2d Lts. Roswell Lee and John H. Allen.

4th *Artillery*—Capt. I H. Gardner,
Capt. P. H. Galt,
Capt. J. M. Washington,
Second Lieut. Franklin E Hunt.
Brevet 2d Lieuts. J. L. Davis, Alex'r Shiras, and Henry Dupont.

"The Regiment is accompanied by the band of the Artillery School of Practice. The companies are nearly full and under good discipline.

"At Savannah the Regiment will take steamboats to Augusta, and from thence to Fort Mitchell, in Alabama, via Milledgeville."

We learn, says the Courier, that a letter has been received from our Consul at Vera Cruz, by a merchant of this place, containing information of the total loss of the United States schooner Porpoise, on the Reefs off Point San Anton Lisardo, about 25 miles S. E. of Vera Cruz—all hands safe.

FEMALE SEMINARY.—The Poughkeepsie Journal records the following, which we transfer to our columns in approbation of so worthy an enterprise. Let the wealthy and patriotic in every village follow the example by similar union of efforts.

We mention with pride, as an evidence of public spirit now prevailing in our village, that the beautiful residence of Mr. John Lockwood, situated on Mansion and Garden streets, was purchased a few days since by an association embracing twelve of our most active and influential citizens, for a FEMALE SEMINARY. The grounds about the house, amounting to about five acres, are elegantly formed and covered with a variety of shade trees, shrubbery, fruits of the choicest variety, &c. &c. constituting altogether a most inviting situation. The house is already spacious, and it is contemplated to erect such additions as will afford ample and convenient accommodations for a large number of young ladies.

The association is composed of the following gentlemen: Nathaniel P. Tallmadge, George P. Oakley, Walter Cunningham, Paraclete Potter, Elias Trivett, Abraham G. Storm, Henry Conklin, Jacob Van Benthuysen, James Grant, jr. Peter P. Hayes, James Bowne, and Stephen B. Trowbridge. These names are a sufficient guarantee that every thing about the establishment, the edifices, teachers, in short its entire management, will be so arranged and so conducted as to entitle it to a large share of the public confidence and support.

The price paid for the premises, together with another lot of about four acres, lying north of Mr. Geo. P. Oakley's residence, was *twelve thousand dollars*.

Another Steamboat Disaster.—The Steamboat Mount Vernon, on her way from Cincinnati to St. Louis, about thirty miles above the mouth of the Ohio, collapsed a flue, by which circumstance three persons were immediately killed, and a number of others scalded.

Narrow Escape.—A letter from Milledgeville, (Geo.) under the date of the 17th inst. says—"We had a very narrow escape from fire. The roof of the State House caught about one o'clock yesterday supposed by sparks from the chimney—fortunately, it was extinguished without any very serious damage being done." The Augusta Courier remarks—"The roof of the Representatives' Chamber at Milledgeville was very much injured by fire, and the public papers, in the alarm, thrown into confusion. The Legislature speaks of adjourning in consequence for 8 or 10 days." [A negro boy named Sam, was "the principal and efficient actor" in saving the building.—Would it not be well for the Legislature to purchase his freedom?]

The Cotton Crop.—We find in the North Carolina Observer, a condensed statement, showing the quantity of Cotton grown and consumed in, and exported from, the United States, during the year ending 30th September, 1833. Believing it will possess interest for many of our readers, we give it a place in our columns.

The exports from New Orleans reach the enormous total of 416,877 bales, but deduct from this 14,749 bales of the crop of the previous year, &c. it leaves.....bales 403,443

(Same period 1832, 322,635.)	
The exports from Florida	22,641
(Same period 1832, 22,651 bales.)	
Exports from Alabama	129,366
(Same period 1832, 126,921.)	
Exports from Georgia	271,025
(Same period 1832, 276,437.)	
Exports from South Carolina	131,876
(Same period 1832, 173,872.)	
Exports from North Carolina, (of which only 517 bales went to foreign port,)	30,258
(Same period 1832, 28,462.)	
Exports from Virginia	30,899
(Same period 1832, 37,500.)	
Total crop of 1832-3	1,070,438
Total crop of 1831-2	987,477
Increase	82,961
The total exports to foreign ports	867,455
(Of which 630,245 bales were to England.)	
Ditto last year	891,728
Decrease	24,275

Consumption in the United States.

Quantity consumed, in	1832-3	194,412 bales.
do	1831-2	173,800
do	1830-1	182,148
do	1829-30	126,512
do	1828-9	111,850
do	1827-8	120,573
do	1826-7	103,483

N. B. The quantity taken for home manufacture, as shown by the above statement, does not include any Cotton spun in the Cotton growing States. We have no means of ascertaining the quantity taken for domestic use in the States South and West of the Potomac, and if we had, we are not aware of any practical use that could be made of the information.

Growth.

Total crop of	1824-5	560,000 bales.
do	1825-6	716,000
do	1826-7	937,000
do	1828-9	857,744
do	1829-30	976,845
do	1830-31	1,038,848
do	1831-32	987,478
do	1832-33	1,070,438

LATER FROM LISBON.—By the arrival at Boston of the *Drome*, and at this port of the *Clitus*, from St. Ubes, we have accounts from Lisbon to 26th ult. The extent of Don Pedro's circuit around Lisbon was gradually enlarging, as the Miguelite forces retired. The following letter from the house of the American Consul, shows how important in the way of supplies was the consequence of this retreat of the Miguelites:

LISBON, OCT. 19.

Since we last wrote you on the 9th inst. the army of Don Miguel has been attacked and beaten, and has retreated about 50 miles from this, so that all the mills are now in the possession of Don Pedro, and as the quantity of wheat on hand is great, and more coming from the country daily, and large quantities of flour arriving from England and France, we look daily for a decree rescinding the admission of Flour. Your obedient servants,

J. P. HUTCHINSON & Co.

The Queen had been proclaimed at Estremadura, and it was reported that Coimbra had declared in her favor. Everything was going on well at Lisbon. Don Pedro had been confined a few days to the Palace by slight indisposition, but had recovered, and was as active as ever.

No. VI.

PITTSBURGH, November 3d.

I passed an evening most agreeably at Wheeling, with two or three prominent members of the Bar, who were distinguished by all that hearty courtesy, and frankness of character, which mark the western Virginian. A venison steak and flask of old Tuscaloosa (the relish, and flavour of which, would have been Tocsin to the soul of Apicius and made Anacreon uneasy in his grave) gave cordiality to the meeting. It was my first introduction into western society, and I could hardly have been initiated under better auspices as I went under the wing of an Ohio gentleman, whose warm hospitality, and endearing social qualities, united as they are to distinguished professional talents, seem to make him a universal favourite in this region. The conversation, animated, various and instructive, would supply material for a dozen letters. But the nervous expressions, and almost startling boldness, of western conversation would lose half its vividness, and power, when transferred to paper. I found myself however, catching occasionally something of the characteristic tone of those around me, and my new friends gave so encouraging a reception to each fresh fledged sally, that I live in the humble hope, of being able to express myself with sufficient propriety, by the time I reach the really outer west, to prevent people from detecting at once the early disadvantages, I have laboured under, in living so long in a land where every lip lisps homage to mincing Walker, and each tongue trembles in terrorem of terrible Johnson. In that event I may have both scenes and characters to describe when we meet, such as would now split my pen in telling.

Wheeling is one of the most flourishing places on the Ohio. The immense quantity of bituminous coal in the adjacent region, which may be had merely for the digging, gives it great advantages as a manufacturing place, while the rich back country and favourable position, on the river, especially in low water, when steamboats find Pittsburgh difficult of access, make the town a place of active trade. It lies in two parallel streets, beneath a hill extending along the river, and its smoky purlieus, when viewed from within, except to the eye of the man of business, are any thing but attractive. The principal tavern of the place where I lodged, is well supplied with bedchambers, and parlors, and a comfortable reading room, where the leading papers in the Union are taken. The attendance too, all the servants being blacks, is very good. Among them, a perfect treasure, in the shape of a genuine old Virginian negro, must not be forgotten. The features of Billy, (for that is the name of my sable friend,) are an exact copy of those generally introduced into Washington's picture when he is painted with his favourite groom in attendance; I piqued myself considerably upon discovering the likeness, when I afterwards found that the worthy Æthiop, was actually "raised," as he expressed it, in the Washington family. He is a professing member of the Baptist church, and I was much interested, while talking with the newly converted heathen, (for such he called himself prior to the "change") to find, how the precepts with which he had lately become indoctrinated, assorted with the ideas he had been brought up in as a slave; religion seemed only to have strengthened the bonds which held him to his master. "This new light," he said, "showed the old nigger" (I give his exact words) "that to whatever station God pleased to call him, there, it was good for the old nigger to be." I was told that he was rigidly attentive to his spiritual duties, and as for his worldly ones, I never met with a more thorough-bred and respectful servant. He is among the last of a race once numerous in the old dominion, but now fading from the face of the earth. *Sero in cœlum redeas*, and when thy dusky soul takes flight, thy name be immortal Billy, let thy statue, carved in ebony, be set up in Hudson's door-way, and a memoir of thy life flare in each intelligence office in the Union.

It was with no slight regret, that I parted with my friend S. when stepping aboard a pretty steamboat, called the Gazelle, to take my passage up the river; his foreign travel, and various opportunities, have given him habits of observation, which with a dash of humour, and ready flow of fine spirits, constitute a capital travelling companion. His literary tastes are well known to you, and I should not be surprised if at a future day, he should distinguish himself as another member of his family has so happily done, by committing to the press a few notes of his wanderings. I left him waiting for the downward boat, and we parted, promising to meet again in a few months at New-Orleans—each of us in the meantime traversing regions, from which the kingdoms and principalities of Europe, might be carved out, and never missed.

The snow of yesterday, yet covered the ground, as I rubbed along the shores of the Ohio, and those pictured woods, with the morning sun gleaming through their tall stems, and glistening on the powdered tree tops, were indescribably beautiful. The islets, particularly where the hues of the foliage were most vivid, shone like shields of silver blazoned with no mortal heraldry. Before noon, however, the sun, like a hungry lap-dog over a bason of ice-cream, licked up every particle of earth's fragile covering. The warm mist of Indian summer succeeded, the river became like glass, every island floated double upon its bosom, and each headland seemed to drop its cliffs against a nether sky. The harsh panting of our high-pressure engine, or the sudden flapping of a duck's wing, as he rose suddenly from under the bow of the boat, were the only sounds abroad. The day so still, so soft, and summery, seemed like the sabbath of the dying year.

The evening came on calm, and mellow, and the broad disc of the moon, slept as quietly on the fair bosom of the Ohio, as if her slumbers there had never been broken by the war-whoop, or reveille, from the shadowy banks around.

The peculiar scenery of the Ohio, has been so graphically described by Flint, and Hall, in their various writings upon the West, that I will not detain you by dwelling minutely upon its features. The prominent characteristics of the river are, a clear winding current, studded with alluvial islands, and flowing between banks, which now lie in a level esplanade of several hundred acres, elevated perhaps fifty feet above the water, and again swell boldly from the margin to the height of three or four hundred feet in headlands, which, when the mists of evening settle upon the landscape wear the appearance of distant mountains; when I add that an occasional farm house, with its luxuriant orchards, and other enclosures, may be found along the smaller "bottoms," while the larger ones, are frequently enlivened by a bustling village, reposing in their ample bosoms, you have the main features of the Ohio, as I have seen it between Wheeling and Pittsburg. The windings of the river present at every turn, some of the most beautiful views in the world, but the regular alternations of "bluff," and "bottom," give such a sameness to the landscape, that unless familiar with the points of the country around, one might be dropped in a dozen different places along the river, and not be aware of a change in his situation. Nature seems to have delighted in repeating again and again, the same lovely forms, into which she first moulded this favourite region.

We passed Rapp's flourishing settlement, called Economy, during the day, but only near enough to see the regular arrangement of the square brick dwellings, standing about twenty feet apart, on broad streets which intersect each other at right angles; the factories with their high cupolas; and the thriving orchards, and young vineyards, which stretch along the banks of the river beyond the suburbs. I may hereafter, if I have time to visit it, give you some account of the present condition of this settlement, which as you know belongs to a society organized upon Mr. Owen's plan. The site of the town was formerly a favorite rallying point for the Delaware Indians, under their chief *Mouahatoocka*, whose council fires once blazed where now the smoke of a dozen factories rolls from the chimnies of the German emigrant. What a contrast between the toilsome race whose clanking machinery, is now the only sound that greets the ear as you near the shore, and the indolent savage, or laughter-loving Frenchman, who once stalked along the borders or danced over the bosom of the beautiful river.

"How changed the scene since merry Jean Baptiste
"Paddled his pirogue on La Belle Rivière,
"And from its banks some lone Loyola Priest
"Echoed the night song of the voyageur."

The afternoon sun shone warmly on the eastern bank of the river, where the increasing number of farm houses, and occasionally a handsome seat tastefully planted among them, with its hanging garden, not unfrequently kissed by the current of the river, indicated our approach to the city of Pittsburgh—the eastern head of the Mississippi Valley, and the key to the broad region bathed by its waters. Our course lay for a few moments among islands, that seemed to bloom in never-dying verdure, and then as we escaped from their green tincture, the tall cliffs of the Monongahela, blackened by the numerous furnaces, that smoke along their base, and pierced in various points with the deep coal shafts that feed their fires, frowned over the placid water. It was just sunset, and the triangular city, with its steeples peering through a cloud of dense smoke, and its two rivers spanned each by a noble bridge, that seem when thus reviewed, a reflection of each other—lay before us. On the right, the calm and full tide of the Monongahela, flowing beneath rocky banks, some three hundred feet in elevation, was shaded by the impending height, and reflected the blaze of a dozen furnaces in its sable bosom.

On the left, the golden tints of sunset still played over the clear pebbly wave of the Alleghany, and freshened the white outline of a long low-built nunnery, standing on a sudden elevation back from the river. The dusty city lay in the midst, the bridges springing from its centre terminating the view up both rivers; whilst the mists of evening were rapidly closing in, upon the undulating country that formed the back ground of the picture. Truly, the waters have here chosen a lovely spot for their meeting, and it was but natural that such a stream as the Ohio should spring from such an union. Looking backward now, I could see that river, like a young giant rejoicing in its birth, sweeping suddenly on its course, but turning every moment among its green islands, as if to look back till the last upon the home of its infancy.

We entered the Mononghahela, and disembarked a few hundred yards from the site of the old fort Du Quesne. The river was some *twenty-five* feet lower than usual, and giving my baggage to a dray-man in attendance, I ascended the bank, and soon found my way through streets, which though neither broad nor cheerful-looking are still well-built, to the Exchange Hotel on the opposite side of the town. Here I am now housed, and after delivering my letters, and looking farther about the place, you shall have the result of my observations.

H.

NEW-YORK AMERICAN.

NOVEMBER 30, DECEMBER 2, 3, 4, 5, 6—1833.

LITERARY NOTICES.

THE HAND, *its Mechanism and Endowments, as evincing design*, by SIR CHARLES BELL, &c. &c.—*Philadelphia*, CAREY, LEA & BLANCHARD.—Another of the Bridgewater treatises—liable to the same objection which all that have preceded it have called forth—that of running into other subjects than the one which it professes to treat exclusively; yet like all the rest, though wanting in unity, full of most valuable and instructive knowledge. The eminent surgeon who in this book puts before us the stores of long experience, apologizes at the outset for the style in which it is written, on the ground that he has been always too much absorbed in the practical details of his profession, to have had much time for the cultivation of mere literature. The apology was unnecessary, for though not a model for critics, his style is upon the whole less rugged, and more intelligible, than that of his literary and strongminded collaborator, *Chalmers*. The high tone of moral and religious feeling which pervades this work, shows that the selection of Sir Charles Bell for such an ellucidation of the great subject prepared by the Earl of Bridgewater, was most judicious, as his manner of occasionally introducing views appropriate to his task, is ingenious. Take for instance the following extract, in which gratitude, the peculiar attribute of man, is viewed as the basis of religion:

It is this sense of gratitude which distinguishes man. In brutes, the attachment to offspring for a limited period is as strong as in him, but it ceases with the necessity for it. In man, on the contrary, the affections continue, become the sources of all the endearing relations of life, and the very bonds by which society is connected.

If the child, upon the parent's knee, is unconsciously incurring a debt, and strong affections grow up so naturally that nothing is more universally condemned than filial ingratitude, we have but to change the object of affection, to find the natural source of religion itself. We must show that the care of the most tender parent is in nothing to be compared with those provisions for our enjoyment and safety, which it is not only beyond the ingenuity of man to provide, but which he can hardly comprehend, while he profits by them.

If man, of all living creatures, be alone capable of gratitude, and through this sense be capable also of religion, the transition is natural; since the gratitude due to parents is abundantly more owing to Him "who saw him in his blood, and said, Live."

For the continuance of life, a thousand provisions are made. If the vital actions of a man's frame were directed by his will, they are necessarily so minute and complicated, that they would immediately fall into confusion. He cannot draw a breath, without the exercise of sensibilities as well ordered as those of the eye or ear. A tracery of nervous cords unites many organs in sympathy, of which, if one filament were broken, pain and spasm, and suffocation would ensue. The action of his heart, and the circulation of his blood, and all the vital functions are governed through means and by laws which are not dependent on his will, and to which the powers of his mind are altogether inadequate. For had they been under the influence of his will, a doubt, a moment's pause of irresolution, a forgetfulness of a single action at its appointed time, would have terminated his existence.

Now, when man sees that his vital operations could not be directed by reason—that they are constant, and far too important to be exposed to all the changes incident to his mind, and that they are given up to the direction of other sources of motion than the will, he acquires a full sense of his dependence. If man be fretful and wayward, and subject to inordinate passion, we perceive the benevolent design in withdrawing the vital motions from the influence of such capricious sources of action, so that they may neither be disturbed like his moral actions, nor lost in a moment of despair.

Ray, in speaking of the first drawing of breath, delivers himself very naturally: "Here methinks, "appears a necessity of bringing in the agency to "some superintendant intelligent being, for what "else should put the diaphragm and the muscles "serving respiration in motion all of a sudden so "soon as ever the fœtus is brought forth? Why "could they not have rested as well as they did in "the womb? What aileth them that they must "needs bestir themselves to get in air to maintain "the creature's life? Why could they not patiently "suffer it to die? You will say the spirits do at "this time flow to the organs of respiration, the "diaphragm, and other muscles which concur to "that action and move them. But what raises the "spirits which were quiescent, &c., I am not subtle enough to discover."

We cannot call this agency, a new intelligence different from the mind, because, independently of consciousness, we can hardly so define it. But there is bestowed a sensibility, which being roused (and it is excited by the state of the circulation,) governs those muscles of respiration, and ministers to life and safety, independently of the will.

When man thus perceives, that in respect to all these vital operations he is more helpless than the infant, and that his boasted reason can neither give them order nor protection, is not his insensibility to the Giver of these secret endowments worse than ingratitude? In a rational creature, ignorance of his condition becomes a species of ingratitude; it dulls his sense of benefits, and hardens him into a temper of mind with which it is impossible to reason, and from which no improvement can be expected.

Debased in some measure by a habit of inattention, and lost to all sense of the benevolence of the Creator, he is roused to reflection only by overwhelming calamities, which appear to him magnified and disproportioned; and hence arises a conception of the Author of his being more in terror than in love.

Again in the annexed vindication of the necessity of pain:

It affords an instance of the boldness with which philosophers have questioned the ways of Providence, that they have asked—why were not all our actions performed at the suggestion of pleasure? why should we be subject to pain at all? In answer to this I should say, in the first place, that consistently with our condition, our sensations and pleasures, there must be variety in the impressions; such contrast and variety are common to every variety of sense; and the continuance of an impression on any one organ, occasions it to fade. If the eye continue to look steadfastly upon one object, the image is soon lost—if we continue to look on one color, we become insensible to that color, and opposite colors to each other are necessary for an impression. So have we seen that in the sensibilities of the skin variations are necessary to continued sensation.

It is difficult to say what these philosophers would define as pleasure, but whatever exercise of the senses it should be, unless we are to suppose an entire change of our nature, its opposite is also implied. Nay, further, in this fanciful condition of existence, did anything of our present nature prevail, emotions purely of pleasure would lead to indolence, relaxation, and indifference. To what end should there be an apparatus to protect the eye, since pleasure could never move us to its exercise? Could the windpipe and the interior of the lungs be protected by a pleasurable sensation attended with the slow determination of the will—instead of the rapid and powerful influence which the exquisite sensibility of the throat has upon the act of respiration, or those forcible yet regulated exertions, which nothing but the instinctive apprehension of death could excite?

To suppose that we could be moved by the solicitations of pleasure and have no experience of pain, would be to place us where injuries would meet us at every step, and in every motion, and whether felt or not, would be destructive to life. To suppose that we are to move and act without experience of resistance and of pain, is to suppose not only that man's nature is changed, but the whole of exterior nature also—there must be nothing to bruise the body or hurt the eye, nothing noxious to be drawn in with the breath: in short, it is to imagine altogether another state of existence, and the philosopher would be mortified were we to put this interpretation on his meaning. Pain is the necessary contrast to pleasure: it ushers us into existence or consciousness: it alone is capable of exciting the organs into activity: it is the companion and the guardian of human life.

In the paragraph which follows an argument is presented against that combination of fortuitous atoms from which materialists have sometimes maintained man might be formed, which is alike new and striking:

The bones of large animals and in great variety, are found imbedded in the surface of the earth.—They are discovered in the beds of rivers, they are found where no waters flow, they are dug up from under the solid limestone rock. The bones thu exposed, become naturally a subject of intense interest, and are unexpectedly connected with the inquiry in which we are engaged. Among other important conclusions, they lead to this—that there is not only a scheme or system of animal structure pervading all the classes of animals which inhabit the earth, but that the principle of this great plan of creation was in operation, and governed the formation of those animals which existed previous to the revolutions that the earth itself has undergone: that the excellence of form now seen in the skeleton of man, was in the scheme of animal existence long previous to the formation of man, and before the surface of the earth was prepared for him or suited to his constitution, structure, or capacities.

In the last quotation which we have room for, from a book which we recommend, as quite intelligible to all readers, as it certainly is instructive, reference is made to the opinions (erroneous it seems they were) of President Jefferson, concerning the Megalonix:

I have alluded to the observations of President Jefferson on the Megalonix. Having found a bone which by its articulating surface and general form, he recognized to be one of the bones of the phalanx of an animal of great size, he thought he could discover that it carried a claw; and from this circumstance, he naturally enough concluded (according to the adage—ex ungue leonem) that it must have belonged to a carnivorous animal. He next set about calculating the length of the claw, and estimating the size of the animal. Hd eatisfied himself that in this bone, a relict of the ancient world, he had obtained a proof of the existence, during these old times, of a lion of the height of the largest ox, and an opponent fit to cope with the mastodon. But when this bone came under the scrutiny of Baron Cuvier, his perfect knowledge of anatomy enabled him to draw a different conclusion.

He first observed that there was a spine in the middle of the articulating surface of the last bone, which in this respect was unlike the form of the small bone in the feline tribe. He found no provision in this specimen of an extinct animal, for the lateral attachment of the bone, which we have just noticed to be necessary for its retraction. Then observing what portion of a circle this bone formed, he prolonged the line, and showed that the claw belonging to it must have been of such great length, that it could never have been retracted to the effect of guarding an acute and sharp point. The point, therefore, could not have been raised vertically, so as to have permitted the animal to put the foot to the ground without blunting the instrument! Pursuing such a comparison, he rejected the idea of the bone belonging to the feline tribe at all. His attention was directed to another order, the paresseux or sloths, which have great toes and long nails. Their nails are folded up in a different fashion; they just enable the animal to walk; but slowly and awkwardly, something in the same manner as if we were to fold our fingers on the palm of the hand, and bear upon our knuckles. On instituting a more just comparison between these bones of the ancient animal, and the correspoding bones of the paresseux, he has satisfied us, that the lion of the American President was an animal which scratched the ground and fed on roots.

One experiences something like relief to find that there never was such an enormous carnivorous animal as this, denominated megalonix.

LIGHTS AND SHADOWS OF GERMAN LIFE. 2 vols. Philad. CAREY, LEA & BLANCHARD.—Very pleasant reading, and somewhat out of the usual track. From the "Campaigns of a Man of Peace," we give a short chapter. The new soldier was just escaped from his garret as a teacher, and about to assume the duties of a pastor, when falling in with a Prussian detachment retreating before the victorious arms of Napoleon, he is suddenly converted into an Adjutant-General of an army of some 200 men:

On the third night of our march we took up our quarters at a little village, and having posted the advanced guards, we sat down—the commander-in-chief, the carabinier, and I, to supper. "We are, in fact," said the former, with complacency, "operating in the rear of Napoleon as I intended.

"It is all very well," replied the carabinier, drily, "provided he does not operate on *our* rears tomorrow!"

I felt my flesh creep at the possibility conveyed in this barbarous *jeu de mots*, and we were all three absorbed in the unpleasing reflections it suggested, when several shots, one after the other, accompanied

by loud shouts of "the French! the French!—to arms!—to arms!" made us start from our seats, and stand looking at one another as stiff and motionless as the candles on the table.

The drums rattled, the four trumpeters blew with all their might, and the carabinier turned pale as death. To disguise my terror, I stamped about the room, crying, "Hollo! fire! fire, brave Prussians—fire!" trying all the time to find the door—but I saw nothing. It was as if I had been suddenly struck blind, and in my agony I burst open the cupboard of the hostess, calling out louder and louder; "This way, brave Prussians—this way—stick close to me!"

The old woman ran screaming to protect her property—the children shouted—the dogs barked—and a cat, on whose tail I had trodden, sprang over my head with a hideous yell, to the top of the stove.

The din and confusion which reigned around increased my panic, and I fully believed that the French were already in the room, mercilessly butchering the women and children.

"If ever I get out of this scrape," thought I, "let who will be adjutant-general in my place!"

My outrageous proceedings, which, fortunately for me, were most honorably interpreted by the commander and the petrified carbinier, inspired them with new courage. They drew their swords, and sallied forth to the troops, who had assembled outside the little inn. I followed, and it was with unspeakable joy that I felt myself in the dark; no eye saw me, and I might effect a retreat, which at least would prolong my life, if it did not illustrate my name. Though more disposed to be nervous at night than by day, I cannot call myself fearful; but on this occasion I was overcome with terror.

"Adjutant—forward—with twenty men to the church-yard! roared the lieutenant. "Our post is there attacked—if you should need succors, send to me."

The twenty men were soon in motion, and I, most unhappy doctor of moral philosophy, with a drawn sword at their head. "The devil's in this fellow," thought I, "has he forgotten that my hand has never wielded ought but pen, pencil or compass, that he should select me upon such a service?"

But it sufficed for him to suppose that I possessed courage; and my sense of honor inspired me for a moment, with enough of that quality to carry me to the post I was ordered to defend.

"*Nunc* animis opus, Æneæ, *nunc* pectore firmo!
Degeneres animos timor arguit."

With these and similar exclamations, which were wont to inflame me with enthusiasm in my lonely garret, I endeavored to whip up my fainting spirits. But a dimness came over my sight as we advanced, which was the cause of my taking the venerable wall of the churchyard for the enemy's line, and the grass which grew upon its top, and waved to and fro in the wind, for their bayonets. I sprung to one side, and cried, with all the energy of terror: "Fire! fire! fire!"—The men obeyed, and the flash of their muskets afforded a distinct view of the imagined foe.

"Quarter!—quarter!" cried several voices at once, and seven French light infantry soldiers crept out from under the wall, where they had lain concealed, and surrendered their arms. Had the fools remained quiet we should never have discovered them. We accordingly conducted our prisoners to head quarters, and the pride with which I marched them up to the commander-in-chief may easily be imagined.

He embraced me in the presence of all the troops, who were drawn up by the light of the stable lanterns and blazing pine-branches, before the inn door.

"Here, Adjutant-general," said he, with great solemnity, "you have distinguished yourself equally by your bravery and prudence, and you may depend upon my reporting this brilliant affair to his majesty in the most advantageous terms."

We learnt from the Frenchmen that a light company had been ordered to take up their quarters in the village; but on finding it unexpectedly occupied, as they believed from the uproar of our drums and trumpets, by a considerable body of Prussians, they had precipitately retreated, leaving behind them the seven prisoners, who had imprudently ventured too far a-head of their companions.

In my joy, I regaled my prisoners with the best of that was to be had; they were the first of Napoleon's heroes whom I had seen. While the scoundrels thanked me for their good cheer, I felt as though I might stand in need of their protection, since, in answer to my inquiry, whether there were many French in the neighborhood, they informed me that Davoust was on his march, with a whole division, from Saxony to Berlin.

I hurried with this news to my General, but Charlemagne, elevated by this first victory of his troops, he only rubbed his hands, and poured forth a volley of genuine German oaths, expressive of his delight. "*Sapperment*" said he, "I am then *really* operating in the rear of the French army!

The carabinier on the contrary, looked discomforted, he shrugged his shoulders (knocked the ashes out of his pipe, and said nothing.

THE DOWN EASTERS, by JOHN NEAL. 2 vols. *New York:* HARPER & BROTHERS.—We have seen this book much praised, and we marvel at it. We have read it through—that is the volume and a half which comprize the first story: the "balaam," as Blackwood calls it, thrown in to fill out the second volume, we did not read. The design of the author is to give a faithful portraiture of the Yankee, as he was; for already he insists the *ginewine native* has all but ceased to exist. So far as fidelity to peculiarities of idiom and even of conduct are concerned, this may be, for aught we know, a well executed sketch—for the author is undoubtedly a quick and accurate observer of life;—but as a whole the story is incoherent, its incidents impossible, and their tendency most immoral. As for style, we take it for granted the author would consider it an affront to talk of such a thing, as whenever he means to be most effective, he sets all rules at defiance. Mr. Neal's genius—and genius he certainly has—seems incapable of a sustained effort. In brief sketches he may excel; but in the only two books of his that we have seen—that now before us, and that entitled, we believe, Authorship, and published three or four years ago—we think he fails. The Down Easters, in our judgment, is in all respects inferior to Authorship, and we know not how its perusal is to profit any one.

ELEMENTS OF NATURAL AND EXPERIMENTAL PHILOSOPHY, &c. &c. by the Rev. DAVID BLAIR. Revised and enlarged, &c. by E. A. SMITH. New York: MCELRATH, BANGS & HERBERT.—This little treatise, adapted, as the American editor assures us, to the present state of science, and carefully printed and illustrated with engravings, calculated to facilitate the progress of the learner—furnished too, according to the mode so much in vogue, with questions at the bottom of each page, to test the memory, is, we presume, as good an elementary work on general physics as is to be found.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 19th to the 25th of November, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Nov'r. 19..	6 a. m.	29	30.25	NW	moderate		clear
	10	36	30.25	..	..	NW	fair
	2 p. m.	40	30.21		..		..
	6	37	30.25		fresh		..
	10	34	30.28		..		..
" 20..	6 a. m.	31	30.37	WSW	moderate	W by S	..
	10	35	30.40	NW	..	W	cloudy
	2 p. m.	40	30.42	..	..	..	..
	6	37	30.47	..	..	..	fair
	10	34	30.50	..	..		clear
" 21..	6 a. m.	32	30.50	NNE			cloudy
	10	38	30.46	E by N	fresh		..
	2 p. m.	44	30.41	SSE	..	SE	..
	6	44	30.35	..	..	..	..
	10	44	30.30	..	moderate	..	..
" 22..	6 a. m.	44	30.05	..	..	..	rainy
	10	44	30.00	ESE	..	SW	..
	2 p. m.	40	29.95	N	..	..	rain
	6	42	29.90	NNW	..	..	fair
	10	40	29.89	..	..	..	..
" 23..	6 a. m.	36	29.90	WSW	..	WSW	..
	10	40	29.94	..	..	..	clear —smoky
	2 p. m.	46	29.90	W by S	..	..	.. ..
	6	44	29.97	WNW—WSW	..		.. ..
	10	42	30.05	WSW	..		..
" 24..	6 a. m.	40	30.18	..	light	..	cloudy
	10	43	30.19	..—W	..	..	fair
	2 p. m.	46	30.15	W by S—SW—W	moderate	..	cloudy
	6	42	30.15	SW by W	..	..	..
	10	42	30.12	..	light	..	hazy —rain
" 25..	6 a. m.	40	29.90	NE by E	moderate	..	rain
	10	41	29.83	..	fresh	ENE	.. scud from ENE
	2 p. m.	38	29.70	..	..	..	..
	6	38	29.60	..	strong	..	..
	10	37	29.58	..	moderate	..	cloudy —rainy

Average temperature of the week ending Monday, November 25, 38°.28.

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of October, 1833—(Lat. 31.10 N., Long. 91.59 W. nearly.)

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Thermometer.			Wind.	Weather, Remarks, &c.
1833.	Morn'g.	Noon.	Night.		
Oct'r 1	65	72	68	NW	clear—purple figs fine, gathered the last ripe
" 2	54	72	68	calm	..
" 3	56	78	71	..	.. —Red River rising
" 4	58	75	71	..	..
" 5	62	78	73	S—light	cloudy—evening, shower—from 8 p. m. steady heavy rain all night
" 6	70	76	68	calm	.. —and heavy showers all day
" 7	56	65	62	NE	.. morning—wind from N to NW—evening clear
" 8	48	68	61	calm	clear
" 9	59	72	68	..	.. all day
" 10	56	73	69	..	.. —night cloudy
" 11	60	74	72	S	.. —foggy morning—clear day
" 12	70	74	67	N—high	.. all day—night calm
" 13	52	72	67	calm	..
" 14	59	76	73	S	cloudy—shower at night
" 15	70	80	79	..	.. .. —and sun shine all day—night clear
" 16	76	85	77	..—high	clear—flying clouds—evening showers
" 17	63	70	61	W to NW	cloudy morning—from 10 a. m. clear and high wind
" 18	45	59	55	N	clear—rain at night
" 19	47	57	56	..—light	cloudy
" 20	43	49	44	..—high	clear
" 21	39	50	46	..	.. —white frost light
" 22	33	48	47	..	.. — .. .. severe
" 23	40	65	63	S—light	.. — .. .. light—evening calm and cloudy
" 24	54	75	73	..	.. —evening calm and clear
" 25	63	70	58	NE	..
" 26	42	68	61	SE—light	..
" 27	47	73	70	calm	..
" 28	50	63	50	N—high	..
" 29	39	54	49	calm	.. —light white frost
" 30	33	64	54	..	.. —severe .. .. —Red River at a stand
" 31	45	67	60	..	.. —light .. ..

Red River is now within 11 feet of high water mark—rose this month, 13 feet 2 inches.

MARRIAGES.

On Wednesday, 27th inst. by the Rev. Dr. KNOX, JOHN C. TILLOTSON, Esq. of Rhinebeck, to MATILDA, daughter of the late WM. PAW, Esq. of this city.

On Monday evening, the 25th instant, at Christ Church, by the Rev. Benjamin Holmes, THOMAS A. TAGGART, Esq., to SUSAN W. EAKIN, daughter of the late AMAZIAH DUSENBERRY, of this city.

At South Salem, Westchester county, N. Y., on the 26th instant, RICHARD M. HOE, of the house of Robert Hoe & Co., of this city, to LUCY, only daughter of Mr. JOSIAH GILBERT, of the former place.

DEATHS.

On Friday evening last, Miss MARIA AMELIA ANABELLA, eldest daughter of EUSTIS PRESCOTT, Esq. aged 16.

Last evening, Nov. 29, of consumption, IRA BABBIT, a soldier of the Revolution, in the 70th year of his age.

At Alexandria, D. C., on Wednesday, the 6th inst., ROBERT J. TAYLOR, in the 19th year of his age.

At Philadelphia, on Friday, the 14th instant, ALEXANDER HENRY WEIR, in the 19th year of his age.

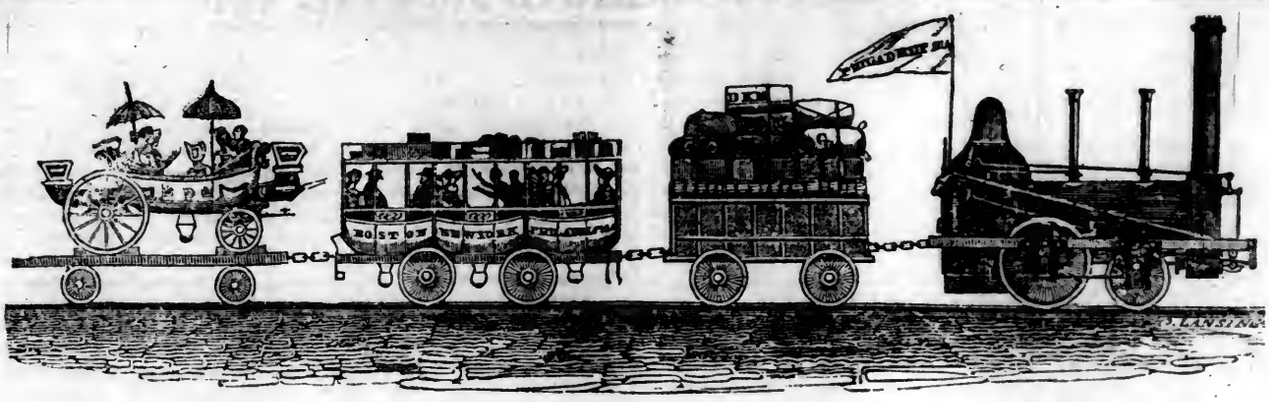
These youths were both members of the senior class in the College of New Jersey, and had returned in perfect health to their respective homes to spend the fall vacation. By a remarkable providence, they were each brought to the grave by an accidental discharge from a gun. Neither was killed instantly; and for several days after their respective injuries they both appeared to be convalescent, when the symptoms of *tetanus* or lockjaw, appeared, and destroyed the fond hopes previously indulged with respect to their recovery. They were both distinguished for their cheerful and amiable dispositions, possessed of good talents, beloved by their fellow students, and have died lamented by numerous friends and acquaintances.

In Philadelphia, on Thursday of last week, Miss E. ROBERDEAU, eldest daughter of the late Col. ISAAC ROBERDEAU, of Washington, D. C.

At Buckland, Va. at the seat of Luke Kastaret, Esq., Mrs. CATHERINE SHANNAMAN, at the advanced age of 110 years. She came to Baltimore from Lancaster, Pa. when there was but three houses in that city, and resided here until the last three years. She retained the faculties of her mind until about a year ago, and her eye-sight until the last moment of her life.

On Monday morning last, at the residence of Mr. Wm. Grantham, of Jefferson county, Va. the Rev. SEELY BUNN, of the M. E. Church, in the 64th year of his age. The decease of this venerable and good man was hastened by a severe injury which he sustained by being thrown from his gig on Tuesday, the 12th inst.

At Norwich, (Connecticut,) on the 27th November, DANIEL L. COIT, Esq. in the 80th year of his age.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, DECEMBER 14, 1833. [VOLUME II.—No. 50.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 14 1833.

Railroad Journal.—Subscribers to the Railroad Journal will please bear in mind that the next, or *fifty-first* number, will not be issued in its regular order, as I am desirous of showing them the work in a *semi-monthly* form, with a cover of colored paper, by which means it can be more readily preserved than in loose sheets. The 51st and 52d numbers, together with an *index and title page*, will be issued on the 27th inst., stitched in a cover, and forwarded to subscribers as usual.

☞ Having heretofore expressed some doubts of the *continuance* of the Railroad Journal, for want of patronage to *pay its expenses* for materials and labor, I *now* have the pleasure of informing those who take an interest in its continuance and success, that *it will be continued*, at least another year.

I have received from a great number of its friends positive assurances of their best exertions to promote its circulation, as well as the continuance of their own support, and, from many others, assurances in the most substantial form, to wit—by subscribing for one or more *additional* setts from its commencement, with *payment in advance for the ensuing year*, thus inducing me to believe that its continuance is considered worth an effort, and at the same time, if all its *present* subscribers shall continue and pay promptly for the ensuing volume, enabling me to continue it in its *present shape and size*.

I now, therefore, repeat that the Railroad Journal will be continued. It is necessary, however, for me to say, that payment will be expected in advance, or by the 1st of February—as that, and that only, will enable me to send it to subscribers with such improvements as I hope to be able to make in its appearance.

Those who find it *inconvenient* to remit *three* dollars for want of small bills, will be credited with the *full* amount, if they remit *five* dollars *in advance* for the Journal, *subject to postage*.

*** Those subscribers *now* indebted for *past* volumes, who do not pay by the first of February, will be charged four dollars per annum.

It is hoped, however, that no person friendly to the Journal, or the cause it advocates, will at that time be in debt to it, as my intention is to publish only enough to supply those who pay for it, and a few surplus copies for binding.

Hereafter the subscriber will be charged with the amount of postage paid by me, unless the letter contains *five* dollars or over; and letters ordering a change of direction of a paper, will *not be attended to*, if they come subject to postage. This measure is adopted, not from a desire to be uncourteous, but to avoid a repetition of what has frequently occurred, probably from thoughtlessness, to wit, having to pay 18 3-4 or 25 cents for the privilege of stopping a Journal *in one place and sending it to another*; and it has occurred, too, in more than *one* instance, where the subscriber had *not paid his subscription*. It will not be so hereafter. If the Journal is worth having, it is worth *paying* for; and if it is a convenience to have its direction changed from one place to another, that convenience is worth the postage of a letter.

Those who hereafter subscribe for the Journal, and wish the back volumes also, can have vols. 1 and 2 in two parts to each volume, with title-page and index to each, stitched in *covers* of colored paper, which can be forwarded by mail, to any part of the country. Price of the *three* volumes, the two first in *covers*, and the third as it shall be published, $10 in advance. Remittances by mail, if enclosed in presence of the postmaster, will be at my risk.

Baltimore and Ohio Railroad.—In this number will be found the conclusion of the 7th Annual Report of the President to the Directors of the Baltimore and Ohio Railroad Company. That of the Chief Engineer will follow. A detailed statement of the surveys and estimates for the Baltimore and Washington Railroad is given, which will be found to contain much useful information, or, at least, we believe so, and therefore shall make copious extracts from it hereafter.

Undulating Railways.—In the Journal of the 30th of November will be found an account of Mr. Badnall's *first* experiment, made on the Liverpool and Manchester Railroad, to test his theory of the *undulating* railway. As this is a subject of much importance to railroad companies, as well as one about which much has been said in the Journal, we are gratified with the opportunity of laying before them an account, which will be found at page 789, of his further experiments upon the same road, which have, apparently, fully established the correctness of his theory. We shall endeavor to obtain further information from authentic sources upon the same subject.

We are informed by a letter from a gentleman at York, Upper Canada, that an application for a railroad between Lake Ontario and Lake Erie is now before the legislature of Upper Canada.

Suspension Railway.—We have been asked for a more definite description of the *suspension* railway than has hitherto been given to the public: in reply to which we would observe that a friend, residing in Boston, has promised us a full description, with drawings, which we shall certainly give to our readers at the earliest possible period.

Long Island Railroad Company.—We publish in a following column the proceedings of the convention held at Smithtown on the 3d inst. We are gratified to perceive that the proposed road is exciting much interest in its favor, not only throughout the island, but in New-York. So strongly is the public mind impressed with a belief of the ultimate success of this work, that we are assured the whole amount of the stock would be taken up without the least delay.—[Long Island Farmer.]

Locomotive Engines on Common Roads.—Mr. Byington, an ingenious mechanic of Pittsburg, is engaged in the construction of a locomotive steam engine, on an improved plan, and intended to be used on common or turnpike roads. The Pittsburg Statesman says, Mr. B. is confident that he has discovered an improvement by which a locomotive engine may be made to operate on such roads with perfect success. Let us hope that this confidence on the part of the builder is not premature or ill founded. If experience shall justify it, and he succeed in his undertaking, he will prove himself one of the benefactors of the age.—[Baltimore Patriot.]

Seventh Annual Report of the President and Directors to the Stockholders of the Baltimore and Ohio Railroad Company.

(Continued from page 772.)

2. *The Construction of the Lateral Road to Washington.*—At an early period in the existence of the Company, the expediency of a lateral railroad to Washington, in connection with the Baltimore and Ohio Railroad, was suggested and universally admitted. Eight miles of the distance, or one-fifth, and that certainly the most difficult of construction, had already been made in the prosecution of the main stem towards the Ohio, and a level obtained, at the crossing of the Patapsco, which would materially diminish the expense of passing the dividing ridge between the waters of that river and the Patuxent. The arrangements too, in the streets of the city of Baltimore, which were prepared for the accommodation of the main stem, would be equally available for the lateral road; and the experience already obtained by the officers of the Company, would secure the completion of the work upon the best terms, and in the cheapest manner. These reasons pointed to the Baltimore and Ohio Railroad Company, as the proper body to construct the Railroad to Washington, and the profit which it was conceded, on all sides, would result from the work, when completed, induced the Company to undertake it. Application was accordingly made to the Legislature, at December session, 1830, for pecuniary aid, by a subscription to the stock of the Baltimore and Ohio Railroad Company. The subscription was not made, at the time, but the right to make it was reserved by the State. Although the law that was passed on the subject was by no means acceptable, the Company continued the surveys for the road, and obtained an act of Congress authorizing its construction within the District of Columbia. At the session of 1831, of the State legislature, the application of the preceding year was renewed, and the law was modified in many important particulars, but still the option to subscribe to the stock was left to the state, and the uncertainty whether this would be exercised or not, made the law of 1831 but little more acceptable or efficient than that of 1830. The surveys, however, were still continued, the nature of the country between Baltimore and Washington being found to be such as to require very extensive examination, and the most careful comparisons of the various practicable routes, previous to the adoption of any line between the two places.

At the last session of the Legislature, the application of the Company for assistance to construct the Washington road was again made, and with a success that authorised the commencement of the work without further delay. The fare for carrying a person the whole distance between Baltimore and Washington was raised from $1 50, the price in the two preceding laws, to $2 50, subject to such reduction as expediency might require. The state took $500,000 of the stock, upon condition that $1,000,000 should be bona fide subscribed by others, and providing that the whole $1,500,000 should be a separate stock; the Railroad Company to pay to the state, as a bonus, one-fifth of its annual receipts from the conveyance of passengers, besides its proportion of dividends on the stock held by it. Authority was given to the Railroad Company to subscribe to such portion of the stock as might not be taken at the end of thirty days after opening the books, to borrow money to pay the instalments on their stock, and "to pledge the property and funds of the Baltimore and Ohio Railroad Company, with the consent of a majority of the stockholders, in general meeting called for that purpose, and so much of the stock made a separate stock as might be subscribed by the Baltimore and Ohio Railroad Company, as a security for the payment of any and every sum so borrowed, and the interest thereon, provided that the property of the state in said road should, in no event, constitute any part of the pledge above mentioned." Authority was also given to the city of Baltimore, and the Company owning the turnpike road between Washington and Baltimore, to subscribe for a certain amount, if they thought proper, at any time within six months after the passage of the law. The books being opened, stock to the amount of $61,200 was taken by individuals; but the city of Baltimore, and the Turnpike Company, not having subscribed, the question at once arose, whether the road should be abandoned, or the Baltimore and Ohio Railroad Company should take the unsubscribed stock, under the authority granted to them by the act of assembly. To determine this, a meeting of the stockholders was called, upon the 8th day of May, 1833, at which it was determined, by a vote of 25,454 shares to 820 shares, to take the stock, and to make the pledge authorised by the law for the payment of the principal of the sums borrowed for the purpose, and the interest thereon. In consequence of this determination, the board took immediate measures to commence the lateral road, and have effected such pecuniary arrangements with the Union Bank of Maryland as will secure the successful prosecution of the design. The surveys have been completed, and after a most careful and minute examination of the various lines run, the board have adopted a route as far as to the District of Columbia, presenting in no case an elevation of more than 20 feet to the mile, or a curvature of a less radius than 1273 feet, the average radius being about one mile. The bridge over the Patapsco, at the Hockley mills, has been under contract since the beginning of July, and is rapidly progressing; the contractors have also commenced operations on the first division of the road, extending from this bridge to the summit of Merrill's ridge.

The remainder of the road will, in a short time, be let, and the graduation of the whole distance will be prosecuted simultaneously, so as to be completed at the same time with the bridge over the Patapsco. The board feel satisfaction in announcing to the stockholders that the proprietors of the land over which the road will pass, have, very generally, either ceded the right of way gratuitously, or agreed to refer the subject to amicable arbitrament, so that a pregnant source of expense and litigation will in a great degree be avoided.

With the prospect of profit to the stockholders, on the completion of the lateral road, the board have every reason to be satisfied, from the two additional sources of revenue that will then be open. The one, the use of eight miles of the present road for a transportation, which it would otherwise never possess—the other, the dividends on the amount of stock held by the company, as an independent corporation, in the undertaking.

With regard to the resources of the company to meet the interest on the loans made for the lateral road, and the course which has been adopted in relation to it, the board refer to the report of a committee of their body, dated July 12th, heretofore published, and now inserted in the appendix.

3. *The Perfection of Steam Power for the Purposes of Transportation, together with the Subject of Machinery generally.*—In the Sixth Annual Report, the board of directors announced the satisfactory result of the improvements that had been made with the engine of Davis & Gartner, constructed with Cooper's vertical boiler—many further experiments, however, were necessary, and much remained to be done, before the board could feel themselves authorised to order engines upon this plan. The first engine was necessarily an experiment. The exact proportion of the parts could only be determined by constant use—and for some time after the engine commenced running, frequent alterations were found to be necessary to obtain the strength, lightness and compactness, united with general efficiency essential to the success of the machine. This, however, has been finally accomplished, and the board feel satisfied that they have obtained, by the perseverance of those in their employment, an engine better adapted to the purposes of this road than any other yet invented. The engine in question is as manageable as the best English engines, possesses much more power with the same weight, works with equal, or very nearly equal, facility, on a curved and straight road, presents all its parts to the eye of the engineer as he occupies his stand, burns the anthracite coal with great facility and powerful effect, and evaporates more water in a given time, and is liable to far less injury from wear and tear, than any other known engine. The objection against the English engine of the present construction, is, that the tubes of its horizontal boiler are frequently bursting, by which not only is the expense of repairs incurred, but the bursting of a tube at once extinguishes the fire, leaving sometimes the engine and its train in the middle of their journey. In the vertical boiler used by this company, and the right to use which they have purchased from the ingenious inventor, Peter Cooper, Esq. all this is entirely avoided. In the horizontal boiler, the fire is at one end, where of course the greatest quantity of steam is produced, and the density of the water is the least; so that the tubes, where most exposed to the action of the heat, are least protected from it; and the fact is, that the tubes commonly all burst within a few weeks. Various attempts have been made to remedy this by producing a circulation in the water of the boiler, but hitherto it is believed without success. In the vertical boiler, on the contrary, the water on the outside being colder than that which is near to the tubes, descends towards the fire and passes up again in bubbles of steam to the steam chamber, to exert its expansive power in pressing the water of the boiler downwards to the very place where the intense heat of the anthracite coal renders every protection necessary which can be afforded to the bottom of the boiler, and to the tubes. In the upright boiler, therefore, without the intervention of complicated machinery to obtain a circulation, it is produced in the most efficient manner, by simple and natural causes. Some idea may be formed of the value of the vertical boiler, adopted by the board, from the fact, that after twelve months use, with *anthracite coal* for fuel, not one of the tubes of the Atlantic engine has given way, and to all appearance they are now as sound as when first put in. For a further account of the performance and power of this engine, see report of the Chief Engineer, and of the Superintendant of Machinery.

The "Traveller" Engine, which was first put upon the road on the 10th of October, and which, like the Atlantic, has a vertical boiler, fully answers all the anticipations that were entertained of its performance, mentioned in the report of the Chief Engineer. The attaching of the pinion, through which the power is communicated to the wheels, to a separate shaft, has fully answered the purpose of giving steadiness to the machinery, and will no doubt very materially diminish its wear and tear. The "Traveller", is an excellent illustration of the propriety of devoting every attention to the vertical boiler engine, and exhibits numerous points of superior excellence over its predecessor, the Atlantic. When it is considered that the horizontal boiler engine, of England, has been brought to its present excellence, after the experience and experiments afforded by its constant use for a long time; and that it is, as may be safely said, inferior in point of durability, and power to generate steam, to the first attempts with vertical boilers, it is not unreasonable to believe that the latter will supercede all others, and every effort will forthwith be made to put a competent number upon the road.

Besides the improvements in the locomotive engine, others have been made in the machine-

ry used by the company, and particularly in the construction of the wheels of the cars—by which an iron rod is introduced into the rim of the wheel when cast, which not only adds to the hardness of the outer surface, by perfecting the chill, but increases in a great degree the safety of the wheel itself. Improvements have also been made in the burthen cars, tending materially to diminish the wear and tear of them; and with a view to the employment of steam, the passenger cars will hereafter be so constructed as to carry neither passengers nor baggage upon the top—by which a very great saving in the first cost of them will be effected, and the chief cause of injury to them will be avoided. At the same time every attention will be paid in the construction of the cars, to render them, both in winter and summer, comfortable to those that use them. For a more full detail of this department, reference is made to the report of the Chief Engineer, and of the Superintendant of Machinery.

The company having thus, by a series of experiments and gradual improvement in the various machinery and motive power, arrived at a state of information sufficient to become the manufacturers of their own engines, and the board having hitherto been unable to enter into satisfactory contracts for them, they determined to erect upon their own grounds suitable buildings, and provide the requisite means to construct all that they may require, as well as to keep them in a state of repair. By this course, the board have no doubt that a considerable reduction will be effected in the cost of the machinery and moving power.

The board of directors have now gone over those subjects which, at the commencement of the official year, claimed their particular attention; and upon a review of the events of the last twelve months, although they still find themselves pressed by many difficulties, yet they also find much cause for congratulation. A dispute with the Chesapeake and Ohio Canal Company, which, after the decision of the courts, threatened serious injury to this company, has been amicably and happily settled, and a good feeling exists between the two corporations, which, as their interests will hereafter be closely connected, by the extensive advantages they will reciprocally confer upon each other, it is hopedand believed that nothing will occur to disturb. The way to the west through the Valley of Virginia is now open to this company. The Conococheague offers an easy access far into the interior of Pennsylvania; and the Potomac, when circumstances will admit, is still open as one of the avenues of western intercourse. The construction of the lateral railroad to Washington is secured, together with the advantages that must, in a pecuniary point of view, accrue to the company, from that work, when it becomes the channel of communication. not only between Baltimore and Washington, but between Baltimore and the Chesapeake and Ohio canal, and the country on the borders of the lower Potomac: at the same time improvement has advanced with a steady pace in every department of the company, and upon reference to the report of the Superintendant of Transportation, it will be perceived that there has been a steady and satisfactory augmentation in the revenue of the company, accompanied by a comparatively small increase in the expenses of transportation. In fine, the board of directors see nothing now which can possibly interfere with the early completion of the work, to points where it is believed that every reasonable anticipation of profit and advantage, both to the stockholders and the public, will be fully realized.

For a statement of the receipts and expenditures of the Company during the past year, and for an exhibit of its general fiscal concerns, the board refer to the report of the Treasurer.

On behalf of the Board,

P. E. Thomas, President.

October 7, 1833.

An Investigation of a Formula for calculating the Transfer of Water from one Level to another, by the Lockage of Boats in Canals. By S. C. Walker. [From the Journal of the Franklin Institute.]

The natural tendency of fluids towards a level, or state of equilibrium, renders it easy to transfer water from the summit level to the lowest level, by the simple opening of gates. When there is a scarcity of water in the summit level, the deficiency may be supplied by stationary steam engines, and the loss from evaporation, leakage, and other causes provided for. It is an inquiry of importance whether there may not sometimes be in the circumstances of the country through which canals pass, natural means, of which advantage can be taken to effect a transference of water from the lowest to the summit level. Should such means present themselves, the expediency of using them to effect this transfer, in any proposed canal, would be determined by an estimate of the expense of locks adapted to the purpose, of the time lost by lockage, and the value of the water thus raised to the summit level, or omitted to be drained away.

With these statistics, the present inquiry has no concern, its object being to ascertain whether such transference is possible in any instance, and if so, in what instances, and under what circumstances it is possible.

Make l' = the length, in feet, in the clear of a lock.
l'' = the average length, in feet, of a boat.
w' = the width, in feet, in the clear of a lock.
w'' = the average width, in feet, of a boat.
d' = the difference, in feet, of the levels above and below the lock.
d'' = the average depth, in feet, of the water displaced by the boat going from the upper to the lower level.
d''' = the same for the boat returning from the lower to the upper level.
m = the factor by which a cubic foot of water must be multiplied to obtain its weight in parts of a ton avoirdupois.

Then $m\ l'\ w'\ d'$ = the tons of water required to raise the water in the lock from lower to upper level.
$m\ l''\ w''\ d''$ = the tonnage of the boat descending.
$m\ l''\ w''\ d'''$ = the tonnage of the boat ascending.

In canals where there are no lateral reservoirs,

$m\ l'\ w'\ d'$ = the constant loss of water transferred from upper to lower level by locking a boat in either direction.
$m\ l''\ w''\ d''$ = the tons of water transferred upwards by the descending boat, by virtue of the fixed gates used as fulcra. These tons are first transferred above the upper gates by admission of the boat into the lock, by virtue of the fixedness of the lower gates; the contrary supposition involving the absurdity of maintaining that the lock receives the addition of $m\ l''\ w''\ d''$ tons without raising the level. The same amount $m\ l''\ w''\ d''$ tons is again transferred from the lower level into the lock, by the removal of the boat below the lower gates, by virtue of the fixedness of the upper gates. The contrary supposition involves the absurdity of maintaining that one horse can by his single strength elevate a number of tons, $m\ l''\ w''\ d''$, through a height d'' without any mechanical advantage.

The same reasoning may be applied to the ascending boat.

$m\ l''\ w''\ d'''$ = the tons transferred from the lock to the lower level by admission of the ascending boat, by virtue of the fixedness of the upper gates, and again transferred from the upper level to the lock by removal of the boat upwards, by virtue of the fixedness of the lower gates. The contrary hypothesis involving similar absurdities.

It will now be easy to deduce a formula for expressing the transfer of water by the two operations of locking a boat downwards and upwards, whatever be the load of the boat in either direction.

Make T = the number of tons thus transferred from one level to the other by this double operation, the positive value being upwards from lower to upper level, the negative value downwards from upper to lower level.

$$T = m\ (l''\ w''\ d'' - l''\ w''\ d''' - 2\ l'\ w'\ d') \quad \ldots\ldots(1)$$
$$= m\ \{l''\ w''\ (d'' - d''') - 2\ l'\ w'\ d'\} \quad \ldots\ldots(2)$$

Make p = the factor by which l'' must be multiplied to equal l'.
g = similar factor for w'' to produce w'.

Then $p\ l'' = l'$
$g w'' = w'$

Substituting the values of l' and w' in (2)

$$T = m\ \{l''\ w''\ (d'' - d''') - 2\ p\ q\ l''\ w''\ d'\}$$
$$= m\ l''\ w''\ (d'' - d''' - 2\ p\ q\ d') \quad \ldots\ldots(3)$$

In this formula the conditions to be fulfilled in order that T may be positive, in other words that there be a net transfer from the lower to the upper level, is that $d'' > (d''' + 2\ p\ q\ d')$. This is manifestly possible; for by constructing the boat to fit closely to the sides and end of the lock, $2\ p\ q$ may be diminished at pleasure, and d' may be taken of any amount, however small. In practice the natural limit to the smallness of d' depends upon the cost of locks and the value of time lost in lockage through a multiplicity of locks; d''' may be the depth of water displaced by an empty boat, d'' by a loaded boat; in such an instance the above conditions may be verified, even without lateral reservoirs for diminishing the loss from difference of level.

The same formula will readily enable us to calculate the transfer of water in those canals whose locks are provided with lateral reservoirs.

Make a = the factor by which the loss $2\ m\ p\ q\ l''\ w''\ d'$ must be multiplied in order to be equal to the diminished loss caused by the use of lateral reservoirs. Then we have

$$T = m\ l''\ w''\ (d'' - d''' - 2\ a\ p\ q\ d') \quad \ldots\ldots(4)$$

Where the condition of a net gain being made by transference from the lower to the upper level is $d'' > (d''' + 2\ a\ p\ q\ d')$.

I am indebted to Mr. Millington of this city for information that a reward of £500 was offered for the invention of a method by which, without any foreign moving force, the loss from lockage in the Regent's canal, London, might be reduced to 0. Such a reduction appears to be impossible in that canal, from the circumstance that the annual average is $d'' < d'''$, and therefore, for a stronger reason, is $d'' < (d''' + 2\ a\ p\ q\ d')$.

The value of the factor a in the canal is $\frac{1}{20}$, and the loss from difference of level is diminished by lateral reservoirs to $\frac{1}{20}$ of that which would otherwise be made.

The formula (4) has been prepared for one lock with two gates, it is obvious that the same holds true of each of the locks of a canal. It is general, and embraces all the varieties of locks.

Make D'' = the annual average of depth of water displaced by descending boat.
D''' = that by ascending boat.
n = the number of passages of boats from summit level to lowest level and back, then, if all the locks are constructed alike,

Make A = the annual amount transferred from one level to the other, positive value upwards.

$$A = m\ n\ l''\ w''\ (D'' - D''' - 2\ a\ p\ q\ d') \quad \ldots\ldots(5)$$

Where the condition of positive gain is $D'' > (D''' + 2\ a\ p\ q\ d')$.

The same formula will enable us to determine in any proposed canal where D'' is much greater than D''', the smallest number of locks

with which a given difference of level $\triangle$ may be overcome consistent with the above condition, viz. that there shall be an andual gain of water transferred from the lowest to the summit level. In this case

$$n\,d' = \triangle \text{ and } n = \frac{\triangle}{d'} \text{ Putting } \frac{\triangle}{d'} \text{ for } n \text{ in } \ldots\ldots(5)$$

$$A = m\frac{\triangle}{d'} l''\, w''\, (D'' - D''' - 2\,a\,p\,q\,d') \ldots\ldots\ldots(6)$$

From which n disappears and the condition remains as before

$$D'' > (D''' + 2\,a\,p\,q\,d')$$

Transferring D''' to the other side of the inequality, we have

$$(D'' - D''') > 2\,a\,p\,q\,d' \ldots\ldots(7)$$

Dividing this inequality (7)

$$\frac{D'' - D'''}{2\,a\,p\,q} > d' \ldots\ldots\ldots(8)$$

For d' put its value $\frac{\triangle}{n}$

$$\frac{D'' - D'''}{2\,a\,p\,q} \geq \frac{\triangle}{n} \ldots\ldots\ldots(9)$$

From the inequality (9) it appears that the smallest integer value of n admissible under the above condition, is such that the quotient arising from the division of $\triangle$ by it, must be less than the numerical value of the expression $\frac{D'' - D'''}{2\,a\,p\,q}$, when $a = \frac{1}{26}$ as in the Regent's canal, the inequality (9) becomes

$$\frac{10\,(D'' - D''')}{p\,q} > \frac{\triangle}{n} \ldots\ldots(10)$$

In the Schuylkill we have $D'' > D'''$, because the amount of descending tonnage of anthratic coal far exceeds the amount of ascending tonnage. It is therefore manifest that the condition (8,) or (9,) as well as (10,) is possible in this canal. It is not my object to inquire at present concerning the amount of ascending and descending tonnage, a reference to the statistics of this canal would furnish any one with the means of assigning the value to the first member of these inequalities, and thence to deduce the number of locks required, and the descent of each, subject to the condition that the annual result of lockage on that canal should be a transference of a certain number of tons of water from the tide water of the Schuylkill river to the summit level of the Schuylkill canal.

The above demonstration rests upon the principle of equivalence of action and reaction. In the motion of cars or carriages on roads or railroads, this reaction is not perceptible; the theory of gravitation shows that it exists; let m = the mass transferred on a road; let n = the number of miles on the arc of the earth's circumference through which the car moves; then $m\,n$ = the momentum in this arc of rotation round the earth's axis thus effected by using successive points of this circumference as fixed fulcra; then it is evident that there exists an equivalent motion in the contrary direction of the same arc. This cannot take place among the particles at the earth's surface; accordingly, a motion of the earth's mass takes place, which, resolved in the same arc, is equivalent and contrary. In the motion of boats this reaction takes place immediately and perceptibly by virtue of the same law. If a number of tons of coal be transported on the banks of the Schuylkill canal, an equivalent contrary motion of the earth's mass takes place unperceived; but if the same number of tons of coal be transported in the canal through the same space, then an equal number of tons of water are transferred byreaction through the same space in a contrary direction.

My only aim in the above communication has been to demonstrate a principle first applied to canals by Dr. Dewees, of Pottsville, Pennsylvania, Journal Franklin Institute, vol. xi. p. 111.

Philadelphia, August 21st, 1833.

NEW-YORK AND ERIE RAILROAD.—At a Convention of Delegates from the counties west of Broome, held in the village of Angelica, on the 4th December, on the subject of the New-York and Erie Railroad, the Hon. John Magee, from Steuben, was called to the chair, and Austin Smith, Esq., of Chautauque, and Lewis Skorke, Esq., of Allegany, were appointed Secretaries.

After the Convention was organised, Anson Gibbs, Esq., of Cattaraugus, stated the object of the meeting, and reported the proceedings of the Convention held in the city of New-York on the 20th ult.

A letter from the President of the Company was then read by Lewis Skorke, Esq. and some appropriate remarks made, whereupon it was

"Resolved, That a committee of seven be appointed to draft resolutions expressive of the sense of this meeting, and that Benj. F. Smead, Anson Gibbs, Lewis Skorke, Andrew C. Hull, John B. Church, William Goff, and Austin Smith, Esqs. constitute said committee."

The committee having retired for a short time, returned with the following resolutions, which were unanimously adopted:

Resolved, That we highly approve of the vigorous and energetic measures taken by the citizens of the city of New-York, in furthering the construction of the New-York and Erie Railroad; and that we will use our greatest exertions to promote an object of such high importance to the southern tier of counties.

Resolved, That the enlightened and liberal views of the inhabitants of the southern tier of counties, manifested by the readiness with which they have already contributed donations to the Company, meet with our most cordial approbation and encourages us to hope that the work so propitiously commenced, will be vigorously prosecuted; and that a sum sufficient to meet, in a great measure, the loss of interest on the capital expended during the construction of the railroad, will be subscribed by the inhabitants along the route. To forward this object, we recommend to all the county and town committees appointed for that purpose, to make the most indefatigable exertions to procure as great an amount of subscriptions as possible, and forward a statement of the same to the President of the Company, early enough to arrive in New-York on the 25th inst., that the Company may be enabled in their application to the Legislature for a subscription to the stock, to present the amount of the donations as an argument of the earnestness and zeal with which so large a portion of the state embarks in the project.

Resolved, That we deem it an object of great importance, that the inhabitants on the proposed route lay aside all sectional feelings in their donations, and adopt that form of subscription which is recommended by the agent of the company, untrammelled by conditions which would be calculated to render their bonds unavailable.

Resolved, That the vast influx of emigration into the southern portion of this state, together with the increased wealth, enterprise, and intelligence, which are its necessary accompaniments, furnish proof of an unequivocal character, that at the earliest period of the completion of the New-York and Erie Railroad, the business and resources which will flow into its channel, will be more than adequate to its capacity, without the least infringement upon the great northern canal or its lateral branches; and that the early opening and late closing of the annual operations of this railroad will have a most important tendency to secure from foreign and rival channels a great portion of the immense western trade, now actually tending to the northern and southern markets.

Resolved, That each county through which the contemplated railroad shall pass, be solicited to send one or more suitable persons to attend the Legislature, for the purpose of obtaining a subscription to the stock of the Company by the State.

Resolved, That the proceedings of this convention be signed by the chairman and secretaries, and published in the several papers in the section of country through which the proposed railway shall pass, and also in the Railroad Journal, published in the city of New-York.

JOHN MAGEE, Chairman.

AUSTIN SMITH, LEWIS SKORKE, } Secretaries.

On the Termination of the Stonington and Providence Railroad. By D. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

PROVIDENCE, R. I., Nov. 6, 1833.

SIR—I have just observed the very disinterested statement of your correspondent, "More Hereafter," regarding the termination of the Stonington and Providence Railroad, and I cannot help congratulating the Pawtucket Road Corporation on the sagacity they have displayed in their choice of a counsel. When the parties concerned in the location of a road are anxious to obtain the line which shall really best fulfil the intentions and interests of their company as a body, they have generally left the preliminaries to their Engineers, who, not being otherwise than professionally interested, are not likely to be biassed by individual assertions, but as far as their judgment admits, may be presumed likely to select the most advisable route for all parties or at least to furnish the Boards of Committee with information which will very much facilitate a correct conclusion. This, however, can only result when confidence is placed in the members of the engineer corps, and not where it is expected that they shall be controlled or directed, or encumbered, with the gratuitous advice of individuals on the *qui vive* for a speculation—or of a small company, who, under the pretence of the most disinterested patriotism, or the most angelic benevolence, would persuade their townsmen that that route, and that route only, is possible, or tolerable, or expedient, which shall come within the limits of their charter, and thereby enable them to realize a tolerable return by their job, in the assembly. These men profess to have a most brotherly love for all good citizens who may chance to travel in their neighborhood, a most accommodating affection for the different corporations with which they come in contact, an especial watch over the interests of their fellow-citizens, an entire confidence in the committees appointed for the sole purpose of considering the termination spoken of, and with whose deliberations they profess not to meddle. Yet the route they advocate admits of no dispute—it is certainly the most feasible, the most reasonable, the most expedient route; it is the route indeed for which they hold a charter. Ah! I can discern the cloven foot peeping out.

I pretend not in the present stage of the business to say what route may be most advisable, as it is not improbable the best as regards line may not be. The subject is not matured; sufficient data are not collected; the opinions of those to whom it has been entrusted, are not received, and cannot therefore be commented on. It would be impertinent, not to say unreasonable, to offer any remarks under these circumstances, as much as before the progress of a trial where it is not desired to bias the judgment of the Bench. Those who really desire to see the best location adopted, will wait in silence; those who have a sinister purpose to serve, will doubtless contrive to fly their paper kites as usual. Yours, most respectfully,

D.

Mr. Burden's Steamboat.—Yesterday, December 13, this raft, (for at present it is nothing else,) made an excursion up the North River as far as Yonkers, between 20 and 21 miles from the foot of Courtland street. In its passage out, in consequence of some parts of the machinery being disarranged, no attempt was made to obtain a greater speed than ordinary steamboats. When at Yonkers, all was ready to put the principle of the movement to the test, and the result was, that in one hour and one minute we arrived at Courtland street. An esteemed correspondent who has had frequent opportunity of witnessing the construction of this boat, has forwarded a description of its formation, and of its probable utility. This description has been submitted to Mr. Burden, who, after making some trivial alterations, has stated that he has no objection that it should be made public—that he considers it a correct one: it is, therefore, subjoined. In our next we shall give a correct view of the boat, as it can now be seen at the foot of Beach street; and also several diagrams illustrating the construction of its various parts, accompanied with as detailed a description as can be gathered in its present imperfect state. It is evident that it is capable of performing all that its inventor has promised, and its importance to navigation cannot but be obvious to every one. On canals it will be particularly useful, for unlike other steamboats, it causes no swell, which has hitherto been the great objection against introducing steamboats on our canals.

Mr. Burden's Improved Steamboat. By S. Blydenburgh. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

Lansinoburgh, Dec. 7, 1833.

Sir—Your favor of November 12th was handed me about three days since. With respect to Mr. Burden's boat, I received the letter too late to do justice to the subject. The boat lay three miles below Lansingburgh, and the travelling exceedingly bad. I went down yesterday to take the sketch you requested, but before I got there the boat had started and I missed her altogether. This morning she has started for New-York, and you will have an opportunity to get the sketch there.

The great simplicity of the plan of Mr. Burden's boat renders it one of those most useful of all inventions, which make every ingenious man wonder why he never thought of it before. But as I have not the honor of an acquaintance with Mr. B. I can only give you such superficial outlines as I have gathered from observation in passing it, merely to satisfy my own curiosity.

The principle on which the invention is founded consists in placing two hollow parabolic spindles parallel to each other, at sufficient distance to admit a wheel between them, and by connecting them together by strong timbers across the top, both before and aft the wheel, in such manner as not only to give the necessary strength, but also to serve as a foundation whereon to erect the necessary superstructure both for the machinery and for the accommodation of passengers.

In his present boat the spindles or trunks are 300 feet long, and 8 feet diameter in the centre, tapering, of course, in a regular parabolic curve, to a point at each end. They are placed, as above stated, parallel to each other, and I believe 16 feet inside apart in the clear. The wheel between them is about 30 feet diameter, and 15 feet in length. The buckets are so arranged, as to number and situation, as to prevent the jolting motion felt in the other boats as the buckets strike the water.

To ascertain the buoyancy of this boat, or the burthen she will carry, I take the common method to measure a parabolic spindle—thus:

$8\times8\times7854=50{\cdot}2656$ superficial contents at centre; $300\times8\div15\times50{\cdot}2656=8042{\cdot}4960$ cubic feet, solid contents, say 8042·5 cubic feet; $\times62=49863{\cdot}5$ pounds weight of water displaced by each spindle, equal to 222 tons 12 cwt. Then the two spindles will require 222½ tons, including their own weight, to sink them to their centre; in which case they would only draw 4 feet of water. Allow, then, the boat and machinery to weigh 70 tons, which I think is not below the truth, and allow 500 passengers to weigh 37½ tons, then the boat, machinery, and passengers will weigh 107½, and will require 115* tons more to make it draw 4 feet of water.

If the above calculations be true, and they cannot be far out of the way, the boat, with any reasonable load, will never draw 4 feet, and seldom so much.

With respect to her speed, the time and room will not admit of mathematical calculations, though they could easily be made; and Mr. B., who appears to me to be a man of scientific as well as practical knowledge, has doubtless made them; but I am confident, from her great length, narrow breadth, and light draught, she will equal in her motion the most sanguine expectations. I am confident, that with a little practice to get her waywise, she will make the trip to New-York and back, allowing a reasonable stop there, not only by sunshine, but an easy day's work.

It has been said she cannot live in rough water. On this point, I have no hesitation in saying that the same weight of materials could not be combined to form a vessel in any other shape with greater, if with equal strength; and one peculiar advantage it possesses over any other steamboat in rough water is, that her whole weight is borne on the outside of her width, while that of other steamboats is in a narrow compass in the middle: while, therefore, the common boat in a rolling sea is liable to overset, or displace her machinery by rolling, and will almost constantly have one wheel out of water, Mr. B.'s boat, standing upon a broad foundation, can roll but little, and the wheel, by being in the middle, will of course maintain an even depth in the water, and the swell not consequently interrupt her speed.

On the whole, from the opinion I entertain of the talents of Mr. Burden, and from what I have seen of his boat, if the invention does not mark a new era in the history of locomotion, as respects rapid and safe travelling, I will willingly submit to be branded as a false prophet.

Yours, respectfully,

S. Blydenburgh.

* Mr. Burden states that from 180 to 200 tons burthen will occasion a draught of 4 feet.

The Undulating Railway.—For the purpose of further testing this important principle, several experiments have been tried since our last publication, of which the subjoined is the result:

It was determined by the engineers who witnessed the last experiments, that another trial should be made to prove the possibility or otherwise of conveying on an undulating line double the load which the engine was capable of drawing, at a like velocity on the horizontal railway.

The only day on which it was thought this experiment could safely and satisfactorily be made was on a Sunday; in consequence of which, on Sunday week a train of loaded carriages, weighing 150 tons, exclusive of the two engines which moved them and their tenders, left Manchester for the Sutton inclined plane.

On this occasion it may, in truth, be said that there never was a more friendly assemblage of mechanical men. It is well known to some of our readers that the French Government have selected a body of the most eminent engineers in that country to visit England, with a view of acquiring all requisite information preparatory to the construction of the intended French lines of railway. These gentlemen, nine in number, were all present; the English engineers who attended being Mr. Robert Stephenson, senior, the Messrs. Daglish, Mr. Dixon, and Mr. Badnall, in addition to whom were nearly all the practical mechanics connected with the railway, and many others, (among whom was Mr. Case, of Summerhill, and Mr. Garnett, of Manchester,) who felt a deep interest in the result.

The following statement is an undeniable corroboration of the favorable opinion which we have before expressed on this subject.

Mr. Badnall had proposed, as an extreme test of the merits of the undulating principle, that a double load should be attached to the engine, which he was of opinion could be moved with facility, and with one engine on a curve; and it cannot fail to be interesting to the world at large to know that the experiments fully proved that his opinion on this subject was correct. The following explanation will verify our meaning:

Experiment 1. Two engines, the Firefly and the Pluto, brought the whole train of waggons, (the length of the train was about 151 yards,) weighing 150 tons, exclusive of engines and tenders, to a given point at the foot of the Sutton inclined plane, the velocity attained at this point being about 19 miles per hour. The Pluto then left the train and the Firefly ascended with the load 575 yards in 116 seconds; the distance traversed by the two engines to generate the velocity before ascending being at least one mile.

Exp. 2. The power of the Firefly being reversed, the engine and load *descended* 575 *yards* in 74 *seconds*; the velocity attained at the foot of the plane being *far greater* than at the same point when *ascending*.

Exp. 3. The Firefly and Pluto having traversed 1 mile to generate a velocity of 15 miles an hour, and the Pluto then leaving the train, at the foot of the inclined plane, the Firefly and load ascended 315 yards in 90 seconds.

Exp. 4. The Firefly's power being reversed, the whole train descended 315 yards in 65 seconds.

Exp. 5. The same engines and load, working about 1¼ miles, attained a velocity of 18 miles an hour; the Pluto left as before, and the Firefly and load rose 457½ yards in 102½ seconds.

Exp. 6. The Firefly and train descended 457½ yards in 89 seconds.

N. B.—On this occasion some delay occurred in reversing the power, which will account for the comparative difference in time.

Exp. 7. The two engines, as before, attained a velocity of 18 *miles* an hour at the foot of the ascent, the Pluto then left the train, and the Firefly shut off her steam, the whole train then rose, *by momentum only*, 332 yards in 70 seconds.

Exp. 8. The train descended (the Firefly working) 323 yards in 66 seconds.

The preceding experiments undoubtedly prove two most important facts, not only that a locomotive engine can convey, on an undulating line, double the load which it is capable of conveying at the same velocity on a level, *but that it can accomplish* this by the employment of *only one half its power*, which last-mentioned fact was decided by the last experiment.

The Board of Examiners, at the head of which was Professor Silliman, appointed to investigate the cause of the destruction of the steamboat New England, have reported that the sole cause of the bursting of the boilers was the immense pressure of steam to which they were subjected, through the *negligence* of the Engineer.

Essay on economizing Fuel and Lighting in Private Dwellings. By the Rev. PATRICK BELL. [From the Quarterly Journal of Agriculture.]

I. THE ECONOMY OF FUEL OR HEATING.—Of all the substances now used for fuel, coal, it must be admitted, takes the pre-eminence. It has been divided by Thomson into four species, viz. caking-coal, splint-coal, cherry-coal, and cannel-coal. The first, or caking-coal, is that which abounds in the Newcastle coal field. Its value as a fuel stands very high; and, from experiments, the fact has been ascertained, that in a well constructed furnace, 1·2 lb. of it will raise a cubic foot of water from the temperature of 52° to 212°, the boiling point.

Splint or hard coal is that which is found abundantly in the coal-fields of Glasgow and Ayr. Experiments made upon this coal have shown that 3·13 lb. are required to raise the temperature of a cubic foot of water from 52° to 212°. Its relative value, therefore, as a fuel, compared with Newcastle coal, is the proportion of 1 to 2·6.

Cherry or soft coal is the species that abounds in Fifeshire, (that of Mid and East Lothian being intermediate between the cherry and the splint-coal.) This coal inflames readily, giving out much heat. Its power of heating seems to be about one-third less than caking coal, 1·5 lb. being required to raise a cubic foot of water from the temperature of 52° to 212°.

Cannel-coal is found less or more abundant in most of the coal fields of Scotland, and in some of those of England. During combustion it yields a great deal of light, and its heating power is found to be nearly the same as that of splint.

Wood, which holds the next place to coal as an article of fuel, is subject to great variety in heating power, some species of timber possessing that in a much higher degree than others. Generally speaking, old full grown healthy timber yields most heat, but such timber is of too much value for other purposes to be applied as fuel in this country. The following table is given on the authority of Count Rumford, and others, exhibiting at one view the power of various species of wood in producing heat. The number indicates the quantity of timber in pounds, required to raise the temperature of a cubic foot of water from 52° to 212°.

Lime-tree, 3·10 lb.; beech, 3·16; elm, 3·52; oak chips, 4·20; ash, 3·50; maple, 3·00; service-tree, 3·00; cherry-tree, 3·20; fir, 3·52; poplar, 3·10; hornbeam, 3·37.

The next substance in the order of importance is peat. This fuel varies much in quality, according to the situation in which it is produced. Dr. M'Culloch has divided it into five classes,—Mountain-peat, Marsh-peat, Lake-peat, Forest-peat, and Marine-peat: the names implying the locality of their production. Of these, the Mountain-peat, from its loose spongy texture, is the least productive of heat; and, in all the kinds, the heating power is in the ratio of the density of the mass. From experiments it appears that, on an average, 7·6 lb. are required to raise the temperature of a cubic foot of water from 52° to 212°; but were the peat compressed by a proper machine, there can be no doubt that its heating power would be considerably increased.*

Coke and charcoal are substances prepared from any of the preceding, by submitting them to combustion, under circumstances that exclude them either entirely or partially from the access of atmospheric air. The substances thus prepared vary in the same proportion as the originals from which they are prepared; but it has been stated generally, that 1·1 lb. will raise a cubic foot of water from 52° to 212°; of wood-charcoal 1·52 lb., and of the charcoal of peat 3·28 lb., will each produce the same effect.†

I have thus endeavored to give a comparative view of the heating power of the different substances now in common use as fuel; but to give a scale of the comparative cost of these is a department of the subject that cannot be entered upon in this paper, seeing that it is loaded with so many contingent and local circumstances. The economist must, therefore, take the data that are here furnished, and laying these to the expense attendant on the procuring of the fuel within his reach, he will draw his conclusions accordingly.

The next point of consideration is the means of applying, with the greatest advantage, the fuel already described, and the means of distributing the heat in our apartments. Three different modes have been adopted,—that of the open fire, the common and the heated air stoves, and also the agency of steam. In the first method, which is the most generally adopted in this country, considerable saving of fuel may be effected by attending to the following remarks. Since the heat that a room receives from an open fire arises chiefly from radiation and reflection, it is important that the position of the grate in which the fuel is burnt be attended to, and of this the position of the covings has a considerable influence. These, when placed at a proper angle, give out a large portion of heat by reflection, in aid of that sent out direct from the front of the fire-place by radiation. The angle that is considered the best for effect is that of 45°. In fixing grates, the less the quantity of solid matter that is used, so much greater will be the heating effect of the fire, as such solid matter serves as a conductor to carry off heat in a direction contrary to what is wanted. The flue also has its share of influence. This ought to be as large as possible, to be regularly formed, free of abrupt turns, and to have a smooth surface; the throat, or lower part, should be somewhat contracted, and the chimney top ought to be sloped upward, or brought to a comparatively thin edge, instead of the level surface too frequently adopted. It has been ascertained by experiment that a well constructed grate will consume about 1 lb. of coal per hour for every three inches of its length,—that is to say, a grate of 15 inches fire-place will burn 5 lbs. of coal per hour.

Heating apartments by means of stoves, though much resorted to on the Continent, has never to any extent been introduced into Britain. In the common stove the heat is procured entirely by radiation from the surface of the stove and flue; but it is found not to afford such a salubrious atmosphere as the open fire, where a constant and rapid current of air is received and passed through the room. *Heated air* stoves have of late years been successfully employed for heating large establishments, as hospitals, churches, &c. In this, the stove is usually at a little distance from the apartments to be heated. A current of air is heated by passing it over a cockle, from which it is carried into flues to the different points where its effects are required. This appears to be an economical method of heating such large establishments, but it seems not so well adapted to ordinary dwelling houses.

The last method of heating apartments, that we have to notice, is by steam. This powerful agent, besides its being so admirably adapted to impel machinery, appears also to be the most economical for the diffusion of heat through a suite of apartments, and has been adopted with perfect success in many of our manufactories. In these, the practice is to carry a system of cast iron pipes through the apartments to be heated. Steam is received into these from a boiler; the metal is heated, and gives it off again by radiation to the apartment. This, though a very effective mode of accomplishing the object in such situations, is yet of a nature not suited to the elegance of modern dwellings, more especially as the open grate forms an ornament of no small importance in our best rooms. Could the prejudice, however, be once overcome, there could be no difficulty of introducing the system of heating by means of steam into all sorts of dwellings, and the following method of arranging the apparatus is submitted.

In the kitchen a boiler of considerable dimensions is to be set in a furnace, with all the requisite appendages of safety-valve, feed-pipe, &c. A large steam pipe passes from the boiler, through the kitchen, and along the passages, branches from which enter every apartment, each provided with a stop-cock, to shut off the supply of steam when requisite. To determine the size of the boiler, we shall take a particular example—a house of 50 feet by 20 feet. To heat this house, the boiler has a capacity of 10 cubic feet, and being of the usual waggon-shape, its dimensions are 3 feet long, 2 feet wide, and 2 feet deep; such a boiler requires a supply of water equal to 4 cubic feet for every 12 hours it is kept boiling, and a bushel of coal is sufficient to keep a constant supply of steam for a day. The same boiler may be made subservient to the ordinary purposes of the kitchen by allowing the steam to pass into a properly constructed vessel. Perhaps the best construction for this is, that the vessel intended to contain the fluid that is to be boiled should be incased within another of the same form, but leaving a space all round the sides and bottom to contain the steam, having a stop-cock to draw off any water that may be condensed during the operation.

Any number of such vessels may be ranged upon a stand, each connected by a branch and stop-cock to a steam-pipe from the boiler, and they may be all made to boil together, or any one or more of them, as may be required. The outer surface of these cooking vessels should be kept bright, in order to prevent the loss of heat by radiation, while the steam-pipes for heating the house should be kept black on the surface, to promote radiation as much as possible. For this reason, pipes of cast iron are better for heating rooms than those of tin plate. With

* The experiments of Mr. Todd, on the compression of peat-moss, show that the heating power of compressed peat is at least equal to that of common coal, taking weight for weight.

† We believe that the charcoal of *compressed* peat has not yet been submitted to the test of experiment. The subject is of some importance; and the individual who would conduct a series of experiments, to determine its value, would confer a benefit on the country.

the diameters equal, it has been found that double the length of tin-pipe is required to yield the same quantity of heat that would be derived from cast iron. With cast iron pipes of four inches diameter, a room of ordinary dimensions may be kept at a temperature of 62° with a boiler whose entire capacity is six cubic feet. In constructing an apparatus of this kind, the steam-pipes should be all laid with an inclination towards the boiler, that the condensed steam may run back to the boiler, thereby supplying it with hot instead of cold water, by which a saving of fuel is effected. In this variable climate, especially in winter, much inconvenience is often experienced in the drying operations of the laundry: this might be obviated by applying steam to that purpose, in a room properly fitted up.

II. Economy of lighting Private Dwellings.—In this branch of the subject I shall pass over the ordinary methods of procuring light from oil, tallow, wax, &c. and consider only the modern improvement of lighting by gas procured from coal—an invention which must be considered amongst the most remarkable discoveries of this discovering age. It is not necessary to go into a historical detail of the steps by which the discovery was effected; our purpose will be better answered by giving an account of a small gas apparatus which was constructed, and has been kept in use for two years, for lighting a small private house in the country, remote from gas works, properly so called.

The first attempt at this apparatus originated in the idea of placing a retort in the kitchen fire. It was soon found that the heat of an ordinary fire is insufficient to decompose the coal in the retort, so as to yield the full quantity of gas that might be expelled from it. It was also found to be very inconvenient in other respects. Recourse was now had to the erection of a small house to contain the whole apparatus. The dimensions of this building were twelve feet long by nine feet wide and nine feet high. Before describing the apparatus it may be well to glance at the principles on which the process of making coal gas depends. It is to be observed that every kind of coal yields gas; but the different kinds yield products which differ widely both in quantity and quality. Cannel coal has been found to yield not only a greater quantity, but also a purer gas, than any of the other species of coal, and, as a matter of course, is always to be preferred when it can be procured. The gas is extracted from the coal by a process of distillation, whereby the volatile parts are driven off in the form of a crude gas, combined with a variety of other substances, the principal of which are tar and water of ammonia. When the gas has left the retort in which the distillation is carried on, it is first freed of the tar and water by condensation in vessels exposed to cold; it is then brought into contact with lime, by which the remaining portions of offensive matter are absorbed: this consists chiefly of sulphur, which, being combined with part of the gas, forms sulphuretted hydrogen, but the lime having a strong affinity for that substance, they combine, and leave the gas in the state of carburetted hydrogen, sufficiently pure for use.

The apparatus now to be described is represented in the two annexed cuts. Of these fig. 1 is a ground plan of the house and apparatus, and fig. 2 being a prospective view of the same, in which the front

Fig. 1.

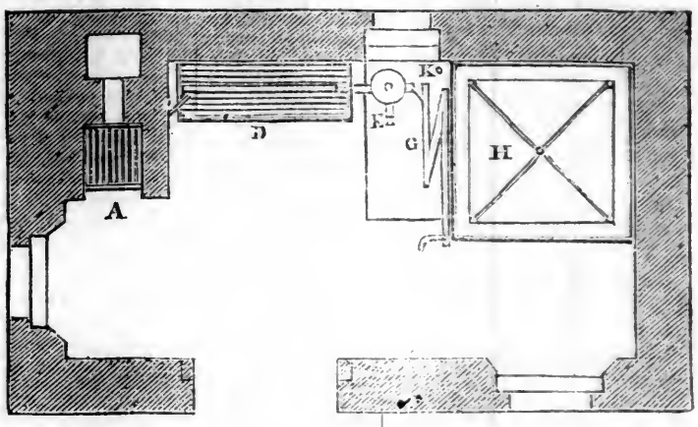
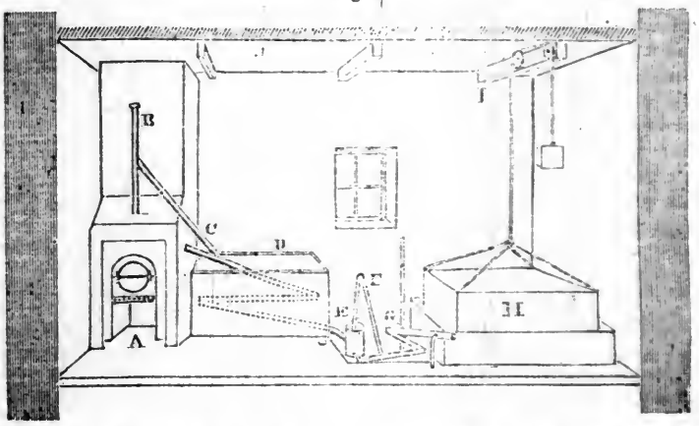


Fig. 2.



wall of the house is supposed to be removed; the same letters of reference applying to both figures. A is the furnace with the retort; the latter is 15 inches long and 5 inches diameter, of cast iron, and contained a charge of 8 lbs. of coal. To the upper side of the retort, and near its mouth, is joined an iron pipe, B, about one inch in diameter, left open at top, for the purpose of cleaning off the crust of tar that forms on the inside, but while in operation the opening was closed with a wooden plug. The sloping pipe, C, conveys the gas onward to the cooler or condensing vessel, D. This is an oblong trough, which being kept full of cold water, and the pipe which thus conveys the gas being made to traverse the trough in the direction of the dotted lines, having at the same time an inclination towards the tar cistern. This retardation and cooling promotes the deposition of the tar and watery parts, which are borne forward by their own gravity along the slopes of the pipe, while the gas thus separated is pushed onward by the pressure from the retort, until they arrive in the cistern E. The tar and water are deposited in the bottom of this vessel, which is air tight, except by the insertion of the bent pipe F, by which the gas is allowed to pass off towards the purifying vessel. The tar cistern is also furnished with a plug in the bottom, by which the liquids can be drawn off when they accumulate. The purifying vessel G is composed of three inclined pipes, joined as in the figure: these are open at top and bottom, but fitted with plugs for the conveniency of filling and discharging the purifying liquor. This vessel is filled about two-thirds full of slacked lime and water brought to the consistency of thin cream, and the gas being forced through this by the pressure from the retort, it is deprived of the sulphur with which it was combined. The gas now passes through the small pipe connected with the upper end of the purifier, and enters the gasometer H from below. The gasometer is a vessel in which the gas is stored up for use. It consists of two parts, the tank and the gasholder: the tank or lower part is filled with water, and the gasholder, which is an inverted vessel, is a few inches less in diameter than the tank, to give freedom to its motions within the other. The gasholder is suspended by a rope or chain over the pulleys attached to the beam I, and balanced with a weight attached to the rope. The induction pipe, after leaving the purifier, descends, and, entering through the bottom of the tank, rises again in the inside of the gasholder, till its extremity is an inch or two above the surface of the water. The end of the pipe is here furnished with a cup, which constitutes a water valve, allowing the gas to enter, but preventing its return.* The induction-pipe is placed in a manner similar to the last, passing through the bottom of the tank, and rising again on the outside as at K, where it is furnished with a stop-cock, and from this point the branch pipes can be carried to the apartments that are to be lighted.

From the way in which this apparatus was erected, even an approximation cannot be made to the total expense, but, exclusive of the house and the gasometer, the actual outlay amounted only to £2 7*s*.† The gasholder being a cube of 3 feet, it contains 27 cubic feet of gas, which supplied three single jet burners. The retort was usually

* In the large gas works this valve is not used in the gasometer, but a more efficient method is adopted to prevent the return of the gas to the retort, by means of what is called the hydraulic main; this is a tubular vessel, placed horizontally, and kept half full of water, the pipes from all the retorts dip into this liquid, and through it the gas is forced by the pressure from the retort, but is effectually prevented from returning by the intervention of the water.

† Equal to $9.75.

charged with eight pounds of coal, and eight pounds more were required for the furnace to work off this charge, which produced 27 cubic feet of gas, at the small cost of three halfpence. This quantity supplied the three burners for a period of six hours, hence the cost of one light for six hours is one halfpenny.

From the experience acquired with this simple apparatus, the writer has no hesitation in saying, that a country house, even of ordinary extent, may be conveniently and profitably lighted with coal gas; but he would recommend that the different parts should be substantially constructed, and on a larger scale than is here described.

NOTE.—The apparatus here described is exceedingly simple, and very well adapted for an establishment on a small scale, but it may be proper to remark, that, in extending it, some deviation would be advisable. In the first place, the crude gas should pass the tar-cistern before entering the coudenser, and if, as should always be the case, the cistern is placed at a considerable distance from the retorts, a great part of the tar is deposited during its progress thither. * * * * * The gasholder should be always made of sheet iron, and of a cylindrical form.

REPORT OF THE SECRETARY OF WAR.

DEPARMENT OF WAR, *November* 29, 1833.

SIR: In submitting to you, agreeably to your instructions, a report of the operations and administration of this department for the past year, it affords me pleasure to bear my testimony to the zeal and ability of the respective officers at the head of the various bureaus, and of those employed to aid them in the performance of the important functions committed to this branch of the Executive Government.

A reference to the accompanying reports and documents will show the state of the army, as well with relation to its numbers, and their position and condition, as to the progress of the various works entrusted to them, and the collection and preservation of the necessary *materiel* for offensive and defensive operations, which is indispensable to the safety of the country. The principle, which governed the reduction of the army from a war to a peace establishment, has been found, by subsequent experience, to be salutary; and its practical operation has been to form a body of officers, equal in all the requisites of military knowledge and efficiency to those of any other service which is known to us. The army is so organized, that, should an increase become necessary, in consequence of those conflicts of interest and opinion to which all nations, in their intersourse with one another, have been exposed, and from which we have no right to expect perpetual exemption, any resonable addition may be made to it without disturbing its arrangement; and the professional knowledge and experience embodied in it, will be immediately felt in the new corps, and will identify them with those previously in service. The military experience of other countries, as well as our own, has shown that the system of extension, by which new and old troops are incorporated together, is much better calculated to produce discipline and subordination, and thus to meet the exigencies of a service, which does not allow large bodies of troops to be kept up in time of peace, than the organization of separate corps, composed of inexperienced officers and men, with all their military knowledge to acquire, and all their military habits to form. And this is more particularly true of the staff department of an army, upon which its movement, its subsistence, and the economy of its administration, must principally depend. The system established in our service is equally creditable to the army and satisfactory to the Government, and may be applied, to any necessary extent, without any diminution of that economy and efficiency which have heretofore marked its operation.

Much advantage is anticipated from the operation of the act passed at the last session of Congress for improving the condition of the army. Already its effects have been felt, as the subjoined documents will show, in the decrease of desertion, and in the increase of the business of recruiting. The addition to the pay of the rank and file, the reduction of the term of service, and the improved condition of the non-commissioned officers, promise important meliorations in the character of the army. This prospect cannot but be interesting to the Government and the country. Although the numerical strength of the army is comparatively small, it is yet sufficient to excite public solicitude; and this must be increased by the consideration, that the character of our military establishment may hereafter essentially depend upon the measures now taken for its moral and intellectual advancement. Although it were idle, in the present state of the country, to apprehend any danger from the force which is employed, still the lessons of experience taught by the progress of events in other nations, ought not to be neglected, nor the possibility overlooked, that other circumstances may lead to the increase of our military strength, and to the diminution of that wise jealousy, which is now one of our national characteristics. Moral habits in the soldiery constitute one of the best safeguards against the abuse of military power, and their inculcation has engaged the attention of this department, during successive periods of its administration. Amongst other measures, which have been adopted with this view, you have recently directed the discontinuance of all parades on Sunday, in order that that day may be exclusively devoted to the purposes of instruction and improvement. Certainly, in time of peace, no just reason can exist for converting a day of rest and devotion into a day of military parade.

The act for the better defence of the frontiers, by raising a regiment of dragoons, is in the process of execution. About six hundred men have been enlisted, and most of the officers appointed, and five of the companies have been ordered to proceed to Fort Gibson, upon the Arkansas, where they will be stationed during the winter. The remainder of the regiment will be concentrated at Jefferson barracks this season, and it is intended in the spring to order the whole to proceed through the extensive Indian regions between the western boundaries of Missouri and Arkansas, and the Rocky mountains. It is deemed indispensable to the peace and security of the frontier, that a respectable force should be displayed in that quarter, and that the wandering and restless tribes, who roam through it, should be impressed with the power of the United States, by the exhibition of a corps so well qualified to excite their respect.—These Indians are beyond the reach of a mere infantry force. Without stationary residences, and possessing an abundant supply of horses, and with habits admirably adapted to their use, they can be held in check only by a similar force, and by its occasional display among them. Almost every year has witnessed some outrage committed by them upon our citizens; and as many of the Indian tribes from the country this side of the Mississippi have removed, and are removing, to that region, we may anticipate their exposure to these predatory incursions, unless vigorous measures are adopted to repel them. We owe protection to the emigrants, and it has been solemnly promised to them; and this duty can only be fulfilled by repressing and punishing every attempt to disturb the general tranquillity. Policy and humanity equally dictate this course, and there is reason to hope that the display of this force will itself render unnecessary its hostile employment. The more barbarous tribes will perceive that their own safety is closely connected with the permanent establishment of pacific relations both with the United States and with the other Indians.

It is due to the regiment of dragoons to remark, that its composition is believed to be good, and, I anticipate, it will do honor to the army, and render effectual service to the country.

I feel it a duty once more to ask your favorable interposition in behalf of the medical corps. There is no portion of the army, whose compensation is so utterly inadequate to their services. The pay of the highest grade but little exceeds that of a captain, and the pay of the lowest that of a first lieutenant; and these two grades constitute the whole range of service within the reach of medical officers. In the line of the army, and most of the staff departments, there are successive gradations of rank, each with increased emolument, to stimulate the exertions, and to reward the services, of the officers. The importance of professional skill and talent in the medical corps, will not be doubted; and the dispersed condition of our army in time of peace, and its exposure to the effects of various climates, render the conservation of its health an object of much solicitude. And in time of war, this solicitude will be increased by the perils of active service.

In order to place in a proper condition this branch of our military establishment, a system of examination has been recently instituted, by which the pretensions of medical gentlemen seeking appointments in the army, will be subjected to rigid scrutiny. A board, composed of able and experienced surgeons, has been organized, and the various members of the department have been examined by them. The result has already been highly useful, and cannot fail to be so in future. But while the standard of professional acquirement is thus increased, justice demands that the rate of compensation should be examined, and that it should be rendered commensurate with the duties and responsibility of this most useful class of officers. It is not to be expected, that the medical corps can retain the able men, who now compose it, or see others join it, unless their services are adequately rewarded.

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I have had the honor, therefore, to submit to your consideration my views in relation to brevet commissions in the army, and I am induced, as an act of

justice to those entitled to them, again to present the subject. If no new legislation is contemplated, nor any action of the Senate which shall change the principle or practice heretofore prevalent, no objections occur to me to delay any longer those promotions. The officers have earned them by length of service agreeably to the established usage; and to make a discrimination, without any previous declaration, so as to exclude from this advantage those who are at this time entitled to it, does not seem called for by the exigency of any circumstance connected with this subject; and, in fact, there are no very obvious reasons occurring to me, why these professional honors which, in common cases, make no demand upon the Treasury, but serve to foster those professional feelings which give elevation to the military character, should not be granted as they have heretofore been. Under ordinary circumstances, they would produce no practical operation, either with relation to emolument or command.—When they should do either, it would be precisely when their value would be enhanced by the very state of things producing this change in their operation; when the greater experience of the brevet officer would entitle him to an enlarged command. and to a corresponding rank over those, whether in the regular army or the militia, whose qualifications, so far as these depend upon service, are less than his.

The attention of the army has been frequently drawn to a project for the establishment of a fund for the support of invalid officers, and of the widows and children of such as may die in the service. The object is a commendable one, and as the only aid expected of the Government is such legislative provision as may be necessary to give effect to the measure, in conformity to the general views of the officers of the army, it is certainly entitled to the favorable regard of the Government. A moderate and stated deduction from the pay of each officer would create a fund which would afford essential relief to many who otherwise would be exposed to want and penury, and might soothe the declining years of meritorious officers who may have necessarily expended, in the maintenance of their families, the whole allowance made to them by law, and who, without such an arrangement, would look forward with anxiety to the future. Whatever plan may be ultimately adopted, a legel organization is essential to its operation and success; and as the funds will be provided by the officers themselves, and for their own advantage, the administration will no doubt be committed to them, to be exercised by such persons, and in such manner, as they may direct. The considerations connected with this measure are so obviously just, and in accordance with the dictates of prudence and humanity, that I trust they will be favorably considered.

And I also feel it my duty to bring before you a kindred subject connected with the rank and file of the army, and having for its object a provision for the superannuated soldiers. In our service, as at present organized, a soldier can only be retained as long as his physical powers are sufficient to enable him to perform the duties required of him. When his constitution fails, unless it is the result "of disability, incurred in the line of his duty," he is discharged without any provision for his support, and generally, from the habits of his life, without the disposition, and too often the power, to labor for the means of support. He is then thrown upon the charity of the community, after devoting the best part of his life to the service of his country.

This result may be easily obviated without expense to the Government, and an ample provision made for those discharged soldiers who are unable to procure the means of support The principle which has been long and wisely applied to the navy, may be safely applied to the army. An inconsiderable deduction from the pay of each soldier would go far towards the creation of a fund for this purpose; and if this deduction were to commence with those who might enlist after the passage of the law, there could be no objections on account of the previous engagements formed with the soldiers. And there are three auxiliary sources of revenue which may be applied towards the former object.

These are, fines assessed by courts martial.

The pay due to soldiers who may die without leaving any heirs to claim it.

A proportion of the post fund, which is principally derived from a tax upon sutlers.

It is believed that the means which may be realized agreeably to this suggestion, would be found sufficient to provide for the maintenance of this class of persons, whose condition is now so hopeless, and so unsuited to the character of the Government and the feelings of the community.

The experience of every year adds to the conviction, that the sooner the Indians remaining east of the Mississippi, migrate to the region west of that river, the sooner will they be relieved from the embarrassments of their present position, and placed in a situation where they may physically and morally improve, and look forward to a prosperous and permanent destiny. All the reports which reach the department upon this subject, concur in the representation, that the emigrants already there are comfortable and contented; that the region assigned to them is fertile, salubrious, and as extensive as they and their descendants, for many generations can require. They are making improvements, and erecting dwellings, and are evidently laying the foundation of a social system which, it is to be hoped, will afford them security and prosperity. As a striking proof of their improvement, and of the quantity of provisions raised among them, it may be stated, that one of the contracts for furnishing provisions has been taken by a Choctaw, who is said to have a supply of his own amply sufficient to enable him to meet his engagement. It is fortunate for the Indians themselves, and for the great cause of humanity, that the efforts of the Government to persuade them peaceably and voluntarily to remove, are every year crowned with more and more success. Since the last annual report from this department, the conditional arrangement made by the Seminoles for their omigration, has been rendered absolute by a personal inspection of the country proposed for their residence. They have examined, and are satisfied with it, and if the treaty should be ratified by the Senate, they will soon leave the Territory of Florida. An arrangement has also been made with the separate bands in that territory, by which they have agreed to emigrate, and thus provision has been made for the removal of the whole Indian population from Florida.

The treaty with the Chickasaws has terminated all difficulties with that tribe. It is understood that the exploring party provided for in that instrument are about to commence their journey with a view to select a residence west of the Mississippi. If they succeed, they will remove within the period limited. If they do not, and choose to remain, they will become, with their own consent, citizens of Mississippi, and will occupy, as absoluto owners, the several tracts of land assigned to them.

The obligations assumed by the United States in the treaty with the Choctaws, for the removal of those Indians, have been fulfilled. From the reports which have been made to the department, it appe ars that about fifteen thousand individuals of this tribe have been removed. A party, estimated to contain from fifteen hundred to three thousand persons, have changed their usual place of residence in Alabama, and have declined accompanying the other Indians in their emigration. It is believed that this party is composed principally of the worst portion of the tribe, and that they intend to hang upon the white settlements, in order to indulge the vicious habits they have acquired. As the Government has scrupulously fulfilled its engagements with these people, which terminate this year, and as every exertion has been made by the proper agents to induce them to remove, nothing remains but to leave them to the results of their own experience. It cannot be long before they will feel the necessity of rejoining the great body of the tribe.

Satisfied as you have been, that the very existence of the Creeks in Alabama required their establishment in the country west of the Mississippi, where so many of their tribe already reside, you have not hesitated to embrace every opportunity which offered of accomplishing this object. Instructions have been three times given to ascertain their views, and to endeavor to persuade them to acquiesce in this course. The two first attempts proved unsuccessful, the result of the last is unknown.—Independent of the general reasons arising out of our Indian relations, which operated to induce these efforts, the peculiar state of things among these Indians, and a strong desire to remove the difficultics connected with them, had much influence in directing the negotiations.

The Sacs and Foxes have quietly removed to the region assigned to them, and the Winnebagoes have left the country upon Rock river, agreeably to the stipulations of the treaty with them, and direct across the Mississippi, to their lands north of the Ouisconsin.

Treaties have been formed with the Pottawattamies, Chippewas, and Ottawas, claiming the district on the west side of Lake Michigan, south of Green Bay and north of Chicago, for its cassien to the United States and with the Pottawattamies of the peninsula of Michigan for the relinquishment of their reservation south of Grand river.

With the exception, therefore, of the Miamies in the State of Indiana, of a band of the Wyandots at Upper Sandusky, in Ohio, and of scattered portions of the Ottawas and Chippewas in the peninsula of Michigan, north of Grand river and of Saganaw bay, probably not exceeding altogether five thousand individuals, the whole country north of the Ohio, and east of the Mississippi, including the States of Ohio, Indiana and Illinois, and the Territory of Michigan as far as the Fox and Ouisconsin rivers, has been cleared of the embarrassments of Indian relations; and the Indians themselves have either already emigrated, or have stipulated to do so within limited periods, and upon such terms as will ensure them adequate subsistence, and the means of establishing themselves comfortably in their new residence, unless, indeed, the aid and efforts of the Government are rendered useless by their habitual indolence and improvidence. The Cherokees occupying portions of land in Georgia, Alabama, North-Carolina, and Tennessee, and probably not exceeding eleven thousand persons, are the only Indians south of the Ohio, and east of the Mississippi, with whom an arrangement has not been made, either for emigration, or for a change of political relations.—It is to be regretted that the same causes which have heretofore prevented an ajustment of the difficulties of that tribe, and their removal west, yet continue to defeat the efforts of the Government. These causes are no doubt principally to be traced to the ascendancy of particular individuals, and to their desire to retain political influence and power. It is expected that about five hundred of these Indians will remove west this season, and the residue of the Cherokees, then remaining east of the Mississippi, will be, agreeably to previous computations, about ten thousand five hundred.

The commissioners west of the Mississippi are engaged in the execution of the duties connected with our Indian relations in that quarter. They have succeeded in arranging satisfactorily the disputed question of boundaries between the Creek and Cherokees, which has, for some time, occasioned much embarrassment. They have also formed treaties with the Creeks, the Cherokees, the Senecas and Shawnees, the Quapaws and the Seminoles, of Florida, by which all matters connected with these tribes have been satisfactorily adjusted. Their labors will be now directed to the other subjects indicated in their instructions, and which are important to a permanent arrangement of the various questions arising out of a new state of things which will be created in that region. Among these, one of the most interesting is a practical plan for regulating the intercourse of the various tribes, indigenous and emigrant, one with another, and with the United States, and for the establishment of some general principles by which their own internal government can be safely administered by themselves, and a general superintending authority exercised by the United States, so far as may be necessary to restrain hostilities among them, and incursions into our borders. Until such a system is adopted, it is evident that the condition of those Indians cannot be secure, nor will the obligations imposed upon the Government be fulfilled. The task requires an intimate knowledge of the local circumstances of the tribes of that region and of the country they inhabit, and a practical acquaintance with Indian habits, feelings, and modes of life. I trust the commissioners will be able to report a plan which will fulfil the expectation of those who have observed with solicitude the course of this matter, and which will eventually secure the prosperity of the Indians. As it is probable, however, that this cannot be effected within the time limited for the duties of the commissioners, I would respectfully suggest the propriety of their term of service being prolonged until the close of the next year.

There have been presented for allowance under the pension act of 7th June, 1832, thirty thousand, six hundred claims. The whole of these have been examined, and either admitted, rejected, or returned to the parties for supplementary action. Twenty-three thousand four hundred and thirty-eight certificates have been issued, eleven hundred and eleven claims have been rejected, three hundred returned cases are in the office awaiting or undergoing re-examination, thirteen hundred and fifty-one, which are incomplete in their proofs, are suspended till these are furnished, and four thousand four hundred and twenty-five are in the hands of the parties for additional evidence or authentication, or in *transitu* between them and the office.

It is creditable to the the industry and efficiency of the Pension Office, that such a mass of business should have been performed within the period which has elapsed since the passage of the above law.

I have the honor to be, very respectfully, sir, your obedient servant, LEWIS CASS.

To the President of the United States.

charged with eight pounds of coal, and eight pounds more were required for the furnace to work off this charge, which produced 27 cubic feet of gas, at the small cost of three halfpence. This quantity supplied the three burners for a period of six hours, hence the cost of one light for six hours is one half-penny.

From the experience acquired with this simple apparatus, the writer has no hesitation in saying, that a country house, even of ordinary extent, may be conveniently and profitably lighted with coal gas; but he would recommend that the different parts should be substantially constructed, and on a larger scale than is here described.

NOTE.—The apparatus here described is exceedingly simple, and very well adapted for an establishment on a small scale, but it may be proper to remark, that, in extending it, some deviation would be advisable. In the first place, the crude gas should pass the tar-cistern before entering the condenser, and if, as should always be the case, the cistern is placed at a considerable distance from the retorts, a great part of the tar is deposited during its progress thither. * * * * * The gasholder should be always made of sheet iron, and of a cylindrical form.

REPORT OF THE SECRETARY OF WAR.

DEPARMENT OF WAR. }
November 29, 1833. }

SIR: In submitting to you, agreeably to your instructions, a report of the operations and administration of this department for the past year, it affords me pleasure to bear my testimony to the zeal and ability of the respective officers at the head of the various bureaus, and of those employed to aid them in the performance of the important functions committed to this branch of the Executive Government.

A reference to the accompanying reports and documents will show the state of the army, as well with relation to its numbers, and their position and condition, as to the progress of the various works entrusted to them, and the collection and preservation of the necessary *materiel* for offensive and defensive operations, which is indispensable to the safety of the country. The principle, which governed the reduction of the army from a war to a peace establishment, has been found, by subsequent experience, to be salutary; and its practical operation has been to form a body of officers, equal in all the requisites of military knowledge and efficiency to those of any other service which is known to us. The army is so organized, that, should an increase become necessary, in consequence of those conflicts of interest and opinion to which all nations, in their intercourse with one another, have been exposed, and from which we have no right to expect perpetual exemption, any resonable addition may be made to it without disturbing its arrangement; and the professional knowledge and experience embodied in it, will be immediately felt in the new corps, and will identify them with those previously in service. The military experience of other countries, as well as our own, has shown that the system of extension, by which new and old troops are incorporated together, is much better calculated to produce discipline and subordination, and thus to meet the exigencies of a service, which does not allow large bodies of troops to be kept up in time of peace, than the organization of separate corps, composed of inexperienced officers and men, with all their military knowledge to acquire, and all their military habits to form. And this is more particularly true of the staff department of an army, upon which its movement, its subsistence, and the economy of its administration, must principally depend. The system established in our service is equally creditable to the army and satisfactory to the Government, and may be applied, to any necessary extent, without any diminution of that economy and efficiency which have heretofore marked its operation.

Much advantage is anticipated from the operation of the act passed at the last session of Congress for improving the condition of the army. Already its effects have been felt, as the subjoined documents will show, in the decrease of desertion, and in the increase of the business of recruiting. The addition to the pay of the rank and file, the reduction of the term of service, and the improved condition of the non-commissioned officers, promise important meliorations in the character of the army. This prospect cannot but be interesting to the Government and the country. Although the numerical strength of the army is comparatively small, it is yet sufficient to excite public solicitude; and this must be increased by the consideration, that the character of our military establishment may hereafter essentially depend upon the measures now taken for its moral and intellectual advancement. Although it were idle, in the present state of the country, to apprehend any danger from the force which is employed, still the lessons of experience taught by the progress of events in other nations, ought not to be neglected, nor the possibility overlooked, that other circumstances may lead to the increase of our military strength, and to the diminution of that wise jealousy, which is now one of our national characteristics. Moral habits in the soldiery constitute one of the best safeguards against the abuse of military power, and their inculcation has engaged the attention of this department, during successive periods of its administration. Amongst other measures, which have been adopted with this view, you have recently directed the discontinuance of all parades on Sunday, in order that that day may be exclusively devoted to the purposes of instruction and improvement. Certainly, in time of peace, no just reason can exist for converting a day of rest and devotion into a day of military parade.

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There is one subject which I feel particularly desirous of placing before you. The situation of teacher of drawing corresponds neither with the nature and importance of the duties required of that officer, nor with the professional merit of the distinguished artist who has relinquished the fair prospects held out to him in a foreign country, to accept it. The art itself is highly important to military men, and its acquisition is essential to a respectable standing at the academy. It is very desirable that the instructor should unite, in his person those high qualifications, natural and acquired, which have in all ages been the lot of those who have attained eminence in the art, and which have placed it among those pursuits that are at once the cause and the effect of advanced improvement in society. I respectfully recommend that this officer be placed in the same situation as the professors at the academy, and I cannot but believe that such a measure would not only be just in itself, but would be a proper tribute of respect to the liberal arts, and a proper notice of one whose professional talents and success have been honorable to this country.

I have had the honor, therefore, to submit to your consideration my views in relation to brevet commissions in the army, and I am induced, as an act of

justice to those entitled to them, again to present the subject. If no new legislation is contemplated, nor any action of the Senate which shall change the principle or practice heretofore prevalent, no objections occur to me to delay any longer those promotions. The officers have earned them by length of service agreeably to the established usage; and to make a discrimination, without any previous declaration, so as to exclude from this advantage those who are at this time entitled to it, does not seem called for by the exigency of any circumstance connected with this subject; and, in fact, there are no very obvious reasons occurring to me, why these professional honors which, in common cases, make no demand upon the Treasury, but serve to foster those professional feelings which give elevation to the military character, should not be granted as they have heretofore been. Under ordinary circumstances, they would produce no practical operation, either with relation to emolument or command.—When they should do either, it would be precisely when their value would be enhanced by the very state of things producing this change in their operation; when the greater experience of the brevet officer would entitle him to an enlarged command, and to a corresponding rank over those, whether in the regular army or the militia, whose qualifications, so far as these depend upon service, are less than his.

The attention of the army has been frequently drawn to a project for the establishment of a fund for the support of invalid officers, and of the widows and children of such as may die in the service. The object is a commendable one, and as the only aid expected of the Government is such legislative provision as may be necessary to give effect to the measure, in conformity to the general views of the officers of the army, it is certainly entitled to the favorable regard of the Government. A moderate and stated deduction from the pay of each officer would create a fund which would afford essential relief to many who otherwise would be exposed to want and penury, and might soothe the declining years of meritorious officers who may have necessarily expended, in the maintenance of their families, the whole allowance made to them by law, and who, without such an arrangement, would look forward with anxiety to the future. Whatever plan may be ultimately adopted, a legel organization is essential to its operation and success; and as the funds will be provided by the officers themselves, and for their own advantage, the administration will no doubt be committed to them, to be exercised by such persons, and in such manner, as they may direct. The considerations connected with this measure are so obviously just, and in accordance with the dictates of prudence and humanity, that I trust they will be favorably considered.

And I also feel it my duty to bring before you a kindred subject connected with the rank and file of the army, and having for its object a provision for the superannuated soldiers. In our service, as at present organized, a soldier can only be retained as long as his physical powers are sufficient to enable him to perform the duties required of him. When his constitution fails, unless it is the result "of disability, incurred in the line of his duty," he is discharged without any provision for his support, and generally, from the habits of his life, without the disposition, and too often the power, to labor for the means of support. He is then thrown upon the charity of the community, after devoting the best part of his life to the service of his country.

This result may be easily obviated without expense to the Government, and an ample provision made for those discharged soldiers who are unable to procure the means of support The principle which has been long and wisely applied to the navy, may be safely applied to the army. An inconsiderable deduction from the pay of each soldier would go far towards the creation of a fund for this purpose; and if this deduction were to commence with those who might enlist after the passage of the law, there could be no objections on account of the previous engagements formed with the soldiers. And there are three auxiliary sources of revenue which may be applied towards the former object.

These are, fines assessed by courts martial.

The pay due to soldiers who may die without leaving any heirs to claim it.

A proportion of the post fund, which is principally derived from a tax upon sutlers.

It is believed that the means which may be realized agreeably to this suggestion, would be found sufficient to provide for the maintenance of this class of persons, whose condition is now so hopeless, and so unsuited to the character of the Government and the feelings of the community.

The experience of every year adds to the conviction, that the sooner the Indians remaining east of the Mississippi, migrate to the region west of that river, the sooner will they be relieved from the embarrassments of their present position, and placed in a situation where they may physically and morally improve, and look forward to a prosperous and permanent destiny. All the reports which reach the department upon this subject, concur in the representation, that the emigrants already there are comfortable and contented; that the region assigned to them is fertile, salubrious, and as extensive as they and their descendants, for many generations can require. They are making improvements, and erecting dwellings, and are evidently laying the foundation of a social system which, it is to be hoped, will afford them security and prosperity. As a striking proof of their improvement, and of the quantity of provisions raised among them, it may be stated, that one of the contracts for furnishing provisions has been taken by a Choctaw, who is said to have a supply of his own amply sufficient to enable him to meet his engagement. It is fortunate for the Indians themselves, and for the great cause of humanity, that the efforts of the Government to persuade them peaceably and voluntarily to remove, are every year crowned with more and more success. Since the last annual report from this department, the conditional arrangement made by the Seminoles for their emigration, has been rendered absolute by a personal inspection of the country proposed for their residence. They have examined, and are satisfied with it, and if the treaty should be ratified by the Senate, they will soon leave the Territory of Florida. An arrangement has also been made with the separate bands in that territory, by which they have agreed to emigrate, and thus provision has been made for the removal of the whole Indian population from Florida.

The treaty with the Chickasaws has terminated all difficulties with that tribe. It is understood that the exploring party provided for in that instrument are about to commence their journey with a view to select a residence west of the Mississippi. If they succeed, they will remove within the period limited. If they do not, and choose to remain, they will become, with their own consent, citizens of Mississippi, and will occupy, as absolute owners, the several tracts of land assigned to them.

The obligations assumed by the United States in the treaty with the Choctaws, for the removal of those Indians, have been fulfilled. From the reports which have been made to the department, it appears that about fifteen thousand individuals of this tribe have been removed. A party, estimated to contain from fifteen hundred to three thousand persons, have changed their usual place of residence in Alabama, and have declined accompanying the other Indians in their emigration. It is believed that this party is composed principally of the worst portion of the tribe, and that they intend to hang upon the white settlements, in order to indulge the vicious habits they have acquired. As the Government has scrupulously fulfilled its engagements with these people, which terminate this year, and as every exertion has been made by the proper agents to induce them to remove, nothing remains but to leave them to the results of their own experience. It cannot be long before they will feel the necessity of rejoining the great body of the tribe.

Satisfied as you have been, that the very existence of the Creeks in Alabama required their establishment in the country west of the Mississippi, where so many of their tribe already reside, you have not hesitated to embrace every opportunity which offered of accomplishing this object. Instructions have been three times given to ascertain their views, and to endeavor to persuade them to acquiesce in this course. The two first attempts proved unsuccessful, the result of the last is unknown.—Independent of the general reasons arising out of our Indian relations, which operated to induce these efforts, the peculiar state of things among these Indians, and a strong desire to remove the difficulties connected with them, had much influence in directing the negotiations.

The Sacs and Foxes have quietly removed to the region assigned to them, and the Winnebagoes have left the country upon Rock river, agreeably to the stipulations of the treaty with them, and direct across the Mississippi, to their lands north of the Ouisconsin.

Treaties have been formed with the Pottawattamies, Chippewas, and Ottawas, claiming the district on the west side of Lake Michigan, south of Green Bay and north of Chicago, for its cession to the United States and with the Pottawattamies of the peninsula of Michigan for the relinquishment of their reservation south of Grand river.

With the exception, therefore, of the Miamies in the State of Indiana, of a band of the Wyandots at Upper Sandusky, in Ohio, and of scattered portions of the Ottawas and Chippewas in the peninsula of Michigan, north of Grand river and of Saginaw bay, probably not exceeding altogether five thousand individuals, the whole country north of the Ohio, and east of the Mississippi, including the States of Ohio, Indiana and Illinois, and the Territory of Michigan as far as the Fox and Ouisconsin rivers, has been cleared of the embarassments of Indian relations; and the Indians themselves have either already emigrated, or have stipulated to do so within limited periods, and upon such terms as will ensure them adequate subsistence, and the means of establishing themselves comfortably in their new residence, unless, indeed, the aid and efforts of the Government are rendered useless by their habitual indolence and improvidence. The Cherokees occupying portions of land in Georgia, Alabama, North-Carolina, and Tennessee, and probably not exceeding eleven thousand persons, are the only Indians south of the Ohio, and east of the Mississippi, with whom an arrangement has not been made, either for emigration, or for a change of political relations.—It is to be regretted that the same causes which have heretofore prevented an ajustment of the difficulties of that tribe, and their removal west, yet continue to defeat the efforts of the Government. These causes are no doubt principally to be traced to the ascendancy of particular individuals, and to their desire to retain political influence and power. It is expected that about five hundred of these Indians will remove west this season, and the residue of the Cherokees, then remaining east of the Mississippi, will be, agreeably to previous computations, about ten thousand five hundred.

The commissioners west of the Mississippi are engaged in the execution of the duties connected with our Indian relations in that quarter. They have succeeded in arranging satisfactorily the disputed question of boundaries between the Creek and Cherokees, which has, for some time, occasioned much embarrassment. They have also formed treaties with the Creeks, the Cherokees, the Senecas and Shawnees, the Quapaws and the Seminoles, of Florida, by which all matters connected with these tribes have been satisfactorily adjusted. Their labors will be now directed to the other subjects indicated in their instructions, and which are important to a permanent arrangement of the various questions arising out of a new state of things which will be created in that region. Among these, one of the most interesting is a practical plan for regulating the intercourse of the various tribes, indigenous and emigrant, one with another, and with the United States, and for the establishment of some general principles by which their own internal government can be safely administered by themselves, and a general superintending authority exercised by the United States, so far as may be necessary to restrain hostilities among them, and incursions into our borders. Until such a system is adopted, it is evident that the condition of those Indians cannot be secure, nor will the obligations imposed upon the Government be fulfilled. The task requires an intimate knowledge of the local circumstances of the tribes of that region and of the country they inhabit, and a practical acquaintance with Indian habits, feelings, and modes of life. I trust the commissioners will be able to report a plan which will fulfil the expectation of those who have observed with solicitude the course of this matter, and which will eventually secure the prosperity of the Indians. As it is probable, however, that this cannot be effected within the time limited for the duties of the commissioners, I would respectfully suggest the propriety of their term of service being prolonged until the close of the next year.

There have been presented for allowance under the pension act of 7th June, 1832, thirty thousand, six hundred claims. The whole of these have been examined, and either admitted, rejected, or returned to the parties for supplementary action. Twenty-three thousand four hundred and thirty-eight certificates have been issued, eleven hundred and eleven claims have been rejected, three hundred returned cases are in the office awaiting or undergoing re-examination, thirteen hundred and fifty-one, which are incomplete in their proofs, are suspended till these are furnished, and four thousand four hundred and twenty-five are in the hands of the parties for additional evidence or authentication, or in *transitu* between them and the office.

It is creditable to the the industry and efficiency of the Pension Office, that such a mass of business should have been performed within the period which has elapsed since the passage of the above law.

I have the honor to be, very respectfully, sir, your obedient servant, LEWIS CASS.

To the President of the United States.

REPORT OF THE SECRETARY OF THE NAVY.

NAVY DEPARTMENT,
November 30th, 1833.

To the President of the United States:

SIR: In submitiing to your consideration a review of the operations of the Naval Branch of the public service during the past year, I would first invite your attention to its administration in this place.

The separate organization of the Navy Department, in the manner origiaally established by Congress, and the change since made by the addition of a Navy Board, have, with the several clerks now allowed, furnished a sufficient number of persons for the suitable discharge of all ordinary duties immediately connected with this office. So far as my knowledge extends, those duties have generally been performed with promptitude and accuracy. But some changes in the present laws respecting them, would probably prove beneficial. Though the number of clerks, and the aggregate amount of salary paid to them are deemed sufficient, yet more substantial justice could be entorced, if that amount were so appropriated as to permit the department to divide it, in conformity to the usefulness of their respective services. It has happened that some of them, receiving large salaries, perform no greater or more difficult duties than those receiving less pay; and no power exists here to equalize their compensation. except by an occasional transfer of dutics, not always convenient, appropriate, or useful.

A different arrangement of the Navy Board, has, for a few years, been a subject of consideration by Congress. The board itself, and the head of this department, once united in recommending such a change as to apportion its ordinary business among the several members with a view to greater convenience, despatch, and responsibility. This could be accomplished without any material increase of expense; and it seems on many accounts very desirable. The reasons for the change have been so fully detailed in former reports, as not to need, at this time, further explanation.

There might be some useful alterations connected with the administration of the naval branch of the service in the office of the Fourth Auditor, whose duties, though nominally belonging to the Treasury Department, are intimately allied with, and very essential in most of, the operations of the navy. The great amount of property, which is in charge of this department, and which is yearly increasing, seems to require that a regular account of it should be opened in that office, and kept in such manner as to insure safety and responsibility. In another particular, improvement could be made. The old balances on his books, due from defaulters who were once in the naval service, are large; and though few such balances have occurred lately, yet the collection of all of them would doubtless be promoted, if it were devolved upon him, as the person who, from his official station, is best acquainted with the situation of the claims, and the means of payment possessed by the debtors, and who could act with most promptitude in securing the public.

Auxiliary to the central administration of the naval service, the inspection of our ordnance was, a few years since, assigned to an officer of rank residing in this neighborhood, and authorized to receive the usual extra allowances while engaged in actual duty. His employment during the past season has been much extended, having embraced the inspection of all our ordnance and ordnance stores in depot of all the naval stations. The result, it is hoped, may prove highly beneficial in our futuro operations. Under a similar arrangement, the custody and correction, as well as occasionally the purchase of charts, chronometers, compasses, and nautical instruments generally, were devolved on two intelligent officers stationed at this place. The system has worked favorably, and the small increase of expense attending it has been amply repaid in the better preservation and quality of those articles, and in the probable increase of safety to our vessels afloat, and to the lives of their gallant officers and crews. A specific estimate for the purchase and maintenance of a lithographic press is submitted as a means of saving, under charge of these officers, still more to the public in the procurement of charts, circulars, and blank forms, of such kinds as are employed, not only in this office, but at the several yards, and on board vessels in commission. (A.) Its various conveniences and usefulness in other respects, and especially in the drawings and plans connected with the survey of our coast now in progress, are more particularly detailed in the reports annexed. (B. 1 and 2.) To prevent any nominal or real increase of appropriations in consequence of the purchase of this press, it will be seen in the general estimates that a corresponding, or, indeed, a larger reduction has been made in what is asked for the general contingent appropriations for this office, and for the service, and out of which appropriations most of the above articles are now provided.

It was formerly recommended to organize at this place a Naval Medical Bureau, and a bill is now on the files of Congress reported for that purpose. As that bill was not finally disposed of, I did not deem it proper to adopt any different system for attaining, in a different manner, most of the benefits expected to be accomplished by that measure. But if nothing be done during the ensuing session of Congress, regulating this subject, it is intended, under our present laws, that one of the older surgeons, in connexion with other services either at the barracks or navy yard in this city, shall be detailed and employed in performing many of the duties contemplated for a surgeon general.

The whole expenses the past year, for all persons situated here, and belonging to the administration of this department, as well as the expenses for the care and repair of our furniture, buildings, and the grounds appurtenant, were about $48,000. This amount, I trust, will be thought to bear a favorable comparison with the same class of expenses at former periods, or in other similar establishments, when the large increase and extent of duties at this place are duly considered.

Passing from the central administration of this department to that of the persons connected with its operations elsewhere, I would next submit, to your consideration a few remarks on the situation of such of those persons as fill official stations, but are not technically denominated naval officers. They are a large and useful class, belonging to what may be considered our civil list; and consist of agents, storekeepers, constructors, builders, schoolmasters, secretaries to commanders, clerks of yards, engineers, live oak superintendents; and some others attached to stations and hospitals.

In an establishment growing like the navy, in a few years from so small a beginning to its comparatively great size at the close of the late war, and at the present moment, it was perhaps unavoidable that many measures and appointments, considered as incidental to other important objects expressly authorized, should be left to the discretion of the department. In this way, most of the above persons have been employed and paid, usually by virtue of estimates and general appropriations, without any specific provision in any act of Congress regulating the manner of their appointment, or the amount of their compensation. Indeed, a system similar in some respects has been extended to others; as the only limit which now exists to the number of every class of naval officers is the same discretion, restrained solely by estimates and appropriations, and by the confirmation required from the Senate in the case of commissioned officers. These practices have not, in my opinion, been the safest; though the custom of this department to submit to Congress, through the Executive and otherwise, full communications of its doings in relation to most of these subjects, enables the Government to exercise any control deemed necessary over any supposed abuse. My own desire has been, whenever convenient and practicable, to impose still further limits on that discretion. With this view, on a former occasion, the estimates for the contingent appropriations were made by me more specific, and settled rules of allowances and compensation, in most cases, were established or collected, and then digested and published. The revision of our whole naval regulations by the board heretofore appointed for that purpose, will, when finished and adopted, probably introduce greater system and certainty in relation to some of these matters. But it still deserves consideration, whether additional legal provision might not judiciously be made concerning the appointment and wages of some of the classes before named. All the persons on the civil list now under consideration, are believed to have conducted, during the past year, with fidelity to their duties. The only essential changes in relation to them have been the following. There has been a discontinuance of two naval constructors, whose services were no longer needed; and new and more economical arrangements have been made as to the duties of some of our agents and storekeepers abroad.—The few live oak agents, appointed for certain districts, who remained in office last December, have been dispensed with; and no salary is now paying on that account, except to one person, in temporary employ for a few months, in the examination of an unfinished district. In some cases in which we have had warranted officers competent to perform the labors assigned to persons belonging to civil life, and hired at some of the yards, it has been deemed sound economy to order the former upon such duty, and to discontinue the services of the latter.

It has not been found necessary to select a permanent engineer; as the superintendents of the dry docks, and of the erection of the hospitals, have been able for the present to perform such duties as would have been required of him. But the additional schoolmasters authorized at the last session have been employed; and, it is hoped, with increased benefit to the class of younger officers. A general order has recently been issued with a view to improve the education of these officers, by requiring all midshipmen, whether passed or not, after suitable relaxation under leaves of absence, to attend on one of the naval schools for further instruction in the studies, and proficiency in the duties, belonging to their profession. It is intended to employ them not only in appropriate reading, nautical observations, and recitations, but in forming a more practicable acquaintance with the several materials used in the construction and equipment of vessels, and with the manner of preserving them, and of applying them in building and repairs. A due portion of their leisure will also be devoted to the performance of such services connected with our most important naval stations where the schools are established, as will be useful to the public, and at the same time advance them in a more thorough knowledge of the active duties which may soon devolve on them in higher and more responsible situations.

Excepting these variations, the civil establishments at the yards, and abroad, have not been materially altered during the year. It will be seen that the whole expenses of the persons connected with them have been considerably reduced, and are now annually about $130,000. This does not include the wages of ordinary laborers; as these are more properly charged, according to their employment, under other heads, which will hereafter be considered—such, for example, as repairs of vessels, improvements at yards, or building of hospitals.

The only material change proposed in the civil list for the ensuing year, is a small addition to the very low compensation of some of the clerks at a few of the yards,

The remaining persons belonging to the naval establishment are the various officers and seamen of the navy. The general conduct of these the past year has been highly commendable. The very small number of courts martial, it is believed, has arisen from an improving spirit of harmony in the service, and from a mild, but firm and uniform system of discipline. Seldom has the health enjoyed on every station been better; and the superior condition of the medical corps, as well as of the hospitals, exercises on this subject a very salutary influence.

The number of officers in the different classes has generally been kept within the estimates. It is proposed to continue the number much as it now exists. There are now quite as many captains and surgeons as can be usefully employed; the former having been increased about 1-3d, and the latter 1-4th, during the last ten years. There are somewhat more lieutenants and midshipmen than might be deemed indispensable; the former within that time having been increased about one half, and the latter one-fourth: though, in making this comparison, it is proper to state that, previous to 1824, all these classes had occasionally been more numerous than they were at that period. But, in relation to the two last classes, no reduction from the estimates of last year is contemplated. It is considered that, on a peace establishment, they ought to possess ample and valuable materials for any sudden or large increase of the higher classes, which any national emergency may at any time require; whilst nothing is found to prove more injurious to older officers than to be placed in a condition where no further incentives to improvement, by anticipated promotion, exist, and where the classes they already fill contain so large a number as to permit many years to elapse without the possibility of putting them all on active duty, unless at the expense, inconvenience, and injury, of more frequent changes of the superior officers in stations and squadrons, than the public interests appear to justify.

The whole number of naval officers at this time including those under warrants as well as commissions, is about one thousand; and our whole annual expenses, of every kind, for their maintenance, is about $850,000, or an average about $850 for each officer. These expenses have not been increased during the last ten years, except what has been caused by the addition before mentioned to the numbers of some classes of officers, and the augmentation in pay in 1827 to passed midshipmen, in 1828 to surgeons and their assistants, and in 1830 to lieutenants. In the mean time, of late years, more useless officers have been placed on half pay, and some large

allowances reduced. But no further essential reductions in these particulars can, in my opinion, be effected without injury either to individual officers, or to the naval service. Whatever has been accomplished by myself on this subject, and on the requirement of a more equal portion of laborious duty from all officers of similar rank and date who were not invalids, has often caused to me much pain; but it has been prompted by a strong sense of the equal justice due to the officers themselves, and of the manifest propriety in this department of seeing that all those under its administration perform services for the public, when practicable, in some degree proportionate to the compensation they receive.

It is hoped that I may not be deemed importunate, if, once more urging on your attention a topic far more grateful to my feelings. I have long entertained a decided opinion that the compensation to some classes of officers ought to be increased. It is certain that more equal justice would be awarded to all. that services at sea could more easily be obtained, that greater cheerfulness and alacrity in the performance of duty would be evinced, and a higher grade of qualifications in some subordinate stations could be commanded, if the whole subject of pay was revised, and the compensation graduated in a fairer proportion among different ranks in the navy, and to similar ranks in the army; and if there was provision made for a larger and marked discrimination between duty afloat and leave of absence, or waiting orders, on shore. Such a discrimination formed a prominent feature in the act of Congress passed April 21st, 1806, and which regulates pay as now established. But that discrimination, amounting to one half of the whole pay, was virtually abolished by a rule of this department in 1819. During the continuance of the small compensation to some classes of officers, and after so long a practice under that rule, with the yearly sanction of Congress by means of the estimates and corresponding appropriations in conformity to the rule, I have not felt at liberty to alter it. Further details on this subject at this time are not deemed necessary, as they have fully and recently been laid before you in a special report from this department on a resolution of the Senate passed at the last session of Congress.

The whole number of seamen in the Navy, including all the different grades, does not vary much from five thousand; and the annual expenses of their pay, rations, and enlistment, are not far from $1,130.000, or, on an average, about $226 for each seaman. These expenses are small, and indicate great popularity in the service when we advert not only to our facility in obtaining good seamen, but to the high rate of wages the past year in merchant vessels, and to the great cost of this class of persons in the navies of some countries, where labor is generally much lower than in the United States. These expenses have not been increased the last ten years, except by an augmentation of about one-third in the whole number of seamen, arising chiefly from an increase of our force in commission. The complement of men to each vessel might advantageously in some respects be lessened, and the whole expenses on account of them be thus reduced, were it not considered of vital importance in so small a navy to have all our ships afloat as perfect as possible in every particular conducive to their efficiency, and to the reputation of the Government. It is expected that a laudable pride will then be felt and encouraged by all connected with the service, on a comparison of the condition of our own ships with those of other nations, and that the moral force of our navy—as a model for a larger one when wanted—as likely to vindicate its country's rights and honor in war, and protect its commerce in peace—will always be much greater with a small number of vessels afloat, built of the best materials and in the best manner, supplied with the most approved equipments, commanded by well educated and well disciplined officers, and navigated by full crews of hardy and contented seamen, with the whole ready on any emergency for immediate and efficient action—than with double the number of vessels half manned, and in other respects defectively provided. Every improvement in our materials, whether timber, cordage, or cannon—in our yards, docks, or harbors—in our hospitals or asylums—will add strength to this moral force, and better prepare us for any future conflict in which the violence or injustice of other nations may involve us.

In connexion with this part of the service, it is deemed proper to present some remarks concerning the condition of the Marine Corps. The subject of its allowances, in addition to pay, was not specially noticed by Congress the last year; though, in that way, it has of late been customary to regulate them. But, under a belief that the omission probably arose from accident, I have not interfered to revise the difficulties which have so long existed under that head. It will, however, be considered my duty, the ensuing year, to investigate, and attempt to adjust them, if not otherwise provided for. The commutation of the whiskey part of the ration, while the marines are at sea, has been extended to this corps; and the army regulation, entirely abolishing that part, has been applied to their rations on shore.

The whole expenses of the corps, independent of the erection of barracks and officers' quarters, are yearly about $190,000. The expenditures for such erections, on an average for the last ten years, have been about $5,000, annually. The quarters authorized at Philadelphia have been completed; but the comfort and proper accommodation of the men require new barracks at New York. The estimates for this purpose, and for the support of this corps, are herewith submitted. (C, 1 & 2.)

The examination of the state of the pensioners upon the Navy Pension Fund, as those enjoying its privileges, have been, or now are, in the service, or were connected with those once in it, may also be deemed to come properly under the head of persons attached to the navy. Though the annual expenditures from that fund are about $33,000, yet the fund itself did not spring from the public Treasury, except as derived from prizes captured by our public vessels. It was not till lately that its disbursements were classed with the navy expenditures; and now the only yearly expense this fund and its administration here impose on the Treasury, is the portion of time they occupy of the head of this department, and of one clerk. Its annual income now exceeds the annual expenses about $20,000, and during the past year, rules have been prepared, and the benefits of this surplus extended, as originally contemplated by the act of Congress creating the fund, so as to embrace those officers and seamen who, without being wounded, have, during long and faithful services, been visited by infirmities entitling them to relief. Five persons, coming under this description, have been added to the pension list, and are allowed suitable clothing, food, and medical attendance. The number of pensioners under this and the other provisions, is 298.

The condition of the privateer pensioners, placed under the exclusive administration of this department, has not essentially changed during the year. The fund for their relief, like that for navy pensioners, does not come from the public Treasury, and its management is no charge upon that Treasury, except in the particulars before mentioned. As the whole of this fund was derived from captures by privateers, it has been deemed expedient to exhaust it in the support of those disabled, and of proper persons connected with those, whose bravery and enterprise made the captures. It has therefore become gradually reduced to $44,667. The annual charge on it at this time is about $3,000, exceeding considerably the annual income, and thus, in due time, carrying into effect the original policy of the system For further particulars about these two funds reference can be had to the annexed statement. (D, 1 to 5.)

On a review of the entire personal branch of our naval establishment, it will be seen that its annual cost, not including the marine corps, is about $2,000,000; and, of that sum, about $1,964,000 is an annual charge on the public Treasury. Considering the size and usefulness of the whole naval establishment, it is believed that this part of it, at the present time, bears a judicious and economical proportion to the whole, except in the particulars heretofore enumerated. Should improvements be made in those particulars, I am satisfied that the number and compensation of the persons employed, both on the civil list and in the navy, will be found to be such as to ensure the due care and preservation of the public property, to furnish officers and men sufficient for the present protection of our commerce and rights abroad, and to maintain among all classes a state of discipline and activity indispensable to efficiency in the discharge of ordinary duties, and to a supply of suitable candidates for promotion in the extraordinary exigencies of the future.

The deaths, dismissions, and resignations, in the service since my last report, may be seen in the tables annexed. (E. F. G.)

When we advert to the other subjects connected with the navy, and more especially to what may be considered as belonging to its materials, it is deemed proper to notice first the employment and condition of our public vessels. Those in commission have consisted of one ship of the line, four frigates, eleven sloops, and seven schooners. They have been distributed, as usual, on four foreign stations, keeping up a greater intercourse than formerly with the western coasts of Portugal and Africa, and with the adjacent islands, extending our cruises into various parts of the Indian ocean, and making the West India squadron act somewhat as a home squadron, by requiring a portion of it to visit twice annually some of our Atlantic ports. By properly regulating these visits, much exposure in the two most dangerous months in a tropical climate is avoided, and great facilities are obtained to furnish necessary supplies, to relieve parts of their crews and exchange officers, as well as to have nearer at hand, during those visits, vessels in commission, which, if any emergency should occur, may be despatched at once on any distant or important service. Efforts have been made to relieve seasonably all our vessels which have been more than two years abroad. The Fairfield and Vincennes have been sent to the Pacific to succeed the Potomac and Falmouth; the Natchez and Ontario, to the Brazilian station in place of the Lexington and Warren; the Experiment to the West Indies in place of the Shark; and the Shark and Delaware to the Mediterranean in place of the Concord, Boston, John Adams, and Brandywine, In making these changes so early as to prevent the expiration abroad of the service of our seamen, much discontent has been avoided, though this system has necessarily subjected the department to some additional expense, by having occasionally, for short periods, double sets of vessels afloat attached to the same station. But it has enabled us to perform our engagements faithfully with their crews, and to keep up a more regular and constant force on each station for protection. At the same time, caution has been taken to guard against an increase of our whole expenditures for the current year beyond the appropriations connected with this subject.

All those squadrons have been actively and efficiently employed; and it gives me great satisfaction to state, that our commerce in all quarters of the globe was probably never known to be more free from menaces, danger, or actual violence.

The estimates for the ensuing year are for the same amount of force as was authorized the past year, consisting of about 530 guns, and distributed in such a proportion among vessels of every class belonging to our service, as to combine the greatest efficiency for naval purposes during peace, with the soundest economy. Few will deem that force either too large or extravagant, when it is considered that our foreign commerce, exposed on the ocean, exceeds one hundred millions in imports, and almost an equal amount of exports, with vessels exposed in their transportation of over half a million in tonnage, and probably twenty millions in value; and when it is remembered how much the security, not only of those vessels and their cargoes, but of their numerous crews, and of other classes of our citizens resident in some countries abroad, depends on our navy being actively and widely distributed. On this point it may be well to reflect further, how safely that navy enables us not only to send to new and the most distant markets, and thus to give increased value to the surplus proceeds of our agriculture, manufactories, and fisheries, and to obtain in return whatever may conduce to comfort, improvement or wealth, but what protection and enhanced worth it confers on most of our immense coasting trade; how much our national reputation abroad is everywhere known and appreciated by it; the respect it inspires, the security it yields, and tho weight it affords in all our claims of justice, and negotiations with semi-barbarous nations; and how justly it may be apprehended that new perils will, ere long, await a portion of our trade, and the tranquillity of a part of our maritime frontier, from the operations of a new course of legislation by some foreign powers concerning an unfortunate portion of their population; and against which perils, as well as against the ordinary aggressions and piracies in peace, and much of the depredations which may threaten us in war, the navy, from the insular situation of our country as to most of the world, must always be regarded as our great safeguard.

The facilities for examining and repairing of our vessels have been much increased the past year by the completion, in most respects, of the two dry docks, and the expenses in refitting the classes of larger vessels will thereby become sensibly reduced.

The present policy of this department is to launch no more vessels of the same size with those in ordinary, until the latter are worn out. But it is proposed to build from time to time, and protect on the stocks till wanted, such new vessels as Congress may authorize to be constructed; because, in that condition, their timber will improve rather than decay, and the expense of taking care of them will be trifling compared with that of vessels in ordinary. This course has been adopted the past year with the Macedonian, now building. It is recommended, as

sound policy, that authority should be given to procure the frame for another sloop, to be called the Levant, after the consort so gallantly captured with the Cyane; and the frame for another frigate, to be called the Paul Jones, in grateful memory of one of the earliest, bravest, and most distinguished commanders in our naval service during the revolution. The estimates for the purchase of these are submitted. (H.) Frames could not be bought for vessels of these names under any existing laws; and the timber, if procured and seasoned, whether soon set up or not, would become more valuable, being sheltered under either our present excellent sheds or ship-houses, and live oak, probably becoming scarcer and dearer as our southern frontier is cleared for cultivation.

The vessels in ordinary and on the stocks, as well as the frames for others in depôt, have all been examined, and found to be in a good state of preservation, except a few of those in ordinary. Some of them are defective by their long continuance afloat before being covered, some by their great age, and some by the original imperfection of their timber. Those unworthy of being refitted are used at times for receiving ships; and the rest, as wanted, are placed in proper state to go into commission for the relief of other vessels returning from long cruises, and needing extensive repairs. As vessels afloat grow older, their repairs must of necessity become more expensive. The cost of all repairs of all our vessels the past year has been about $580,000. During the last ten years, the repairs have been, on an average, about $500,000 annually

A table showing the vessels in commission, with their commanders and stations, is submitted. (1.) The names and condition of those in ordinary and on the stocks, may be seen in the documents annexed (K, 1 and 2). Proceeding from the vessels to the materials used in their construction and equipment, not much has occurred the past year deserving notice. Some additions of valuable and durable articles have been made to our various stores on hand at the time of my last annual report. All these stores, and especially the timber in the docks and under sheds, are in good condition; and means have been taken to ascertain and supply any deficiency, in any article not perishable, which may be wanted for the building and perfect equipment of every vessel on the stocks, and every frame in depôt. As more timber may be needed, or thought proper to be purchased in advance, our means for the supply of live oak, it being the most important species, have been fully investigated and discussed in a special report to Congress from this department during the last session. Referring to that for detailed information on this point, I would only add, that subsequent examinations in some of the then unfinished districts have fully confirmed the impressions entertained concerning the great quantity of live oak timber on portions of the public lands in those districts. In respect to the other kinds of timber needed in ship building, the Government has made little public provision; and doubts exist whether it will be necessary to make any further public provision for its growth or preservation while the prices continue so moderate, and the resources of the country in such timber are likely, for many years, to remain so very abundant.

The erection of two new magazines, where none before existed, is proposed the next season; and an estimate for that purpose is submitted. (L.) Connected with this, a thorough inspection has been made not only of our present ordnance stores, but, as previously mentioned, of all our arms on hand, with a view to the sale of such as is defective or unsuitable, and to the procurement of what may be found necessary to produce uniformity, and the greatest power, in our future armaments. The usual sum of about $10,000 has been expended for the purchase of such ordnance and ordnance stores as the current wants of the service required. The buying and manufacture of iron tanks for all our vessels in commission are in rapid progress under the late appropriation for that purpose; and should Congress sanction the making of our own cordage as heretofore asked, and as now again proposed in the general estimates, the equipment of our vessels would soon become, throughout, all which the friends of the service could desire, for health, safety, efficiency, and national reputation.

After much deliberation, the department has become convinced that the building or purchase of two store-ships for the Pacific station, to be used in the transportation and the preservation there of supplies of all kinds, would promote sound economy, and increase the comforts of our seamen. An estimate for the procurement of one the ensuing year is submitted. (M.) We are obliged to pay freight for these supplies, heavy duties either on their being landed or re-shipped, and large rent for store-houses. The duties are a burden from which we are almost entirely exonerated under similar circumstances in other quarters of the world. The proposed measure would relieve us from them as well as the other charges; and the store-ships, by going out and returning separately and alternately, would afford great facilities to exchange or bring home invalid officers and seamen, without incurring the expense of their passages in merchant vessels from so distant a station.

The construction of two or three small steam batteries, for reasons heretofore recommended, is still deemed highly important to our future interests; and too long delay in making further experiments, and in acquiring further science on this subject in our naval service, may, on the sudden occurrence of hostilities, place us in a position not a little mortifying to our pride, and hazardous to our welfare.

The different navy yards are essential portions of our naval establishment, connected with its materials. The condition of most of them has been improved the past year either by new buildings for officers' quarters, or new store-houses and timber sheds, or new wharves and other conveniences

The two dry docks at the yards near Norfolk and Boston, having been successfully completed in all essential particulars, the details on that subject will be found in the report annexed, (N, 1, 2, and 3.) This report shows the whole expenditures the last year not only on that subject, but on all others, under the head of gradual improvement. From the great advantages already realized in the ease and rapidity of repairs in vessels at the yards where these dry docks are situated, I am satisfied that others would be found very beneficial. Surveys were formerly had for two more—one at New-York, and one at Portsmouth—and a report in favor of those two was once made and approved in the House of Representatives. Much can be urged in favor of the former place on account of its central position, and great resources for repairs, stores, seamen, and workmen; and of the latter place, on account of the low price of labor, small cost of constructing a dock, and the easy access to it by vessels of all classes at all seasons of the year. But whether one or both, or neither, shall be selected at this time, is submitted to the proper authorities on a review of the whole subject. It must be obvious that the relative importance of different stations must undergo changes, as the capacities of different quarters of the country becomes more fully developed; and that some places, now employed as naval depôts, can be of very little use on the occurrence of war, while the position of others, when that event may happen, will greatly increase their usefulness.

Among the new places which, on such occasion, if not earlier, the interests of the country may require the Government to occupy for naval purposes, will undoubtedly be Newport harbor on the north, and one or more positions on the long range of coast to the South between Norfolk and Pensacola. Whether the last selection should be made near Charleston or Savannah, at Key West or the Dry Tortugas—each of which possesses advantages for such purposes—can be better decided when the time and circumstances occur rendering immediate action necessary.

The continuance of Pensacola as a naval station seems to me judicious. This opinion arises not only from its convenient position as to the whole Gulf of Mexico, but its proximity to the mouths of the Mississippi, and Mobile rivers, whose great and growing commerce is so amply entitled to the best protection. In the depth and size of its bay, in the excellent defences of its mouth, in its healthy situation, in its easy access to all our vessels, except of the two highest classes, Pensacola has no prominent rival in that neighborhood. The correspondence and documents annexed (O, 1 and 2) are submitted to aid yourself and Congress to judge of the practicability and propriety of deepening the entrance of the bay, so as to admit vessels of the largest class. This, it is supposed, can be effected at a small expense, compared with the importance of such a measure to the full operations of our navy on that coast, and to the greater security and strength of our southern maritime defences.

The exchange of lands at the yard near New York, authorized at the last session of Congress, has been carried into effect. The controverted claim of the heirs of Mr. Harris to a part of the navy yard near Boston, has once been laid before Congress; and a new action having been instituted by them against the commander of that station, as will be seen by the letter annexed, such course will be pursued in its defence as Congress may be pleased to direct. (P.)

Some new pretensions have been set up to different parcels of land included in our possession and purchases at Norfolk; but their justice cannot be recognized on the facts known to the department, and those making them have been informed that no steps can be taken for their adjustment, unless, the parties previously obtain the sanction of Congress, or a judgment in their favor by the courts of law.

The expenditures on all the yards the last year, exclusive of the dry docks, but including houses, sheds, stores, wharves, enclosures, workshops, marine barracks, and incidental labor, have been about $360,000. The expenditures on the dry docks are chargeable to a distinct appropriation for gradual improvement, and were about $180,000. The other expenditures under the last head were about one hundred and fifty thousand dollars. (N, 1.) The estimates for the usual objects at the yards the ensuing year are about the average amount for the last two years. Besides those objects, they include an extra sum towards the erection of rope-walks, in conformity with the plan adopted by Congress in 1827; and yet the whole amount requested towards these and all other improvements, at all the yards, is only $354,000.

Immediately connected with the subject of our yards, is that of our naval hospitals, and naval asylum. Under the appropriations lately made by Congress, new hospitals have been commenced near Pensacola, New York, and Boston, on retired and healthy sites, combining great convenience and beauty. The plans of these have been formed on a scale suited only to the present wants of the service, but capable of easy and appropriate enlargement hereafter, whenever our necessities may require it. An additional sum will be needed to finish them in the manner proposed, and to make further progress in the hospital before built at Norfolk. (Q)

Such expenditures have been made the past year on the latter, from the general hospital fund, as could well be spared, and as the comforts of its inmates seemed most urgently to demand. This is much larger than our present necessities require; and, therefore, it is not proposed to finish the whole interior of it. But the exterior of this hospital is now chiefly completed, and it has become one of the most beautiful and useful public buildings belonging to the Government. The naval asylum at Philadelphia has been finished and partly furnished; but it is much regretted that the department has not been able to obtain a cession of jurisdiction over it, without reservations that render the cession wholly nugatory. Besides retaining the usual power in the State to execute criminal and civil process, the reservations subject it to, and it is actually burthened by, the assessment of large taxes which are paid from the hard earnings of our seamen, and an unlimited right is retained to cut up the property by new streets.—Further efforts are now making by the department to obtain relief from these onerous taxes and liabilities, so disadvantageous, if not fatal, to the success of this public and charitable institution. Should these efforts fail, all the correspondence and documents in the case will be submitted, in order that such legislation may be had as the whole circumstances connected with the subject shall be thought to require. The general condition of the hospital fund may be seen in the statement before referred to. (D. 6.)

The ordinary purchases of medicines and surgical instruments for use in hospitals and yards, and in vessels afloat, are included under a specific appropriation, and are about $35,000 yearly. The pay and subsistence of the surgeons and assistant surgeons attached to the hospitals are provided for under the general appropriation for navy officers. The other annual expenses of our hospital establishment, independent of buildings, furniture, and repairs, are about $1,000. These are defrayed wholly from assessments on the seamen and officers. From the same quarter come all other resources for the establishment, with the exception of such appropriations as Congress have made from time to time to aid in erecting and furnishing buildings. These last appropriations have been made but seldom, and have, within ten years, amounted to a sum which would be, on an average, about $22,150 annually; and for the same purposes, during that period, the fund has furnished, from its annual increase and former accumulations, about forty two thousand annually. Should Congress grant what is now asked, more will probably not be wanted for many years. In immediate connexion with the yards

hospitals, and other real estate belonging to our naval establishment, is the live oak plantation. Being situated only seven miles from our most southern yard, it has the past year been placed under the same general superintendence. The purchase of he land, and the cutting and removal of the underwood and common timber for about 200 acres of the plantation had been accomplished before the charge of this department was placed in my hands. It seemed to me judicious in that state of things to attempt to preserve any benefits already attained, or fairly anticipated, by continuing to destroy a few years longer the annual growth of other wood injurious to the young live oak trees, to trim and train the thriftiest new ones appearing, and to employ merely the leisure of the hands so engaged in extending this process to more of the land. From 200 acres of land, and 22,000 live oak trees to which, in 1829, the above system had been applied, it has, since 1831, been so continued and extended, that the nursery has become enlarged to 225 acres, and includes over 60,000 trees. The expense attending this has been about $1,200 a year: but should any considerable portion of the trees ever reach maturity, and attain a size suitable for ship building, the Government will be amply repaid. As the trees grew larger, the annual expense concerning the same number will rapidly diminish. Doubts exist whether some of them, from the poverty of the soil, and their apparently dwarfish character, will ever attain a valuable size. But it is now too early for forming a decisive opinion on the extent to which the operation of these causes may affect the whole plantation, and, under existing circumstances, sound policy appears to require that the experiment, having gone so far, should be allowed a further and full trial. The nearness of the plantation to the Pensacola yard and to water transportation, enhances much the value of any timber it may produce. Lately, I have not only placed this land under the general superintendence of the commander of that yard, but required his particular and constant vigilance over the live oak reservations in all that region of country. The whole agencies heretofore connected with our live oak, have, as before suggested, been discontinued; all the districts, except small portions of two, having been explored as fully as is deemed useful till the surveys of the land into townships and sections shall be completed. As fast as they may be completed, arrangements have been made for additional reservations of public land on which live oak has been ascertained to abound, and the prospect of a sufficient supply of that kind of timber in future is flattering, if that on private lands, as these are wanted to be cleared for cultivation, be from time to time purchased at moderate prices, and placed in depôt for the frames of vessels specially authorized or collected under the head of gradual improvement. On the whole subject I have so recently, and at such length, submitted to Congress the views of this department, that further observations here are not deemed necessary. (See report on live oak to House of Representatives, December 14, 1832.)

Some miscellaneous matters connected with the navy deserve a brief notice. The usual attention has been bestowed on the suppression of the slave trade. The colony of Liberia has been visited by the schooner Porpoise while in pursuit of a piratical vessel, and which vessel, it is gratifying to add, is supposed to have been since captured by a British brig, and her criminal career terminated near the island of St. Thomas, on the coast of Africa. One half of the usual appropriation on the subject of the slave trade will probably be sufficient for the ensuing year, as may be seen by the state of the account herewith submitted. (R)

The renewal of an appropriation for the relief of Alexander Claxton, made in May, 1830, has become necessary, in consequence of its having been transferred to the surplus fund before all the persons entitled to it were able to procure the necessary vouchers.

The proceedings of the board appointed, under a resolution of Congress, to revise the naval regulations, will be soon remitted in a separate report.

The survey of our sea coast having been placed in charge of the Treasury Department, it is not in my power, officially, to state its progress; but officers have been detailed, and all available facilities provided, whenever the wishes of those superintending the subject have been communicated.

Some expenses, under the contingent appropriation for enumerated objects, have not been included under any of the amounts already mentioned, but they belong to courts martial, to pilotage of vessels, to transportation of materials, to the purchase of charts and books, and various other small items, forming an aggregate of about $80,000.

On a review of the whole affairs of this department it appears that its expenditures on all naval subjects, the past year, have been somewhat less than four millions of dollars. It will be seen how this result compares with former periods, by adverting to the fact that, during the last twenty years, these expenditures, except during five years of that time, have never fallen so low as three millions; and, except during six years of that time, have never exceeded four millions.

The whole estimates made the past year, for the general wants of what is technically considered the navy, were only $3,176,766. Those for the year previous were $3,227,383. Those for the present year are $3,292,224, (8, 1 to 8.) But it is to be remembered that, under the head of naval expenditures, besides what is paid from the amount voted on the annual naval estimates, it is customary to class what is paid from half a million appropiated for a term of years to gradual improvement almost $200 000 for the marine corps; the payments from the navy pension, hospital, and privateer pension funds, and several miscellaneous sums voted by Congress on motions, resolutions, and petitions; and part of which sums, though charged under this head, have little or no concern with our naval establishment. On the contrary, some of the expenses connected with the administration of the department, at this place, are included in the general appropriation bills for the support of Government, and are not usually classed under the head of naval expenditures.

It is a high gratification to be able to state that, since 1827, nearly half a million a year has been disbursed for gradual improvement; that within ten years a larger number than formerly of seamen and officers, with increased pay to four classes of the latter, have been maintained; very great and valuable improvements, besides the dry docks, have been begun and accomplished at many of the yards, and our force in commission considerably augmented; and yet that all our ordinary naval expenditures are, and probably can be kept, within four million of dollars annually.

The smaller appropriations originally made for the navy served to maintain the few officers and seamen then employed, and supplied us with several fine vessels, four of which are still in existence. The subsequent appropriations on a more extended scale, besides supporting the current expenses of our force in its infancy, furnished the purchase money for most of our present yards, and defrayed the expenses of brilliant hostilities with France, and afterwards with Tripoli; till a few years of comparative inactivity having ensued, the commencement and progress of the last war with England led to a great addition to the naval establishment, and to expenditures much larger than at present. The liberal appropriations that were continued for some years after that war, aided in laying a good foundation for the gradual increase of the navy, and helped to build not only many of the vessels now in commission and ordinary, but most of those upon the stocks. The appropriations for some years past have been similar in amount, and have enabled the department to enlarge its policy, and widen the sphere of its operations.—Besides building some additional vessels, and defraying all the current expenses of an increased force both personal and material, it has been able to erect hospitals to construct dry docks, to improve, greatly, the old yards, to add and maintains a new one on our southern frontier, and to collect in depot a large amount of valuable stores as a part of the due preparation in peace for the various contingencies of war. With a careful regard to system and economy, and with strict accountability in agents and officers, this policy can long be pursued and extended without making the ordinary annual demands for this branch of the service often exceed four millions; and if, without essential changes by Congress, increasing our present expenses, and without any unforeseen and extraordinary wants, our fiscal operations can usually be confined within that amount yearly, it is confidently hoped the naval establishment will not be considered wasteful or burdensome beyond its benefits to the country.

In disbursing between three and four millions the past year, it is not known that a single instance of any loss has occurred.

The balances on hand, unexpended, are about $1,000,000; but most of them will probably be wanted to close the different accounts, on all the different subjects, when finally adjusted.

Connected with our financial concerns, is one other circumstance of urgent importance. The period of time at which the annual appropriations for this branch of the service are usually made, is a source of great inconvenience and injury.

The estimates and appropriations are known generally not to extend beyond the current year. Consequently, it happens that, after the 1st of January, there is nothing on hand under some heads to meet the daily demands of the service, amounting, on an average, to $10.000 per day, unless a new appropriation has been made, or there happen to be some balances of the former year not called for. Under some heads, such balances always exist, because some disbursements, by means of absence, distance, and other causes, are not completed within the year. But they seldom exist under other important heads; and ought not to, if the accounts are seasonably settled, and the estimates were accurate, and the appropriations, as is usual, conformed to the estimates. The power now vested in the President to transfer a balance from one portion to another, is confined to certain classes of claims small in amount; as to all others, no transfer can legally be made, and if no balance remain at the end of the year, and the new naval appropriation bills have not passed, payment is entirely stopped, or the whole operations of this department dependant on them are suspended. Considering how large a part of these operations, and of our expenditures, necessarily takes place in distant quarters of the world, it will be seen that the embarrassment in this branch of the service must often be peculiar and aggravated. In the case of bills of exchange drawn abroad, chargeable to appropriations already exhausted, the public faith, under the above circumstances, is sometimes in danger of being violated; our credit in foreign countries becomes injured: and the Treasury, as actually happened during the last winter, is exposed to large losses if the holders choose to resort to protests and claims for the mercantile rate of damages.

Under the present system of passing so late the naval appropriation bills, it happens that, unless money voted under one head is, without authority, as was once the practice, applied under other heads, this unfortunate condition continues every short session of Congress about two months, and every long session about four months. It can easily be remedied by two methods: One of them is, to make, previous to the 1st of January, new appropriations for a quarter or half of the year towards all permanent objects. By limiting them to such a time, and to such objects, and by taking the estimates of the former year as a guide, no inconvenience will interpose, and no error can occur which may not be readily corrected when the residue of the appropriations for the whole year is voted at a later period in the session. Another mode is, to authorize the President to make necessary transfers from one head to another in all cases where the new naval appropriation bill do not pass by the commencement of the year, and to require from him a report to Congress of the amount and causes of such transfers. If the authority be thus restricted, it is difficult to discover any danger likely to result from its exercise; and it is believed that the surplus of balances on hand under some of the appropriations would usualy prove sufficient to supply the wants under others. The detail and earnestness with which legislation on this subject is now urged, must find their excuse in my strong conviction that no measure whatever, requiring like this no increased expenditures could be more conducive to the reputation and efficient operations of our naval establishment.

Thus, sir, under an examination of its central administration, of its personal, or civil and navy list, of its materials, with its appurtenants thereto, and of its miscellaneous concerns, I have submitted a review of all its transactions and expenditures during the past year that possess any great degree of importance. This has been accompanied by suggestions for such improvements as observation and reflection have convinced me might be useful; and should they meet with the approbation of yourself and Congress, I look forward with confidence to a long continuance of prosperity in the affairs connected with this department.

With great respect, yours, &c.,

LEVI WOODBURY.

REPORT OF THE POSTMASTER GENERAL.

GENERAL POST OFFICE DEPARTMENT,
November 30, 1833.

To the President of the United States:

SIR: When, in 1829, the functions of this Department devolved upon me, the annual transportation of the mail amounted to $13,700,000. The contracts then in existence, with the other expenses of the Department, had, within the year ending the 30th June, 1829, diminished its surplus revenue $101,256 03, and those contracts were still in force from one to four years in prospect.

The surplus available revenue had been reduced to the nominal amount of - - $230,849 07

But it has subsequently been ascertained, that there had been expenses incurred for transportation performed prior to the 1st of July, 1829, which were not embraced in that account, to the amount of - - - - - $64,248 76

Which reduced the real surplus to $166,600 31

The annual transportation of the mail was, on the 1st July, 1833, 26,854,485 miles.

The annual amount of the transportation of the mail in stages and steamboats, on the 1st of July, 1829, was 6,507,818 miles.

The annual amount of the transportation of the mail in stages and steamboats, on the 1st of July, 1833, was 18,322,576 miles.

The expense of transporting the mail for the year ending 30th June, 1829, was $1,153,646 21.

The expense of transporting the mail for the year ending 30th June 1833, was $1,894,688 08.

The gross amount of postages, constituting the revenues of the Department, was, for the year ending 30th June, 1829, $1,707,418 42.

The gross amount of postages for the year ending 30th June, 1833, was $2,616,538 27.

The incidental expenses of the Department for the year ending 30th June, 1829, amounted to $69,249 08.

The incidental expenses of the Department for the year ending 30th June, 1833, amounted to $87,701 61.

The number of post offices in the United States on the 1st of July, 1829, was 8,004.

On the 1st of July, 1832, the number of post offices in the United States was 10,127.

The increase of the annual transportation of the mail within the four years ending on the 30th June, 1833, is 13,154,485 miles, nearly equal to the whole amount of transportation in 1829.

The increase of the annual amount of postages within the same period, is $909,119 85, and the whole amount is more than the double of what it was in 1825.

The average expense of transporting the mail in 1829, was eight cents and four-tenths of a cent per mile.

The average expense of transporting the mail in 1833, is seven cents and fifty-seven hundredths of a cent per mile; making a difference in the rate per mile, of eighty-three-hundredths of a cent, equal, for the whole service, to $232,892 22 per year loss, in proportion to the service performed, than the expense of transportation in 1829, besides a great increase in expedition between the principal commercial cities, and a much greater proportion of the whole performed in stages.

After carrying into effect the law of the last Congress establishing new mail routes, the present length of mail roads in the United States, amounts to 119,916 miles, viz:

	Miles.		Miles.
In Maine,	3,824	In Florida,	1,131
N. Hampshire,	2,460	Alabama,	4,433
Vermont,	2,531	Mississippi,	2,462
Massachusetts,	4,845	Louisiana,	1,462
Rhode Island,	491	Arkansas,	2,309
Connecticut,	2,701	Tennessee,	6,761
New York,	13,256	Kentucky,	5,993
New Jersey,	1,961	Ohio,	8,977
Pennsylvania,	11,010	Michigan,	1,495
Delaware,	494	Indiana,	5,361
Maryland,	3,102	Illinois,	4,459
Virginia,	10,588	Missouri,	2,170
N. Carolina,	6,850		
S. Carolina,	4,516	Making together	119,916
Georgia,	5,274		

Over these roads, the annnual transportation of the mail on the first of July last, was,

	In stages.	In steamboats.	On horseback and in sulkies.	Total.
	Miles.	Miles.	Miles.	Miles.
In Maine	708,184	2,328	267,010	978,522
New Hampshire	622,238		111,854	734,092
Vermont	634,666		106,260	740,926
Massachusetts	1,573,610	23,712	150,037	1,737,389
Rhode Island	117,988		16,192	134,680
Connecticut	598,987	17,376	175,608	791,971
New York	3,053,558	153,339	854,937	4,063,834
New Jersey	548,339		100,840	619,170
Pennsylvania	2,414,800		762,873	3,177,674
Delaware	92,674		17,264	109,938
Maryland	585,792	58,380	161,588	805,760
Virginia	1,277,846	88,500	778,906	2,145,252
North Carolina	829,415	15,288	427,076	1,271,779
South Carolina	658,524		275,548	934,072
Georgia	368,012		498,626	866,638
Florida	47,112	41, 00	86,612	175,324
Alabama	429,978	96,360	353,652	879,990
Mississippi	78,002		282,756	360,758
Louisiana	48,516	15,704	156,676	220,896
Arkansas			231,556	231,556
Tennessee	513,453		502,320	1,015,773
Kentucky	628,072	45,000	540,240	1,213,312
Ohio	1,216,801	47,150	618,190	1,882,141
Michigan	144,952		89,512	234,464
Indiana	196,268	21,000	487,814	705,082
Illinois	236,522		293,278	529,800
Missouri	79,508		184,184	263,692
Total	17,693,839	628,737	8,531,909	26,854,485

The increase of transportation from the 1st July, 1832, to the 1st July, 1833, has been,

In stages,	1,471,096	miles.
In steamboats,	129,436	"
On horseback and in sulkies,	1,628,932	"
Making together,	3,229,464	"

The method in which the accounts of the expenses of transporting the mail have always been kept in this department, has led to a misapprehension of the means of extending improvements in mail facilities. It appears, from the earliest records of the department, to have been a rule not to enter to the credit of a contractor, nor to charge to the account of transportation, the expense of carrying the mail on his route, till after he had signed his contract and bond, and returned them to the department with proper security, though the service may have been regularly performed, and, in many instances, the moneys actually paid. It has sometimes happened that contracts of the greatest magnitude have, from various causes, remained for more than a year unreturned. In such cases, though the expenses have been incurred, they do not appear in the transportation account, and though the moneys have been paid to the contractors, they stand on the books as balances to that amount due from them to the department, constituting a part of its surplus fund; when, in fact, they constitute a part of the actual expense incurred for the transportation of the mail. The consequence has been, that the expenses for transporting the mail within any given period of time, as shown in the accounts, and reported annually through the Executive, have been always calculated to exhibit an amount considerably less than what has actually been incurred. This is an imperfection not of recent origin, but one which appears to have been co-existent with the department. When the number of contracts was few, and the surplus revenue bore a large ratio to its whole annual amount, the effect was unimportant; but in the increased number of mail routes, and the diminution of its surplus revenue, it was calculated to produce serious inconvenience. From the statements growing out of this system, thus illusory in their results, together with the great expense of carrying into effect the law of the last Congress establishing new mail routes, and a disposition to gratify the wishes of the public in the improvement of mail facilities, I was led to carry those improvements to an extent which it was found the resources of the department would not well sustain. When the inconvenience was felt, the cause was carefully investigated, and the following result was disclosed. Prompt directions were given for the correction of the error in future. It is not possible to determine, to an exact certainty, the whole expense incurred for transportation within any recent period; because it will often happen that improvements will become necessary, even for the fulfilment of existing laws, the expenses of which, for want of proper evidence, must be reserved for subsequent adjustment, and so come into the account for a later period than that in which the services were performed. But these variations are of an inconsiderable amount compared with the differences resulting from the system heretofore observed.

On the 30th of June, 1829, which was the close of the first quarter in which I had assumed the functions of the department, the expenses which had been incurred for transporting the mail were $64,248 76 more than the amount stated in my report to that day.

On the 1st day of July, 1832, the day to which my last report reaches, there was stated to be a surplus of available funds, after defraying all the expenses of the department up to that day, of $202,811 40

It is, however, now ascertained, that the expenses incurred for transportation which had actually been performed prior to the 1st July, 1832, beyond the amount stated in that report, were 205,656 07

So that instead of a surplus on that day, the department was actually indebted on the 1st day of July, 1832, beyond the whole amount of its available funds, admitting that no losses of postages should be sustained 2,844 67

The gross amount of postages for the year ending the 30th June, 1832, was 2,258,570 17

The gross amount of postages for the year ending the 30th June, 1833, was 2,616,538 27

Making an increase for the year over the former year of $357,968 10

The nett proceeds of postages, after deducting commissions to postmasters and the contingent expenses of their offices, for the year ending the 30th June, 1832, was $1,543,098 49

For the year ending June 30, 1833, it was 1,790,254 65

Making an increase of net proceeds for the year, of $247,156 16

The expenses of the Department, incurred for the year ending June 30, 1833, were as follows, viz:

Compensation to postmasters, including the contingent expenses of their offices—

3d quarter, 1832,	$202,431 26	
4th, quarter, "	200,151 51	
1st quarter, 1833,	214,935 50	
2d quarter, "	208,765 35	
		$826,283 62

Transportation of the mail—

3d quarter, 1832,	435,892 95	
4th quarter, "	441,183 01	
1st quarter, 1833,	499,185 96	
2d quarter, "	518,426 16	
		1,894,688 08

Incidental expenses for the year, 87,701 61

Making together, - - $2,808,673 31

The gross amount of postages for the same period was—

3d quarter, 1832,	642,689 22	
4th quarter, "	630,464 47	
1st quarter, 1833,	673,957 67	
2d quarter, "	669,426 91	
		2,616,538 27

Leaving a deficit of - - 192,135 04

Add this sum paid into the Treasury by irregular deposites, having been placed by the receiving officer to the credit of that department instead of this, - - 228 69

The balance due by the department on the 1st July, 1832, as above stated, - - - 2,844 67

And the department was indebted on the 1st July, 1833, beyond the amount of available balances due to it, in the sum of - - $195,208 40

The annual expense of transporting the mail under existing contracts, with all their improvements, is - - - $2,033,289 42

The incidental expenses of the department, estimated at - 90,000 00

Making the aggregate expense for a year, - - - $2,123,289 42

The nett proceeds of postages for the year ending the 30th June, 1833, amounted to $1,790,254 65

The nett increase for that year over the preceding year, and which may be safely estimated as continuing was - 247,156 16

Making the nett revenue for the current year, - - - $2,037,410 81

Leaving a deficit of - - $85,878 61

The former method of keeping the accounts of the expenses of transportation would have left out of this report expenses for transportation, as if they had not been incurred, because not entered under their proper dates, the sum of $91,658 82, viz:

For services performed prior to July, 1, 1832, - - -	$22,294 44
For services performed during 3d quarter, 1832, - -	9,420 50
4th quarter, 1832, -	9,932 21
1st quarter, 1833, -	22,872 70
2d quarter, 1833, -	27,138 97
Making together, - -	$91,658 82

This, had the imperfection of that system remained unobserved, would have made the Department appear to be less indebted, by that amount, than what it is in reality.

The discovery of the excess of expenditures beyond its revenues, at once showed the necessity of retrenchment. The only practicable means of doing this, was the withdrawal of some of the improvements which had been made, and on such routes as would be least injurious to the public, and least prejudicial to the revenues of the Department.

This has been done with great care and attention to these two points. The reductions have been directed on the transportation to take effect from the 1st of January next, to the annual amonnt of $202,370

The contracts have been renewed for the southwestern section, comprising the States of Louisiana, Mississippi, Alabama, Tennessee, Missouri, Illinois, and Indiana, and the Territory of Arkansas, with a greater amount of improvements than curtails, at an annual saving of 71,893

Making together an annual retrenchment in the expenses of the Department, of - - $274,263

In making these retreechments, many of the principal contractors who were to be affected by them, seeing the necessity which induced the measure, have readily declared their cordial acquiescence in it; and, with a patriotic spirit becoming their character, have shown a determination to sustain the Department, as a paramount object, at any sacrifices which it may require on their part.

After the reductions shall take effect, the annual transportation of the mail will still be 25,527,957 miles, viz:

	In stages.	In steam boats.	Horse-back and sulkies.	Total.
In Maine.....	635,402	3,328	271,274	910,004
New Hampshire.	622,236		111,854	734,092
Vermont.....	636,122		104.076	740,198
Massachusetts...	1,553,248	93,712	145,229	1,792,189
Rhode Island.....	117,988		16,692	134,680
Connecticut	587,739	17,376	175,608	780,723
New York.....	2,983,636	155,339	884,829	4,032,206
New Jersey.....	517,854		100,840	618,694
Pennsylvania	2,080,920		764,329	2,845,258
Delaware.....	104,010		17,264	121,274
Maryland	570,726	58,380	161,588	790,694
Virginia	1,044,246	46,900	778,906	1,870,052
North Carolina...	733,423	15,283	413,660	1,162,371
South Carolina...	692,256		275,548	877,804
Georgia.....	278,024		498,626	776,650
Florida.....	47,112	41,600	86,612	175,324
Alabama	429,978	96,330	353,652	879,990
Mississippi	78,002		282,756	360,758
Louisiana.....	48,516	15,704	156 676	220,896
Arkansas			231,556	231,556
Tennessee.....	513,443		502,330	1,015,773
Kentucky.....	586,902	45,000	526,824	1,158,816
Ohio.....	1,005,369	47,150	617,358	1,669,877
Michigan.....	112,088		97,416	209,504
Indiana	196.268	24,600	487,814	705,682
Illinois.....	236,522		293,278	529,800
Missouri.....	79,508		184,184	263,692
Total.....	16,400,651	537,137	8,540,169	25,527,957

Thus, it will appear, that but a part of the improvements will be withdrawn, to enable the Department still to rely exclusively on its own resources, as the annual transportation will still be, after the 1st January next, 1,902,936 miles more than it was on the 1st July, 1832.

I have the honor to be, very respectfully, your obedient servant, W. T. BARRY.

RAILROAD FROM PHILADELPHIA TO YORK, (PENN.)—We observe by the York papers that a public meeting was called in that borough for Thursday evening, to take measures for procuring the extension of the Philadelphia and Columbia railroad to that place. The Lancaster Examiner in noticing the subject, says, such an extension we have no doubt will be made without much delay.

From other sources we learn that the railroad from Philadelphia to Columbia is expected to be completed and in operation some time during the coming winter. When it shall be extended to York, if not before, it strikes us as constituting a subject that ought to be deemed of some interest to the people of Baltimore. At present, and for many years past, the agricultural products of York county have been taken to the Baltimore market. Will it not be otherwise when the railroad from Philadelphia is completed to York?—unless the Baltimore railroad be also extended to that town? When it was turnpike against turnpike, the Baltimore market had nothing to fear, in regard to the competition for the traffic of this fruitful country; but when we have only a turnpike to oppose to a Railroad, it is such a change of the condition of things as may hazard the loss of a good portion of the traffic. At all events, the subject deserves consideration, to see if there be a remedy.—[Baltimore Patriot.]

OHIO.—The Legislature assembled at Columbus 2d inst. Gov. Lucas transmitted his Message on 3d inst. which is long, but confined entirely—as generally speaking such messages should be—to State affairs. The Governor recommends unhesitatingly the establishment of a *State Bank*, with such capital as will be sufficient to supply to the extent which may be found needful, a present admitted deficiency of the circulating medium.

On the subject of the Ohio Canals, in which there is much interest felt in this State and in this city, we extract what the Governor says—

From the Report of the Auditor and Treasurer of State, it will be perceived that the finances of the State are in a prosperous condition. The balance of the different funds that remained in the State Treasury on the 15th November, 1833, as reported by the Auditor, amounted to $185,193 61 4

The amount of foreign Canal debt	$4,500,000 00 0	
Interest payable annually to foreign Stockholders on $400,000, at 5 per cent., and on $4,100,000, at 6 per cent. amounts to	$266,000 00 0	
Amount of loan drawn from the School fund for Canal purposes,	$504,391 88 7	
The interest on which amounting to about applicable to the Common School fund.	$33,500 00 0	
The amount of the Canal debt, foreign and domestic, is		$5,064,391 88 7
The amount of Tolls collected on the Ohio Canal for the year ending the 15th of March, 1833, is	$130,026 52 7	
The amount of the same on the Miami Canal.	49,946 54 0	
Total amount of collections on the Ohio and Miami Canals,		179,973 06 7
Deduct contingent expenses on the Ohio Canal, $5,674 63 0		
Do. Miami 3,920 00 0		
	9,614 63 0	
Total amount of Tolls paid into the State Treasury,		170,358 43 7
Amount paid into the Treasury by A. Kelley for water rents and lots sold,	1,981 14 0	
Amount paid into the Treasury for the sales of Ohio Canal lands,	115,759 63 6	
Total paid into the Treasury from tolls, water rents and sales of Ohio Canal lands,		$288,099 20 7

Thus it appears that the receipts into the Treasury within the last year, for the sales of Ohio Canal lands, water rents and tolls, will pay the interest on the foreign Canal debt, and twenty-two thousand ninety-nine dollars, twenty cents and seven mills over. This sum goes to our citizens, and is added to the school fund. The receipts of tolls next year, it is anticipated, will be sufficient to pay the interest on the whole Canal debt, and will gradually thereafter accumulate a surplus sufficient in amount if profitably invested, to extinguish the whole Canal debt, by the time it become due.

The amount of money paid into the State Treasury for the sales of the Miami Canal lands, for the year ending the 15th November, 1833, is $112,207 957

From which deduct the amount paid Canal fund Commissioners, to pay Contractors on the Miami Canal	55,000 00 0	
Expenses paid Receivers, Registers and others,	3,267 87 0	
Total amount drawn from the Treasury,	58,297 87 0	
Balance remaining in the Treasury, 15th Nov. 1833,	53,940 08 0	

This sum has been received from the sales of those lands that were brought into market, under the provisions of the Act of 21st of December, 1831; and cannot be applied to any other purpose than to the extension of the Miami Canals. Seventeen miles of this Canal north of Dayton were put under contract within the last season, the work on which is progressing, and the sales of the lands continue to be uninterrupted.

There is no part of our State policy that we can contemplate with more satisfaction

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NAVAL LYCEUM.—We have great pleasure in annexing the names of the officers, &c. of this association, recently formed at this Station by the officers of the Navy and Marine Corps. The objects in view—besides drawing closer the bonds of intercourse and friendship of all engaged in a common service—are to provide a library—a museum or depository, for rare objects of natural history, for the collection of which the diversified service of the Navy in all climates affords so many opportunities—and a reading room, where the best publications, periodical and others, may be seen. We are quite sure the Head of the Navy department should, and do not doubt he will, approve and aid in all that depends upon him, the objects of this association.

Officers of the "United States Naval Lyceum" established at the Navy Yard New York.

Com. Charles G. Ridgely,	President.
Captain M. C. Perry,	1st Vice President.
Lieut. Col. John M. Gamble,	2d " "
Tunis Craven Esq.,	3d " "
Lieut. Wm. L. Hudson,	4th " "
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Dr. D. S. Edwards.	

Curators.

Capt. M. C. Perry,	Dr. Wm. Swift,
Lieut. James Glynn,	Dr. Thos. L. Smith,
Dr. D. S. Edwards.	

Chevalier F. Tacon had an audience of the President on Wednesday last, and presented his new credentials as Envoy Extraordinary and Minister Plenipotentiary from the Queen Regent of Spain.

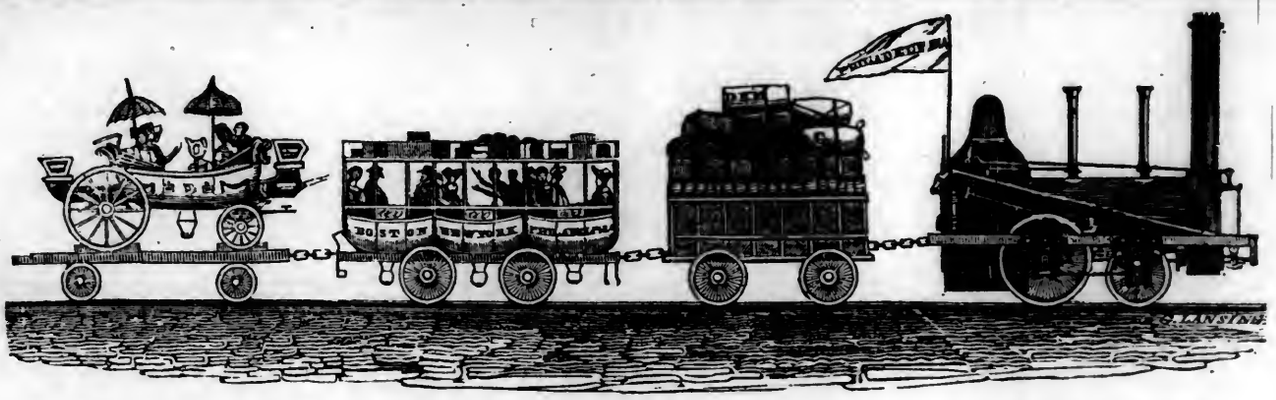
LATER FROM EUROPE.—The Montreal packet ship from London, brings papers to 8th November from that port. They furnish Paris dates of 5th Nov. and Madrid of 28th Oct,. five days later from the last city than those by the Plato, arrived here from Malaga.

The young Queen, *Donna Isabella*, was proclaimed on the 24th in Madrid, with great enthusiasm. The Royalist Volunteers, a sort of seditious city militia in that capital, were disarmed on the 27th—not, however, without some bloodshed.

The Madrid Gazette of 24th contains, it is said by a Paris correspondent of the Times, many excellent decrees of unexpected liberality. That which relates to an amnesty of the past, however, is deemed incomplete for its omission of many liberal names of repute, and that of *Mina* in particular. *Francisco Xavire de Burgos*, lately named Minister *del fomento*, is considered as the adviser of these and other measures of reform. The property of Don Carlos, said to be very large, was confiscated by royal decree. We nowhere hear of the appearance of this personage.

The report, via Bordeaux, of 40,000 French troops marching towards the Spanish frontiers, turns out to be without any other foundation than that derived rom the military movements incident to change of garrisons in the south of France.

From Portugal there is nothing new.



AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, DECEMBER 21, 1833.** [VOLUME II.—No. 51.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 21, 1833.

Pennsylvania Canal Commissioners' Report.—The report on the state of the internal improvements of Pennsylvania, made to the Legislsture, by the Canal Commissioners, contains much information of an interesting and important character.

The Board believe that they may confidently calculate upon the opening of the canal navigation in the spring, by the 10th of March. At that time the following lines will be in use :

A railway from Philadelphia to Columbia twenty-two miles, with double tracks, and sixty with a single track, making	82 Miles
A canal from Columbia to Hollidaysburg,	171 4-3
Portage railway over the Allegheny mountain, between Hollidaysburg and Conemaugh, from basin to basin,	36
A canal from Conemaugh to Pittsburg,	104 1-4
Distance from Philadolplia to Pittsburg,	394 Miles
A canal from the junction on Duncan's Island, near the mouth of the Juniata, up the Susquehannah and North Branch to the mouth of Solomon's creek in Luzerne county, (two hundred and twenty three miles distant from Philadelphia,)	96 3-4
A canal from the junction at Northumberland, up the West Branch to the head ot the pool of the Muncy Dam, in Lycoming county, [one hundred and ninety and a half miles from Philadelphia]	28 1-2
A canal from Bristol to Easton, on the Delaware, [eighty miles from Philadelphia.]	59 3-4
A canal from the Ohio river, twenty-eight miles below Pittsburg, up the Big Bever creek to New Castle, in Mercer county,	24 3-4
A canal from the Allegheny river at the town of Franklin, up French creek to near the feeder aqueduct, in Crawford county,	22 1-4
The continuation of the Portage rail way along side of the basins at Hollidaysburg and Conemaugh, the Conemaugh feeder and Alleghenytown branch on on the Western division—the South fork and Raystown feeders on the Juniata division—and Lewisburg side cut on the West Branch divisions, form an aggregate of	8
Number of miles of canals and railway ready for use,	632

The Board enter into full details of the breaches and interruptions which have occurred on the several lines during the past season, which they represent as having been greatly magnified by "those governed by a mistaken policy." They maintain that the navigation of the main line of the Canal was maintained throughout the season with but slight delays, and speak with regret of the rumors of breaches and failures, having, in some degree, lessened the transportation business. The experience of the past season has enabled the Canal Commissioners to discover some defects in portions of the several lines, which they will be able to remedy in the course of the winter.

The amount of money expended for current repairs is as follows :

	Miles.	
Eastern division,	45	$12 163 53
Juniata division and feeders,	132	13,748 33
Western division,	105	23,854 15
Susquehannah division,	37	20,579 56
West Branch division,	26 1-2	20,956 27
North Branch division,	59 1-2	20,304 19
Delaware division,	59 3-4	59,408 33
French creek feeder,	19 1-2	5,699 01
		$179,013 37

The tolls paid into the Treasury during the year ending Oct. 31st, amount to $151,419 09, which sum, the Board believe, will be increased during the navigable season to near two hundred thousand dollars.

A minute statement is given of the situation of the Canals and Railroads, and estimates made of the amount necessary to place the whole in complete order.

The following sum has been paid within the last year, upon the several divisions, for damages, $72,244 10.

A statement of the sums appropriated and applicable to the new lines, and of the sums required to complete the same.

	Sums appropriated.	*Sums required.*
Columbia Railway,	$2,402,100 36	$801,895 58
Portage Railway,	1,214,793 06	367,816 35
Beaver division and Shenango towing path	424,241 62	57,011 36
Franklin line & north and west ends feeder,	348,100 29	94,398 05
Wyoming line and Lackawana feeder,	284,892 85	17,321 28
Lycoming line, and Lewisburg & Bald Eagle side cuts,	857,431 76	301,149 08
Frankstown line and South Branch feeder,	781,101 29	
Columbia line, eight miles, 227 perches,	165,750 30	
Sum required to complete,		$1,640,672 00
There will be required for new work upon old lines, and for the purchase of lots for houses and offices for collectors and lock keepers and to pay debts due,		100,000 00
To pay debts due by supervisors for labor and materials,	64,298 58	
For repairs the ensuing year,	410,701 42	
		475,000 00
To pay damages,		49,328 00
Amounting to,		$2,265,000 00

Delaware and Hudson Canal Company.—One of the morning papers states that the amount of tolls received by this Company during the past season, exceeds $3,000. This, we are informed, is a typographical error. The tolls exceed $37,000 on articles independent of coal. Of this latter 111,777 tons have this year been brought to market—953 vessels have loaded at Rondout with this coal, and carried 98,800 tons.

Statistics of the Globe.—The rapid population of the globe is estimated variously from 600,000,000 to 800,000,000; the geographical square milés at nearly 38,000,000, or 49,000,000 English square miles. The population to a square mile is, in France 61, Asia 27, Africa 10, America 3, Oceanica less than 1; the average of all about 17. The densest population in any whole province or state, is in Hamburg, where it is 1302 to a square mile. It is 980 in Bremen, 783 in Frankfort, 523 in Lubec, 464 in Lucca (Italy), 392 in Belgium, 314 in Saxony, 277 in Holland, 257 in Great Britain, the Sicilies 236, 208 in France, Austria 165, Prussia 155, Portugal 121, Denmark 119, Spain 101, Turkey 63, Greece 51, Russia 37.

In Asia some provinces have a population of from 200 to 500 to the square mile; Japan 139, China 42, Siam 57, English Indian Empire 185. In Africa, Morocco has 46, Tunis 45, and some of the interior kingdoms a little more. In America, 'Hayti has 36, Central America 12, Chili 10, Untted States 7½, Mexico 6.—[N. E. Farmer.]

Internal Improvements, No. III. By F. To the Editor of the American Railroad Journal, and Advocate of Internal Improvements.

Sir—The faculties of the human race may remain for generations in a state of torpor, but when once roused into action, they cannot easily be lulled again into inactivity and repose. Thus all innovations on old established customs, however plausible in appearance, are ever treated with distrust, and only admitted to confidence after a long series of successful experiments may have demonstrated the truth of the principles advanced. Then, as the eyes of men gradually open, and the cloud which had obscured their understandings is dispersed, they begin to marvel at the obtuseness of their own perceptions in not sooner comprehending the nature of the advantages predicted. How far this will be exemplified in the introduction of steam carriages on common roads, as a substitute for horse power, in the transport of goods and passengers, remains yet to be proved. Sceptics have not been wanting, to vociferate their timidity against its preferment, and pronounce its visionary character; and yet, the time may not be distant when the project will be hailed by the whole British nation as a confirmed blessing, and another step in the grand march of practical science. She may, ere long, be destined to witness her highways and byways, like her railroads and rivers, traversed from one end of the kingdom to the other, under the all-pervading influence of steam.

Experiments have already been made on a large scale, and with sufficient success to demonstrate to the minds of all those who feel an interest in the subject, the practicability, as well as capability, of the project, to realize all the hopes and expectations with which it has been endowed by its projectors. That it is destined, at no very remote period, to mark a new and important era in the means of intercourse among our transatlantic brethren, it would be folly to entertain a doubt; but, at the same time, we do not hesitate to say, that however applicable it may be to their present condition, the time is not yet arrived when its adoption as a matter of expediency can be recommended to this country. Our situation, in this respect, is in no way analogous to that of Great Britain. What would act as a benefit and blessing to her, would, in this case, prove a positive evil to us. But, before attempting to maintain this position, it will be necessary to state the principal objections already advanced against its introduction. They are as follows:—The insecurity of carriages so propelled; the liability of boilers to explosion; the annoyance of travellers by noise of machinery, and the escape of smoke and waste steam. These objections were in part answered before the House of Commons, during the examinations there held to collect information on this subject. It was then stated that the construction of the boilers was such that the steam could only act in very small quantities on any one part, and that even in the event of explosion, the danger would be comparatively trifling, and seldom or never attended by loss of life; that the escape of smoke might be prevented by the use of coke; and that the waste steam might be made to pass into the fire to increase the draft. It was further stated, that carriages properly constructed were capable of attaining a velocity of from ten to thirty-five miles per hour, on a level; that an acclivity of one in six had been surmounted at the rate of sixteen and a half miles per hour; and that a practical velocity of from twelve to fourteen miles per hour, where the minimum breadth of the wheel tire was three and a half inches, might be sustained without injury either to carriage or road.

How far these positions will hold in practice we are not at present prepared to say. But whatever may be the result in England, we need not hesitate to repeat the assertion that the period is very remote when the adoption of steam carriages will be deemed justifiable on the roads of America. It must be remembered that England is burthened with a large surplus population, and that every tax on agricultural produce, as a consequence, is accompanied by a proportionate degree of distress. Every suggestion therefore, in the way of relief, commands immediate attention, and receives encouragement and support according as its merits may seem to justify. In Great Britain, there are more than a million of horses engaged in various ways in the transportation of goods and passengers; and it is estimated that it requires as much land for each horse as would on an average support eight men; or, in other words, the adoption of this new project would increase the capacity of the country to maintain eight millions of souls over and above what it is at present burthened with. Now, under these circumstances, it cannot be denied that the subject is deserving the attention of all philanthropists, not only as having a tendency to alleviate the distress of a large and meritorious portion of the population, but also as obviating the existing necessity for the abuse of that noble spirited animal, the horse. But these arguments cannot obtain in a country like our own, where the whole amount of population is small in comparison of the extent of territory; where large tracts of fertile land yet remain untilled, and extensive forests unlopped, by reason of the paucity of agriculturists. These blanks must be filled up before our harvests can possibly prove unequal to the demand made against them; and then it becomes a question of economy as combined with general convenience to all classes of persons interested.

As to economy, it is roundly asserted by our brethren on the other side of the water, that steam coaches can be run for from one-third to one-fifth the cost of post coaches. This may be true enough—indeed it is believed to be so, from the fact that an ordinary coach, weighing two tons, can carry but eighteen persons, while a steam coach of the same weight, may be made to carry double that number, and that the action of the wheels, where the tire is six inches wide, has a tendency rather to consolidate than cut up the road.

But another consideration of more importance to us claims attention, in the price of coke, which must necessarily enter largely in the expense of running all engines of whatever description, where steam is to be rapidly generated. It is a well established fact, that the price of this article is much greater in this country than in any other; so much so, that it becomes a question whether its use would not thereby be altogether unavailable. Should this prove to be the case, then other means must be resorted to for the destruction of the sublimated and volatilized matter always attendant on the combustion of coals in their natural state. This not admitting of any chemical combination, must be effected in some way by mechanical means. Before the House of Commons, it was stated that the effect might be produced by causing the smoke to pass through sand mixed with quicklime, by which the carbonic acid being absorbed, the carbonic oxyde and hydrogen was left in such a free state as to be combustible. This process, however, is altogether too slow in its operation to admit its practical application for any purposes of locomotion; and it is therefore only deserving of notice as an incitement to further discoveries.

But it may be asked, and with some show of reason, where are our extensive mines of anthracites? This species of coal is of such a nature as at once to do away with every objection that has been advanced against the use of other descriptions; for, not producing smoke of any kind, it may be used with impunity, without having recourse to artificial preparations. This would seem to be true enough, and to a certain extent is so—that is to say, the use of anthracite coals would most assuredly remedy the evil to which the public would be exposed from the escape of smoke, where bituminous coals were used in the generation of steam to propel carriages; but the difficulty unfortunately rests in the fact that steam cannot be generated with sufficient rapidity for this purpose, without the action of flame upon the boiler; and the combustion of this coal not producing any flame, recourse must be had to some extrinsic means for the attainment of that end. This end, it is true, has been particularly attained by experiment in the decomposition of water, by passing a jet under the action of the engine, constantly over the bed of hot coals. But this experiment, though it may eventually be made to answer the purpose, does not as yet seem to have been sufficiently tested in practice to render it available in ordinary cases; and as we do not wish to indulge in speculations of any kind, we shall forbear to express an opinion on the subject until the results of more extended trials may be made known.

It requires, however, no great stretch of human foresight to predict that the introduction of steam carriages on common roads will be a signal to the abandonment of all ordinary modes of travelling. They must be exclusively adopted or not at all, and therefore it will be necessary for all persons, desirous of moving from place to place, to be dependent entirely on the public conveyances for its accomplishment. Now, it is a well known fact, that all farmers who inhabit mountainous districts, or such as are yet unpenetrated by either railroad or canal, must of necessity be their own carriers. The expense of maintaining one, two, or more horses, is comparatively trifling. They are absolutely necessary to the prosecution of their agricultural pursuits, and after their harvests are gathered in, they are equally useful in the transportation of the proceeds to market.

These observations naturally suggest themselves as objections to the introduction of this new mode of conveyance among us for a long time to come; and they are introduced here simply because we think that we have discovered a growing disposition among some of our speculators to embark in the project. Our necessities alone should dictate the period when this revolution ought to take place; and even then, where so many changes are to be made, so many prejudices to be overcome, and so many jarring interests to be reconciled, all the influence of legislative support will be requisite to establish it on a firm foundation.

This period, however, it is believed, has already arrived in England. She feels herself bending under a burthen which, unless soon lightened, will eventually bear her down. She feels the necessity of adopting some decided measures for the relief of the lower orders of society. With these feelings generally prevalent, it is not to be surprised at that her mechanics should take advantage of the first opportunity, that offered a fair prospect of success, to start a fresh track, and open a new avenue to the resources of the country. The facilities afforded by the genius of McAdam pointed out the way; the hard and uniform surface of his roads suggested the practicability of the undertaking; and although we sincerely deprecate its immediate adoption here, we earnestly wish it all the success, in the land of its birth, that its undoubted merits have a right to claim. F.

New-York, 8th Dec., 1838.

Ithaca and Owego Railroad. By JAMES SEYMOUR. To the Editor of the American Railroad Journal.

DEAR SIR,—In the latter part of September last I travelled over the route for the Ithaca and Owego Railroad, in company with Mr. H. C. Seymour, one of the assistant engineers. The following hasty notes made at the time are at your service:

The length of this road from Owego to Ithaca is about 29 miles, chiefly along the valley of the Owego Creek. The summit is 20¾ miles from Owego, and its height above that place is 376 feet. The depression from the summit level to Ithaca is 602 feet—distance about eight miles. The country along the route is favorable for the construction of a railway.

Mr. Randall, the Chief Engineer, estimates two-thirds of the grading done upon the line—two miles of the rails laid—and that the road will be ready for transportation early in the ensuing summer.

There are two inclined planes between the summit level and Ithaca. The length of the first, (descending from the summit towards Ithaca,) is 2,225¾ feet; rate of ascent 1 foot in 21. The length of the second, (or nearest Ithaca,) is 1,733½ feet; rate of ascent is 1 foot in 4·28 feet.

It is proposed to use one stationary power, which is to be placed between the two planes above described, but only applied upon the second, or the one nearest Ithaca; upon the other horse power is to be employed (at present), as well as upon the remainder of the road. It would seem probable, however, from the proximity of the two planes, and from their being on a line with each other, together with the road between them, that stationary steam power will ultimately be adopted to move the cars upon both, which may be done by an engine of sufficient power.

The curves upon the road appear to be regular, and uniform, and of large radius.

The plans adopted for the construction of the road are as follows:

Upon the chief part of the road, after the bed is formed, trenches are sunk crosswise of the road, into which ties are placed about four feet apart, and then trenches made lengthwise about one foot in depth, filled with gravel, upon which longitudinal sills, 4 by 12 inches, are placed. Upon these sills cross ties are laid, about 3 feet apart, with notches or gains cut to receive the rails, upon which the iron plates, ⅝ by 2¼ inches, are to be placed. The width of the track is 56½ inches.

Upon another part of the road a different plan is adopted. Trenches are sunk crosswise of the road, about 3 feet apart, into which cross ties are placed to receive the longitudinal sills, and giving the sill an equal bearing from end to end. Upon these sills narrow strips of oak or ribbons are placed, to receive the iron plates.

Railroads constructed upon either of the above plans answer very well; but a plan similar to the last above mentioned is preferable, for these reasons: the rails upon which the cars move present a more permanent and solid surface, and the cost is not as great by at least $1000 per mile.

Your humble servant,
JAMES SEYMOUR.

Montrose, Nov. 11, 1833.

"The observations made during a single voyage across the Atlantic, by a single observer, M. Humboldt, on the aspect of the Antarctic region of the heavens—the peculiar azure of the African sky—the luminous meteors of the atmosphere—the tides, the currents, and the different colors of the ocean, and other phenomena which happened to present themselves to his view—are of more value to the scientific world than the observations of ten thousands of other beings who, for a series of years, have traversed the same regions."

Fourth Annual Report of the Chief Engineer of the Baltimore and Ohio Railroad.

Engineer's Office, Baltimore and Ohio Railroad.
Baltimore, Oct. 5, 1833.

TO PHILIP E. THOMAS, *President, &c.*

The fourth annual report of this department which I have now the honor to present will be rendered the more brief on account of the advanced stage and the greater maturity of our operations. In the more early progress of this work, with the very limited stock of information then before us, it was found indispensable that novel applications of principles should be investigated, and that many experiments should be made, requiring the utmost skill and science at our command, and the most anxious care and industry on our part in order to arrive at safe and satisfactory conclusions. These investigations have been actively prosecuted; principles have been combined; many experiments involving very complicated details have been made, and results of high importance to the railroad system have been obtained; the railway has been put into successful operation, and it now only remains to pursue the design by giving to the machinery its required extension, and availing of its utmost perfectibility, in order to accomplish to the fullest extent of economy the great task in which we have been engaged.

In my last annual report it was announced that the new locomotive steam engine "Atlantic," built by Davis and Gartner, of York, Pa. had performed satisfactorily with anthracite coal as the fuel, through the test of a month's use on the railroad. This engine employs cast iron chilled wheels, three feet in diameter, and is geared to obtain twice the speed on the road that would result withouf the gearing, with the same velocity of piston, and is constructed with the upright tubular boiler of Cooper.

Much service has been performed by this engine in the course of the past year, but as several such machines would have been required to do all the work of transportation, and as these were not upon the road, the entire horse establishment had still to be maintained, and consequently it was not desirable to work this engine to a greater extent than would be necessary to evince its continued efficiency, or to detect its errors or deficiencies, should any be found to exist either in principle or construction. This precaution of subjecting it to a sufficient test seemed to be necessary previous to venturing upon an expenditure on many such machines, and more so as from unavoidable defects in the consistency of the material of the working parts, (common to all machines,) and the complication and great and sudden variation in intensity of the strains upon them in the course of locomotion, our knowledge of the correct proportions of these parts could be obtained only through experience. This engine is still in operation, and the result is entirely satisfactory, as to the boiler and the combustion, as well as the exclusive use of anthracite coal, and consequently as to the *power* of this machine, and nothing more is wanted to demonstrate the entire practicability and utility of this fuel for the locomotive engine. It is true that some economy of fuel may be realized from slight modifications in the fire place, boiler and tubes, and especially by giving additional length to the latter. The modification last mentioned has already been resolved upon in relation to future engines. Although the engine has been in use u any months, and has run upwards of 13,000 miles, yet not a single tube has failed or given way, and consequently there is reasonable ground to expect that the tubes, (though of iron,) will be comparatively durable.

The circumstance of a more rapid change of place and circulation obtaining amongst different portions of the water, and the impossibility of the subsidence and lodgement of sediment upon the tubes when these and the boiler stand upright, would lead us to expect, independent of experiment, a greater duration of the tubes than when they are horizontal in a boiler of corresponding position. The time which the tubes have lasted in the Atlantic, and the frequency of their failure in the English engines, when the position is horizontal, appears to confirm the foregoing conclusion. The English have employed both iron and copper tubes, but still complain that the frequent failure of these constitutes one of the greatest sources of expense attendant upon the working of the locomotive engine, and tubes of brass are proposed at Liverpool as likely to produce economy. With the upright boiler, however, it does not appear that much loss from the burning out and bursting of tubes, will be experienced. Nevertheless, in my report of the 27th July last, hereunto annexed, marked W. R. in relation to the proposed Washington railway, I have estimated the annual cost of tubes for an engine in constant use at $504. That this sum will be fully adequate to the object, there can now be but little doubt.

Two points of great interest, therefore, in relation to the value of steam locomotion upon railways, have been determined, and efficiently combined under the auspices of the Baltimore and Ohio Railroad Company upon their road, viz.: 1. *The upright tubular boiler*, and 2. *The successful application of anthracite coal.* The first has the advantage of durability, compactness, and above all, of a most rapid generation of steam; the second gives a cheap fuel, free from smoke and sparks, for locomotives employed in the states bordering upon the sea coast. The latter will sooner or later be viewed as a most useful attainment in connection with the railway system, when the benefit which this company will have conferred upon the community in attaining this object will be felt and acknowledged. From a recent discovery of anthracite coal on the Potomac river, it is probable that the price of that fuel will yet be reduced much below its present cost, and that the advantages to the company from the employment of the locomotive engine will be proportionally increased.

The course of trial, however, that tested and proved the adequacy of what may be denominated the vital parts of the Atlantic engine already described, has, at the same time, served to discover certain defects in the consistency and proportion of those working parts most liable to wear and break. It was found that the driving road wheels, each of which worked upon the rail, with an insistent weight of two tons, soon yielded to the action and became worn, especially upon the more conical part near the flange, where the form became changed in a considerable degree from the circular to the polygonal—causing jolts and concussion, especially when the engine moved at considerable speed; and abating the efficacy of the machine, more particularly in curves, whilst the unevenness in the motion tended to injure the spur and pinion wheels, whose office it is to multiply the speed. Moreover, the axles that were at first used, proved too weak to withstand the strains to which, at times, they were subjected, and their fracture, and simultaneously that of the spur and pinion, ensued. In all this no fault could justly attach to any one, dimensions had been given that seemed ample to oppose the probable strains, and from calculation, based upon the experimental trials of the strength of malleable iron, and the assumed probable stress, the result was equally favorable to a sufficiency of strength. But to the well ascertained strains to which the revolving parts of local or stationary engines are subject, there was superadded, in the progressive motion of the locomotive, certain lateral impulsions of unforeseen and therefore unknown intensity, that presented a problem in which a new term had to be determined experimentally in the running of the engine itself upon the railway. Accordingly, the axles have been increased in diameter so as to withstand the trials to which they are liable. This remedy was a plain one. The comparative strength being as the cube of the diameters, a small increase of dimension in that direction would render the strength relatively insupera-

ble. It was likewise found that sufficient strength to prevent fracture could readily be given to the cast iron locomotive road wheels of three feet in diameter. But the evil already alluded to of a deficient degree of hardness to be obtained in the process of chilling was a very different affair, and not to be remedied by simple addition of dimensions. It was discovered that by the method hitherto practised, the three feet wheels were less effectually chilled than the two and a half feet wheels; and this was accounted for from the known fact that, in cooling, the larger wheel would contract to a greater extent, and recede further from the rigid iron chill, applied to the exterior of the periphery, than would the smaller wheel, from the chill applied to it; and, consequently, in the case of the targer wheel, although the exterior of the rim should be chilled in the instant of casting, yet on receding from the cold iron of the chill, the interior unchilled parts would immediately impart a portion of heat to the exterior chilled parts sufficient to *anneal* the latter, and destroy the effects of the chill. Thus the efficacy of a coned wheel, if more than two and a half feet in diameter, seemed to be lost; and the consequences would have been serious. The science, skill and genius of the Engineers and Mechanics in the service of the company were therefore no wdirected to this point, and I am happy to be enabled state in this communication that two successful methods of attaining a good and perfect chilling have been suggested and put into practice. The one method consists in applying to the inner periphery of the rim on the side of the spokes next to the flange, and in the region of the conic part, *a second chill concentric with the first or exterior chill*. Now as the contracting metal, immediately after casting, recedes from the exterior chill, it would press upon the interior one, whilst the contact would cause the latter chill to absorb the heat that would otherwise have *annealed* the exterior periphery of the rim, and destroyed the hardness already communicated from the exterior chill. The process in trial justified the expectation, and a perfect chilling was attained, precisely in that part of the rim where most needful. This manner of effecting the object was first proposed by Ross Winans, assistant engineer of machinery. In the commencement the failure of this process was threatened from a mechanical difficulty that may here be mentioned with the obviating expedient that proved effectual. So soon as the fluid metal should begin to coal it would shrink and contract upon the interior chill of cold rigid iron, and with an intensity increasing rapidly with the abstraction of heat, at the same time that the malleability would diminish, and the consequence would be fracture. At first it was suggested to elevate, by means of a lever and appropriate connexions, the chill from the rim of the wheel, as the latter should contract, a slope upon the surface of the chill being given to facilitate the operation. It was, however, thought to be difficult, if not impracticable, to execute this design for every wheel and with proper and timely effect, and it was abandoned for the effectual method that immediately succeeded in the course of thought, and which bears the test of experiment. It is simply to give such a slope to the face of the chill, that it shall slide on the correspondingly sloped face of the casting as the latter shall cool and contract. The form of the chill is that of a conic frustrum with the smaller end downwards upon the arms of the wheel, and the slope of the slant side makes an angle with the axis of the cone of 30 degrees, and imparts to the interior surface of the rim of the wheel a form consistent with strength and symmetry. As the metal cools in the new cast wheel, its contractile force overcomes upon that angle the friction, gravity, and inertia of the chill which slides upon the grasping metal of the rim, and is elevated, presenting in its upward movement successive lesser dimensions to the contracting wheel, whilst the latter, from its tenacity being more than equal to the sum of the three forces that oppose the displacement of the chill vertically, is not fractured. In this process the rim of the wheel is chilled and hardened thoroughly from the exterior to the interior side between the flange and the part where the spokes attach. It is consequently, however, rendered more liable in use to be fractured from concussions upon the railway, but this may be obviated by adding metal and giving additional thickness to the rim.

The other method of securing the efficacy of the chilling process in a very effectual degree was proposed by Phineas Davis, and consists in casting the rim so that the fluid metal shall surround and inclose within its body a ring of cold malleable iron concentric with the wheel. The effect of the presence of the ring in the interior of the body of the casting, is to abstract the heat from the fluid mass to an extent that assures a perfect chilling on the exterior of the rim, notwithstanding the recession from the chill in cooling; whilst the chilling power of the ring does not extend to harden the inner or opposite side of the rim, which is therefore not quite so liable to fracture as is chilled according to the method previously described. The method with the ring or rings (for there may be two of them) has the superadded good property of giving strength to the wheel, and safety from disaster in case of the fracture of the cast metal in rapid movement upon the railway, since the tenacity of the malleable ring or rings situated in the midst of the body of the ring, and pervading the whole length of the periphery, will be competent to hold the wheel together and prevent its parting, even after the occurrence of a fracture in the rim. Several wheels formed after this method were broken with a heavy sledge hammer, but the segments of the fractured rim were still held together by the tenacity of the unbroken malleable ring, which last was found to be so exceedingly tough, that it was necessary to cut it before the broken parts of the casting could be disengaged one from the other. These examinations furnish ample evidence of the very best of chilling due to the presence of the ring, and of its probable value as a ligament to give strength and safety to the cast iron railway wheel. The principle and its efficacy having been applied and ascertained, it remains to reach the utmost advantage by the necessary modifications and adaptations; to ascertain whether there should be two rings or only one; what should be the thickness of iron composing them; what form of section, whether round, square or otherwise; what should be the thickness of the rim enclosing them, and what should be their best position in the area of the cross section of that rim, &c. It is probable that a single ring to a wheel will be entirely sufficient, and that for a three feet wheel it should have a rectangular section equal in area to about the fourth part of a square inch.

The wheels now upon the Atlantic engine have rings in them, and they work and wear satisfactorily: and it is confidently believed that this discovery will be of great advantage in locomotive wheels as well as in those of passenger coaches drawn by steam power at high velocities, and that a wheel made after this manner might well be denominated *the safety wheel*. Whether for car-wheels in general, and of a diameter not extending about two and a half feet, the first or the second method of chilling, as already described, will be on the whole preferable, cannot now, perhaps, be fairly decided, but must probably be left to the lights of maturer experience.

From the improvements and modifications already made and matured, no doubt is entertained but that the company can have constructed in their own shops now constructed for that purpose, and for other objects connected with their railway machinery, locomotive engines of a very efficient and comparatively economical character, and more so, perhaps, than those of any other model hitherto imported from Europe. I do not hazard this sentiment from a mere feeling of partiality to the genius of our countrymen, but from a belief that the results will be fully realized. Notwithstanding, if it shall be thought proper, one or more English engines, of the most approved form and construction, might be imported and probably used with advantage upon the railway, now being made to Washington, inasmuch as, from the straightness of that road, an opportunity will there be afforded for a fair comparison between rival machines of this kind and of the most varied form.

Since the time of the last annual report, a second locomotive engine, built by Phineas Davis, was placed upon the road. This machine differed from the Atlantic engine in being lighter, and in the substitution of the crank axle, in lieu of the spur and pinion wheels, the position of the cranks being inside of the road wheels. The engine was calculated for the slower speeds, and was intended to be employed in the conveyance of commodities. The power of its traction was perhaps equal to that of the Atlantic engine, in proportion to the weight or the adhesion upon the rails, but the economy of fuel was probably rather greater in the Atlantic. Upon the whole the new engine was a good one, though somewhat inferior to the other. From some cause, the crank axle was broken, and a question arose whether it was not advisable in repairing the engine, to gear it in the same manner as the Atlantic, the performance of which had been very satisfactory. After mature deliberation, it was resolved to gear it by placing the pinion upon a shaft distinct from the axle of the road wheels, having connecting rods to cranks upon the shaft and axle *outside* of the wheels. This expedient of a separate shaft was adopted to obviate the damage that might occur to the spur and pinion from any jars or undulatory action of the road wheels, and since this engine was lighter than the Atlantic, and as much adhesive power would be needful in the traction of heavy trains upon the railway in the curves and ascents, it was furthermore deemed proper to avail of the adhesion of all the four wheels by means of outside cranks and connecting rods. A great, if not a vexatious delay has been experienced in procuring these repairs, although the work was confided to an establishment of good character and much business, but there is now a prospect of having it upon the road in the course of a few days. The performance of this machine will be seen with much interest, as it will test the advantage of several improvements which have been suggested and are introduced in its structure. The result will consequently have an important bearing upon the manner of arranging the working parts of the locomotive engines now about to be constructed.

It is not thought proper, on the present occasion, to travel over grounds heretofore occupied in the annual reports, as regards the motive power and machinery, or to repeat what is said upon this subject, in my report upon the routes of the proposed railway to connect the cities of Baltimore and Washington, already referred to as a document annexed to *this* report: it may, however, be mentioned, that our confidence in the use of steel springs for the burthen cars as well as for the passenger coaches, remains unabated; and that this subject, in common with others of utility in railways and railway machinery, has continued to claim our especial care, and the result will probably be, the fabrication and adoption of steel springs entirely efficient and very durable, the prime cost of which, inclusive of appurtenant fixtures, shall not exceed the one-third part of that of *leather braces*, or even of the springs of steel as hitherto made and used to sustain equal stress elsewhere.

No extension of the railroad having been made within the year just closed, there will be nothing to offer under that head; and the lettings upon the first Division of the Washington railroad are of such recent occurrence as not to require from me in this place any special mention or detail.

In the transportation department there has been a constant accession of business, both as regards the quantity of commodities carried, and the number of passengers conveyed, and there is every just ground to expect a continuance of increase of revenue from these sources, and an adequate remuneration for the expenditures incurred. It is probable that this desirable result will be realized in a shorter time from the commencement of the undertaking than has been experienced in most public works in our country, that have nevertheless proved highly successful and profitable. Much credit is due to the Superintendent of Transportation, William Woodville, for his vigilance, and for the degree to which he has economized the expenses in the department committed to his care, and we are assured, that these expenses will by no means increase in the ratio of the receipts. In connection with this part of the subject is the economy of passing the planes at Parr's ridge, hitherto effected with horse power, by the usual manner of working that animal on other parts of the road. As the tonnage of the transit augments, the economy of this power over that of steam, by fixed engines and the appropriate appendages, becomes more equivocal, and it is believed, that the time has nearly arrived when it will be proper to commence the erection of stationary engines. The transit over the inclined planes by these will doubtless be performed in a cheaper and much more convenient manner than with horses, when the accession to the trade and intercourse consequent upon the extension of the railroad to Harper's Ferry shall be realized. Estimates and comparisons will be instituted by this department upon this subject, and in due time reported with the necessary plans.

With regard to the extension of the Baltimore and Ohio Railroad from the Point of Rocks to Harper's Ferry, it may be remarked that the Chesapeake and Ohio Canal Company have located, and are engaged in the construction of the graduation of the Railroad through the narrow passes, comprising a distance of four and one-tenth miles, in pursuance of the compromise entered into between the Canal and Railroad Companies. A line of location for the railroad has likewise been traced and staked out under the directions of this department, by Caspar W. Wever, embracing the residue of the distance, and equal to about eight and one-fourth miles. This line met with my approbation, and was then submitted with the drawings to Alfred Cruger, Engineer and Commissioner on the part of the Canal Company, for his approval.

After conference and deliberation he proposed certain alterations in the line to render it acceptable on his part; to these alterations I acceded. Having thus come to a mutual understanding in a written correspondence, which was duly reported by me to thee, and the arrangement having been approved and sanctioned by the Board, will doubtless be likewise approved by the Canal Board, when no obstruction will exist to a consummation of the compromise in a speedy construction of the work to Harper's Ferry.

Surveys of the country between the city of Baltimore and the city of Washington have been continued with a view to perfect the location of the route for a rail road to connect those cities, and drawings, calculations and estimates, of several of the most feasible routes, have been made, and were reported on the 27th July last, for a more full account, in relation to which, see document W. R. annexed, and herein before referred to. The Board having decided in favor of the *upper route No.* 2, as combining the most advantages for a railway, such as is proposed to be formed upon a line of intercommunication of great importance, I have proceeded without delay, in obedience to thy instructions to that effect, to assign the definitive position of the line, and stake it out for contract. The first division, extending from the Baltimore and Ohio Rail, road to, and inclusive of, Merrill's Ridge, and the fourth division, extending from a point near Bladensburgh to the boundary line of the city of Washington, both together about eleven miles, were staked out for contract during the time of the pendency of the question with regard to a preference of the routes, these two divisions not having been involved in that question. In the execution of the final survey now mentioned, the first division has been much improved in its location by laying it upon ground requiring less masonry and much less excavation and embankment. The surveying party is now engaged upon the second and third divisions, comprising a distance of about eighteen miles, which will be prepared for contract in the course of a few weeks, or as soon as practicable. The surveys, levellings, drawings and calculations in relation to the routes for this railroad, have been conducted under my direction by B. H. Latrobe, assistant Engineer, whose services have been faithfully rendered and continue to be highly valuable.

Respectfully submitted, J. KNIGHT.
Chief Engineer Balt. and Ohio Railroad.

Report of the Committee on Cars, to the Direction of the South Carolina Canal and Railroad Company, submitted 20th November, 1833.

The Committee on Cars, to whom was referred the several Resolutions of the Stockholders, requiring information on the following points, viz.:

1st. What is the cost of each locomotive, and from whom bought.

2d. The time of arrival of each locomotive from the period when contracted for.

3d. State the performance of each locomotive on the road.

4th. What derangements have taken place in the machinery, and the causes of such derangement, so far as has been ascertained, whether from bad materials, bad workmanship, or defect in the principle of construction.

5th. Have any, or what locomotives, been constructed on the plan of the English engines, and what has been the comparative performance of such.

6th. Have not the locomotives heretofore received been generally constructed upon the plan of English engineers, but with *supposed* improvements, suggested by our engineer; and have not such supposed improvements already failed in several instances.

7th. How many of them are now in use, and how many laid by for repairs.

Beg leave to report, that they have bestowed the best attention to the subject, that the limited time and other circumstances would permit. The Committee handed a copy of the subject matter referred to them to the Chief Engineer, in order to obtain from him such information as would aid them in their deliberations. The Committee also entered into a minute examination of the master of the works, the several engineers charged with the management of the four and eight wheel engines, and the superintendant of the repairs of the road, with the view of embracing more fully the obvious purport of the resolutions. The Committee submit the following replies to the queries:

To the 1st, 2d, 3d, 4th and 7th.

The following statement contains the names, contract prices, time when due, and time when put to work, of the several engines employed on the road:

1. Received Dec. 1830, Best Friend, 4 wheels, $4,000 00, due June 1830, put to work Dec. 1830.

2. Rec'd April, 1831, West Point, 4 wheels, $3,250 00, due January 2, 1831, put to work July 15, 1831.

3. Rec'd January, 1832, South Carolina, 8 wheels, $5,000 00, due January 15, 1832, put to work Feb. 24, 1832.

4. Rec'd March, 1833, Charleston, 8 wheels, $5,750 00, due Jan. 15, 1833, put to work Sept. 1, 1833.

5. Rec'd June, 1833, Barnwell, 8 wheels, $5,750 00, due Feb. 15, 1833, put to work, June 15, 1833.

6. Rec'd September, 1833, Edisto, 8 wheels, $5,750 00, due March 15, 1833, put to work, Sept. 11, 1833.

1st. The *Best Friend* had its boiler destroyed by explosion, June 1831. Her cylinder and working parts were made use of in the construction of the *Phœnix*, built by the Company in Charleston, the boiler of which is on the principle of the *Best Friend*. The arrangement of the machinery and boiler is different, having the cylinders working outside, and the weight much more equally distributed. This engine was put to work 18th Oct. 1832.

2d. The *West Point* was removed from the road 4th June, 1833, for the purpose of introducing an outside arrangement of her machinery, similar to that which has proved so successful in the Phœnix. This required a new frame, otherwise much wanted, and new wheels. The wheels have at length been received, and the axles are expected daily; the other work is considerably far advanced, but in consequence of a want of hands, nothing has been done on her for a considerable time,—the work is now resumed.

3d. The boiler of the *South Carolina* failed 27th December, 1832, and the engine not replaced on the road until the 10th April, 1833, when, after an ineffectual attempt to use her for some weeks, it was found necessary to construct new frames, which had always been too slight, and to alter the part of the boiler over the fire-place according to the plan adopted in the new eight-wheel engines, for which purpose the engine was taken off the road on 8th September, 1833, and it has not yet been in our power to effect this object, not having had a sufficient number of men to do much to her. Previous to the failure of the boiler, much trouble and delay had arisen from the breakage of her pipes, which difficulty was, however, completely overcome; and from the use of cast iron and wooden wheels which failed repeatedly, but have now been replaced with cast iron wheels with wrought iron tires. Her axles, too, were constructed of a much less perfect material and plan, and were broken several times. In replacing her on the road, no alteration is contemplated in the principle, it having given great satisfaction, and the working parts and arrangements having never failed in the least.

4th. The *Charleston* was received in April, 1833, but the boiler requiring and receiving additional workmanship on the part of the manufacturers, the engine was not put to work until the time named, Sept. 1833. This was the engine erroneously supposed to have failed in consequence of her small flues, but in fact the difficulty of her draught was entirely removed by making the smoke-stock and discharge pipes as they were originally expected to be. Very considerable work has been done on this engine by the hands of the Company, but chargeable to the contractor. It has been found necessary to make more perfect the connections between the frames and axles of this engine, and it has been done most effectually. Much trouble has been had with this engine, from the inadequate strength of her valve gearing, and it is intended to replace it with stronger as soon as it is in our power to do so.

5th. With the *Barnwell* there has been similar difficulties with the valve gearing, but not to so great an extent, as they are better proportioned, although not strong enough. The pumps of this engine have not always worked well, and when the use of water containing much sediment, rendered them still more inefficient, the flues were injured by permitting the water to get too low, and eventually, after an injudicious continuance to run her after a failure to supply, the flues were so much impaired by the heat as to render it necessary to have them taken out. The flues being large ones were put in with collars, and it has been necessary to take the boiler apart to put in new ones. The engine has been off the road since 20th September, 1833. Her new flues have been received and will be put in with rings, which will allow any tube to be replaced with little delay or trouble. The repairs will now go on as fast as our force will permit.

6th. The *Edisto* has performed very satisfactorily with the exception of breaking one of her wheels (in the centre of the hub) and two of the sidelegs which support the boiler. It is supposed that the wheel received some extraordinary strain, as other wheels of the same construction have with the other Engines given great satisfaction. The valve gearing of this Engine is better proportioned than any of the others, but even in this, is not of that excess of strength which renders liability to failure exceedingly improbable.

To present at one view the manner in which the Road has been supplied with Engines for successive periods since the running of the West-Point alone on the Road, from June 1831 to Feb. 1832, when the South Carolina commenced running, we have as follows:

Feb. 24, to Oct. 18, 1832—8 months, 2 engines—West Point and South Carolina.

Oct. 18, to Dec. 27, 1832—2 months, 3 engines—W. Point, S. Carolina, Phœnix.

Dec. 27, 1832, to April 10, 1833—4 months, 2 engines—W. Point and Phœnix.

April 10, to June 4, 1833—2 months, 3 engines—Phœnix, S. Carolina, W. Point.

June 4, to Sept 1, 1833—3 months, 3 engines—Phœnix, S. Carolina, Barnwell.

Sept. 1, to Sept 11, 1833—10 days, 3 engines,—Phœnix, Barnwell, Charleston.

Sept. 11, to Sept 21, 1833—10 days, 4 engines—Phœnix, Barnwell, Charleston, Edisto.

Sept. 21, to Nov. 20, 1833—2 months, 3 engines—Phœnix, Charleston, Edisto.

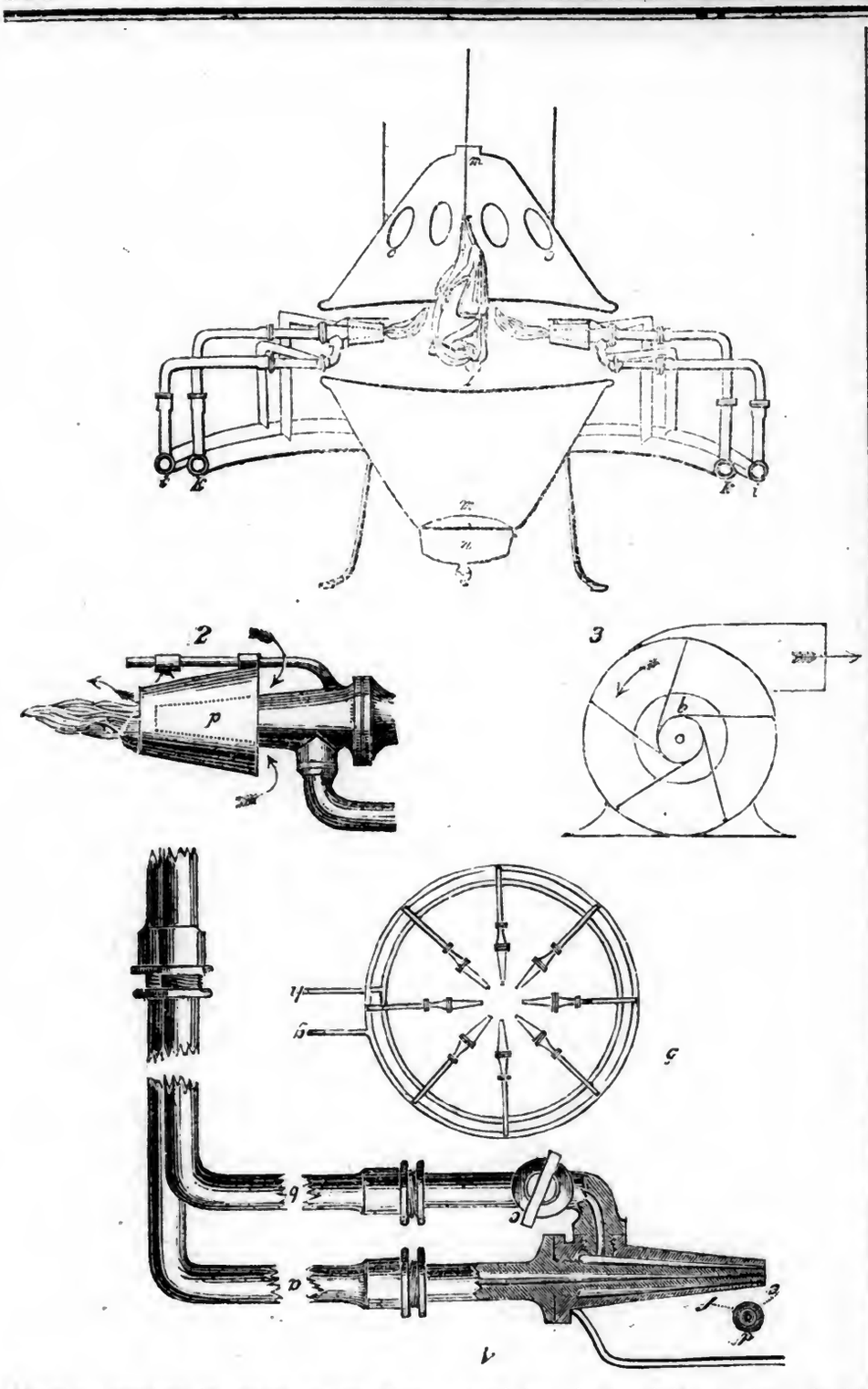
It must be borne in mind, in looking at the above list, that all that have ever been put to work on the road, have been considered as at work, with the exception of the S. Carolina, taken off on account of failure of boilers, Dec. 28th, 1832, and again taken off, boiler being still unsound, and new frames being required, on Sept. 8, 1833.

Of West-Point, taken off to introduce new arrangement & frame, June 4, "
Of Barnwell, taken off on account of injury to flues, Sept 21, "

The *Hamburgh*, a four-wheel engine, constructed by the West-Point Foundry Association, according to the plan adopted by them from the one used on the Camden and Amboy road, which are after the approved English engines, with some alteration in her boiler, with a view to a more equal distribution of the weight, was received Oct., 1833, but is not yet put to work as one of the engines on the road, its axle having failed in the first three trials of the engine.

We have thus at work,—The Phœnix, 4 wheels—the Charleston, 8 wheels—the Edisto, 8 wheels.

[*To be continued.*]



Mallet's Apparatus for cooking by Gas Flame.

[From the London Mechanics' Magazine for August.]

We extract from the last part of Mr. Loudon's "Encyclopædia of Cottage, Farm, and Villa Architecture," the following account, by Mr. Mallet, of Dublin, of an apparatus for cooking by gas flame, which he considers superior to that of Mr. Hicks:

"Cooking by gas flame is a thing which has long floated in my head, but which I have said nothing of, lest the folks should suppose me "daft," as they say in your country. Some few years ago I had occasion to make some weldings of iron, where it is an important object that the metal should not be burnt away in the fire; for this purpose I endeavored to use a kind of huge gas blow-pipe. I got one made of the kind shown in fig. 4, as far as each jet is concerned, but of a much larger size. In this figure, *a* is the air tube; *b* is the gas tube; *c* the gas cock; and *d* an end view of the point of the blow-pipe, in which *e* is the circular orifice for the emission of air, and *f* that for the emission of gas. Mr. Daniell of King's College, London, has since published the same thing as new, and of his invention; however, I can establish priority by my laboratory journal. To proceed, the jet or blow-pipe is so made that a current of atmospheric air is forced into the centre of the gas flame, by which means the latter is converted into a blow-pipe of great power. Instead of a mere circle of gas burners I use a certain number of such blow-pipe flames, arranged as radii of a circle, as in fig. 5, in which *g* is the air pipe, and *h* the gas pipe; and each of the branches to the jets from these pipes has four small collars of leather, or stuffing boxes, so that any one can be approached to or drawn from the centre of the circle, or raised or lowered, as occasion may require. Fig. 1 is a sectional view of such an apparatus complete, in action; a circular main tube, *i*, supplies the gas to all, and another, *k*, supplies the current of air, the means for producing which I will describe hereafter. The article to be roasted, *l*, is suspended from a bottle jack, but with a swivel such as those used by anglers interposed, so that it may be permitted to turn, or be stopped, the jack still going on as may be required. Above and below it are parabolic plated copper reflectors, *m m*; the lower one with a receptacle for dripping, *n*; and the upper one with six or eight discs of plate glass inserted in proper places to enable the operator to view the process of coction. Each burner has a copper cone, *p*, placed so as to slide over it, by which means the radiated heat, convergent on the roasting matter, a current of hot air is continually urged against it, as shown more fully in fig. 2. The upper reflector is hung by balance weights, so as to throw up in a moment; and besides a cock to each individual gas tube of each burner, there is a general one to each of the air and gas main tubes, so as to diminish the heat generally, or in any particular spot.

"The advantages of this arrangement over that of Mr. Hicks appear to me to be a much greater economy in fuel, (as the waste heat in the upper reflector may be collected and conveyed away in a tube, and applied for the purpose of heating water, &c.;) perfect combustion, at a greatly increased temperature (viz. one sufficient to melt wrought iron), without any smoke; the means of a more perfect regulati n, application, and adaptation of the heat to any given substance; better form for the reflectors, and less escape of heated air by them; the application of copper funnels to the burners, by which a continuous current of hot air is urged against the article being roasted; and the capability of adapting the cordon of burners to an irregular mass, at equal distances every where.

"The expense of this apparatus is far greater than that of Mr. Hicks, but fewer sets of apparatus will answer by this than by that mode; for the common circle will only suit things of nearly the same size, while my apparatus may be applied to any thing that can be admitted within it.

"The current of air may be produced by means of fanners, such as are occasionally used for producing a blast on a large scale in iron founderies. These are to be worked either by a common jack, (a smoke-jack,) or any other power at hand. The fanners are simply a few vanes of sheet iron, revolving with great rapidity (1500 times per minute) in a cylindrical case, with a lateral aperture for the emission, and two others at the axis for the admission of air, as in fig. 3. The vanes are set tangentially to the axis, and so revolve, that by communicating a centrifugal force to the air in the cylinder, it is expelled at *a* and fresh air drawn in at *b*, to be in its turn expelled likewise. Mr. Daniell proposed to heat the air in a red-hot tube, for the purpose of this blow-pipe, which would certainly be an improvement, and could readily be done by inserting the tube in the kitchen fire.

"Blow-pipe flames for boiling or stewing

may be made on the same principles, and those described, only placed vertically, will do; all that is necessary is that several concentric alternate tubes of gas and air may be burnt. But I do not conceive cooking generally by gas, in the present state of the gas manufacture, and consequent high price of gas, economical. I however esteem it admirably applicable to cooking wild fowl, and similar exquisite *morceaux* of *gourmanderic*. When gas is publicly made from the decomposition of water (and I think the time is not far distant when that will be the case), it will be a cheap fuel for many purposes."

Remarks by Mr. Loudon, Editor of the London Gardeners' Magazine.—"We do not offer an opinion on Mr. Mallet's plan for cooking by gas, as compared with that of Mr. Hicks, but the more we see and hear on the subject generally, the more we are convinced that the time is not far distant that cooking by gas will become common in all towns where gas lighting is employed. Our correspondent, Mr. Robison, informs us that Messrs. Steele, brothers, ironmongers in Edinburgh, are about to erect a kitchen for a gentleman in the neighborhood of that city on the plan given in page 714 of this work, but substituting gas stoves for the coke fires, and adding a roasting and baking oven, both heated by gas. A canopy is to be put up over the cooking hearth, like the sounding board of a pulpit, and its apex is to be connected with a flue in the kitchen wall, by which means all smells produced by cooking will be carried off as fast as generated. Mr. Milne, an eminent brass-founder in Edinburgh, who has had great experience in fitting up gas apparatus, both in England and Scotland, is of opinion that, in the city just mentioned, gas, in the better class of houses, will soon take the place of coal fires, not only for cooking, but also for heating. We have lately seen not only roasting, but boiling and stewing performed at Mr. Hicks', and earthen-ware cones and radiating discs substituted for metallic ones, in a similar manner to that suggested by Mr. Mallet. For broiling, a disc is substituted for a cone."

Six Years Rotation of Crops, and its Results. By Wm. Taylor. [For the New-York Farmer and American Gardener's Magazine.]

Mr. Fleet,—I have often thought if farmers would, more frequently, give an interchange of their views and practice in agricultural pursuits, through the medium of your excellent Magazine, the brotherhood would receive many advantages and useful hints; and being fully satisfied that I have received (even in a pecuniary point of view) more than the principal and interest on the three dollars I sent you for the New-York Farmer, as also many mental feasts, on rainy days and evenings, from its pages, besides the many useful hints my wife and daughters have received, which have added not a little to our comfort and happiness, I feel an obligation resting on me, although entirely unaccustomed to writing for the public eye, to attempt to contribute my feeble part in so good a cause.

The most of my neighbors around me still continue the old system of summer-fallowing and ploughing, two, three or four times for every crop, which is usually much less than might be obtained, with judicious management, with once ploughing only, and save the loss of much labor, team, and wear and tear, and use of land by summer fallowing, (which ought to be exploded,) but also the great loss of the fermentation of the sod and other substances, which might otherwise be the best of food for the grain crop. I feel impelled, by a sense of duty, to send you an account of what I consider the great advantages of the Six Years Rotation System of Crops, and only once ploughing for any crop. I have pursued it for many years, and, if it was generally adopted in this great empire state, I am convinced it would make a clear gain annually of $50,000.

From my early days I have been accustomed to agriculture, and, when a boy, would frequently ask many questions of my father, (whose memory I revere,) if such and such methods of farming would not be better than the old system. As my questions were frequent, and had, probably, become rather troublesome, he gave me, for a general answer, to note down such plans as my own brain would suggest, as an improvement, and if I lived to become a man, I could then put them in practice, and ascertain their utility.

The first of all my plans was to clear the ground of stumps and stones, and if it was but one acre a year that could be added, to let that be *well* done; for it is an important point, ever to be borne in mind by the farmer, after he determines to do a thing, that it be *well* done.

I then begin my six years rotation of crops with Indian corn and potatoes. I spread my manure in the spring of the year, in its long unfermented state, from the barn yard, on the sod, before the plough, then smoothly invert the sod, at the depth of 4½ inches, following with the roller, and then with St. John's double harrow effectually lengthwise. I, then, with a simple machine, mark out two or three rows at a time, going through both ways, from two feet ten inches to three feet apart, plant the deep grain long-eared eight-rowed corn, get from thirty to ninety bushels shelled corn per acre, averaging only about forty-five or fifty, because much of it has no other manure than gypsum and the fermentation of the sod. My method of cultivating the corn crop is very similar to that excellent communication made by Jesse Buel, Esq. in your New-York Farmer, page 147. Cost of preparing the ground and tilling the corn, is $8 per acre; the stalks will pay for harvesting the corn.

The second year I plough my stalk ground in April into fifteen pace lands, sow barley, peas or oats, and harrow lengthwise first, then crosswise. If the weather is dry, and there are any lumps, pass the roller over, and open the dead furrows with the plough. Crop of oats average 45 bushels, barley 25, peas 15. Cost of tilling $4 per annum.

Third crop. As soon as the hogs have cleared the stubble of grain, I turn the stubble all smoothly under, about four inches deep, leaving the dead furrow where the ridge was in the last crop; and between the 15th and 20th of September I spread a light coat of manure over the lands as they have been ploughed, and follow immediately with the seed, 1½ bushel to the acre, it having been previously steeped in brine of common salt twelve hours, then four quarts of lime well stirred up amongst a bushel of wheat, and then add five or six quarts of gypsum finely ground.

In this way of preparing seed I have not had smutty wheat in twenty years, and very seldom troubled with rust. The double harrow follows hard after the sower (lengthwise of the furrow of course,) covering the seed, and mixing the manure with the earth, before it has time to dry or waste with the wind or sun; cross harrow as before; pass over the roller, open the dead furrows, and otherwise ditch, if necessary, so that the water, in the spring of the year, will run off readily. Crop of wheat from ten to thirty bushels per acre; average eighteen or twenty; cost of tilling and carting out manure, $6 per acre. Early in March sow on the wheat twelve quarts of timothy seed, and four quarts of red clover seed, to the acre. Early in May sow a bushel of gypsum, and at wheat harvest the clover and timothy will, ordinarily, be a beautiful green rich verdure, an ell high, that would make a man smile if his head ached ever so bad. It may be pastured considerably, but not too late in the season.

Fourth year. Mow from two to three tons of hay per acre, average two and a half. Fall feed will nearly pay for cutting and securing the hay.

Fifth year. Mow again, average two tons. The fall feed again pays all expenses.

Sixth year. In May sow one bushel of gypsum per acre, and pasture the whole summer; it will afford a rich pasture, equal to two tons of hay, and be much better for the corn crops, which, the next year, will again commence the rotation, than if the ground had been mown the last of the six years rotation.

Perhaps I ought to give you a statement of my success, from year to year, in pursuing the course I so earnestly recommend; for it is a common remark among farmers, that the practical result is every thing.

The fifty acres I began with was a gift from my father, worth $800. The timber was chiefly removed from forty acres of it. The old system of ploughing three or four times for every crop being in practice, and the stones not having been removed, much of the soil was exhausted by hard cropping. As I became able I purchased several small farms adjoining, at twenty four or twenty-five dollars per acre, brought them under the above method of tillage, and have now a farm of nearly 300 acres, 215 of it improved, lying together, which would now command about $40 per acre, and which yearly gives the following results.

Products of 215 acres of improved land, lying on the line between Ballston and Charlton, part in each town—being for the year 1833:

Wheat,	280	bushels at	8s.	6d.	$297 50
Oats,	547	-	3	0	205 00
Peas,	55	-	5	6	37 81
Rye,	20	-	6	0	22 50
Wool,	658	lbs.	4	0	329 00
62 Sheep, being the increase of the flock, at			16	0	124 00
600 lbs. of Butter, and 240 lbs. Cheese,					105 00
Pork, 4000 lbs. at 5 cents,				-	220 00
Beef, 2500 lbs. at 3½ "				-	87 50
Corn, 624 bushels at 4s.				-	312 00
Potatoes, 600 bushels at 17 cents,					102 00
Cider, 50 barrels at 8s.				-	50 00
Winter Apples, 50 bushels,				-	12 00
5 Veal Calves, at 20s.				-	12 50
Poultry and Eggs,				-	5 00
Rent of three out-dwelling-houses on the farm,				-	73 00
Rent of chief mansion-house, &c.					100 00
					2182 81

Growth of colts will pay for the team.

Deduct for expenses below	858 62
Clear gain	$1324 19

Expended for feed, labor, seed, wear and tear, &c. as follows:

208 bushels corn, fed to pork and beef, at 4s.	$104 00
400 bushels potatoes to do. and other stock, at 17 cents,	68 00
200 bushels oats, fed to team and stock, at 3s.	93 75
24 bushels seed wheat, at 10s.	30 00
35 bushels seed oats, at 3s.	13 12
7 bushels seed peas, and 2 of rye, at 6s.	6 75
Seed corn, and plaster or gypsum,	15 00
Wear and tear, including mechanics' work,	60 00
Labor, one man at 16 dollars per month, as principal,	192 00
Two men at 14 dollars per month, for seven months each	196 00
Two boys at 30 dollars each, the summer,	60 00
Taxes	20 00
Total Expenses	$858 62

The hands all board themselves.

The clear gain is more than 15 per cent, calling all the improved land $40 per acre. The growth of the timber land will, at least, be 7 per cent. at the same price per acre.

Let no farmer, or farmer's son, rise from the perusal of the above plain and unvarnished statement, and say he is

> "Doom'd to tread the thorny ground,
> Where few, he fears, are happy found."

But let him feel and act as if agriculture, managed with system, and true economy, is the most profitable, most healthy, most honorable, and best calculated to raise our thoughts and aspirations of praise to that beneficent being who gives us wisdom to cast in the "appointed wheat, and vetches, and barley, in its place;" and let us honorably sustain the cause, by faithfully doing our duty, and we and ours will be blessed, and happy.

P. S.—Forgive the egotism, for one can scarcely speak of his own doings without it. A similar statement for the year 1832 lacks only $9 87 of being 15 per cent at $40 per acre. Respectfully, yours,

W. TAYLOR.

Charlton, Saratoga Co.
Oct. 25, 1833.

REMARKS.—We are much pleased with the above communication, and hope we shall be favored with many similar to it.—[ED.]

Recipe for Preserving Beef and Hams. By CARLO. [From the New-York Farmer.]

Mr. FLEET:—Take 12 lbs. of common salt, 4 oz. saltpetre; 1½ gallons molasses, or 12 lbs. coarse sugar, and six gallons water—mix intimately, and apply cold to one barrel of beef or hams.

This recipe is said to have been brought from Ireland about one hundred years ago, and has been in use ever since, for curing beef, smoked beef, and hams. It preserves the meat moist, and not over salt; and beef cured by it, after lying eight months in the pickle, has made good soup, having plenty of gelatin. The smoked beef never gets hard and bony, and the hams preserve much of their gelatin. The pickle, however, if kept till warm weather, should be drawn off, scalded and skimmed; 4 lbs. of salt, 1 oz. of saltpetre, and 1 gallon water added, and returned when cold.

In packing the beef, it should be cut in pieces not less than four, nor more than ten pounds, rubbed well with salt, and packed close in the barrel without any salt between the layers, and the pickle put on.

Yours, &c. CARLO.
November 16th, 1833.

Babbage on the Economy of Manufactures.

(Continued from page 696.)

315. The principal part of the hand-machines employed in the bobbin-net manufacture are worked in shops forming part of or attached to private houses. The subjoined list will show the kinds of machinery employed, and classes of persons to whom it belongs.

Bobbin-net Machinery now at work in the Kingdom:

Hand Levers—six-quarter, 500; seven-quarter, 200; eight-quarter, 300; ten-quarter, 300; twelve-quarter, 30; sixteen-quarter, 20; twenty-quarter, 1. Total, 1,351.

Hand Rotary—ten-quarter, 50; twelve-quarter, 50. Total, 100.

Hand Circulars—six-quarter, 100; seven-quarter, 300; eight-quarter, 400; nine-quarter, 100; ten-quarter, 300; twelve-quarter, 100. Total, 1300.

Hand Traverser, Pusher, Straight Bolt, &c. averaging five-quarters, 750.

Total, hand machines, 3501.

Power—six-quarter, 100; seven-quarter, 40; eight-quarter, 350; ten-quarter, 270; twelve-quarter, 220; sixteen-quarter, 20. Total, power machines, 4000.

Total number of Machines, 4501.

700 persons own, each, 1 machine; 226, 2 do.; 181, 3 do.; 96, 4 do.; 40, 5 do.; 21, 6 do.; 17, 7 do.; 19, 8 do.; 17, 9 do.; 12, 10 do.; 8, 11 do.; 6, 12 do.; 5, 13 do.; 5, 14 do.; 4, 16 do.; and 25 own 1192, or respectively 18, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 35, 36, 37, 50, 60, 68, 70, 75, 95, 105, 206. Total number of owners, 1382, holding together 4500 machines.

The hand workmen consist of the above named owners, 1000; and of journeymen and apprentices, 4000. Total, 5000.

These machines are distributed as follows:—Nottingham, 1240; New Radford, 140; Old Radford and Bloomsgrove, 240; Ison Green, 160; Beeston and Chilwell, 130; New and Old Snenton, 180; Derby and its vicinity, 185; Loughborough and its vicinity, 385; Leicester, 95; Mansfield, 85; Tiverton, 220; Barnstable, 180; Chard, 190; Isle of Wight, 80; in sundry other places, 990. Total, 4500.

"Of the above owners, one thousand work in their own machines, and enter into the class of journeymen as well as that of masters in operating on the rate of wages. If they reduce the price of their goods in the market they reduce their own wages first; and, of course, eventually the rate of wages throughout the trade. It is a very lamentable fact, that one-half, or more, of the one thousand one hundred persons specified in the list as owning one, two, and three machines, have been compelled to mortgage their machines for more than their worth in the market, and are in many cases totally insolvent. This has chiefly arisen from the fall in prices of nets beyond the reduction in the prices of cotton and wages. This class of persons having become indebted to the cotton merchant, have been compelled to pay a comparatively excessive price for the thread they have used, and to sell their goods at the lowest prices of the market. Besides, their machines are principally narrow, and making short pieces, while the absurd system of bleaching, at so much a piece, goods of all lengths and widths, and dressing at so much all widths, has caused the new machines to be all wide, and capable of producing long pieces; of course to the serious disadvantage, if not utter ruin, of the small owner of narrow machines.

It has been observed above, that wages have been reduced, say 25 per cent. in the last two years, or from 24*s.* to 18*s.* a week. Machines have increased in the same time one-eighth in number, or from four thousand to four thousand five hundred, and one-sixth in capacity of production. It is deserving the serious notice of all proprietors of existing machines, that machines are now introducing into the trade of such power of production as must still, more than ever, depreciate (in the absence of an immensely increased demand) the value of their property, have a direct tendency to sink the small owners into journeymen, and either greatly increase the labor, or depreciate the workman's wages. It is a curious fact, as illustrative of the progress of machinery, that there are bobbin-net machines, which being worked by three men, six hours each, or eighteen hours per day, are turning off twenty thousand square yards of good net per annum. Now, it is not to be fairly denied, that such machines being multiplied to some extent, must, with only the actual demand, lower even the present trifling value of the sixteen hundred or seventeen hundred narrow hand-machines, one-half or more, and reduce the rate of wages of those who work in them one-third, and that of the remaining hand-machine workmen at least one-fourth; or, which is the same thing, compel them to increase their labor in the same proportion.

316. From this abstract, we may form some judgment of the importance of the bobbin-net trade. But the extent to which it bids fair to be carried in future, when the eastern markets shall be more open to our industry, may be conjectured from the fact which Mr. Felkin subsequently states, that "We can export a durable and elegant article in cotton bobbin-net, at 4*d.* per square yard, proper for certain useful and ornamental purposes, as curtains, &c.; and another article used for many purposes in female dress at 6*d.* the square yard."

317. *Of Patents.*—In order to encourage the importation, the improvement, or the invention of machines, and discoveries relating to manufactures, it has been the practice in many countries to grant, to the first introducers, an exclusive privilege for a term of years. Such monopolies are termed Patents; and they are granted, on the payment of certain fees, for different periods, from five to twenty years.

The following table, compiled from the report of the Committee of the House of Commons "*On Patents*," 1829, shows the expense and duration of patents in various countries:

Countries.	Expense. £	s.	d.	Term of Years.	Number granted in 6 years, end'g 1826—*Rep.* p. 243.
England - - -	120	0	0	14	914
Ireland - - -	125	0	0	14	..
Scotland - - -	100	0	0	14	..
America - - -	6	15	0	14	..
France - - - -	12	0	0	5	1091
	32	0	0	10	
	60	0	0	15	
Netherlands - -	£6 to £30			5, 10, 15	..
Austria - - - -	42	10	0	15	1099
Spain*—Inventor	20	9	4	15	..
" Improver	12	5	7	10	..
" Importer	10	4	8	6	..

318. It is clearly of importance to preserve to each inventor the sole use of his invention, until he shall have been amply repaid for the risk and expense to which he has been exposed, as well as for the talent he has exerted. But the varieties in the degree of merit are so numerous, and the difficulties of legislating upon the subject are so great, that it has been found almost impossible to frame a law which shall not, practically, be open to the most serious objections.

The difficulty of defending an English patent in any judicial trial is very great; and the number of instances on record in which the defence has succeeded, are comparatively few. This circumstance has induced some manu-

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* The expense of a patent in Spain is stated in the Report to be respectively 2000, 1200, and 1000 reals. If these are reals of *Vellon*, in which accounts are usually kept at Madrid, the above sums are correct; but if they are reals of *Plate*, the above sums ought to be nearly doubled.

facturers no longer to regard a patent as a privilege by which a monopoly price may be secured; but they sell the patent article at such a price as will merely produce the ordinary profits of capital, and thus secure to themselves the fabrication of it, because no competitors can derive a profit from evading a patent so exercised.

319. The law of copyright is, in some measure, allied to that of patents; and it is curious to observe, that those species of property which require the highest talent, and the greatest cultivation—which are, more than any other, the pure creations of mind,—should have been the latest to be recognized by the state. Fortunately, the means of deciding on an infringement of property in regard to a literary production, are not by any means difficult; but the present law is, in some cases, productive of considerable hardship, as well as impediment to the advancement of knowledge.

320. Whilst discussing the general expediency of limitations and restrictions, it may be desirable to point out one which seems to promise advantage, although it is by no means free from grave objections. The question of permitting by law, partnerships, in which the responsibility of one or more of the partners is limited in amount, is peculiarly important in a manufacturing, as well as a commercial point of view. In the former light, it appears calculated to aid that division of labor, which we have already proved to be as advantageous in mental as it is in bodily operation; and it might possibly give rise to a more advantageous distribution of talent, and its combinations, than at present exists. There are in this country many persons possessed of moderate capital, not themselves enjoying the power of invention in the mechanical and chemical arts, but who are tolerable judges of such inventions, and who are also excellent judges of human character. Such persons might, with great success, employ themselves in finding out inventive workmen, whose want of capital prevents them from realizing their projects. If they could enter into a limited partnership with persons so circumstanced, they might restrain within proper bounds the imagination of the inventor, and by supplying capital to judicious schemes, render a service to the country, and secure a profit for themselves.

321. Amongst the restrictions intended for the general benefit of our manufactures, there existed one by which workmen were forbidden to go out of the country. A law so completely at variance with every principle of liberty ought never to have been enacted. It was not, however, until experience had convinced the legislature of its inefficiency, that it was repealed. When, after the last war, the renewed intercourse between England and the continent became extensive, it was soon found that it was impossible to discover the various disguises which the workmen could assume; and the effect of the law was rather, by the fear of punishment, to deter those who had left the country from returning, than to check their disposition to migrate.

ON THE EXPORTATION OF MACHINERY.

322. A few years only have elapsed since our workmen were not merely prohibited by act of Parliament from transporting themselves to countries in which their industry would produce for them higher wages, but it was forbidden to export the greater part of the machinery which they were employed to manufacture at home. The reason assigned for this prohibition was the apprehension that foreigners might avail themselves of our improved machinery, and thus compete with our manufacturers. It was, in fact, a sacrifice of the interests of one class of persons, the makers of machinery, for that of another class, those who use it. Now, independently of the impolicy of interfering unnecessarily between these two classes, it may be observed, that the first class, or the makers of machinery, are, as a body, far more intelligent than those who only use it; and although, at present, they are not nearly so numerous, yet, when the removal of the prohibition which cramps their ingenuity shall have had time to operate, there appears good reason to believe that their numbers will be greatly increased; and that it may, in time, surpass that of those who use machinery.

323. The advocates of these prohibitions seem to rely greatly upon the possibility of preventing the knowledge of new contrivances being conveyed from one country to another; and they appear to take much too limited a view of the possible, and even probable, improvements in mechanics. For the purpose of examining the question, let us consider the case of two manufacturers of the same article, one situated in a country in which labor is very cheap, the machinery bad, and the modes of transport slow and expensive; the other engaged in manufacturing in a country in which the price of labor is very high, the machinery excellent, and the means of transport expeditious and economical. Let them both send their produce to the same market, and let each receive such a price as shall give to him the profit ordinarily produced by capital in his own country. It is almost certain that in such circumstances the first improvement in machinery will occur in the country which is most advanced in civilization; because, even admitting that the ingenuity to contrive were the same in the two countries, the means of execution are very different. The effect of improved machinery in the rich country will be perceived in the common market, by a small fall in the price of the manufactured article. This will be the first intimation to the manufacturer of the poor country, who will endeavor to meet the diminution in the selling price of his article by increased industry and economy in his factory; but he will soon find that this remedy is temporary, and that the market price continues to fall. He will thus be induced to examine the rival fabric, in order to detect from its structure any improved mode of making it. If, as would most usually happen, he should be unsuccessful in this attempt, he will be forced to endeavor to contrive some improvement in his machinery, or to acquire information respecting that which has taken place in the factories of the richer country. Perhaps, after an ineffectual attempt to attain by letters the information he requires, he sets out to visit the factories of his rivals. To a foreigner and rival manufacturer such establishments are not easily accessible; and the more recent the improvement, the less likely he will be to gain access to them. His next step, therefore, will be to obtain the knowledge he is in search of from the workmen employed in using or making the machines. Without *drawings*, or an examination of the *machines* themselves, this process will be slow and tedious; and he will be liable after all to be deceived by artful and designing workmen, and be exposed to many chances of failure. But suppose he returns to his own country with perfect drawings and instructions, he must then begin to construct his improved machines: and these he cannot execute either so cheaply or so well as his rivals in the richer country; but after the lapse of some time, we shall suppose them to be completed and in working order.

Let us now consider what will have occurred to the manufacturer in the rich country. He will, in the first instance, have realized a profit by supplying the home market, at the usual price, with an article which it costs him less to produce; he will then reduce the price both in the home and foreign market, in order to produce a more extended sale. It is in this stage that the manufacturer in the poor country first feels the effect of the competition; and if we suppose that, from the first application of the new improvement in the rich country, and the commencement of its employment in the poor country, only two or three years elapse, yet will the manufacturer who contrived the improvement, even supposing that during the whole of this time he has made only one step, have realized so large a portion of the outlay which it rendered necessary, that he will now be in a state to make a much greater reduction in the price of his produce, and thus render the gains of his rivals quite inferior to those which his own ingenuity has produced for himself.

324. It is contended, that, by admitting the exportation of machinery, foreign manufacturers will be supplied with machines equal to our own. Now, the first answer to this argument which presents itself is supplied by almost the whole of the present volume, viz.: *That in order to succeed in a manufacture, it is necessary not merely to possess good machinery, but that the domestic economy of the factory should be most carefully regulated.*

The truth, as well as the importance of this principle, is so well established in the Report of a Committee of the House of Commons, "On the Export of Tools and Machinery," that I shall avail myself of the opinions and evidence there stated, before I offer any observations of my own:

"Supposing, indeed, that the same machinery which is used in England could be obtained on the continent, it is the opinion of some of the most intelligent of the witnesses that a want of arrangement in foreign manufactories, of division of labor in their work, of skill and perseverance in their workmen, and of enterprize in the masters, together with the comparatively low estimation in which the master-manufacturers are held on the continent, and with the comparative want of capital, and of many other advantageous circumstances detailed in the evidence, would prevent foreigners from interfering in any great degree by competition with our principal manufacturers; on which subject the committee submit the following evidence as worthy the attention of the House:

'I would ask whether, upon the whole, you consider any danger likely to arise to our manufactures from competition, even if the French were supplied with machinery equally good and cheap as our own?—They will always be behind us until their general habits approximate to ours; and they must be behind us for many reasons that I have before given.

'Why must they be behind us?—One other reason is, that a cotton manufacturer, who left Manchester seven years ago, would be driven out of the market by the men who are now living in it, provided his knowledge had not kept pace with those who have been, during that time, constantly profiting by the progressive improvements that have taken place in that period: this progressive knowledge and experience is our great power and advantage.'

"It should also be observed, that the constant, nay, almost daily, improvements which take place in our machinery itself, as well as in the mode of its application, require that all those means and advantages alluded to above should be in constant operation; and that, in the opinion of several of the witnesses, although Europe were possessed of every tool now used in the United Kingdom, along with the assistance of English artisans, which she may have in any number, yet, from the natural and acquired advantages possessed by this country, the manufacturers of the United Kingdom would for ages continue to retain the superiority they now enjoy. It is, indeed, the opinion of many that, if the exportation of machinery were permitted, the exportation would often consist of those tools and machines, which, although already superseded by new inventions, still continue to be employed, from want of opportunity to get rid of them—to the detriment, in many instances, of the trade and manufactures of the country; and it is matter worthy of consideration, and fully borne out by the evidence, that by such increased foreign demand for machinery, the ingenuity and skill of our workmen would have greater scope; and that, important as the improvements in machinery have lately been, they might, under such circumstances, be fairly expected to increase to a degree beyond all precedent.

(To be concluded in our next.)

NEW-YORK AMERICAN.

DECEMBER 7, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20—1833.

LITERARY NOTICES.

WALDEMAR, a Tale of the Thirty Years War, by W. HARRISON; 1 vol.; *Philadelphia*, CAREY, LEA & BLANCHARD.—Another of Leigh Ritchie's Library of Romance; but not one calculated to add much to the reputation of the series. If this tale of the Thirty Years War be indeed from the same hand as "The Diary of a Physician," that hand has lost much of its cunning. There is a poverty and barrenness of invention, and Munchausen degree of improbability in the incidents of the story, which are inadequately redeemed by occasional passages of strength and beauty. Not the least valuable part of the book, are the historical sketches of Tilly, Pappenheim, Wallestein, and others, thrown into an appendix.

TRADITIONARY STORIES AND LEGENDARY ILLUSTRATIONS, by ANDREW PICKEN, author of the Dominie's Legacy; 1 vol.; *Philadelphia*, ED. C. MIEKLE.—This volume is made up of two distinct stories, each one intended, and in our judgment well calculated, to illustrate, by practical results, a useful moral. On the whole we prefer, perhaps, the second and longer story, *The Priors of Lawford*, which is wrought out with great and painful interest and effect. From the shorter story, *Lady Barbara of Carloghie*, intended to exemplify the evil of ill assorted macthes, we had marked an extract, which would fully justify our praise of this volume; but the demands of this busy political season, force us to exclude it—at least for to-day.

THE DUCHESS OF BERRI IN LA VENDEE, by GENERAL DERMONCOURT; 1 vol.: *Philadelphia*, CAREY, LEA & BLANCHARD.—Madame *Luchesi Palli* has certainly very much disenchanted the adventures of the Duchess of Berri, by teaching the world to overlook the daring of the heroine, in the frailties of the woman. Yet the courage, the fortitude, and the cheerful and confident spirit with which this slight and delicate Princess—whom even the breath of Heaven had not been permitted before to visit too roughly—encountered and overcame the greatest exposure, hardships and perils, in her absurd and illjudged, but daring attempt to rouse La Vendee into insurrection, are fitted to call forth wonder and admiration. They are recorded, too, with accuracy and fidelity by an enemy; for her biographer in this instance, is the General of Louis Philippe, who commanded in the district and succeeded in capturing her. He has made of it an attractive story.

THE SKETCH BOOK OF FASHION, by the author of Mother and Daughter. 2 vols. *New York:* HARPER & BROTHERS.—A collection of stories, which the author calls "laughing satires," but which sometimes have a very cynical laugh, is here presented; intended to point out, and by pointing out to correct, some peculiar vices of the higher class of society in England. They are written with ease, with spirit, and frequently more with a caustic, than a sportive pen. We are so pressed however, for room, at this moment—fraught as it is with even more than the usual supply of speeches, reports, and counter reports—that we have no room for any extracts.

THE LITTLE RECKONER, by RICHARD W. GREEN. *New York:* MCELRATH, BANGS & Co.

PETER PARLEY'S ARITHMETIC, with Engravings. *Boston:* CARTER, HENDEE & Co.

Both these little school books aim at facilitating the usually repulsive study of arithmetic to beginners. The first is intended for children younger than those to whom "Colburn's first lessons' are intelligible, and begins with the very a, b, c, as it were of mental arithmetic. *Peter Parley*, in addition to the simplicity with which he inculcates each lesson, presents it in the form of a story, which in its turn is illustrated by a picture, thus seeking to make this study an amusement. Both make use of familiar objects in order to impress the mind through the eye with the value and relation of numbers—as for instance, three beans, four hats, six stars, &c. &c. Of the two books, that of *Peter Parley* is, from the form in which the lesson is conveyed, and from the engravings by aid of which it is more forcibly impressed, to be preferred.

Q. HORATII POEMATA, with Notes and Explanations; by CHAS. ANTHON, Jay Professor in Columbia College. 1 vol. 8vo. *New York:* G. & C. & H. CARVILL.—Professor Anthon published in 1830, an edition of Horace, in which the notes, critical dissertations, conjectural amendments, and historical illustrations—learned far beyond the ordinary reach or demand of American scholarship—swelled the work to a size that rendered it both too dear and too large for ordinary use. In the edition before us, we have the same carefully printed text, with a large body of notes, thrown into an appendix, and which embrace those topics only connected with the poetry of Horace, which are essential to the proper understanding and enjoyment of it. All that relates to metre, and such explanations as serve to remove difficulties in the allusions, and indeed structure, of these poems, are carefully preserved, so as to render this edition a very useful and valuable one to all learners, as well as to those who, having learned, preserve the taste, and sometimes find the occasion to look back with pleasure at a school book.

SCENES OF AMERICAN WEALTH AND INDUSTRY. Boston: ALLEN & TICKNOR.—This is really a very pretty picture book with a great deal of useful information about our own country, its manufactures, trade, and agriculture, well calculated both to amuse and instruct youth. Taking each State in succession, the employments and occupations peculiar to, or chiefly followed in, that State, are explained; with many engravings, representing now some process of manufacture, now of agriculture; sometimes the view of a town, as Pittsburgh and Cincinnati; sometimes of scenes in the far West. After going through the States, there are several chapters devoted to Mexico and South America, prepared with equal care and accuracy. It is a little book quite calculated to stimulate and enlighten the curiosity of youth.

LETTERS OF MAJOR JACK DOWNING. *Boston.*—A friend thus writes to us concerning this publication:

We have run over the pages of this book with a considerable share of amusement; but we must confess our disappointment at not meeting in it various letters of the Major, to which alone we were first indebted for a knowledge of and attachment to his character and writings. We find, on tracing dates, that this distinguished personage was a writer of no inconsiderable power in his own State for two or three years before we ever heard of him. This was entirely owing to his writings being of almost an exclusively local character, but not the less meritorious. But when he joined the "Gineral" on the *grand tour*, we began to recognize him as a public character of no little importance. His letters then met us in the columns of the New York Daily Advertiser, and carried with them such palpable evidences of identity, we could not for a moment doubt their being from the "*genewine critur*," and we discarded all others.

The Boston publisher, it seems, in the Appendix to the book, embraces some of the letters which originally appeared in the New York Daily Advertiser, and which are said to be letters the Major never wrote. The Major, however, contradicted this some time ago; and we are inclined to side with him, and believe that he wrote all the letters published under his name in the New York Daily Advertiser, and which, with the Major's permission, we pronounce his best. And we repeat our belief, and the Boston book will, we think, bear us out in the remark, that but for the Major's letters, published originally in the New York Daily Advertiser, and republished with the greatest avidity in almost every newspaper in the country, the Major would not have been by any means recognized as he now is, as one of the first confidential advisers that ever stood between a people and their ruler. The Major is evidently a favorite of the people, and by his own showing (in which we trust he is not mistaken); he stands unrivalled in the estimation of the President; and has so ingeniously placed himself as to defy any power, Legislative, Executive or Judicial, to oust him from his position.

JOURNAL AND LETTERS FROM FRANCE AND GREAT BRITAIN BY EMMA WILLARD. 1 vol. *Troy, N. Y. N. Tuttle. New York, John Leavitt.* Originally written for a private circle and not intended for publication, this Journal is, nevertheless, now sent forth to the world from motives of philanthropy; to aid by any profits derived from the sale of it, the cause of female education in Greece. This consideration, and the fact, that the Journal is from the pen of a lady who has done good service herself, to the cause of female education at home, entitle the work as much to the indulgence, as to the patronage of the public. It is not, therefore, with the view of disparaging the book, but rather for the purpose of making it the occasion of stating some general propositions as to what seem to us among the first duties of a tourist, that we shall now tax the attention of our readers by a few remarks.

In assuming to judge of a foreign country, foreign in its language, usages, religion, and laws, such as France is to the great mass of Americans, there is always great danger of adopting hasty conclusions by reason of the false medium which we look through. Owing to the identity of our language and that of England, our reading, respecting other countries, is in English books; from them we derive not facts alone, but opinions, prepossessions, prejudices. We look in short at the rest of Europe, and of the world, indeed, through English glasses, which, like those tha *Major Jack Downing* supposes to have been furnished "to our venerable President" by a distinguished political Seer, present all objects, not as they really are, but as it is the interest of the spectacle maker, that they should appear. Hence it seems to us specially obligatory on an American visiting France, to distrust first impressions, to keep perpetual guard upon the prejudices, which the striking difference in all the modes of living in that country from those he is accustomed to see at home, so readily excites, and particularly to avoid generalizing from isolated facts or occurrences. In these points we think the writer of this Journal, has been incautious; her judgment is too soon made up, and her opinions emitted with two little examination and qualification; she passes upon the scenery, and we believe, agriculture of France, as compared with those at home, by the time she leaves Rouen, on the road from Havre to Paris. She pronounces upon the morals of French society, after a few weeks residence in Paris, and herself speaking the language of the country, as she apprizes us, imperfectly. Thi can only be accounted for, as we apprehend, on the hypothesis of certain preconceived notions about French people and French habits, derived, as above intimated, possibly from English books; hence those appearances only were noted which seemed to tally with such notions, and thus all objects were in a measure prejudged. Now on the score of the domestic relations in France, concerning which, we have heard and read so many flippant things (we do not apply these expressions to the Journal now before us) from English and American tourists, who make up their opinions from what they see or hear in Paris, we may from a residence of some years at different periods of life in France, claim to speak with knowledge, when we say, that in no country in the world, so far as we know, is the intercourse between parents and children, husband and wife, brothers and sisters, masters and servants, and between neighbor and neighbor without reference to rank or fortune, on a more delightful or affectionate footing than in France. The very terms of the language, the endearing *tutoiment*, (using the second person singu-

lar instead of the second perron plural,) which always obtains in the domestic circle, both towards relatives and family servants; the claim which one's neighbor, *mon voisin*, has almost as a matter of course to general kindness, and to aid, if necessary, the devoted attachment of children to parents, and the confidential footing of equality upon which they live together: all this belongs eminently to domestic relations in France; and knowing such to be the case, it is always with regret, and sometimes with indignation, that we read sweeping and indiscriminate censures levelled against the moral condition of French society, and founded—if founded at all—upon the licentious exceptions which every great city, and probably Paris, from its being the European metropolis, more than any other, presents.

We do not make these remarks now, because we consider that Mrs. Willard has, more than others, fallen into the error of these general, and therefore unjust, conclusions; but because, from the merited influence of her name, we feared that what she does say on these subjects would have greater weight than the more erroneous but less considered assertions of others; and therefore we desired to put our readers at least upon their guard.

Boys and Girls' Library of Useful Knowledge, Vol. XVIII. New York: Harper & Brothers.—We have here Part III of Sunday Evenings; or an Easy Introduction to the reading of the Bible. In these pages the stories of the Bible are told separately, and in detail. There are also engravings representing some of the striking incidents of each, all calculated to fix the young reader's attention.

The Child's Annual. Boston: Allen & Ticknor.—This is a really pretty and useful little volume, adapted to young readers, and with wood-cuts scarcely inferior to engravings. The contents are varied and instructive, partly original and partly selected; and such as may be read with amusements and advantage.

A Volume from the Life of Herbert Barclay. Baltimore: Wm. & Jos. Neale.—A fairly printed volume, in fine large type, is a temptation in itself; and one that, in the rage for condensing now so prevalent, is somewhat rare. Thus induced, we cheerfully read through these pages; and find in them much good sense conveyed in rather ambitious style, and with a sad itching after figurative and rotund periods. There is nothing that is very original, and a good deal that is dull and commonplace, in the views here given of society, and of the course and feelings of a young man, such as Herbert Barclay is represented: yet, upon the whole, the tone and tendency of the book are good. It is, too, as an American book, and treats of American society.

The Note-Book of a Country Clergyman. New York: Harper & Brothers.—A reprint, we take it, from the context, of an English book. The stories are sad, and like enough to reality to pass for truth; yet they want the freshness and impress of life, which distinguish those of "Scenes in our Parish;" which, in their general character, nevertheless, and in the moral and religious lessons they inculcate, they resemble. To the story of the Confession, however, we object, as all but incredible in the main incident upon which it turns.

Works of Miss Edgeworth, Vol. IX. *New York:* Harper & Brothers.—With this volume the series of Miss Edgeworth's admirable Tales and Novels is completed, and it is only just to the publishers to say, that in thus giving to us an edition cheap and handsome in a remarkable degree—*nine* large and well printed octavo volumes for *six* dollars—they have enrolled themselves to a liberal patronage. It has been well suggested that as "holiday presents," few books of the sort could be more judiciously presented.

Illustrations of Political Economy, by Harriet Martineau, Nos. I. to VIII. *Philadelphia*, E. Littell.—We have already, on several occasions, borne our testimony so strongly to the talent and the tact with which Miss Martineau succeeds in imparting to a naturally *dry* subject, the charm and attraction of amusing stories, that we have only now, on the appearance of this new edition of these illustrations, to bid them warmly welcome, and to express the hope that the publisher may find it his interest to continue the series, as we are sure readers of all ages and pursuits will find both pleasure and instruction in perusing them.

Elements of Plane and Spherical Trigonometry, &c. &c., by F. R. Young, *with some original researches in Spherical Geometry*, by F. S. Davies, F. R. S. E. &c., revised and corrected by J. D. Williams. *Philadelphia*, Carey, Lea & Blanchard.—The merit of such a republication as this of a book of established reputation, must consist much in its accuracy and scrupulous correctness; that merit is claimed for this edition by Mr. Williams, and in all other respects of typography and paper, it is unusually well got up.

The New England Magazine, for December.—Boston, J. T. Buckingham.

The American Monthly Magazine, for December. New York, M. Bancroft.

The Knickerbocker, for December. New York, Peabody & Co.

The U. States Naval and Military Magazine. Washington, B. Homans.

American Turf Register. Baltimore, J. Skinner.

Museum of Foreign Literature, &c. Philadelphia, J. Littell.

Revue Francaise, No. II. New York, Hoskins & Snowden.

Amidst the busy hours which the requisite attention to the proceedings in Congress, and the various State Legislatures do, at this season, impose upon us, we are always glad to turn for a while to the more tranquil attractions of our periodical literature. Of the magazines for this month, we have not, however, yet been able to read more than portions here and there; but enough generally to satisfy us, that upon the whole they are only average numbers, not marked by any striking excellence this month.

We have room only for a single extract, and that from the magazine at the head of the list. It is a description, eloquently written and felt, of a statue by our countryman Greenough, of *Medora:*

The statue of Medora is modeled from Byron's description in the Corsair.

> In life itself she was so still and fair,
> That death with gentler aspect withered there;
> And the cold flowers her colder hand contained,
> In that last grasp as tenderly were strained
> As if she scarcely felt, but feigned a sleep,
> And made it almost mockery yet to weep;
> The long dark lashes fringed her lids of snow,
> And veiled—thought shrinks from all that lurked below—
> Oh! o'er the eye death most exerts his might,
> And hurls the spirit from her throne of light!
> Sinks those blue orbs in that long last eclipse,
> But spares as yet the charm around her lips—
> Yet, yet they seem as they forebore to smile,
> And wished repose—but only for a while;
> But the white shroud, and each extended tress,
> Long—fair—but spread in utter lifelessness,
> Which late the sport of every summer wind,
> Escaped the baffled wreath that strove to bind;
> These—and the pale pure cheek became the bier—
> But she is nothing—wherefore is he here?

Beautiful poetry this! But go, reader, and gaze on the sculptured marble. The artist has surpassed the poet. Taking his general idea from Byron, Greenough has wrought it into a form of loveliness, and given it a tenderness, a pathos, a deep and solemn beauty, before which the gayest talker and the most frivolous laugher are silenced in a moment. No loud tones have been heard in that sad presence. It is the abode of death in the perfection of melancholy beauty. Criticism is hardly possible. The deepest emotions of the heart are moved, and we come away with a sober and chastened feeling, and with an image of soft and gentle loveliness impressed upon the soul, which will abide there forever.

The chiseling of this beautiful piece is beyond praise. In the most subordinate particulars, it is finished with exquisite delicacy. The soul of the artist was in the work, and animated every part of it. The repose of the attitude, the sweetness of the expression, the flow and transparency of the drapery, are as near perfection as they can be. The wavy hair floats over the pillow in gentle undulations, wrought with the finest delicacy of handling. Every part of the form, the lines of the mouth, position of the head, the contour of the neck, the bust, the arms, the hand holding the flowers, and the draped limbs, are rendered with the utmost skill, harmony, chasteness and proportion. Before the beauties of this achievement of cultivated genius, description faulters. We borrow a few lines from Lord Byron, which, by a slight change of application, more closely illustrate this piece than the passage from which it was professedly taken.

> He who hath bent him o'er the dead,
> Ere the first day of death is fled:
> The first dark day of nothingness
> The last of danger and distress;
> (*Before Decay's effacing fingers*
> *Have swept the lines where beauty lingers*)
> And marked the mild angelic air—
> The rapture of repose that's there—
> The fixed yet tender traits that streak
> The languor of that placid cheek
> And—but for that sad shrouded eye,
> That fires not—wins not—weeps not now—
> And but for that chill changeless brow
> Where cold obstruction's apathy
> Appals the gazing mourner's heart
> As if to him it could impart
> The doom he dreads yet dwells upon—
> Yes—but for these and these alone
> Some moments—ay—one treacherous hour
> He still might doubt the tyrant's power,
> *So fair, so calm, so softly sealed*
> *The first, last look, by death revealed.*

We have been told by gentlemen, who have visited Mr. Greenough's studio, in Florence, that Homer is his constant companion. The beautiful simplicity, and the vivid, *animating* genius of this poet, in whose verse the personages of the scene stand distinctly before the reader's eye, with the perfect outline and fully-developed form of statues, is a singularly appropriate teacher for the sculptor. In his poetry, there is nothing grotesque, exaggerated, or unnatural; but there is much that is supernatural or ideal. In this, Homer differs much from other early poets;—Dante, for example, whose immortal work is full of the most strange conceptions;—and in this respect, too, Homer, rather than any other poet, should be in the hands of the sculptor. Homer was the copious fountain from which the ancient artists drew their conceptions of simplicity and beauty. When Phidias was asked whence he derived the idea of the Olympian Jupiter, he replied by quoting the famous lines in the Iliad, which describe the Father of Gods and Men as shaking Olympus by his nod; and an ancient critic remarked, that this statue was so wonderful and sublime, that Jupiter himself must have revealed his form to the vision of the artist.

It is a pleasant thing to contemplate a young American following the same career with the great men of antiquity. The bard of Chios teaching a native of the western world the same lesson of truth, and beauty, and grandeur, that he taught of old in the schools of Athens, must excite the dullest mind to a train of agreeable reflections.

Mr. Greenough has evidently benefited very much by his classical taste in literature. He is perfectly free from fantastic ornaments, and tasteless trickery; he shows a preference of the pure and the simple over the gaudy and ornate; he confines himself strictly to the legitimate objects of his art, and now bids fair to rival the first masters in tenderness and grace, in propriety and dignity, in chasteness of design, and perfectness of execution. How far he will succeed in works of a more stern and sublime character, his countrymen have as yet had no opportunity of judging. In a few years we shall all have the privilege of seeing with our own eyes. To embody in enduring marble the imposing form of the FATHER OF HIS COUNTRY is a work which the proudest genius should deem itself happy in accomplishing.

The Dominie's Legacy, by Pickens, 2 vols. *Philadelphia:* Carey, Lea & Blanchard.—It was only last Saturday that we had occasion to express our admiration of the late work, and in some sort a sequel to this now republished, of Mr. Pickens. We merely add now, therefore, that those who may have read the sequel, will in that have found motive enough to possess themselves of these, the original volumes.

Among forthcoming works, we understand that the "History of the Hartford Convention, by Theodore Dwight," will appear early next week. It will, we are quite sure, be eagerly sought, for many reasons.

The letter of H., with which we conclude, describing the field of Braddock's defeat and Washington's early fame, will interest our readers:

NOVEMBER 10th.

It was a bright bracing autumnal morning as I rode out of Pittsburg, with a party of gentlemen for "Braddock's field." Our route followed the course of the river; sometimes keeping the rich bottom on its borders, and again ascending a hilly ridge which always commanded some varied view of that stream, conducted here by steep hills, whose shadows met as they slept upon its quiet bosom, and expanding there into a small lake, apparently so completely landlocked that it seems not a part of the bright current you can see flashing through through those meadows further on. After catching more than one glimpse like this of the landscape behind us whose sunny fields contrasted beautifully with the dense smoke of Pittsburg in the back ground, we struck into a ravine cutting the road hitherto pursued at right angles. Winding now thro' a deep dingle where the pathside was festooned with vines, we crossed a small brook and reached the shore of the Monongahela opposite to a broad alluvial flat, whose high cultivation and sunny aspect contrasted vividly with the wild and secluded dell from the mouth of which we beheld it. The road next led for ot some distance through a wood on the immediate bank of the river, and then gaining the more public highway, we found ourselves, after passing several comfortable farm houses, immediately in front of the battle ground.

It is cut up now by three or four enclosures, —the field upon which the fight was hottest lying nearly in the centre, bounded on one side by the road, and having its opposite extremity about a quarter of a mile from the river, with a wooded flat intervening. Beyond this flat is the ford over which Braddock passed. The ground about three hundred yards from the ford rises in a gradual slope for some two hundred yards more, and then swells suddenly into a tolerably steep hill, the summit of which may be half a mile from the river. On the middle slope lies the central field of action, to which I have already alluded. It is seamed with two shallow ravines, which run parallel with each other towards the river, and are about gunshot apart.

In these ravines, concealed by the underwood, and protected by the trunks of trees felled for the purpose, lay the French and Indian force. It amounted, according to the best accounts, to only 500 men, and was commanded by a subaltern officer, who suggested this ambuscade as a desperate expedient to save Fort Du Quesne, from the overwhelming force that was about to invest it. The road of Braddock lay immediately between these enfilading parties.

It was about midday when he passed his troops over the river in detachments of two hundred and five hundred, followed by the column of artillery, the baggage, and the main body of the army commanded by himself in person. The latter had hardly time to form upon the flat below, when a quick fire in front told them that the two detachments which had gained the first slope were already engaged. Their comrades advanced in double quick step to sustain them; but the whole five hundred gave way, and falling back upon the advancing troops, struck panic and dismay throughout the ranks in a moment. The confusion seemed for a while irremediable. Some fired off their ammunition without aim or object, and others deaf to the commands and exhortations of their officers, flung away their arms and gave themselves up at once to despair.

Burning with the disgrace, and eager to shame their soldiers into better conduct, the British officers advanced singly and in squads among the bullets of the enemy. They were slaughtered indeed like sheep, but their men, whose retreat had been partially cut off by the river, rallied at the galling sight, and, after the cool determination of young Washington, who had already had two horses shot under him, and his clothes pierced with bullets, had imparted some steadiness to their feelings, they seemed ready to protract the fight to the best advantage. The madness of Braddock, however, whose weak mind took fire at the idea of receiving a lesson from a provincial youth of three and twenty, destroyed every remaining chance of success. He insisted upon his men forming on the spot, and advancing in regular platoon against an enemy which none of them could see. Line after line, they would hardly attain a pace between the fatal ravines before they would be mowed down like grass. But their courage was now up, and, though broken and in some disorder, they attempted, with courageous pertinacity, to secure each step they gained by protecting themselves behind the trees, and returning the murderous fire of the foe after his own fashion. The military coxcomb who commanded this ill-fated band would not hear of this. He stamped, raved, and swore, called his men cowards, and struck them with his sword. In the meantime, an evolution was being executed, n another part of the field, which might yet have turned the fate of the day. Capt. Waggoner, of the Virginia forces, pushed his fine corps, consisting of 80 men, beyond the voice of his besotted commander, to the summit of the hill, with the loss of only three men, in running the fearful gauntlet he did to attain that position. A fallen tree here protected his brave little force, and enabled him to rake the ravines which lay at right angles to his natural breastwork to great advantage. But the Virginians were mistaken by their English friends below for a new enemy, and fired upon so furiously that they were compelled to retreat from their position with the loss of two-thirds of the corps killed by their misguided comrades. Thus was the strife protracted for nearly three hours, when the fall of Braddock, after losing 700 men and 40 officers, put an end to the blind conflict. Fifteen hundred men, being thrice the number of the foe engaged, escaped to tell the havoc of the day, and spread consternation and horror throughout the provice.

The military chest of the British, containing 25,000 pounds, fell into the hands of the enemy, as did likewise an extensive train of artillery, with ammunition and provisions to a large amount. Among those who perished on this disastrous occasion, were Sir William Shirley, a son of the Governor of New York, and Sir Peter Halket, with one of his sons, and other officers of distinction or promise. Sir John St. Clair and Lieut. Colonel Gage, afterwards well known in our revolutionary history, were among the wounded. Many of the officers fell at the first onset, but Braddock himself had advanced some distance up the hill when he received the mortal wound of which he died a day or two afterward. The stump of the tree against which he leaned after being struck, is still pointed out in a wheat field above the highway. He was carried off, as you recollect, by the flying troops, and dying with many others on the march was buried beneath the road over which his men were retreating.

The letters of Horace Walpole, recently published, have thrown a light upon Braddock's character that should put an end at once to all the forbearance that has hitherto been exercised in commenting upon his share in this bloody transaction. The misfortunes of the hot and misguided, but high-bred and gallant soldier, were to be touched upon with lenity. The selfish rashness and utter destitution of military capacity of the broken down gambler should be stigmatized as they deserve. Yet it is not from Walpole alone that we learn what a presumptuous blockhead England sent hither to mend his ruined fortunes, at the risque of the best blood in the country. For, though history has dealt so leniently with his character, the records of those times paint the man in his true colors, and so gross was his ignorance, and so offensive his pride, that he seems to have been hated and despised from the moment he assumed the command of the forces destined hither. The interest with which I viewed the battle-ground, has kept me all the morning looking over a mass of documents relating to those times, and, as they are still before me, I am tempted to make more than one extract. "We have a general," writes the brave and accomplished Sir William Shirley, from the camp at Cumberland, to his friend, Governor Morris, at Philadelphia, "we have a general most judiciously chosen for being disqualified for the service he is employed in, in almost every respect. I am greatly disgusted at seeing an expedition, (as it is called,) so ill concerted originally in England, so ill appointed, and so improperly conducted since in America. I shall be very happy to have to retract hereafter what I have said, and submit to be censured as moody and apprehensive. I hope, my dear Morris, to spend a tolerable winter with you at Philadelphia." Poor Shirley, he never saw that winter. He was shot through the brain at the very commencement of the battle.

There is a lively comment on this letter in the well known reply of Braddock to the prudent suggestions of Washington previous to the battle:—"By G—d, Sir, these are high times, when a British General is to take counsel from a Virginia buckskin."

But the speech of an Indian Chief before the council of Pennsylvania, preserved among the records of Harrisburgh, offers an illustration still more striking. "Brothers," said the sagacious ally of the colonists, "it is well known to you how unhappily we have been defeated by the French on Monongohela. We must let you know that it was of the pride and ignorance of that great General that came from England. He is now dead; but he was a bad man when he was alive. He looked upon us as dogs, and would never hear anything that was said to him. We often endeavored to advise him, and to tell him of the danger he was in with his soldiers. But he never appeared pleased with us, and that was the reason that a great many of our warriors left him, and would not be under his command. Brothers, we advise you not to give up the point, though we have in a measure been chastised from above. But let us unite our strength. You are very numerous, and all the Governors along your eastern shores can raise men enough.—Don't let those that come over the great seas be concerned any more. They are unfit to fight in the woods. Let us go by ourselves—*we that come out of this ground.* We may be assured to conquer the French." The military counsel and support of this intrepid and high-souled Chieftain would have been heard at least, even if it did not prevail, in the camp of Napoleon. Does it not make you indignant to think how it was trampled upon and insulted by such a creature as Braddock? One would have thought that the insolent spirit of the London debauchee would have felt rebuked into nothingness before the genius of the warrior of the woods. But let the man rest; he had that one virtue to which all weak minds bow—courage. And he had the Hessians, that in a subsequent war were bought to fight against us for eighteen pence a day. May we rather meet, again and again, such brave mercenaries in battle, than be marshalled once to the fight by a leader, whom even valor cannot shelter from deserved contempt.

The field of this celebrated action presents of course a very different appearance from what it did when Braddock's followers were here hunted through the forest. It is however but a few years since the wood was cut from the side-hill, and traces of the conflict are still occasionally discovered in the grove along the margin of the river below. I was told too that bones and bullets, with rusted knives, hatchets and bayonets, were sometimes even yet turned up by the plough in the spot where the fight was hottest. This central field was cleared

about 17 years since. It was heavily timbered at the time, and they tell in the neighborhood that the teeth of the saws in the mills adjacent were continually broken upon the balls imbedded in the ancient trees. Incredible quantities of human bones and rust-eaten weapons are said to have been found beneath the surface of the soil, when the plough first invaded this memorable wood. I picked up a bone myself, which my horse's hoof disengaged from the soil, but my skill in anatomy not being sufficient to determine whether it was even human or not, I returned the mouldering relic to the dust, of which it was rapidly becoming a part. It was an animated and interesting hour's amusement, after our party had taken down the intermediate fences, which were too high to clear, to gallop over the whole battle-ground, and survey it from every point. A prettier spot to fight on never greeted the eye of a soldier. The undulations of the field are just sufficient to exercise a nice military discrimination in the choice of position, while the ground is yet so little broken that cavalry might act on any part of it to advantage. The centre of the battle-field would command a fine view of the river, were but a vista or two cut in the wood below; and even now it offers a beautiful scite for a private residence, and would, with the lands adjacent, make a noble park. There are a few superb oaks still standing at the foot of the slope, which might constitute a lawn, and—what must enhance the value of the place with all faithful ghost-believers and pious lovers of the marvellous—the dim form of the red savage, with a ghastly spectre of his pallid victim shrieking before it, it is said may be seen gliding at times among these hoary trunks. The exorcising light of noon most perversely shone down among them while I lingered near the spot, but I could fancy that the November wind which sighed among their branches was charged at times with a wailing sound, such—such in fact as an orthodox tree in a perfect state of health would never make of its own accord.

Returning home, one of the party proposed stopping at a gentleman's house in the vicinity, where a number of articles picked up from the field were said to be collected. Not a soul of us knew the proprietor of the establishment, and it would have amused you to see the effect produced upon its inmates, whom I soon ascertained to be a large collection of boarding school young ladies, by our formidable descent upon the premises. We were asked into a handsome parlor, and in about fifteen minutes our host appeared. A gentleman of our number, whose western frankness of manner and ease of expression made him the most suitable spokesman at such an awkward meeting, opened the preliminaries, and apologizing for our unceremonious intrusion revealed our character as relic hunters. The stranger host, overlooking the absence of "sandal shoon and scallop shell," welcomed us at once, with the same politeness that pilgrims have ever received in civilized countries, and regretting that he had not even enough of the "true cross" to swear by—not an atom of a relic—sent us home to our supper with appetites considerably sharpened by the disappointment.

Returning, I diverged with one of the company from the direct road a little, to take a look at the United States arsenal. It lies on the banks of the Allegany, and consists, together with the officer's quarters, of a number of handsome brick buildings painted cream color, and so arranged with regard to each other, as that in connexion with the improved grounds adjacent, they make quite an imposing appearance.

It was nearly dark when we got fairly into town, where the dust and smoke along the streets, with the rattling of drays returning from their day's work to the suburbs, reminded me not a little of my own bustling city at night-fall. There is one sound, however, in the streets of Pittsburg, which utterly forbids a stranger mistaking them for those of any other town on the continent. It is the ceaseless din of the steam engines. Every mechanic here of any pretension has one of these tremendous journeymen at work in his establishment. They may be purchased for what would be the price of a pair of horses in New-York, and it costs a mere song to keep them in fuel. These machines must do the work of a great many thousand men at Pittsburg; and though I am hardly such a friend of universal suffrage as to think that these substitutes for men ought to be represented in the legislature, yet, upon my word, they should always be taken into consideration when estimating the population of the place, which their industrious labor renders so flourishing.

"Proud deeds these *iron men* have done."

FOREIGN INTELLIGENCE.

Later from Europe.—By the packet ship *Europe*, from Liverpool, we have London papers to and of the 16th ult. which, though later by nine or ten days than our previous accounts, furnish little of political interest. The commercial accounts will not be found very encouraging.

A Treasury order for 8,000*l.* has been presented to Capt. Ross for his discoveries in the north pole; also, the Royal Medal (50 guineas) has been conferred upon him.

The affairs of the Peninsula, including both Spain and Portugal, remain much as before. The Queen Regent of Spain seems to be in the predicament that if France does not sustain her, she must throw herself for support upon the *liberal* party among her own subjects, whose hearty co-operation would at once crush the opposition of the Carlists. It is to be desired, certainly, that she may be driven to this alternative. *Castanos* and *El Pastor*, at the head of a small regular force, had been encountered and worsted by a large body of Carlists, and driven to take refuge within the fortifications of St. Sebastian. Rumor had been current that old Soult had ordered an army of *thirty thousand men, as a corps of observation*, to enter Spain, but the London Courier of 15th, and the Times of 16th, partially contradict, on the authority of Paris papers of the 13th, those rumors. The Courier says:

We have received French papers of the 13 inst. and they bring no confirmation of the rumors to which we yesterday adverted, relative to the interference of France, and which were magnified by our own stock-jobbers into a positive assertion that orders had been issued for the immediate advance of the French army of observation into Spain, and willingly believed by and readily inserted in some of our Contemporaries. The news from Spain, such as it is, is rather more favorable than yesterday to the Queen's cause; but there is nothing decisive either way.

One of the most curious items of intelligence certainly is an alleged threat of *Rothschild*, the banker, to Marshal *Soult*, that "if the French army set a foot in Spain, *he* would not again set a foot on Change." This would be the potentiality of money with a vengeance.

Our accounts from Portugal direct are later than in the London papers.

The Belgic Chambers were opened on the 12th November. The only remarkable feature, is the King's speech, after congratulating the nation and himself, on the birth of the Prince Royal, is the fact that the dispute with Holland, is still, and is long likely to be, *unadjusted*.

[*From the National.*]

Paris, Nov. 12.—There will now be a post of Carlist insurgents occuppying the Spanish side of the bridge of the Bidassoa, within pistol shot of the French sentihels.

Lettres from Madrid at Bayonne announce that orders had been sent to General Saarsfield not to quit Burgos.

[*From the Messenger.*]

It was affirmed on 'Change that M. de Rothschild had been to see Marshal Soult, and had declared to him that if the French army set a foot in Spain he would not again set foot on 'Change.

Extract from the *Indicateur* of the 11th, by a particular conveyance;—The accounts from Spain this morning are much more satisfactory. The panic has passed over—people have reflected that it was very astonishing that Castagnos has been able to hold out a month with 700 men against 6,000, and his retreat to St. Sebastian has ceased to surprise any body.

This success of the Carlists, as a military operation, is a trifle, bnt from its moral effect, the affair is of more importance, because it may encourage tho rebels, and alarm the Constitutionalists.

In our opinion, the most imortant point is, that the two parties are now face to face, and a few days will show which is the strongest.

A letter from Bayonne of the 9th, and St. Sebtastian of the 8th relate only the particulars of the retreat of Castagnos and El Pastor to St. Sebastian.

Among all the extraordinary and gifted individuals whom the French revolution, and the mighty events consequent upon it, have from time to time brought upon the scene, there is not one, probably, whose character, abilities, sagacity and success, have been so remarkable and unerring as those of Talleyrand. Hence it is not to be wondered at that now, even in his latest years, his most trivial acts are watched and commented upon, as though fraught with weal or wo to empires and dynasties. Hence even his visiting cards are, it seems, most significant:

[*Translation from a late French paper.*]

Talleyrand's Visiting Cards.—This Prince, on his return from England, has; of course, left cards with all the great men of the day, but under various forms and titles. He has two kinds of cards—the cards under *envelope*, and the plain card with one corner turned up. According to etiquette, two descriptions of cards are necessary in his double character of Ambassador and Peer.

The card under envelope is that of *etiquette*, and is sent by a footman. The other is presumed to have been delivered in person, and intended as a visit of friendship. Happy he who receives it! Lafitte *formerly* obtained the plain card—*now* he receives one under cover.

Talleyrand commenced his visits as an Ambassador. The members of the *corps diplomatique* have therefore received his card; but the Representatives of the Northern Powers, have, it is said, received only the card under *envelope*. From this latter fact the supposition arises that there is something sinister and threatening. Furthermore, M. de Broglie, the minister of Foreign Affairs, has been left out. In this instance one would naturally infer a want of propriety, but we can give a ready explanation. The Prince has retreating doors; he has just commenced his visits as a Peer of France, and M. de Broglie, being his colleague in peerage, has received a visit. One naturally perceives the difference, and it is most subtle. The order of the visit, and the form of the card have caused M. de Broglie's card to tremble in his hand, and spread alarm in his hotel.

With regard to M. Thiers, (Minister of Commerce) he has been unable to pay a visit to him, as the former, it appears, has taken quarters at the Hotel St. Florentin, (Talleyrand's.) He does not move from it, and keeps a steady eye on that living *political barometer*, in order to study which wind blows at the Thuilleries, and trim his sails accordingly. Moreover, as M. Thiers pretends to belong to the political schools of this cunning Nestor of Diplomatists, he thinks he has no time to lose to improve upon the lessons of his master.

The packet ship Europe, by agreement with shippers and consignees, and by permission of the insurance company, lies off at sea, without the limits o the United States, until after the 1st proximo, in order that the goods by her may be introduced after that period at the reduced duties.

[*From the Globe.*]

The Commissioners under the Convention with the King of the Two Sicilies, who have been for the last four weeks engaged in this city, in the examination of memorials, closed their session on Friday, having disposed of all the memorials filed with the Secretary, under their order of September last. Their next meeting will take place on the first Monday in March next.

CONGRESS—Monday, December 9, 1833.

HOUSE OF REPRESENTATIVES.

The several Standing Committees were announced from the Chair, as follows:

Elections.—Messrs. Claiborne, Griffin, Hawkins of N. C., Banks, Vanderpool, Jones of Georgia, Peyton, Haymer, and Hannegan.

Ways and Means.—Messrs. Polk, Wilde, Cambreleng, Gorham, McKim, Bianey, Loyall, McKinley, and Hubbard.

Claims.—Messrs. Whittlesey of Ohio, Barber. McIntire, Grennell, H. King, Gholson, Cramer, Forrester, and Bynum.

Commerce.—Messrs. Sutherland, Davis of Mass., Harper, Foot, McKay, Lawrence, Pinckney, Heath, and Selden.

Public Lands.—Messrs. Clay, Duncan, Boon, Mason, Clayton, Slade of Vt., Leavitt, Ashley, and Ingersoll.

Post Offices and Post Roads.—Messrs. Conner, Kavanagh, Pearce of Rhode Island, Thomas of La., Briggs, Murphy, Lane, Lytle, and Laporte.

District of Columbia.—Messrs. Chinn, W. B. Shepherd, McKennon, Stoddert, Allen of Va., Dannis, Heister, Fillmore, and Taylor.

Judiciary.—Messrs. Bell, of Tenn., Ellsworth, Foster, Gordon, Beardsley, Thomas of Md., Hardin, Parks, and Pierce, of N. H.

Revolutionary Claims.——Messrs. Muhlenberg, Crane, Bates, of Mass., Standefer, Bouldin, Marshall, Young, Baylies, and Turrill.

Public Expenditures.—Messrs. Davenport, Lyon, Paige, Clarke, of Pa.; Tweedy, Gillet, Hall, of Vt; McClene, and Kinnard.

Private Land Claims——Messrs. Johnson, of Tenn.; Mardis, Carr, Galbraith, Man, of N. Y.; Cage, Felder, Casey, and Bull.

Manufactures.—Messrs. Adams, of Mass.; Huntington, of Conn.; Denny, Davis, of S. C. Corwin, Dickerson, Martindale, McComas, and Osgood.

Agriculture.—Messrs. Bockee, Taylor, of Va. Hathaway, Barnitz, Bean, Dunlop, Clowney, Turner, and Davis, of Ky.

Indian Affairs.—Messrs. Lewis, Gilmer, McCarty, Everett, of Vt. Graham, Allen, of Ohio, Dickerson, of Tenn. Howell, and Love.

Military Affairs.—Messrs. Johnson, of Ky. Vance, Speight, Ward, Blair, of S. C. Thompson, of Ohio, Burd, Coffee, and Bunce.

Naval Affairs.—Messrs. White, of N. Y. Williams, Watmough, Patton, Lansing, Reed, Grayson, Parker, and Smith.

Foreign Affairs.—Messrs. Archer, Everett, of Mass. Wayne, McDuffie, Hall, of N. C. Coulter, Jarvis, Pierson, and Carmichael.

Territories.—Messrs. Williams, Allen of Ky. Potts, Johnson, of N. Y. Anthony, Wilson, of Va. Jones, of Ohio, Ewing, and Gamble.

Revolutionary Pensions.—Messrs. Wardwoll, Barringer, Tompkins, Moore, V., Lea, Deming, W. K. Fuller, Fowler, and Bell of Ohio.

Invalid Pensions.—Messrs, Burges, Evans, Beall, Schley, Adams, of N. Y., Schenck, Chilton, Chaney, and Mitchell of Ohio.

Roads and Canals.—Messrs. Mercer, Blair of Tenn. Vinton, Stewart, Reneher, Johnson, of Md. Lucas, Pope, and Slade of Illinois.

Revisal and unfinished business.—Messrs. Dickson, Harrison of Pa. McVean, Shinn, and Beatty.

Accounts.—Messrs. Mann of Pa. Lee of N. J. Mitchell of N. Y. Crockett, and Miller.

Expenditures in the Department of State.—Messrs. A. H. Shepherd, Day, Beaumont, Bodle, and Patterson.

Expenditures in the Department of the Treasury.—Messrs. Allen of Vt. P. C. Fuller, Harper of Pa., Spangler, and Clarke of N. Y.

Expenditures in the Department of the Navy.—Messrs. Hall of Me. Huntington of N. J., Ramsey, Sloane and VanHooten.

Expenditures in the Department of the Post Office—Messrs. Hawes, Fulton, and Lee, of New Jersey.

Expenditures in the Department of War.—Messrs. Whittlesey, of N. Y. Deberry, Chambers, Webster, of Ohio, and Halsey.

Expenditures on Public Buildings—Messrs. Whallon, Darlington, Brown, Henderson, and Hard.

QUICKSILVER.—By letters from Canton by the Providence, we learn that many frauds have lately been detected in this article. The iron jars in which it is usually imported contain 76 1-2 lbs each, but they have not only been found deficient in weight, but in many instances 6 to 8 pounds of lead! have been found in a flask. It is advised that at least 10 flasks out of every 100 should be re-weigned before they are shipped, either from this country or from Europe.

[From the Albany Argus.]

APPLICATIONS TO THE LEGISLATURE.—List of intended applications to the Legislature of this State, at its next session, prepared from the official notices published in the Argus, down to Dec. 3:—

To Incorporate Banks.

Jackson Bank	$1,000,000	New York.
Eighth Ward Bank	500,000	do
Builders' Bank	600,000	do
Commercial Bank	500,000	do
Tompkins Bank	500,000	do
Bank of Exchequer	10,000,000	do
Washington Monument Bank	750,000	do
Eighth Ward Temperance Bank	500,000	do
Merchants' and Clothiers' Bank	500,000	do
Bank of the State of New York	10,000,000	do
Maiden lane Bank	1,000,000	do
Flour Merchants' Bank	750,000	do
Pearl street Bank	2,000,000	do
Bank of New York	600,000	do
Grocers' Bank	1,000,000	do
Bookmakers' Bank	500,000	do
Com. Bank of the city of N. York	500,000	do
A bank at Harlæm	500,000	Harlæm.
Chenando Canal Bank	100,000	Greene.
Lumbermen's Bank	150,000	Bainbridge.
Wool Growers' Bank	250,000	Norwich.
A bank at New Berlin	100,000	New Berlin.
Oxford Bank	200,000	Oxford.
City Bank of Albany	500,000	Albany.
Merchants' Bank of Albany	300,000	do
Watervliet Bank	300,000	Watervliet.
Orleans county Bank	200,000	Medina.
Bank of Orleans	150,000	Albion.
Central Bank of Troy	300,000	Troy.
Manufac's, Mech's & Farmers' B'k	500,000	do
Rensselaer county Bank	200,000	Lansingburgh.
Farmers' and Manufacturers' Bank	300,000	Poughkeepsie.
Commercial Bank	500,000	Buffalo.
Butchers' and Drovers' Bank	1,000,000	do
Bank of Erie county	1,000,000	do
Rail-Road Bank	150,000	Ballston Spa.
A bank at Saratoga Springs	200,000	Saratoga Spa.
Waterford Bank	200,000	Waterford.
Bank of Cahoes	250,000	Cahoes.
Cortland Bank	200,000	Cort. Village.
Homer Bank	250,000	Hom. village.
A bank at Delhi	100,000	Delhi.
Canajoharie Bank	200,000	Canajoharie.
Fort Plain Bank	250,000	Minden.
Kingston Bank	200,000	Kingston.
Ulster and Dutchess Bank	200,000	Ulster.
Bank of Rhinebeck	100,000	Rhinebeck.
Hamilton Bank	150,000	Hamilton.
Chittenango Bank	200,000	Chittenango.
Cattaraugus Bank	100,000	Olean.
Bank of Olean	100,000	do
Cattaraugus county Bank	150,000	Ellicottville.
Sacket's Harbor Bank	200,000	Sacket's Har.
Bank of Salem	100,000	Salem.
Washington county Bank	100,000	Sandy Hill.
Battenkill Bank	100,000	Union Village.
Flushing Bank	100,000	Flushing.
Tompkins county Bank	250,000	Ithaca.
Fredonia Bank	200,000	Fredonia.
A bank at Coxsackie Landing	100,000	C. Landing.
A bank at Kinderhook	200,000	Kinderhook.
A bank at Hudson	300,000	Hudson.
Bank of Dansville	200,000	Dansville.
Bank of Mount Morris	200,000	Mt Morris.
Highland Bank	200,000	Newburgh.
Mechanics' Bank of Rochester	300,000	Rochester.
Bank of Attica	100,000	Attica.
A bank at Perry (Genesee co.)	100,000	Perry.
Le Roy Bank	200,000	Le Roy.
Susquehannah River Bank	100,000	Binghampton.
Bank of Owego	200,000	Owego.
A bank at Williamsburgh	200,000	Williamsb'gh.
Bank of Lyons	200,000	Lyons.
Clyde Bank	200,000	Clyde.
Waterville Bank	200,000	Watervillie.
Oneida county Bank	400,000	Utica.
Mechanics' and Farmers' Bank	300,000	Oswego.
St. Lawrence Bank	200,000	Ogdensburgh.
Allegany county Bank	150,000	Angelica.
Canal Bank at Lockport	200,000	Lockport.

To increase the Capital Stock of Banks.

Greenwich Bank	$300,000	New York.
Dry Dock Company	500,000	do
Phœnix Bank	1,000,000	do
Bank of New York	600,000	do
National Bank	250,000	do
Leather Manufacturers' Bank	400,000	do
Jeffersen county Bank	120,000	Watertown.
Bank of Genesee	150,000	Batavia.
Saratoga county Bank	100,000	Watertord.
Ogdensburgh Bank	200,000	Ogdensburgh.
Bank of Newburgh	105,000	Newburgh.
Bank of Buffalo	300,000	Buffalo.
Lockport Bank	100,000	Lockport.

To incorporate Insurance, Exchange, Trust, and Loan Companies.

Amer. Life Ins. and Trust Co. N. Y. (4 ap.)		2 to $3,000,000
U. States do do do		3,000,000
Columbian do do do		2 to 4,000,000
National do do do		2,0000,000
N. Y State do do Albany		750,000
L. Island do do Brooklyn		1,000,000
City Loan Company of New York, New York,		2 to 5,000,000
City Exchange Company,	do	1,000,000
Hudson Fire Insurance Co.	do	250,000
Eighth Ward Insuranc Co.	do	150,000
N. Y. Marine Insurance Co.	do	300,000
Coasting Insurance Co.	do	150 to 300,000
Union Fire Insurance Co.	do	300,000
Van Buren Insurance Co.	do	200,000
Columbia Insurance Co.	do	500,000
Greenwich Insurance Co.	do	200,000
Erie Fire and Marine Ins. and Loan Co., Buffalo,		100 to 200,000

To raise Money by tax.

$25,000 annually, in Troy, for sundry Literary purposes.

1,000 in Allegany county, for Bridge across the Genesee river.

3,000 for the same purpose, at Portage, Allegany county.

10,000 in Albany county, to build a new Jail and Work-house.

500 annually, for three years, in Granville, Washington county, to repair Bridges.

500 in Genesee county, to build a Bridge across the Tonawanda creek.

2,000 in Ulster county, for a Bridge across the Rondout creek.

In Clinton county, to pay Levi Platt.

In Bushwick, for erecting Cells in that town.

In Herkimer county, an additional sum for building a Jail.

To Incorporate Railroad Companies.

Syracuse Railroad Company, (Salina to Utica)	$1,500,000
Railroad from Albany to West Troy	
From Troy to Schenactaday	450,000
From Troy to New Lebanon	300,000
Troy and Schenectady, (2 ap.)	250,000
Troy and Champlain (Waterford to Whitehall)	600,000
From Esopus creek to Ridgewater, (or turnpike)	15,000
From Waterford to Whitehall	800,000
From Columbus Point, Ulster county, to Chenango Point	500,000
Herkimer and Montgomery	150,000
From Williamsburg, Kings county, or Jamaica, Queens county, to Greensport, Suffolk county	
From Utica to Oswego	
Two from Buffalo to Niagara Falls	
From Salina to Utica	
From Batavia to Buffalo	
From Attica, Genesee county, to Buffalo, Erie county	
From Lockport to Niagara Falls	
From Rochester to Buffalo	
From Castleton to the Massachusetts line	

To Incorporate McAdam Road Companies.

From West Troy, through Shaker Village, to the Schenectady turnpike	$ 50,000
From Utica to Trenton Falls	150,000
From New Berlin, Chenango county, to Utica	250,000
From Troy to Whitehall	500,000

To incorporate Turnpike Road Companies

Rensselaer and Berkshire Tunnelling and Turnpike Co. capital $100,000—Greenbush and Troy—From Oxford, Chen. to Oneonta, Otsego, $15,000—From Petersburgh to Brunswick, $15,000—Fort Ann and Granville, $10,000—In the town of Chemung, Tioga co.—Across the Indian reservation in Erie co.

To incorporate Bridge Companies.

Schenectady and Saratoga—Across the Hudson at Troy, and across branch of the Mohawk at Watervliet, capital $100,000—Across the Hudson at Albany.

Companies.

Rensselaer Glass Company, (renewal)—Fishkill Iron Co., capital $100,000—Dover Iron Co., $50,000—Orange Cordage Manufactory Co.—Salina Salt Co., $150,000—Frankfort Manufacturing Co.—Lockport Manufacturing Co., $60,000—A Whaling Co. in Peekskill, Westchester co.

To incorporate Academies and Seminaries of Learning.

The N. York Academy of Inventions, capital $100,000—Troy Female Academy—Troy Male Academy—Poughkeepsie Female Seminary—Genesee Wesleyan Seminary at Lima, Liv. co.—Nassau Academy—High School at Preble Corners, Cortland co.—Clyde High School.

To incorporate Savings Banks.

Savings Bank at Buffalo—New York Savings Institution.

To incorporate Religious and Benevolent Societies.

The Second Associate Church in the city of New York—Troy Hibernian Benovolent Society—Troy Annual Conference Ministers' Aid Society.

To incorporate Steamboat, Ferry, and Wharf and Ways Companies.

Southern Steambeat Co. (2 ap.) capital 150 to $200,000—Genesee River Steamboat Co. $30,000—New York and Brooklyn Ferry Co. $100,000—Miamogue Wharf and Ways Co.

To amend existing Charters.

Washington Marine Ins. Co.; Seamen's Bank for Savings; Farmers' Fire Ins. and Loan Co.; Greenwich Savings Bank; New York Athenæum, New York—Farmers' Bank of Troy. [equalizing shares]—Lafayette Fire Co.—Kingston and Middletown Turnpike Road Co.—Ducthess Turnpike Co.—Watervliet Turnpike Road Co.—Croton Turnpike Road Co.—Cocksackie Turnpike Road Co.—Albany and Bethlehem Road Co.—Brunswick and Pittstown Road Co.—Newtown and Bushwick Road Co.—Albany and Schenectady Road Co. [to remove toll gates, &c.]—Mohawk and Hudson R. R. Co.—Brooklyn and Jamaica R. R. Co.—New York and Albany R. R. Co.—City of Troy—Poughkeepsie Lancaster School Society—Village of Williamsburgh, King's Co.—Village of Poughkeepsie—To repeal the charter of the Montezuma Turnpike and Bridge Co.—Washington County Insurance Co.—Genesee Manual Labor Seminary.

To incorporate Cities and Villages.

City of Brooklyn—City of Rochester—Village of

Rhinebeck—Village of Clarksville, Madison Co.—Village of Attica, Genesee co—Village of Fort Plain, Mont. co.—Village of Bath, Steuben co.

To increase the capital stock of Manufacturing and Turnpike Companies.

Syracuse Salt Company, capital $50,000—Kingston and Middleton Turnpike Road Co., $5000.

To divide Towns and erect new ones.

To annex a part of Pendleton, Niagara., co., to Amherst, Erie co. Also part of Clarence, Erie co., to Lockport, Niagara co. Also to erect a new town in Niagara—To erect a new town in Madison co., from parts of Augusta and Vernon in Oneida co., and Smithfield and Lenox, Madison co.

Miscellaneous Applications.

For the relief of the First Great S. West Turnpike Road Co.—For tho release of title to an escheated lot in Albany—To vest in Asa snd Acksah Page title to lands in Chautauque co.—To allow a salary to the first judge of Kings co. and to authorize him to hold courts of common pleas—To open the Albany Pier—For the release of the state right to a bond and mortgage on three lots in the city of New York—For a side cut from the Erie canal to the Hudson river at Port Schuyler—To "protect and encourage" Justin Smith in supplying the Village of Whitehall with water—To incorporate the Onondaga Horse-Racing Association.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 26th of November to the 9th of December, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermometr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
Nov. 26..	6 a. m.	35	29.71	WNW	moderate	WSW	cloudy
	10	36	29.81	..	strong	..	fair
	2 p. m.	36	29.91	..	..	..	..
	6	35	30.80	..	..		clear
	10	34	30.10	..	..		..
" 27..	6 a. m.	33	30.15	SW	moderate	SSW	fair
	10	40	30.20	..	..	..	..
	2 p. m.	44	30.01	..	..	..	..
	6	41	29.99	..	..	..	
	10	40	30.03	..	light		clear
" 28..	6 a. m.	38	30.18	WNW	..	..	..
	10	40	30.21	..	moderate	W by N	fair
	2 p. m.	40	30.23	W by N	..	..	..
	6	39	30.31	..	..	..	..
	10	35	30.30	..	..	..	..
" 29..	6 a. m.	31	30.30	ENE	..	..	cloudy —smoky
	10	36	30.25	..	..	SSW	.. — ..
	2 p. m.	42	30.21	E	..	..	.. — ..
	6	43	30.20	..	..	..	.. — ..
	10	42	30.20	..	..	..	fair
" 30..	6 a. m.	45	30.10	ENE	..		rainy —cloudy
	10	45	30.10	..	..		cloudy —rainy
	2 p. m.	41	30.05	NE—NNE	fresh	NNE	rain
	6	40	30.05	NNE	..	..	..
	10	39	30.05	N	..		cloudy
Decem. 1..	6 a. m.	39	30.03	NNW	moderate	NNW	..
	10	41	30.07	NW	light	..	..
	2 p. m.	45	30.03	..—NNW	.. — mod.	WNW—NNW	fair
	6	40	30.07	NNW	mod.—light	NNW	..
	10	39	30.09	..	..		clear
" 2..	6 a. m.	36	30.18	NW—NNW	light	WSW	fair
	10	38	30 23	NNW	..	..	..
	2 p. m.	42	30.20	N—NNE	light—mod.	WSW / NNE—ENE	cloudy
	6	40	30.35	NE	moderate		rainy
	10	39	30.27	..	fresh		..
" 3..	6 a. m.	40	30.30	NE by E—ENE	..	ENE	cloudy
	10	41	30.33	ENE	..	..	rainy
	2 p. m.	42	30.30	NE by E	..	..	cloudy
	6	41	30.35	..	..	..	..
	10	41	30.35	..	..	..	..
" 4..	6 a. m.	39	30.34	NE	moderate	WSW	..
	10	40	30.36	..	..	.. / ENE	..
	2 p. m.	43	30.32	NE by E	..	..	..
	6	42	30.31	..	..	..	..
	10	41	30.35	..	..	..	..
" 5..	6 a. m.	40	30.36	N by W	faint	..	..
	10	41	30.38	NNW—WSW	..	N—slow	fair —cloudy
	2 p. m	43	30.36	WSW—N	..	NNW	cloudy
	6	44	30.36	N	..	NW	.. —fair —cloudy
	10	42	30.39	..	..	WNW	..
" 6..	6 a. m.	38	30.39	NNW—N	..	N—slow	.. —fair
	10	41	30.40	N	..	..	fair
	2 p. m.	44	30.40	NNE	light	NNW	..
	6	41	30.40	NE	..	..	..
	10	35	30.41	..	..	..	..
Decem. 7..	6 a. m.	32	30.49	NE	moderate	W by S / NNW	cloudy
	10	34	30.50	..	..	..	.. —fair
	2 p. m.	38	30.49	..	..	W by S / S	fair —cloudy
	6	37	30.48	..	..	..	cloudy
	10	37	30.50	..	..—fresh	..	..
" 8..	6 a. m.	41	30.30	ENE	fr'h—strong	E	rainy —scuds from E
	10	43	30.28	..	strong—gale	ENE	.. —rain
	2 p. m.	42	30.11	..	gale— / strong / —gale	s—mod'te / se—brisk / ENE—swift	rain at 4—clouds partially open, and strong [galo*
	6	43	30.88	..—NE—NNE	fresh—mod.		cloudy —hazy
	10	41	30.81	N by E	moderate		hazy —fair
" 9..	6 a. m.	37	30.97	SW—WSW	fresh	WSW / NW	fair
	10	40	30.95	WSW	..	..	..
	2 p. m.	44	30.96	..	..	WSW	cloudy
	6	41	30.98	..	..	..	fair
	10	39	30.98	..	..	..	..

Average temperature of the week ending Monday, December 2, 38°.85.
Do. do. do. do. December 9, 40°.23.

In October the, observations of winds fom the North-Eastern quarter, were 15¼—from the South-Eastern, 23—from the South-Western, 54—from the North-Western, 44.

The observations of the direction of clouds or higher current, for the same month, were as follows: From the North-Eastern quarter, 12—from the South-Eastern, 5—from the South-Western, 77—from the North-Western, 33.

Maximum of the barometer 30.52 in.—Minimum, 29.30 in.—Range, 1.22 in.

In November, the observations of winds are, from the North-Eastern quarter, 23—from the South-Eastern, 11—from the South-Western, 74—from the North-Western, 36.

The higher currents during the same month were, from the North-Eastern quarter, 5—from the South-Eastern, 4—from the South-Western, 62—from the North-Western, 36.

Maximum of barometer 30.57 inches—Minimum, 29.48—Range, 1.09 inches.

* At Middletown, Connecticut, a distance of one hundred miles *to windward*, the crisis of the storm, on Sunday, 8th of December, was near five hours *later* than in this city.

BANK NOTE TABLE.

MAINE.

U. S. Branch, par a¼	Cumberland....¼a¾	Augusta.....¼a¾
Thomaston.....¼a¾	Caso.....do	Gardiner.....do
Vassalborough...do	Merchants'.....do	Kennebunk.....do
Canal.....do	Union.....do	Manufacturers'..do
Portland.....do	Waterville.....do	Winthrop.....do
Bangor.....do	Saco.....do	Bath.....nosale
South Berwick...do	Lincoln.....do	

PENNSYLVANIA.

U.S. Bank ..par a¾	Montgomery co.¼a¾	Gettysburgh ..1a1½
Philadel. Banks ..¾	Columbia Br.Co.do	Carlisle .....do
Harrisburg.....¼a¾	Chester county..do	Miners'.....do
Northampton....do	Lancaster.....do	Pittsburg .....do
Farms' Reading.do	Germantown....do	Chambersburg ..do
Do. Lancaster..do	Delaware county.do	Erie .....do
Do. Bucks co...do	Penn Township..do	Monongahela ....¾
Easton.....do	York 1a1½	

NEW-HAMPSHIRE.

U. S. Branch, par a¾	Rockingham...¼a¾	Claremont.....¼a¾
Cheshire.....¼a¾	Portsmouth.....do	Grafton.....do
Concord.....do	Farmers'.....do	Merrimack Co...do
Exeter.....do	Piscataqua.....do	Merrimack.....do
New-Hampshire do	Dover.....do	Commercial.....do
N. H.—Strafford.do	Winnipiseogee..do	Connecticut river do

VERMONT.

Brattleborough..¼a¾	St. Albans.....¼a¾	Orange County.¼a¾
Montpelier.....do	Windsor .....do	Burlington.....do
Rutland .....do	Vergennes.....do	Middlebury.....¼a¾
Bank Caledonia..do	Bennington .....do	

MASSACHUSETTS.

U.S. Branch, par a¾	Plymouth.....¼a¾	Bank of Norfolk¼a¾
Boston city B'ks¼a¾	Pawtucket.....do	Cambridge.....do
Agricultural.....do	Salem.....do	Andover.....do
Beverly.....do	Springfield.....do	Falmouth.....do
Bedford Com'l..do	Taunton.....do	Mercantile.....do
Commercial.....do	Worcester.....do	Lynn Mechanics'do
Dedham.....do	Blackstone.....do	Merch'ts Salem..do
Gloucester.....do	Fall River.....do	do N. Bedford.do
Hampshire.....do	Exchange.....do	Bunker Hill.....do
Franklin.....do	Danvers.....do	Atlantic.....do
Sunderland.....do	Asiatic.....do	Franklin.....do
Hampden.....do	Mendon.....do	Lowell.....do
Mechanics'.....do	Oxford.....do	Brighton.....do
Marblehead.....do	Milbury.....do	Central.....do
Newburyport....do	Housatonic.....do	Greenfield.....do
Phenix.....do	Hamp. Manufacs.do	Essex .....broke
Pacific.....do	Barnstable.....do	Farmers'.....broke
Manu. & Mech..do	Leicester.....do	

RHODE-ISLAND.

U.S. Branch, par a¾	Village Bank...¼a¾	North Kingston ¼a¾
Providence.....¼a¾	Smithfield Lime	Mount Hope....do
Union.....do	Rock .....do	Pawtuxet.....do
Exchange.....do	Newport Bank..do	Phœnix.....do
Mechanics'.....do	Roger Williams..do	R. I. Central.....do
Globe.....do	Scituate.....do	Warren.....do
Manufacturers'..do	Kent.....do	Warwick.....do
R. Island Union..do	Eagle, Bristol...do	R. I. Agricult'l..do
Rhode Island....do	Do. Providence..do	Cumberland.....do
Merchants' Provi-	Mount Vernon...do	N. E. Pacific....do
dence.....do	Cranston.....do	Smithfield Union.do
Do. Newport....do	Bank of Bristol..do	High Street.....do
N E. Commercial do	Commercial.....do	Woonsocket Falls.do
Washington.....do	Freemans'.....do	Mech. & Manufs..do
Burrillville Agric.	Franklin.....do	Far. & Mech'broke
and Manuf....do	Landholders.....do	Burrillville.....do
Smithfield Exch.do	Narraganset....do	

CONNECTICUT.

U. S. Branch, par a	Hartford ¼a1	Union ¼a1
Norwich . $5 par	Phœnix .....do	New Haven.....do
Bridgeport ..$5 do	Middletown.....do	Thames.....do
Fairfield Co....¼a¾	Mechanics'.....do	Windham Co.....do
do Branch.do	New-London....do	Stonington.....do
East Haddam....do	City Bk, N. Hav.do	

NEW-YORK.

U. S. Branch...par	Bank of Albany.¾a¼	Westchester Co...¾
City Banks.....do	State Bank .....do	Central Bank.....¾
Long Island Bk..do	Commercial, $50.do	Auburn .....do
Dutchess Co.....do	Bank of Troy ...do	Rochester.....do
Lansingburg ....do	Farmers', $50...do	Jefferson County.do
Poughkeepsie ...do	Mohawk.....do	Geneva.....do
Catskill.....¾	Utica.....¾	Chenango .....do
Newburgh .....do	Do. Branch....do	Bk Columbia.broke
Do. Branch....do	Ontario.....do	Middle District..do
Mech. & Farmrs.¼a¾	Do. Branch....do	Franklin Bank..do

NEW-JERSEY.

Trenton B. Co. $5 par	Morris Canal.....¾	Commercial.....¾
State B Newark..¾	Newark B. Co...do	Cumberland ....do
Do. Morristown.do	Orange .....do	Salem B. Co.....1
Do. Elizabeth....do	Washington.....do	Paterson.....do
Do. Camden....do	People's .....¾	Monmouth ..broke
Do. N Brunswick.do	Sussex .....¾	N.J. Manuf. Co..do
Farm. & Mech. do at Rahway.. do	Farmers.....do	Franklin.....do
	Bk N Brunswick..do	Jersey.....do

* State Banks at Newark, Morristown, and Elizabethtown, var $5 par; N Brunswick. do $80 do: F. & M. Rahway, $10 do

DELAWARE.

Farmers.....¼a1	Wilm. & Brand. ¼a1	Smyrna ¼a1
Do. Branches..do	Delaware .....do	Commercial ....do

MARYLAND.

U. S. Branch ....¼	Bank Maryland.¼a¾	Hagerstown.....1
Baltimore Bks..¼a¾	Frederick co....do	Susquch. Bridge...2
Farmers .....do	Westminster ...do	Elkton .....broke
Do. Branches..do	Farmrs & Mech..do	Planters .....do

DISTRICT COLUMBIA.

Patriotic.....¼a1	Alexandria ¼a1	Mech. Georget'n.¼a1
Metropolis.....do	Potomac.....do	Do. Alexandria..do
Washington ....do	Union .....do	Farmers & Mech..do

VIRGINIA.

U. S. Branch... ¼	Farmers.....¼a1	Virg. & Brnches.¼a1
Vally, & Branch.¼a1	Do. Branches..do	Northwestern 5

NORTH CAROLINA.

State, & Bran's.2¼a3	Newbern & Br'h2¼a3	C. Fear, & Br'h.2¼a3

SOUTH CAROLINA.

U. S. Branch.....¼	Union.....1¼a2	State Bank.. 1¼a2
Plant. & Mech..1¼a2	South Carolina..do	State Bank S.C ..do
Commercial Bank, at Columbia, 2a2¼.		

OHIO.

U. S. Branch... ¼	Marietta..... 4	Farmers & Mech. 4
Chillicothe..... 4	Lancaster..... do	Belmont.....do
Western Reserve do	Mount Pleasant..do	Commercial.....do
Franklin.....do	Farmers.....do	Steubenville..broke

GEORGIA

U. S. Branch.....¼	Augusta.....2a2¼	*Macon.....2a2¼
Planters.....2a2¼	State B. & Brh's.do	Darien.....2a2¼
Marine & Firelns.do	Merch. & Planters †	Augusta In. & Bk.do

* The Bank of Macon has failed. The other Banks in Macon are good at the rate quoted above. †Failed.

MICHIGAN

Michigan Banks..... 1

LOUISIANA.

U. S. Branch ... ¼ | State 2¼a3, Or'ls 2¼a3 | Louisiana..... 4

MISSISSIPPI.

State of Mississippi 3

ALABAMA.

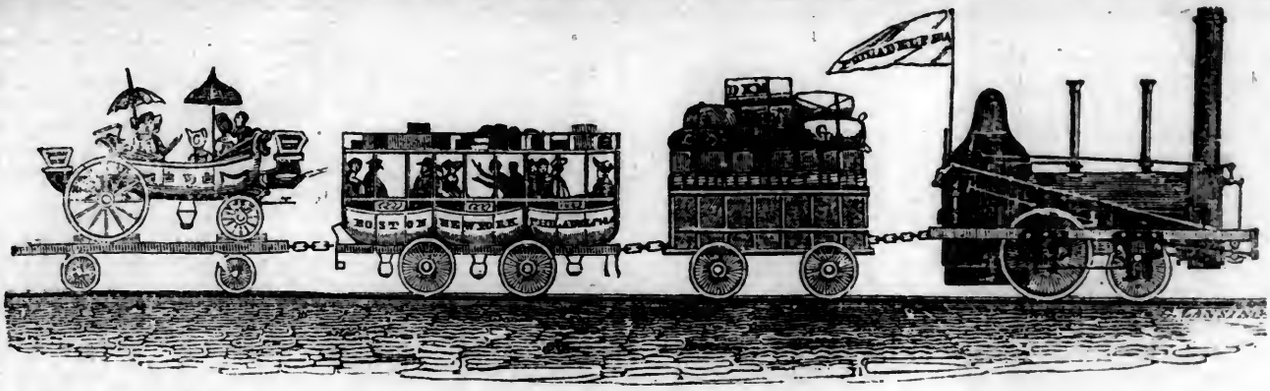
U.S. Branch.. ¼ | Mobile 2¼a3, State 2¼a3 | Tombeckbe....50

MISSOURI.

U. S. Branch ..... ¼

CANADA.

Canada Banks, ... 2a



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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, DECEMBER 28, 1833.

With this number, closes the second year of the publication of the Railroad Journal; and although the high hopes and expectations which were entertained by its projector and publisher, have not been fully realized, in the extent of its circulation, yet, it is believed that it has been of some service to the cause in which it embarked, and to which it has been steadily devoted. In a previous number, it was intimated that, in consequence of a want of patronage to sustain it in its present form and size, it might be either continued in a cheaper form, or discontinued with the present number; but, from the prompt subscription of several of its earliest and most constant friends, and assurances from others, that they *would* subscribe, for *additional* volumes from its commencement, as well as use their influence to extend its circulation, I am highly gratified to be able to say, that the Railroad Journal will be continued, and not only continued, but materially improved in its appearance and contents. The two years which have elapsed since its commencement have enabled me to provide foreign publications, from which to select ample and interesting materials, as well as to enlist many able and scientific correspondents of our own country, in its service, which cannot fail to render it hereafter much more valuable than it has hitherto been, to those who honor it with their patronage.

Having, after mature deliberation, resolved to *continue* its publication in its present form of a weekly journal, and also to increase the quantity of its scientific reading, to the exclusion of a part of the news of the day, &c., it is confidently hoped that the improvements which have already been made in its appearance since its commencement, together with a positive assurance that it *will be continued*, at least another year, will be a sufficient guarantee to its subscribers and the public, for *payment in advance* for the ensuing volume. A moment's reflection will be sufficient to convince any person, that such a course *only* will enable me to do them justice. They will readily see that, without such a rule, I must be a loser of *hundreds*, by scattering a thousand small accounts from Maine to Louisiana, whereas, even if by any event its publication should cease, they would not, at most, lose more than two or three dollars, and not even that, as they know where to find me, and could request some friend to call and receive the balance due them. Of that, however, they need not fear, as, when the volume is commenced, they may rest assured that it will be completed.

It is, therefore, *confidently anticipated that every subscriber will remit for the ensuing year, on the receipt of the first number;* and by doing so they will contribute, in no small degree, to the success of a work which, thus far, it may be truly said, and without arrogance, too, has contributed more to *public* than to *private* interest.

The ensuing, as the past volume, will be issued once a week, *except to such as prefer to pay four dollars, and have it put up like this in semi-monthly or in monthly parts, with a cover.*

This number of the Journal contains several highly interesting and important articles: among them will be found a description, with engravings, of Mr. Burden's boat, an invention which promises, as we have been informed by those who have examined it, the most important results in steamboat navigation; also, an interesting description, with engravings, of the *Suspension* Railway, invented by Henry Sargent, Esq., which have been furnished us by an intelligent friend at Boston. It affords us pleasure to be able to close the year and the volume with a number containing so much of interest, and we do not hesitate to promise that the ensuing volume will be far more valuable than either of the preceding.

Report of the Committee on Cars, to the Direction of the South Carolina Canal and Railroad Company, submitted 20th November, 1833.

(Concluded from page 805.)

We are deprived of the use of the West-Point by necessity of new arrangement and frames. S. Carolina, by necessity of new frame and perfecting boiler. Barnwell, by replacing flues burned by accident. We hope to add the Hamburgh in a few days for the transportation of freight at slow speeds.

To the 5th. The West-Point and Hamburgh have been constructed on the plan of the English engines. The performance of the first has been one-third to one-half of those of the eight-wheel engines. It is believed that the Hamburgh is capable of performing one-third more than any of the eight-wheel engines. The operation of both these engines has been very severe on the road, and every engineer, as well as the persons in the charge of the road, unite in the opinion that it would be highly injudicious to use such engines.

To the 6th. The eight-wheel engines differ from the English engines in plan of boiler, manner, and number of supports, arrangement and application of the power, and in the attainment of an equal distribution of the weight; it has been in parts which are common to the two engines, and which are under similar circumstances, that all our trouble has been experienced, and in the *supposed* improvement, that we have obtained an engine possessing very important advantages, and in the use of which every engineer on the road has become their decided advocate, as will appear more fully from other documents herewith communicated.

The Committee, having concurred with the chief engineer in the opinion that mere answers to the above queries would not fully embrace what is evidently the object of their being made, authorised, at his request, an examination into

the results of experience as derived from our road.

With this view the Committee have attended an examination of the persons, who, having been employed, and in charge of the management and repairs of the engines used thereon, are practically and intimately acquainted with all the circumstances: their experience, therefore, is of essential importance in forming correct opinions in relation to them.

The individuals examined were, Mr. Petsch, master of the workshops, who, having had charge of all the engines, is, in profession, of much valuable information and experience on the subject.

Mr. Darrell, who has been the engineer of the Best Friend (four-wheels)—the West Point (four-wheels)—South Carolina (eight-wheels) and Charleston (eight-wheels)—and has occasionally run all the others. Mr. M'Candish, who was the engineer of the Barnwell, and who has run the Charleston. Mr. Robertson, who has had long experience with the four-wheeled engines on the Liverpool and Manchester road, and brings recommendation of the first character from the engineer of that work, and was sent to this country with one of Mr. Stephenson's engines. On our road he has run the Charleston, eight wheels, and Phœnix, four wheels, and occasionally the other engines. Mr. Cummings, who for eighteen months ran four-wheel engines on the Liverpool and Manchester road, has run a four-wheel engine on Camden and Amboy road, and a six-wheel engine on the Susquehanna Road. On this road he has run the Charleston and Hamburg.

Mr. Allison, who has been the engineer of the West Point and Edisto, and has run the others, not being in town, the statements were submitted to him and fully concurred in. Mr. Raworth, who has been engineer of the Phœnix, and made a few trips on the other engines, was also absent on the road, but expresses his accordance with the statements made.

The following is an abstract of the testimony brought before the Committee:—

1st As to the expediency or necessity of attempting to run eight-wheel engines. Were there any circumstances which renders it practically necessary or expedient to introduce them? If so, what are they? and has experience on our own or other roads, confirmed or fulfilled the views which led to that measure.

Mr. Petsch, Mr. Darrell, and Mr. Allison, are the only persons of those named who have practical acquaintance with the circumstances at the time, and they unite in the opinion that such circumstance did exist, and that it was highly important that something should be done in consequence of them; that the circumstances were the severe effect of the four-wheeled engines on the road; and the experience of all the persons, either as derived from our own or other roads, confirm most fully the views which led to the introduction of the eight-wheel arrangements.

2d. As to the propriety of postponing orders for English engines. Did or did not a practical consideration of the same circumstances render it injudicious to use four-wheel engines of the usual English construction at that time?

As far as their experience bears on this question, it confirms the views of inexpediency of using such engines at all.

3d. As to the attainment on the eight-wheel engines of the object aimed at, have the eight-wheel engines been successful or otherwise in meeting the difficulty anticipated, and in possessing the qualities for which they were attempted?

The testimony is unanimous and decidedly in the affirmative, showing that extraordinary ease of motion has been attained, such as has never been approached in a four-wheel engine, and that the result is of high practical value to the Company.

4th. Are any, and if so, what of the difficulties which have attended the use of eight-wheel engines, to be attributed to them as *eight-wheel engines?*

With the exception of some temporary trouble with the steam-pipes of the South Carolina, which were effectually removed, the uniform reply was, *none.*

5th. Would the same description of workmanship, proportion of parts, and arrangements, have produced the same failure and disappointments with four-wheel engines, as have taken place with the eight-wheel ones?

The reply was by all in the affirmative, and probably greater.

6th. Are the eight-wheel engines more complicated than the four-wheel ones, as ordinarily constructed?

The statement is, that they are not.

7th. Are the eight-wheel engines more or less easy of access or repair, either when running or standing still, than the four wheel ones?

They are much more easy of access and repair in both cases.

8th. What has been the causes of failure and difficulties?

They have been independent of the principle of an eight-wheeled engine, and have originated in unsound materials, imperfect workmanship, and especially from the inadequate proportion of the working gearing to the strain which they were fairly and necessarily subjected to. In the three eight-wheeled engines last put on the road, double valves, similar to those employed on most of the engines on the Liverpool and Manchester road, were used, the resistance from these valves, with the pressure of steam which our engines work with, has been too great for the valve gearing attached to them. With these engines there has also been much trouble from the imperfect operation of the pumps, partly attributed to bad workmanship, partly to inattention to keep them in thorough working order, partly from being compelled to use the engines, with the pumps not in good order, or only one pump, and partly from the necessity of using water when the wells were low, containing much sediment. A large portion of the continued difficulty has been occasioned by being compelled to run the engines with an imperfect repair, instead of thoroughly correcting the cause of failure; from the exhibit of the engines on the road at sundry periods, it will be apparent how inadequate from causes entirely independent of principle or plan, and of our control, have been the number of engines on the road, to the demands made on them, and consequently it is evident why it has been found necessary, rather repeatedly to repair them than to remove thoroughly the cause of failure, the latter would have required time, which our engagements would not allow, and rendered immediate repair and use essential; to these causes must necessarily be added, those existing in mismanagement, inattention, extraordinary strains from wrong position of gates and crossing rails, injudicious speeds and similar sources not easily provided against, especially under our peculiar circumstances, and with new machinery and men inexperienced in its management.

9th. As to the effect which experience has had on the original and present operation as to the eight-wheeled engines of the persons examined.

They were all originally unfavorably impressed as to the eight-wheel engines; but notwithstanding all the attendant trouble, experience in their use has led to a decided preference to them, and to an unanimous opinion that none other should be used on any road constructed of wood and iron, and to the belief that they will eventually be adopted on all railroads.

Although not embraced in the immediate objects of the committee, it was thought proper to take advantage of this opportunity to ascertain as far as the practical views of the persons before the committee was of value, what were in their opinions the principal evil with the arrangement of machinery, as is found existing in both eight and four-wheel engines. The reply was, in having the working gear out of view, and access of the engineers when the engine was in motion, and in having the direction of pistons and pumps horizontal, which renders it almost impossible to keep the parts well oiled, and when combined with difficulty of access, occasions a very great waste of oil; and that the correction of these evils would be of great practical value, especially on a road where so long a line of continuous motion is required.

On a plan being submitted and explained, which had in view an arrangement of the machinery of an eight-wheel engine, expressly intended to remove these objections, and embracing some other advantages believed to be of great value if they can be attained, the opinion was general that it would be successful, and that both the objects to be attained, and the probability of success, were highly in favor of such an arrangement.

On reviewing and comparing the above statements, it will be perceived that in no instance have difficulties or derangements in the machinery arisen from the fact of there being eight wheels to the engines. Nor has the principles on which the eight-wheel engines are constructed, had any agency in producing the evils complained of; but, on the contrary, the same results to a more injurious extent would have occurred to engines on four wheels, if constructed with the same defects of proportion and workmanship. It appears clear to the committee, that eight-wheel engines do not contain in themselves, either from any new principle introduced, or from the necessary arrangements of their parts in construction, the elements of self-destruction, to any greater degree than the four-wheel engines; nor do they effect the road as violently.

If, then, the conclusion be clearly established, that important advantages have been attained by the eight-wheel engines, that they are peculiarly adapted, and, indeed, indispensibly necessary, to the preservation of the road, and that the results anticipated are more than realized, it would appear to be a useless task to go into an examination of the causes which induced the Board originally to concur with the chief engineer in giving them a preference.

It might be sufficient for the Board to point to the results, and rest on them for their justification. They will, however, briefly advert to the state of things then existing.

At that time there were eight or nine English engines in the United States, which had been imported by different companies; four of them had been ordered for a road similar to ours in plan and material. The first trial on this road proved so seriously injurious, literally shaking its parts asunder, and breaking down the rails, (as was witnessed by one of your committee,) that a total abandonment of steam power was immediately resolved on, and the road was prepared at a great expense for the use of horse power. Two of the others were imported to be used on roads constructed of iron rails, on a stone foundation. Their performance had not been tested at the time our Board were compelled to decide on the plan and character of their locomotives; and also, whether they should be obtained at home, or from abroad, it was subsequently ascertained, that in order to render them effective, the number of wheels were changed from four to six. In addition to these facts, the Board had the example of the Baltimore and Ohio Company, which combined a greater amount of talent, wealth, and expense, than perhaps any other similar corporation in the nation. Many of the leading stockholders in this company were prejudiced in favor of English engines; from their connection with English commercial houses, they were enabled to obtain the most accurate information on the subject; yet with all these advantages we find them, after mature deliberation, offering premiums and other inducements to the American manufacturers, to engage in the construction of engines, rather than risk their importation from abroad.

All the accounts from England concur in stating the expense of repairing locomotives, and that not more than one-third of those

owned by the Liverpool and Manchester Company were fit for work at any one time, while at the same period, "The Best Friend," (the Pioneer of American locomotives,) and the "West Point," both of American manufacture, were worked with success upon our road.

Such was the nature of the circumstances, and the extent of the information possessed by the Board, when they were called on to decide on the character and extent of the locomotive power to be introduced on the road. The valuable improvements which genius, aided by the light of experience, has subsequently produced, being then unknown, of course afforded no aid to the Board in making their decision. Governed in their opinions by the facts which had at that time come to their knowledge, they authorized the construction of four eight-wheel engines, instead of six as recommended by the chief engineer, leaving it optional with that gentleman to contract for them at home or abroad. A highly advantageous engagement was made with N. Bliss, of New-York, by which his extensive works and experienced hands were placed at the disposal of our chief engineer, under whose immediate direction and supervision the engines were to have been constructed. Scarcely, however, had this arrangement, which promised such satisfactory results been commenced, when the cholera made its appearance in that city, and raged with peculiar violence in that section of it in which Mr. Bliss' works were situated. A total desertion of the workmen, and the utter ruin of the employer, was the consequence. Mr. Allen then applied to the Board for permission to proceed to England forthwith, as the measure best calculated to remedy this disappointment, and to place the engines at our command in the shortest time and on the best terms. Important as these considerations were, there were others that, in the opinion of the Board, were even more so, viz. The presence of the chief engineer on the line of road, and his personal supervision and direction in its construction. Under these circumstances, this Board authorized Mr. Allen to contract for the engines at the north, on the best terms he could obtain. Under these instructions Mr. Allen entered into a contract with the West Point Foundry. This contract was made at a time when, from the great demand which existed for that species of work, and the few establishments which could furnish it, on account of the dispersion of their workmen by the pestilence, that the manufacturers were enabled, in some measure, to prescribe their own terms, and, indeed, seemed rather as conferring a favor than receiving a benefit, by the acceptance of our work.

Your Committee, although they may have already extended their remarks to too great a length, cannot quit this part of the subject without bringing to the view of the Board a part of the evidence which they conceive has a direct and important bearing on the inquiry, "*What has been the cause of derangement as far as ascertained?*" Your Committee have special reference to the great velocity at which the engines have moved with heavy trains of cars attached, and would, without hesitation, assign this as a prominent cause of injury, both to the road and to the engines. Every witness questioned on the effect produced on the machinery by great rapidity of motion, unhesitatingly replied, that it was highly injurious. Indeed, it requires but a slight daily observation to convince any person, "that a series of shocks constantly repeated on machinery of so cumbrous a mass, so delicately adjusted in its parts, and so heavily strained as a steam engine, must greatly injure and rapidly destroy them."

Mr. Allen, in his communication of the 29th January, 1831, distinctly recommends that the speed of the "West-Point" be limited to ten miles per hour, without regard to the number of cars in the train. Mr. Stephenson, in reply to the inquiry made by the President of the Boston and Lowell Railroad Company, viz.: What do you consider the economical rate of speed at which Locomotives should travel? states that they should not exceed eight miles per hour, with freight cars, nor sixteen (16) miles per hour, with passengers, the latter speed yielded to, not from considerations of economy or durability, but solely to gratify the public in their wishes for rapid travelling. Mr. White, the gentleman who projected the Mauch Chunk Railway, and under whose directions it was constructed, thus expresses himself:—"The motion of twenty or thirty miles per hour, on railroads, will be fatal to waggons, loading and road, as well as to human life." "Our first two months' use was fifteen to twenty miles per hour; which would soon have ruined both road and waggons, and was, I am persuaded, much dearer than the turnpike on which was laid the rails."

The Liverpool and Manchester Company, after having experienced the injurious effects of rapid travelling, and been made sensible of its inexpedience where it was most sensibly felt, (in the revenue of the Company,) have lately decreased the speed of the locomotives upon their road. The item for maintenance and repairs of locomotives, for six months ending July 1st, 1832, was £10,582, which, with the repairs to the road, made an annual expenditure of £35,000 sterling money. At a time when it was represented that out of twenty-four engines, not more than six or seven were in working order, the others undergoing a thorough repair. The item charged in the semi-annual report to July, 1833, 'for repairs of machinery' is £12,000 for the preceding six months. From which it appears, that the working and repairs of the locomotives on the Liverpool and Manchester railway cost annually about £24,000, or, in other words, the startling sum of *£800 per mile per annum, for every mile of their line of road.

While on the subject of the cost of machinery, repairs, &c. it is deemed proper to correct an erroneous impression which has generally prevailed, in relation to a statement, in the accounts of the Company, submitted at the last meeting; by which it would appear, that the wages of the hands employed in the workshops amount to $28,204 14 cents.

This item has been generally, though improperly, supposed to contain the amount paid for repairing and keeping in order the running machinery on the road, when, in fact, it includes the salary of the several engineers charged with the superintendance of the locomotives, of the hands attached to the several trains, the wages of the laborers engaged in loading and unloading the freight cars at the depository; to which it may be added, that the work executed in the work-shops has been of the most miscellaneous character, embracing the construction and fitting up of passenger and freight cars, iron work for the passing places, sliding sections, and revolving platforms throughout the line; clamps, bolts and braces for the Edisto Bridge and stationary engine, with a variety of other jobs too numerous to mention.

No account has been kept of the separate performance of each locomotive, so far as to enable your Committee to form an estimate of the work done by each, and the amount of expenses chargeable to each. Such an account would be satisfactory, as it would furnish valuable data, by which the relative value of each could be fully estimated.

The cash receipts is not a fair criterion, as it forms but a part of their actual performance.

The annexed statement, marked E, is an estimate of what it would have cost for the transportation of material to construct the road at the railroad price of transportation; which, although not money that *came in*, was certainly money *kept* from *going out; if not made*, it was evidently *saved*, and is justly creditable to the engines.

The statement annexed and marked D, exhibits the performance of the engines from the 1st of June, to the 18th of the present month.

The statement marked F contains an account of the passenger and other cars added since the meeting in May.

By reference to the books at the depository, it will be seen that the performance of the engines, since the meeting of the stockholders on the 4th to the 18th of the present month, has been as follows:

Phoenix, 4 trips ascending and 4 descending, with passengers,	$1286 50
Charleston, 2 trips ascending and 3 descending, freight $226 79, passengers $648 44	875 33
Edisto, 2 trips ascending and 1 descending, passengers, $531 75, freight up, $180 00, freight down, $115 67	827 42
	$2,989 25

The return trip of the Edisto on last Saturday, and the upward trip on Monday, in freight and passage money amounted to $620.

All of which, is respectfully submitted, with the unanimous concurrence of the Committee,

ALEXANDER BLACK,
Chairman of Committee on Cars.

Charleston, 19th Nov. 1833.

At a meeting of the Board on the 19th inst., Resolved unanimously, That the above be accepted, and laid before the stockholders at their next meeting.

JOHN T. ROBERTSON, Secretary.

D.

Statement of the locomotives on and off the road, from the 1st of June to the 18th of November, both included: South Carolina—from 1st June to 7th September, on the road 47 days, off the road 52 days—90. Charleston—from 1st June to 18th Nov., on the road 37 days, off the road 134 days—171; not entered for regular work till 1st day September; the time chiefly occupied in new modelling and alterations. Barnwell—from 10th June to 20th September, on the road 80 days, off the road 23 days—103. Edisto—from 8th Sept. to 18th Nov., on the road 26 days, off the road 45 days—71. Phœnix—from 1st June to 18th Nov., on the road 250 days, off the road 21 days—171; during the above time, she has occasionally performed double duty. Hamburgh—three trips on trial, and taken off the road.

E.

The locomotives have transported the following materials for the use of the road:

1500 tons iron, value in freight at 7 cents per ton per mile,	$7,500
75 tons spikes,	350
1500 tons timber at an average of ten miles,	1,050
	8,900
—— tons of fuel for use of engine, workmen, back and forwards, provisions, machinery for inclined plane, revolving platforms, pumps, &c. equal to and including contractors and their agents, provisions, tools, &c. assumed,	12,500
	$21,400

The land transportation and conveyance by water attendant on the above, would, from the difference of value between the rates paid, and those charged, have augmented it to $64,200, or thrice the amount estimated.

F.

Statement of locomotives, passage, crank, freight, and tender cars on the line and at the depository, made since 1st day May, 1833: Two eight-wheel locomotives, Barnwell and Edisto; 1 four-wheel do, Hamburgh; 3 improved passenger cars; 4 do. ready for mounting; 10 do. on hand, (not finished); 1 crank car; 40 freight cars, (completed); 28 do. on hand not finished; 5 tender cars with butts; 9 do. with water tanks; 24 covers for freight cars; repairing freight and passage cars at various times; 1 baggage car ready for mounting.

JOHN GROSS, Clerk of Works.

Charleston, Nov. 18, 1833.

Three freight cars burned on the road; 1 improved passage car broken to pieces on the road; 1 old do. do. do.

* Notwithstanding this immense expenditure for repairs, this Company has declared a dividend of 8 guineas per share, equal to double the usual interest of the country.

Suspension Railway.—We have frequently been asked how the Suspension Railway is constructed; and how, when constructed, it could be used to any purpose with but *one rail*. Of the suspension railway we had heard much said, but had seen no description from which a correct idea could be formed, and therefore could not give an answer. The great object of the Journal, however, being to furnish information to all who wish it, relative to all kinds of railways, we took measures to obtain, through a friend in Boston, from the patentee, Henry Sargent, Esq., such a description, accompanied with drawings, as will enable any person to understand the principle upon which this cheap and convenient mode of internal improvement is constructed. There is certainly much ingenuity displayed by the inventor, in the construction of his model; and although we are not altogether satisfied that the invention will prove of great importance in practice, yet we consider it well worth the attention of those engaged in the construction of railways, as we are every day more convinced that we are only at the *threshold* of a successful tide of experiment in the construction of railroads. We are, in truth, at this time only *beginning* to learn to construct railways. Twenty years will do for railways what the same period has done and *is now* doing for *steamboats*. Instead of costing *twenty* or *thirty* thousand per mile, and travelling 15 to 25 miles per hour, they will be constructed for one-half the money, and we shall be able to travel at the rate of twenty-five to forty miles per hour. This, we are aware, will, by some, be deemed visionary; yet a moment's reflection upon the rapidity and extent of the improvements of this country for a few years past, will convince any one that the past warrants even greater expectations than is here predicted.

The *suspension* railway has not heretofore been properly brought before the public. We shall, however, endeavor to obtain, as we trust we shall be able, from the gentleman who has so obligingly furnished us with the following further descriptions, with accounts of its performances, &c., by which a more correct opinion may be formed of its merits.

Suspension or Single Rail Railway.—Imperfect descriptions of this invention have been published in pamphlets and newspapers, in England and America; erroneous impressions, however, have existed in regard to it, which it is the object of the writer to remove. The erection of the Single Rail Railway in England, and similar experiments in this country, have demonstrated this invention to be practicable, and no one doubts its utility. The superior excellence of this Railway, in comparison with all others, lies in its economy; a point which, it cannot be denied, in the ardor of speculation, is not always sufficiently regarded. The very simplicity and cheapness of an article are not unfrequently the cause of its condemnation, since it is neither "dear-bought nor far-fetched:" considerations, which seemingly enhance the value of our possessions. All other advantages being equal, economy must turn the scale in favor of the Single Rail Railway. To avoid the effects of frost and snow, the foundations of all railways, *in this climate*, must be equally deep, and their tops more or less elevated. It is not perceived that this kind of Railway is inferior to any other, in its capacity for the transportation of heavy loads; nor in those facilities, by which it accommodates itself to every purpose of transportation. It is manifest that no estimate of any Railway, per mile, can be made, without a full knowledge of its location, and of the tonnage, *per wheel*, intended to be transported; for the more the weight is distributed, the lighter and less costly may the railways be. The Single Railway must always be less expensive, other things being equal.

Should the surface of the route be unequal, the plane of the Rail may be maintained, by elevating it to a reasonable height on posts of unequal length. From this circumstance, it must appear to the most casual observer, that a great *additional* saving in embankments, culverts, bridges, drains, &c. is claimed for the Single Railway. It has been objected to the Single Railway, that it is occasionally elevated, for the reasons above stated. But is this a comparative objection? Is it not common to both, and to all? The Double Railway at Quincy passes over intervals, in some places, twenty feet deep; and the Rails, and *horse path also*, are elevated accordingly. Yet the railway at Quincy was constructed expressly for the transportation of heavy masses of granite. All writers, on the subject of Railways, have adverted to lateral pressure, as a point of great consideration. This effect is inseparable from the very nature of the Double Rails. But in Single Railways much less allowance is required for lateral pressure: hence it is believed that the Single Rail can carry more than the Double, in proportion to the number of wheels employed; for friction is diminished, in proportion as the lateral pressure is taken away. This lateral pressure causes the flanges of the wheels to rub on the sides of the Rails, and corresponding effects are produced, at all the axles of the wheels; for the load on the Double Rail is immediately upon the axles, communicating its impulses directly and entirely to them.

On the Single Rail, such is not the case: the load is placed at the ends of the bars, and all motion is necessarily diminished at the axles, which are very *short*, and may be made much *less* than usual, as they are not compelled to bear those shocks which result from lateral pressure. The late experiments in England have demonstrated the superior power of the Single Railway, for the carriage of heavy burthens, attributable, in a great measure, to the causes above recited.

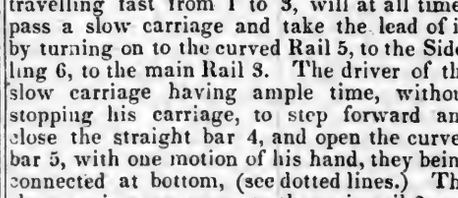
The most perfect steadiness of motion is secured to the carriage, on the Single Railway, by the late additional improvement of the Friction Rail and Rollers: being a splendid Rail or rod placed on one side only of the supporters, and which bears the pressure of a few pounds only, amounting to nothing more than a slight difference, in the two parts of the load, and causing the heavier side to bear lightly on the Friction Rail. This pressure amounts to nothing more than that which occurs in adjusting the loads of common carts and trucks, with this difference, that the pressure is maintained longitudinally in the one case, and laterally in the other. It has been supposed, that a precise equipoise of the two portions of the load was indispensable. This is by no means required: a *difference* may exist of two for one, as a leverage takes place, which prevents all ill effects from such cause.

On the Single Railway, the load is more easily put on and taken off. The single Rail may be more easily maintained in its proper position; the supporters and their foundations are not likely to be affected, by ordinary causes. The foundations are below the influence of frost, with several feet of heavy stone abutment on both sides, or packed with good gravel, unmixed with perishable earth. Should any change take place, which is not expected, as the pressure of the load is perpendicular, the carriage may still follow the inequalities of the single Rail; whilst any considerable change in the position of either Rail of the double Railway must obviously impede all progress for a time, as effectually as it would be impeded on a common road by a fallen tree, or similar obstruction. This Railway may be made of wood, stone, or iron: if wood, various means may be employed for its preservation.

It is not believed that, in point of facilities, any Railway is superior to this which is now recommended. As in other Railways, so in this, hills are ascended and descended; roads are crossed, above or below, as they are crossed by canals, and by other modes; the passage of streams is effected on piles, or in *railway boats* particularly adapted to this object. It has been objected to the Single Railway, that, because of its elevated position, it must impede the common travel, which may lie across its path. We have already shown that this elevation is unavoidable, and that all objections, on this score, are general, and applicable to every species of Railway, *in this climate:* for all Railways are elevated; the Single, on the posts, and the Double, on embankments and supporters also.

Crossing places are required, in both Single and Double Railways, at eligible points, and can as easily be made in the former, as in the latter.

The passings or turnouts are effected with as much ease, on the Single as on the Double Railway, as the following sketch may demonstrate:



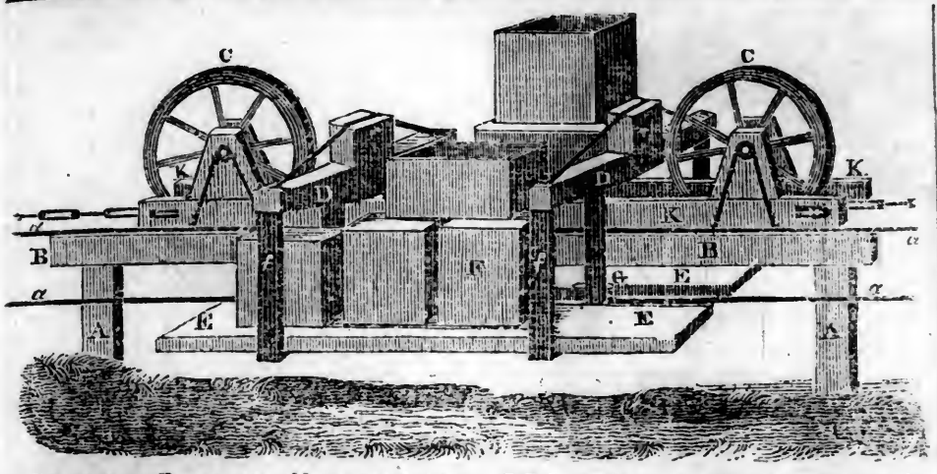
Let the figures 1, 2, 3, represent the Single elevated Railway, with the portions 4, 4, thrown back, on simple but strong hinges or joints, which, when closed, form their respective parts of the Railway, being fastened by a simple latch.

Figure 6 represents the turnout. 5, 5, two curved portions of the sideling or turnout, moved on strong joints; when closed, as in the sketch, connecting those parts of the Rail 1, 3, with the sideling 6. A light carriage, travelling fast from 1 to 3, will at all times pass a slow carriage and take the lead of it, by turning on to the curved Rail 5, to the Sideling 6, to the main Rail 3. The driver of the slow carriage having ample time, without stopping his carriage, to step forward and close the straight bar 4, and open the curved bar 5, with one motion of his hand, they being connected at bottom, (see dotted lines.) The slow carriage passes on to the main rail 2, and the driver replaces the bars as in the sketch, or they may be replaced mechanically; the fast carriage, coming up in the meanwhile, passes forward, the slow carriage being at No. 2. This mode is more particularly adapted to two Single Railways—one for going and the other for returning; but it may be used with advantage travelling both ways on one Rail—and is similar to the mode adopted on the Double Rail, except that there are no cast iron plates with grooves, &c. which probably will not be very convenient in our frosty climate—especially as there are many of them at each sideling. The annexed drawing is a perspective view of the Single elevated Railway and carriage, which may be raised on supporters of two and a half or three feet on level ground, and more on uneven surface, as circumstances may require.

The carriage cannot overturn, or incline farther than the friction rail, and may be of any ordinary breadth and length, and braced and strengthened as may be thought proper, and easily adapted to its particular use; and if the centre of gravity is below the top of the rails, the load may be placed higher than the top of the wheels, which, if the above principle be regarded, may be of the largest diameter; and even regardless of this principle, if the friction rail and rollers be employed.

If any objection exist, in relation to the Single Railway, such objection should be very formidable when opposed by considerations of great economy, superior advantages, and peculiar applicability to our own country.

Boston, April 30th, 1827.



Suspension Railways.—Many years ago, after the subject of railway transportation had begun to excite general attention both in England and America, the suspension or single railway was invented *originally* by Henry Sargent, Esq. of Boston, Mass. This invention (for, as the English writers say, it can with no more propriety be called an improvement than the plough can be called an improvement of the spade,) did not for many years attract the attention which its importance appears to deserve, and it remained for a long time without benefit to the public or advantage to the inventor and patentee. Circumstances, which we shall by and by refer to, took place about twenty years ago, which tended to make this railway better known; but at the same time Mr. Sargent found that he was in some danger of being deprived of his fame as inventor, and his right as patentee; and he consequently took some prompt measures to vindicate both.

Among other railways of Mr. Sargent's invention in the United States, there are now two in the county of Suffolk, Massachusetts: one at Chelsea, of a circular form, and a few hundred feet in extent, is used only for purposes of amusement, and is in fact a deviation from his original invention, and no more than an extensive model. The other, at East Boston, is a suspension railway, as lately improved, and has been commenced within a few months; and is not yet entirely completed. This railway is constructed over a marshy piece of ground, full of creeks and ponds, and much more unfavorable than the average surface of the country.

By the help of the plate, which, with the exception of the friction rail, *a a*, represent the railway and car, as first invented, we shall endeavor to convey some idea of the principles of the suspension railroad, and then to point out the improvements which have been subsequently made.

A A are the wooden posts driven or otherwise secured into the earth, upon which the rail is to be supported. The ground in the annexed plan presents a level surface, not requiring any difference in the length of the supporters. But where the surface is uneven, these can be left of unequal length, and braced every three feet from the top of the rail, according to the undulations of the surface, so that the tops of the supporters shall be on the same level. There have been various expedients suggested for securing these posts in the ground, in order to diminish the tendency to incline from the vertical posture, by the weight and motion of the loads which they are destined to bear. The lower extremities of the posts should be sunk in transverse trenches to a depth of four or five feet, more or less, and placed upon a foundation of hard earth or stones. The sides should be filled up with rubble stones, or otherwise braced. The post should be supported, (in marshy soils,) by at least one strong timber, placed obliquely in the ground and bolted into it, by which it will be stiffened by the oblique timber, and secured from inclining in the opposite direction

B B is the bearing rail, made of strong timber, of dimensions proportioned to the weight intended to be supported. This rail is to be firmly fixed upon the supporters with mortice and tenant. When the wheels C C are intended to be guided with flanges, it is advisable to have the top of the rail shod with iron, *d d*, in order to prevent the flanges from fraying, or, as it is called, brooming the sides of the rail, and thereby wearing it out and making it uneven. C C are the wheels, placed one before the other, in a direct line on the rail, and provided with flanges on either side, to keep them in position. From the axles of these wheels are suspended the horizontal bars or frame work, K K, to which the cars for passengers or merchandise are connected by the transverse bars D D, and strong, inflexible frame *f f*, so that the cars are balanced on each side of the rail, like the bags of a pack saddle F is the loading placed on the cars in readiness for transportation. It might be objected by persons not acquainted with mechanics, that this method of transportation is unsafe, because there being but one line of wheels, the cars would be overturned, unless the load is very equally balanced on each side of the rail. It is of course better that the load should be so balanced, but it could very easily be shown in practice it is impossible that the cars can be overturned when the materials hold together. When one side is heavier than the other, a slight inclination of the heavier side takes place, and that is all; for as soon as the heavier side begins to incline, it approaches the centre of gravity, and is thus continually losing its tendency to incline, and cannot incline further than the supporters, as the car is longer, &c.; while, on the other hand, the lighter side is receding from the centre of gravity, and is consequently gaining power to balance the other by the leverage which takes place. We have frequently seen that a person carrying a single pail of water will extend his disengaged arm at right angles with his body, and by this simple instinctive motion, one arm alone is made to balance the other with a weight of twenty pounds at the end of it. A very great additional security is derived from the very low position of the centre of gravity, owing to the load being placed below the wheels, instead of above or on a level with them, as is the case in common carriages. It is also impossible that the car should be overturned in case of the breaking of the axles, for the load being on each side of the rail, and below the centre of gravity, the body of the car would fall but one-fourth of an inch, and slide on the rail, if in motion and there be firmly supported.—Such are the general principles of the suspension railway as originally invented by Mr. Sargent.

A few years ago the plan of a railway precisely similar in its nature was submitted to the British public by H. R. Palmer, Esq., and it has been generally noticed in English scientific works as Palmer's Patent Suspension Railway, no acknowledgement being made of Mr. Sargent's prior claim. It is impossible to say whether the English inventor had taken any hints either directly or indirectly, from the American. We do not know that he had ever heard of it, but it is very certain that the latter could have had no possible assistance from the former, because he had demonstrated its practicability by actual experiment, many years before it was mentioned on the other side of the Atlantic. This discussion, however, is of little consequence. Newton's argument, with regard to Leibnitz's alleged discovery of fluxions and the differential calculus applies with equal force to this case. Whether Mr. Leibnitz invented it after me or had it from me, is a matter of no consequence, as second inventors have no rights.

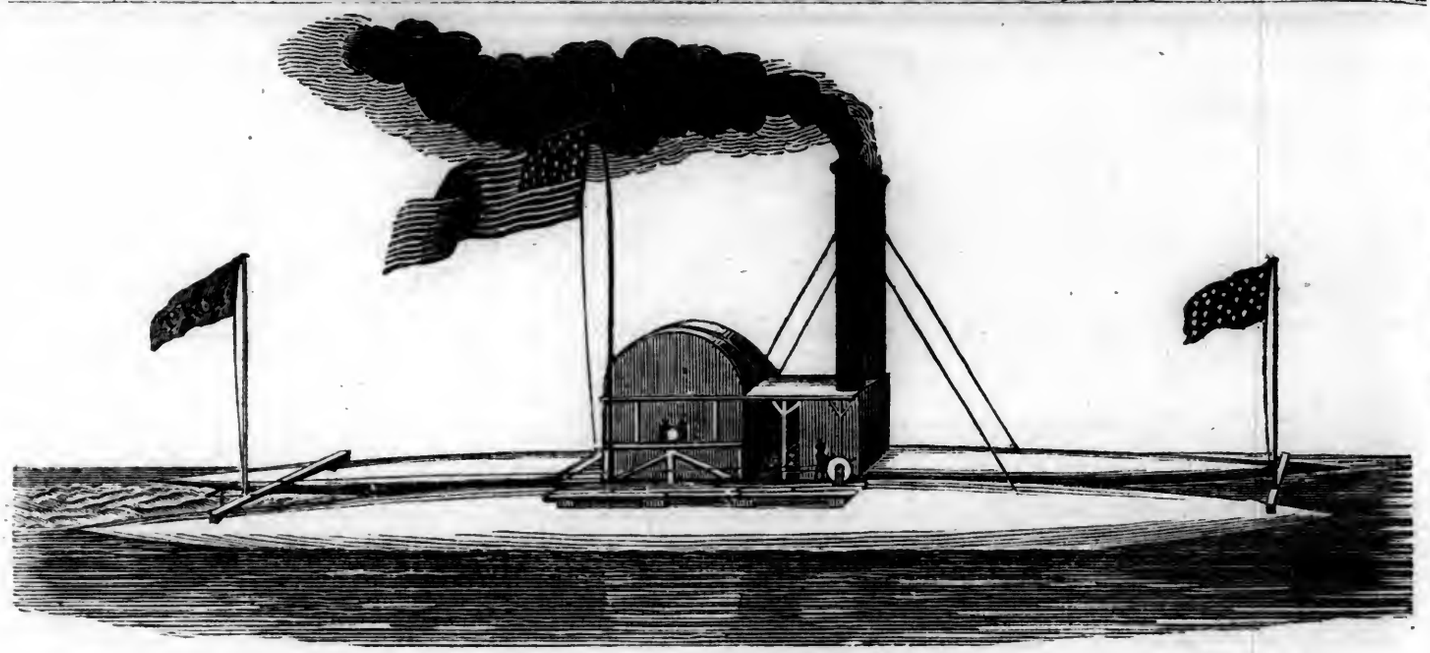
Mr. S. has subsequently made several improvements upon his first invention, which have been in part adopted in his railway at East Boston. The most important of these is the friction rail, *a a*. Although it is impossible for the car to be overturned, yet as it is supported only on a single line of motion, but on the whole breadth of the wheel, it would be apt, except in cases where the load is composed of inert matter, and very nicely balanced, to have an oscillating vibratory motion on the rail. To prevent this the small rail *a a*, made of wood, is fastened on each side of the supported A A, and to prevent friction from the sides of the car, a wheel *b*, on a vertical axis, is placed under the floor of the car, to run horizontally upon the rail. The pressure upon this rail is very trifling, amounting to much less than the difference of weight between the two sides of the loaded car, because the overloaded side having a tendency to descend in a perpendicular line, the oblique pressure upon the friction rail is smaller than the whole tendency of the loaded side to descend. The rail may therefore be of a small size, and can be furnished at a very trifling additional expense; and by means of it, the car, even with a shifting and varying load, will be kept as steady as if upon a double track.

Another great improvement has been suggested with regard to the wheels. If the wheels are kept on the main rail by flanges, as in the plate, it is absolutely necessary that the rail should be shod with iron, which causes a very great additional expense. If this is not done, the continual friction of the flange on the edge of the rail, will cause it to fray or broom as before stated. To obviate this difficulty, the wheels may be made wider than the rail, without flanges, to run freely upon the smooth surface of the rail, and to keep their direction, guided by rollers, of which the place only can be seen in the plate, may be placed horizontally at *c c*, to run on the side of the rail, thus answering every purpose of the flange, but with a much smaller degree of friction, and with a saving of the whole expense of the iron guard for the rail.

A due regard being had to the principles above stated, the cars intended to be put upon the railway may be varied according to the nature of the articles to be transported, and the fancy or taste of the proprietor. The railway at East Boston, is as we have before said, built over a tract of marshy land of a peculiarly unfavorable nature. The supporters are piles driven through the marsh to a stratum of blue clay beneath, and strengthened by oblique braces. Being merely an experiment, the cars to be placed upon it are intended only for the transportation of passengers to a place of entertainment, at the farther end of it.

The only serious objection that has been made to the suspension railway is, that being elevated so far from the ground, it may not be so sufficiently permanent, and so capable of bearing heavy loads, at a *rapid* rate, as the iron rails which are elevated only a few inches. We do not wish to discuss this question, though many persons whose opinions in these matters are of great weight, believe that it may be made sufficiently permanent for all practical purposes.

[For the conclusion of this article see page 832]



[*From the Mechanics' Magazine.*]

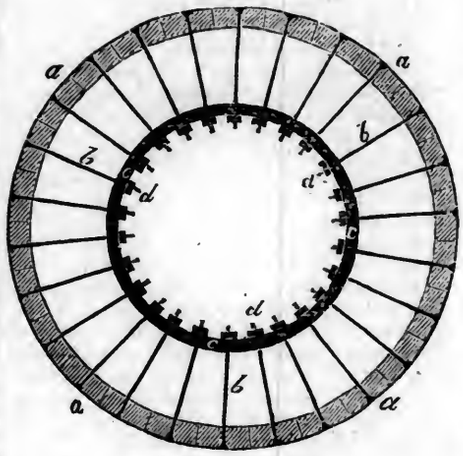
The New Era of Steam Power.—In our first volume, at page 118, we inserted a short article on the probable application of steam power to various purposes during the year, which is now nearly brought to a close. We there state that "every day brings to light some new form in which its irresistible energies may be employed. Ten years ago the idea of substituting a steam engine for a horse, as propelling power on a turnpike road, would have been thought chimerical. * * * We shall not be surprized to find it, before the year is out, employed to extinguish fires, to blast rocks, or in excavating the earth for canals. No man can set bounds to its utility, or the modes of its application." Since then we have received various reports of the success of steam carriages on common roads, and as a proof of their being in practical operation, we refer our readers to page 311 of this Magazine, where will be found an account, (taken from the London Repertory of Arts for November,) of their performance on one of the most crowded roads in the vicinity of that metropolis; it has also been used in extinguishing fires, as will be seen by reference to page 329. Inventions and suggestions of importance, as connected with steam power, have within the last few weeks so multiplied upon us that we have resolved to give, in as condensed a form as possible, all the information we have received in this article, and as one of the most important, we shall commence with an account of Mr. Burden's new steamboat, an invention which we hesitate not to say is of the first importance. (See above engraving.)

[The account here referred to was published in the Railroad Journal of December 14th, page 739.]

Our readers will have observed that the construction of this boat is on a principle that can scarcely be misunderstood by any one. Every person knows that a mass moves more easily through the water endwise than sidewise; and as the editor of the Journal of Commerce very justly observes, "Mr. Burden has carried the principle to its *ne plus;* instead of building a boat so narrow that she could hardly be made to stand erect, he has made a *pair* of boats, and so being relieved from all danger of capsizing, he has been able to elongate them to his heart's content." The rudder, which is placed immediately behind the flag with the word Troy on it, is only a plate of iron about 6 feet long, and about 5 inches wide, and is governed by the motion of a steering wheel, placed parallel with the boiler, on the same trunk to which it is connected by ropes, as will be seen in the engraving: it is similar to a common steering wheel, and as the chief weight of the parabolic spindles or trunks is in the centre, it causes it to revolve as on a pivot. This may be illustrated by placing a common rolling pin used in making pastry, of the same form, on a table, and turning it; that will form a complete circle, and on that principle, this boat turns, whereas all other vessels turn on their stern.

Fig. 2 is a cross section of the internal part of one of the trunks: *a a a a*, the staves, 26 in number, 3½ inches thick, to each of which is attached an iron bolt, *b b b*, 26 inches in length, passing through the staves, and countersunk on the outside of them: these bolts are fastened to an iron ring, *c*, by means of nuts, *d d d*,

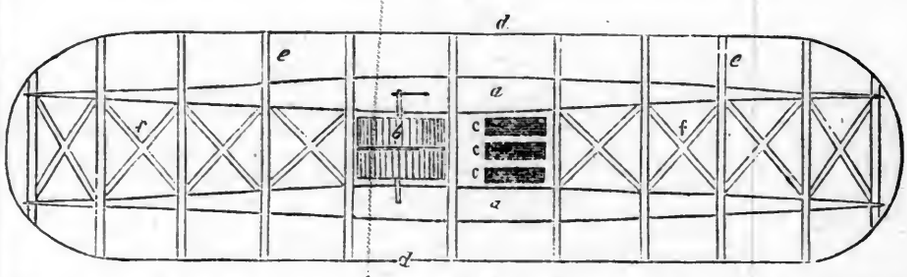
Fig. 2.



screwed on the inside; so that the tighter the nut is screwed, the more compact it makes those staves immediately opposite. Sufficient room is left in the centre for a man to enter and pass fore and aft, to turn the nuts, if necessary.

Fig. 3 shows the plan of connecting these two spindles or trunks, upon which the decks are to be built. *a a*, the trunks or spindles; *b*,

Fig. 3.



the water wheel; *c c c*, the boilers; *e e*, the beams which connect it with the outside guard *d*; *f f*, the braces.

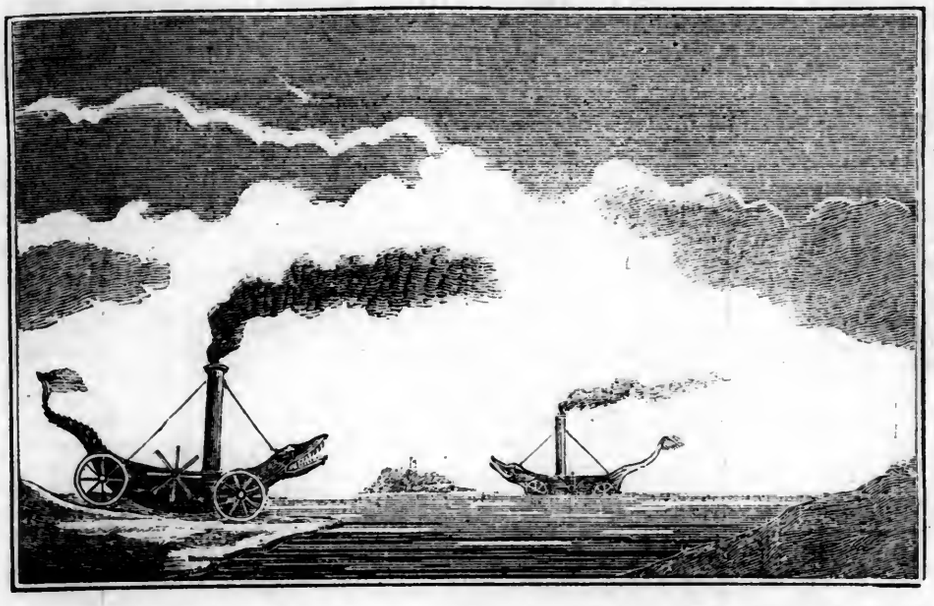
We think it right to state another fact in connection with the advantages which we have enumerated; and that is in her complete exemption from jarring or vibration while under way. The passengers in this boat could easily imagine themselves upon terra firma, were it not for her great velocity.

It is, we understand, to be named the EMMA, OF TROY, in respect, on the part of the inventor, to his amiable and intelligent partner for life.

The boilers have been constructed under the direction of the Rev. Dr. Nott, who accompanied us on our trip, a man distinguished by his piety and scientific attainments; and we have the authority of the editor of the N. Y. Gazette, for stating that "Dr. Nott stated that he would have no hesitation in placing his cot over the boiler, at all times, and going to sleep with

perfect composure, without any dread of danger; and that it was among his happiest reflections, that he had lived long enough to have contributed so much towards the preservation of human life, while so many thousands were enjoying the benefit of steam navigation."

We shall now introduce a plan of a machine calculated to go by land and water, propelled by steam, for the design of which we are indebted to the "Young Mechanic." Its construction is so simple that we consider a description unnecessary. In those districts where ferries are frequently to be crossed, we think it might be advantageously used.



Hitherto the chief obstacle of going long voyages by sea in steamboats, has been the difficulty of carrying sufficient fuel. That obstacle is in a great measure obviated by a discovery of Mr. Rutter, an engineer in England, for generating heat by water, to which we have before alluded at pages 117 and 182, and which we think still we shall be able to prove was first discovered by an American citizen. At present, we shall copy Mr. Rutter's account from the London Mechanics' Magazine.

[For the article here alluded to see Railroad Journal of November 2d, page 690.]

In the London Mechanics' Magazine of October 5th we find the following further particulars:

As I find that the question I recently proposed to your valuable correspondent, Mr. Rutter, as to his new process, is inadvertently so worded as to be liable to misconstruction, I take the earliest opportunity to desire its correction.

The process in question is not for "making gas" only, but for *generating heat* for all the purposes to which that powerful agent is applicable, as must, indeed, have been by this time gathered from the articles on the subject in the Mechanics' Magazine. Gas is produced, it is true, in the first instance, from the combustion of the tar and the water, but it is instantaneously converted into flame, to be used *in any case where heat is required*—whether the manufacture of gas for illumination (to which it has been applied at Salisbury), the production of steam for numberless purposes of manufactures and navigation, or a thousand other equally important uses. Gaseous matter has, I understand, been before obtained from water to some extent, but only by means of processes too expensive and too complicated to be of general utility. I remain, Sir, yours respectfully, F. H.

London, Oct. 1, 1833.

From the same Magazine of October 19th, we also make the two following extracts:

The notices of Mr. Rutter's new process for generating heat have greatly interested me, and having some practical knowledge of the great difficulty of obtaining sufficient "stowage" for the fuel in steam navigation, without encroaching on the space required for other purposes, and disturbing the trim of the vessel too much, I am disposed to think that Mr. Rutter's discovery will do much towards changing "the face of the world," and to believe that the period is "now fast approaching, when communication by steam may be established with every part of the globe."

The economy of this plan, in *weight* and *cost*, will appear the greater, if we compare it with the expenditure on the present system. According to the data given by your correspondent, in No. 529, the account will stand as follows:

To produce an effect equal to 120 lbs. of Newcastle coal, will require 15 lbs. coal tar, say 20 lbs. water, and 25 lbs. coke, in all 60 lbs. But as water may be supplied from alongside as wanted, deduct 20, leaving 40 lbs. of fuel, which, on Mr. Rutter's principle would produce an effect equal to 120 lbs. Newcastle coal, or three times the weight of the fuel at present used. If Mr. Rutter's data *only* approximate to the exact proportions, we cannot fail to be struck with the extravagant waste of fuel upon the present system. Every commander of a steam-vessel knows, or ought to know, that the ashes, *and cinders too*, which are thrown overboard, are not nearly equal to half the weight of coal consumed in a given time. From what has passed under my own observation, when in command of a steam-vessel, I am inclined to think that they do not exceed, in ordinary cases, 10 per cent. of the fuel consumed; and if so, there is a difference of 48 lbs. to be accounted for out of every 120 lbs. of coals consumed. Where this goes we can be at no loss to imagine, when we observe the immense volume of smoke which marks the course of a steamer at sea; even with the most careful stoking, a vast quantity of inflammable matter passes off unconsumed. Deducting the actual loss in this way, it appears not improbable it would be found that the difference of the total weight of the inflammable matters, efficiently *applied to the generation of steam*, would not be so great as it appears to be at first sight.

From the preceding statement it appears, that there is a balance in favor of Mr. Rutter's method of generating heat of 200 per cent., as compared with the weight of Newcastle coal, and that by loading a vessel with the same weight of fuel, to be consumed on this plan, she would be able to keep the sea three times as long as at present.

Another, and by no means unimportant advantage of Mr. Rutter's plan, is, that the material required being fluid, and withal of less specific gravity than water, it may be advantageously stored in tanks fitted to the vessel, in those spaces which are now comparatively useless, and may be so disposed as to serve in lieu of ballast, and thus render steamers less crank than they now are. As each tank is emptied it may be filled with water, so as to preserve the same trim during the voyage, which is by no means an unimportant consideration, as it is well known that swift vessels are much sooner put out of trim than others. The absence of the large funnel, which is now required, would be a great advantage, both in velocity and comfort in a seaway.

With regard to the comparative economy of Mr. Rutter's method of generating heat, it obviously depends upon the cost at which "the bituminous, oleaginous, resinous, waxy, and fatty substances, in a fluid state," can be procured.

Suppose that coal tar is used. This article could at one time, and may now, probably, be obtained for 1*d.* per gallon at the works, or even less. Taking it at 1½*d.* per gallon, and coke at 28*s.* per chaldron, weighing (say) 18 cwt., then the account will stand thus:

14 gallons tar 11*d.* 25 lbs. coke (say=¼ bush.) 4½*d*
—6*d.* cost of fuel on Mr. Rutter's plan, equal in effect to consumption of 120 lbs. Newcastle coal on the present system:

120 lbs. Newcastle coal = say 1¼ bush. at 9*d.* per bush., would cost 13½*d.*, or 125 per cent. more.

Something must be allowed for the expense of the apparatus for injecting the inflammable liquids into the fire, &c.; but even here an allowance should be made, on the other hand, for the increased room which would be available to other purposes than the stowage of fuel, for which it is now required—for the saving of the cost of the funnel—and also for the reduced expense of repairs to the hull of the vessel, in consequence of not being subject to those irregular strains in a gale of wind to which steamers are now liable.

I have no personal knowledge of Mr. Rutter, but I could not forbear addressing the foregoing observations to you upon the subject of his invention, which I find is already quibbled about, nay, by some decried, on account of its very simplicity! Let them remember the tale of Columbus and the Egg, and try to discover its application in the present case.

I am, &c. George Bayley

Ipswich, Oct. 3, 1833.

I perceive by your last notice, that Mr. Rutter is preparing for publication a work on the application of his new principle, and I beg to assure him that he has my sincere wishes for the complete success of his patent, &c.

It occurred to me, that about fourteen years since, in consequence of a paragraph which had then met my eye, I had been induced to make the following experiment: About equal portions of common tar and water were put into a half-pint glass retort, after which the orifice of the beak was reduced, by drawing out at the table blowpipe, to about one-eighth of an inch diameter. The retort being fixed over an argand lamp, the apparatus was taken into my garden on a dark night, and the contents of the retort brought to a state of brisk ebullition. As soon as vapor issued with rapidity, a light was applied, and in an instant I beheld a jet of flame eight or nine inches in length, constituting a brilliant firework, the intense heat of which was found capable of melting several refractory mineral substances. I lay no claim to originality in this little experiment, which is precisely the same in principle as Mr. Rutter's method, and this the following extract, which gave rise to my experiment, will show:

"American Water-Burner.—An apparatus, called the American Water-Burner, has been invented by Mr. Morey, of New-Hampshire. It is a rough blowpipe, but is applicable in many cases in place of a furnace. Tar is intimately mixed with steam, and made to issue from a small jet, in the manner of an eolipile, and the stream of matter being ignited, produces a flame of great size and intensity. It appears that the water is partly decomposed towards the middle of the jet, and that the heat is thus increased by increasing the quantity of active agents; but, whatever the exact effect, the water is found to be useful in preventing the formation of smoke, and increasing the combustion."—[New Monthly Magazine, April, 1819.]*

Perhaps, Mr. Editor, you will indulge me in a few more remarks. In the autumn of 1827, a scientific friend and myself succeeded in beautifully illuminating a very large room, then used as our laboratory, with gas obtained from the decomposition of resin; and being at the same time occupied with the oxydrogen blowpipe, in producing intense light by means of lime and other substances, it occurred to us that the light thus furnished would prove admirably adapted to the purposes of illuminating objects usually exhibited by the solar microscope. In the course of a few weeks, subsequently, the illuminating power of resin gas, and the principle of applying the light of lime to the microscope, were practically demonstrated in a lecture before the Canterbury Philosophical Institution. I believe it was early in the following year that I was informed a patent had been granted for lighting a town on the continent with "resin gas," and every body knows that, during the present year, the "gas

microscope" has been brought out as one of the popular exhibitions of the metropolis.

Now I feel convinced, Mr. Editor, that both these plans were originated and carried into effect independent of any thing made public by me; and just as well am I satisfied, notwithstanding the extract previously given, that the principle of generating heat, now made known, is as purely original with Mr. Rutter. Coincidences of this kind have frequently happened, and the more men are taught to think for themselves, the more frequently they will happen, which, after all, is nothing more than another proof of the value of scientific acquirements. Mr. Rutter, I feel persuaded, will not mistrust my motives in offering these observations to his notice: had I not done so, it is very probable some one else would shortly have made him acquainted with the "American Water Burner," and perhaps might unjustly accuse him of plagiarism at the same time. I am, Sir, very truly yours,

W. H. Weekes.

Sandwich, October 18, 1833.

In conclusion, we beg to assure our subscribers that we have sent to the Patent Office at Washington for drawings and specifications of the "American Water Burner," which we fully expect will appear in our January number.

Journeys from London to Greenwich.—In our last number we had the pleasure of giving an account of the first business-like journey performed by a steam-carriage on common roads; and we cannot but feel gratified at the demand which the accuracy of our information has produced.

It was very generally believed, particularly amongst horse-coach proprietors, that the public would be prejudiced against this new mode of conveyance; and in entering into arrangements for running steam-carriages, this objection has been raised as a reason for reducing the premium required by the patentees, it being stated that steam-carriages would run for a length of time at a loss, before the public would venture regularly to travel on common roads by steam. Sir Charles Dance, at the time of running between Gloucester and Cheltenham, had never discovered that such a prejudice existed, but that the contrary was really the case, every one appearing desirous of becoming a passenger. This point has however been further set at rest, by the same carriage, (which performed the journey from London to Brighton and back), having run for eight successive days from Wellington street, over Waterloo Bridge, to Greenwich, three times a-day, starting regularly at eleven, half-past twelve, and two o'clock; each day, a distance, in the whole, of about 250 miles, at an average running of ten miles per hour.

In order to call forth as little opposition as possible, from the coachmen and their attendant imps, at the same time to show that the public mind is by no means against the introduction of steam-carriages, Sir Charles Dance determined not to run for the ordinary charge, but the coach was advertised to run for two shillings and sixpence each person, to or from Greenwich, or the sum of four shillings to those who were desirous of going and returning: by such a course it was evident that curiosity would be the principal motive for going with the carriage. We are informed that, on an average, fourteen persons accompanied the carriage each trip. Such has been the interest displayed, that crowds of persons lined the road; and at either end of the journey so dense were the crowds, that, but for the command over the engine, and the accuracy of the driving some serious accident must inevitably have occurred. In some of the journeys, the steam-coach was accompanied by many of our scientific men, amongst others Mr. Telford, Mr. Macneill, and others of our best engineers, who expressed themselves so much gratified with the success of Sir Charles Dance, that they have determined on running the carriage a journey between London and Birmingham, the more fully to demonstrate the practicability of using the power of steam on common roads; and the carriage has been taken off the Greenwich road for this purpose.

We have very carefully examined the steam-carriage, and observed the ease of its running, and believe, that when Messrs. Maudsly and Field shall have completed a carriage, it may be expected to run on an average of fifteen miles an hour, with light weight. It should be understood, that the present carriage was not built by these talented engineers, but that the boiler only is of their manufacture; nor can they venture to use its full power on the engines, as many parts of the carriage are not equal to bear the strain, whilst other parts are too strong and heavy; it may therefore be said, that the carriage, in having performed so much under all the circumstances, has the more positively proved the possibility of bringing this mode of conveyance into general application.

The Brighton road was divided into five stages of rather more than ten miles, at which places the carriage took in coke and water; in running on the Greenwich road the carriage took in for each journey a small quantity of coke and water, sufficient for the five miles run, the two stations for this purpose being one in the Waterloo road and the other at Greenwich. The quantity of coke consumed during the whole time that the carriage has been running with the present boiler, averages nearly half a bushel per mile.—[Repertory of Arts for November.]

Of the Orders of Architecture. [Concluded from page 758.]

Construction of Arches.—If the weights of the voussoirs in an arch are all equal, the arch of equilibration is what is termed a *Catenarian* curve, the same that a chain or cord of uniform thickness would assume, if hanging freely, the horizontal distance of the points of suspension being equal to the span of the arch, and the depth of the lowest point of the chain being equal to the greatest height of the arch.

If the figure of the chain were reversed, the joints being such that the force, which was a *pull* in the first situation, becomes a *thrust* in the second, the chain would support itself, and remain in *equilibrio*.

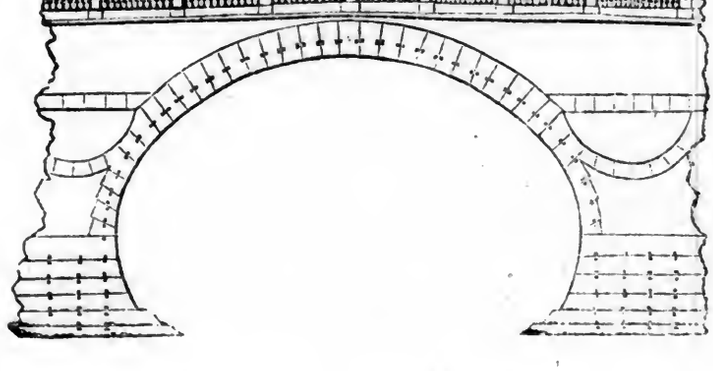
The *catenaria* is remarkable for this mechanical property. That a chain hanging in that curve has its centre of gravity *lower* than if it were disposed in any other line, its length continuing the same, and also the points from which it is suspended. Therefore, an arch constructed in this form has its centre of gravity the *highest* possible.

But the supposition of an arch resisting a weight, which acts only in a vertical direction, is by no means perfectly applicable to cases which generally occur in practice. The pressure of loose stones and earth, moistened as they frequently are by rain, is exerted very nearly in the same manner as the pressure of fluids, which act equally in all directions: and even if they were united into a mass, they would constitute a kind of wedge, and would thus produce a pressure of a similar nature, notwithstanding the precaution recommended by some authors, of making the surfaces of the arch-stones vertical and horizontal only. This precaution is, however, in all respects unnecessary, because the effect which it is intended to obviate is productive of no inconvenience, except that of exercising the skill of the architect. The effect of such a pressure only requires a greater curvature near the abutments, reducing the form nearly to that of an ellipsis, and allowing the arch to rise at first in a vertical direction.

A bridge must also be so calculated as to support itself without being in danger of falling by the defect of the lateral adhesion of its parts, and in order that it may in this respect be of equal strength throughout its depth at each point, must be proportional to the weight of the parts beyond it. This property particularly belongs to the curve denominated *logarithmic*, the length corresponding to the logarithm of the depth. If the strength were afforded by the arch stones only, this condition might be fulfilled by giving them the requisite thickness, independently of the general form of the arch: but the whole of the materials employed in the construction of the bridge must be considered as adding to the strength, and the magnitude of the adhesion as depending in a great measure on general outline.

We must examine in the next place what is the most advantageous form for supporting any weight which may occasionally be placed on the bridge, particularly at its weakest part, which is usually the middle. Supposing the depth at the summit of the arch at the abutments to be given, it may be reduced considerably, in the intermediate parts, without impairing the strength, and the outline may be composed of *parabolic arcs*, having their convexity turned towards each other. This remark also would be only applicable to the arch stones, if they afforded the whole strength of the bridge, but it must be extended in some measure to the whole of the materials forming it.

If, therefore, we combine together the curve best calculated for resisting the pressure of a fluid, which is nearly elliptical, the logarithmic, and the parabolic curves, allowing to each its due proportion of influence, we may estimate, from the comparison, which is the fittest form for an arch intended to support a road. And in general, whether the road be horizontal, or a little inclined, we may infer that an *ellipsis*, not differing much from a circle, is the best calculated to comply as much as possible with all the conditions, as represented by the above figure, which exhibits a view of the middle arch of Blackfriar's Bridge, London.



Babbage on the Economy of Manufactures.

(Concluded from page 809.)

"The many important facilities for the construction of machines and the manufacturing of commodities which we possess, are enjoyed by no other country; nor is it likely that any country can enjoy them to an equal extent for an indefinite period. *It is admitted by every one that our skill is unrivalled; the industry and power of our people unequalled; their ingenuity, as displayed in the continual improvement in machinery, and production of commodities, without parallel, and apparently without limit.* The freedom which, under our government, every man has, to use his capital, his labor, and his talents, in the manner most conducive to his interests, is an inestimable advantage; canals are cut, and railroads constructed, by the voluntary association of persons whose local knowledge enables them to place them in the most desirable situations; and these great advantages cannot exist under less free governments. These circumstances, when taken together, give such a decided superiority to our people, that no injurious rivalry, either in the construction of machinery or the manufacture of commodities, can reasonably be anticipated."

325. But even if it were desirable to prevent the exportation of a certain class of machinery, it appears abundantly evident, that, whilst the exportation of other kinds is allowed, it is impossible to prevent the forbidden kind from being smuggled out; and that, in point of fact, the additional risk had been well calculated by the smuggler.

326. It would appear, also, that there are circumstances which show that the immediate exportation of improved machinery is not quite so certain as has been assumed; and that the powerful principle of self-interest will urge the makers of machinery to push its extension in a different direction. When a great maker of machinery has contrived a new machine for any particular process, or has made some great improvement on those in common use, to whom will he naturally apply for the purpose of selling his new machines? Undoubtedly, in by far the majority of cases, he will communicate the circumstance to his nearest and best customers, those to whom he has immediate and personal access, and whose capability to fulfil any contract is best known to him. He will communicate with them, and offer to take their orders for the new machine; nor will he think of writing to inform foreign customers, so long as he finds the home demand sufficient to employ the whole force of his establishment. Thus, then, the machine-maker is himself interested in giving the first advantage of any new improvement to his own countrymen.

327. In point of fact, the machine-makers in London prefer home orders, and do usually charge an additional price to their foreign customers. Even the amount by which this preference is measured may be found in the evidence before the Committee on the Export of Machinery. It is differently estimated by various engineers, but appears to vary from five up to twenty-five per cent. on the amount of the order. The reasons for this are—1. If the machinery be complicated, one of their best men, well accustomed to the mode of work in the factory, must be sent out to put it up; and there is always a considerable chance of his having offers which will induce him to remain abroad. 2. If the work be of a more simple kind, and can be put up without an English workman, yet for the credit of the house which supplies it, and to prevent accidents which may occur from the want of sufficient instruction in those who use it, the parts are sometimes made stronger, and examined more attentively, than they would be for an English purchaser. Any defect or accident, also, would be attended with more expense to repair, if it occurred abroad, than in England.

328. The class of workmen who make machinery possess much more skill, and are paid much more highly, than that class who merely use it; and, if a free exportation of machinery were allowed, this higher and more valuable class would, undoubtedly, be greatly increased; for, notwithstanding the high price of wages, there is no country in which machinery can at this moment be made, either so well or so cheaply, as in England. We might, therefore, supply the whole world with machinery, at an evident advantage, both to ourselves and our customers. In Manchester, and in the surrounding district, many thousand men are employed wholly in making machinery, which gives employment to many hundred thousands who use it; but the period is not very remote, when the whole number of those who then *made use* of machinery, was not greater than the number of those who now *manufacture* machines. Hence, then, if England should ever become a great exporter of machinery, she would necessarily contain a large class of workmen, to whom skill would be indispensable, and, consequently, to whom high wages would be paid; and, although her manufacturers might probably be fewer in numbers, yet they would undoubtedly have the advantage of being the first to derive profit from improved machinery. Under such circumstances, any diminution in the demand for machinery would, in the first instance, be felt by a class much better able to meet it, than the class which now suffers upon every check in the consumption of manufactured goods; and the resulting misery would therefore assume a mitigated character.

329 It has been feared, that when other countries have purchased our machines, they will cease to demand new ones. The statement which has been given of the usual progress in the improvement of the machinery employed in any manufacture, and of the average time which elapses before it is superseded by such improvements, is a complete reply to this objection. If our customers did not adopt the new machinery contrived by us as soon as they could procure it, then our manufacturers would extend their establishments, and undersell their rivals in their own markets.

330. It may also be urged, that in each kind of machinery a maximum of perfection may be imagined, beyond which it is impossible to advance; and certainly the last advances are usually the smallest, when compared with those which precede them; but it should be observed, that these advances generally occur when the number of machines in employment is already large; and, consequently, their effects on the power producing are very considerable. But though it should be admitted that any individual species of machinery may arrive, after a long period, at a degree of perfection which would render farther improvement nearly hopeless, yet it is impossible to suppose that this can be the case with all kinds of mechanism. In fact, the limit of improvement is rarely approached, except in extensive branches of national manufactures, and the number of such branches is, even at present, very small.

331. Another argument in favor of the exportation of machinery is, that *it would facilitate the transfer of capital to any more advantageous mode of employment which might present itself.* If the exportation of machinery were permitted, there would doubtless arise a considerable demand; and, supposing any particular branch of our manufactures to cease to produce the average rate of profit, the loss to the capitalist would be much less if a market were opened in which he could sell his machinery to customers more favorably circumstanced for its employment. If, on the other hand, new improvements in machinery should be imagined, the manufacturer would be more readily enabled to carry them into effect, by having the foreign market open to him for the sale of his old machines. The fact that England can, notwithstanding her taxation, and her high rate of wages, undersell other nations, seems to be well established; and it appears to depend on the superior goodness and cheapness of those raw materials of machinery, the metals,—on the excellency of the tools,—and on the admirable arrangements of the domestic economy of our factories.

332. The different degrees of facility with which capital can be transferred from one mode of employment to another, has an important effect on the rate of profits in different trades and in different countries. Supposing every other cause which influences the rate of profit at any period, to act equally on capital employed in different occupations, yet the real rates of profit would soon alter, on account of the different degrees of loss in removing it from one mode of investment to another, or any variation in the action of those causes. This principle will appear more clearly by taking an example. Let two capitalists have embarked £10,000 each, in two trades: A in supplying a district with water, by means of a steam engine and iron pipes; B in manufacturing bobbin-net.

The capital of A will be expended in building a house and erecting a steam engine, which costs say £3000: and laying down iron pipes to supply his customers, costing, say £7000. The greatest part of this latter expense is payment for labor; and if the pipes were to be taken up, the damages to them would render them of little value, except as old metal, whilst the expense of removing them would be considerable. Let us, therefore, suppose, that if A were obliged to give up his trade, he could only realize £4000 by the sale of his stock. Let us suppose that B, by the sale of his bobbin-net factory, and machinery, could realize £8000. Farther, let us suppose the usual rate of interest made on the capital employed by each is the same, say 20 per cent.: then we have

	Capital invested.	Money which would arise from sale of machinery.	Annual rate of profit per cent.	Income.
Water-works - -	£10,000	£4,000	£20	£2,000
Bobbin-net Factory	10,000	8,000	20	2,000

Now, if, from competition, or any other causes, the rate of profit arising from water-works should fall to ten per cent., that circumstances would not cause a transfer of capital from water-works to bobbin-net making; because the reduced income from the water-works, £1000 per annum, would still be greater than that produced by investing £4000, (the whole sum arising from the sale of the materials of the water-works,) in a bobbin-net factory; which sum, at 20 per cent., would only yield £800 per annum. In fact, the rate of profit, arising from the water-works, must be reduced below eight per cent., before it would benefit the proprietor's income to remove his capital into the bobbin-net trade.

333. In any inquiry into the probability of the injury arising to our manufacturers from the competition of foreign countries, particular regard should be had to the facilities of transport, and to the existence in our own country of a mass of capital in roads, canals, machinery, &c., the greater portion of which may fairly be considered as having repaid the expense of its outlay, and also to the cheap rate at which the abundance of our fuel enables us to produce iron, the basis of almost all machinery. It has been justly remarked by M. de Villefosse, in the memoir before alluded to, that "Ce que l'on nomme en France, la *question du prix des fers*, est, a proprement parler, la *question du prix des bois*, et *la question des moyens de communications interieures par les routes, fleuves, rivieres et canaux.*"

On referring to page 34 of the present volume, the price of iron in various countries in Europe has been stated; and it appears that, in England, it is produced at the least, and in France at the greatest expense. The length of the roads which cover England and Wales may be stated roughly at twenty thousand miles of turnpike, and one hundred thousand miles of road not turnpike. The internal water communication of England and France, as far as I have been able to collect information on the subject, may be stated as follows:—In France, navigable rivers, 4068 miles in length;

navigable canals, 915·5 miles; navigable canal in progress of execution, (1824,) 1388 miles. Total, 6971·5.* But if we reduce these numbers in the proportion of 3·7 to 1, which is the relative area of France as compared with England and Wales, then we shall have the following comparison:

		England.†	Portion of France equal in size to England and Wales.
		Miles.	*Miles.*
Navigable Rivers - - -		1275.5	1261.6
Tidal Navigation‡ - - -		545.9	
Canals, direct -	2023.5		
——, branch -	150.6		
	2174.1	2174.1	247.4
Canals commenced - - -		..	375.1
Total - - - - - - - -		3995.5	1884.1
Population in 1831 - - -		13,894,500	8,608,500

This comparison, between the internal communications of the two countries, is not offered as complete; nor is it a fair view, to contrast the wealthiest portion of one country with the whole of the other: but it is offered with the hope of inducing those who possess more extensive information on the subject, to supply the facts on which a better comparison may be instituted. The information to be added would consist of the number of miles in each country, of sea-coast,—of public roads,—of railroads,—of railroads on which locomotive engines are used.

334. One point of view, in which rapid modes of conveyance increase the power of a country, deserves attention. On the Manchester railroad, for example, above half a million of persons travel annually; and supposing each person to save only one hour in the time of transit, between Manchester and Liverpool, a saving of five hundred thousand hours, or of fifty thousand working days, of ten hours each, is effected. Now this is equivalent to an addition to the actual power of the country of one hundred and sixty-seven men, without increasing the quantity of food consumed; and it should also be remarked, that the time of the class of men thus supplied is far more valuable than that of mere laborers.

ON THE FUTURE PROSPECTS OF MANUFACTURES, AS CONNECTED WITH SCIENCE.

335. In reviewing the various processes which have been offered in the course of the present volume, as illustrations of those general principles which it has been its main object to support and establish, it is impossible not to perceive that the arts and manufactures of the country are intimately connected with the progress of the severer sciences; and that, as we advance in the career of improvement, every step requires, for its success, that this connection should be rendered more intimate.

The applied sciences derive their facts from experiment; but the reasonings, on which their chief utility depends, come more properly within the province of what is called abstract science. It has been shown, that the division of labor is no less applicable to mental productions than to those in which material bodies are concerned; and it follows, that the efforts for the improvement of its manufactures, which any country can make with the greatest probability of success, must arise from the combined exertions of all those most skilled in the theory, as well as in the practice of the art; each laboring in that department for which his natural capacity and acquired habits have rendered him most fit.

336. The profits arising from the successful application to practice of theoretical principles will, in most cases, amply reward, in a pecuniary sense, those by whom they are first employed: yet, even here, what has been stated with respect to *patents* will prove that there is room for considerable amendment in our legislative enactments: but the discovery of the great principles of nature demands a mind almost solely devoted to such investigations; and these, in the present state of science, frequently require costly apparatus, and exact an expense of time quite incompatible with professional avocations. It becomes, therefore, a fit subject for consideration, whether it would not be politic in a state to compensate for some of those privations to which the cultivators of the higher departments of science are exposed; and the best mode of effecting this compensation is a question which interests both the philosopher and the statesman. Such considerations appear to have had their just influence in other countries, where the pursuit of science is regarded as a profession, and where those who are successful are not shut out from almost every object of honorable ambition to which their fellow-countrymen may aspire. Having, however, already expressed some opinion upon these subjects in another publication,* I shall here content myself with referring to that work.

337. But it is of something beyond neglect, of which the science of England complains: for whilst in our own country, whose advancement in wealth and strength so peculiarly depends upon the aid of the sciences, no encouragement is held out to that which must ever precede their application to the practical purposes of life; whilst abstract science, the prolific parent of the useful arts—the unfailing guide in tracing to their remotest conclusions the natural laws which observations may have detected—is allowed by the state to entail upon its cultivators the sacrifice of all those personal interests which the exercise of the same powers of mind might command in any other pursuit: Englishmen are precluded from accepting those distinctions from the enlightened sovereigns of other countries, by which they might desire to express their respect for British science.†

There was, indeed, in our own country, one single position to which science, when concurring with independent fortune, might aspire, as conferring rank and station; an office deriving, in the estimation of the public, more than half its value from the commanding knowledge of its possessor; and it is extraordinary, that even that solitary dignity—that barony by tenure in the world of British science—the chair of the Royal Society,—should have been coveted for adventitious rank. It is more extraordinary, that a prince, distinguished by the liberal views he has invariably taken of public affairs—and eminent for his patronage of every institution calculated to alleviate those miseries from which, by his rank, he is himself exempted—who is stated by his friends to be the warm admirer of knowledge, and most anxious for its advancement,—should have been so imperfectly informed by those friends, as to have wrested from the head of Science the only civic wreath which could adorn its brow.‡

In the meanwhile the President may learn, through the only medium by which his elevated station admits approach, that those evils which were anticipated from his election have not proved to be imaginary, and that the advantages by some expected to result from it, have not yet become apparent. It may be right also to state, that whilst many of the inconveniences which have been experienced by the President of the Royal Society have resulted from the conduct of his own supporters, those who were compelled to differ from him have subsequently offered no vexatious opposition: they wait in patience, convinced that the force of truth must ultimately work its certain, though silent course; and not doubting that, when His Royal Highness is correctly informed, he will himself be among the first to be influenced by its power.

338. But younger institutions have arisen to supply the deficiencies of the old; and very recently a new combination, differing entirely from the older societies, promises to give additional steadiness to the future march of science. The "*British Association for the Promotion of Science*," which held its first meeting at York, in the year 1831, would have acted as a powerful ally, even if the Royal Society were all that it might be: but in the present state of that body, such an association is almost necessary for the purposes of science. The periodical assemblage of persons, pursuing the same or different branches of knowledge, always produces an excitement which is favorable to the developement of new ideas; whilst the long period of repose which succeeds, is advantageous for the prosecution of the reasonings or the experiments then suggested: and the recurrence of the meeting in the succeeding year will still stimulate the activity of the inquirer, by the hope of being then enabled to produce the successful result of his labors. Another advantage is, that such meetings bring together a much larger number of persons actively engaged in science, or placed in positions in which they can contribute to it, than can ever be found at the ordinary meetings of other societies, even in the most populous capitals; and combined efforts towards any particular object can thus be more easily arranged.

But perhaps the greatest benefit which will accrue to science from these assemblies, is the intercourse which they cannot fail to promote between the different classes of society. The man of science will derive practical information from the great manufacturers; the chemist will be indebted to the same source for substances which exist in such minute quantity as only to become visible in most extensive operations; and persons of wealth and property, resident in each neighborhood visited by these migratory assemblies, will derive greater advantages than either of those classes, from the real instruction they may procure respecting the produce and manufactures of their country, and the enlightened gratification which is ever attendant on the acquisition of knowledge.*

339. Thus, it may be expected that public opinion shall be brought to bear upon the world of science; for by this intercourse light will be thrown upon the characters of men, and the pretender and the charlatan will be driven into merited obscurity. Without the action of public opinion, any administrator, however anxious to countenance the pursuits of science, and however ready to reward by wealth and honors those whom they might think most eminent, would run the risk of acting like the blind man recently couched, who, having no mode of estimating degrees of distance, mistook the nearest and most insignificant for the largest objects in nature: it becomes, therefore, doubly important, that the man of science should mix with the world.

It is highly probable that in the next generation, the class of scientific men in England will

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* This statement is extracted and reduced from one in the Ravinet Dictionnaire Hydrographique, 2 vols. 8vo. Paris, 1824

† I am indebted to F. Page, Esq of Speen, for that portion of this table which relates to the internal navigation of England: those only who have themselves collected statistical details, can be aware of the time and labor, of which the few lines in the above table are the result.

‡ The tidal navigation includes—the Thames from the mouth of the Medway,—the Severn from the Holmes,—the Trent from Trent Falls in the Humber,—the Mersey from Runcorn Gap.

* Reflections on the Decline of Science in England, and on some of its Causes. 8vo. 1830. Fellowes

† The intentions of a Northern Sovereign, distinguished by his attachment to science, were some time ago defeated by information from his ambassador in London, of the existence of the regulation by which it was understood that the acceptance of such honor by British subjects is forbidden.

‡ The Duke of Sussex was proposed as President of the Royal Society, in opposition to the wish of the Council—in opposition to the public declaration of a body of Fellows, comprising the largest portion of those by whose labors the character of English science had been maintained. The aristocracy of rank and power, aided by such allies as it can always command, set itself in array against the prouder aristocracy of science. Out of about seven hundred members, only two hundred and thirty balloted; and the Duke of Sussex had a majority of EIGHT. Under such circumstances, it was, indeed, extraordinary that his Royal Highness should have condescended to accept the fruits of that doubtful and inauspicious victory.

The circumstances preceding and attending this singular contest have been most ably detailed in a pamphlet, entitled, "A Statement of the Circumstances connected with the late Election for the President of the Royal Society. 1831: printed by R. Taylor, Red Lion court, Fleet street." The whole tone of the tract is strikingly contrasted with that of the productions of some of those persons by whom it was his Royal Highness's misfortune to be supported.

* The advantages likely to arise from such an association have been so clearly stated in the address delivered by the Rev Mr. Vernon Harcourt, at its first meeting, that I would strongly recommend its perusal by all those who feel interested in the success of English science.—[Vide First Report of the British Association for the Advancement of Science. York, 1832.]

spring from a class of persons altogether different from that which has hitherto scantily supplied them. Requiring, for the success of their pursuits, previous education, leisure, and fortune, few are so likely to unite these essentials as the sons of our wealthy manufacturers, who, having been enriched by their own exertions, in a field connected with science, will be ambitious of having their children distinguished in its ranks. It must, however, be admitted, that this desire in the parents would acquire great additional intensity, if worldly honors occasionally followed successful efforts; and that the country would thus gain for science, talents which are frequently rendered useless by the unsuitable situations in which they are placed.

340. The discoveries of Iodine and Bromie, two substances hitherto undecompounded, were both amongst the class of manufacturers, one being a maker of saltpetre at Paris, the other a manufacturing chemist at Marseilles: and the inventor of balloons filled with rarified air, was a paper manufacturer near Lyons. The descendants of Mongolfier, the first aerial traveller, still carry on the establishment of their progenitor, and still continue to combine great scientific knowledge with every department of the arts, to which the various branches of the family have applied themselves.

341. Chemical science may, in many instances, be of great importance to the manufacturer, as well as to the merchant. The quantity of Peruvian bark which is imported into Europe is very considerable, but chemistry has recently proved that a large portion of the bark itself is useless. The alkali Quinia, which has been extracted from it, possesses all the properties for which the bark is valuable, and only forty ounces of this substance, when in combination with sulphuric acid, can be extracted from a hundred pounds of the bark. In this instance, then, with every ton of useful matter, thirty-nine tons of rubbish are transported across the Atlantic.

At the present time, the greatest part of the sulphate of quinia used in this country is imported from France, where the low price of the alcohol, by which it is extracted from the bark, renders the process cheap; but it cannot be doubted, that when more settled forms of government shall have given security to capital, and when advancing civilization shall have spread over the states of Southern America, the alkaline medicine will be extracted from the woody fibres, by which its efficacy is almost lost, and that it will be exported in its most condensed form.

342. The aid of chemistry, in extracting and in concentrating substances used for human food, is of great use in distant voyages, where the space occupied by the stores must be economized with the greatest care. Thus, the essential oils supply the voyager with flavor —the concentrated and crystallized acids preserve his health—and alcohol, when sufficiently diluted, supplies the spirit necessary for his daily consumption.

343. When we reflect on the very small number of species of plants, compared with the multitude that are known to exist, which have hitherto been cultivated, and rendered useful to man, and when we apply the same observation to the animal world, and even to the mineral kingdom, the field that natural science opens to our view seems to be indeed unlimited. These productions of nature, numerous and varied as they are, may each, in some future day, become the basis of extensive manufactures, and give life, employment, and wealth, to millions of human beings. But the crude treasures perpetually exposed before our eyes contain within them other and more valuable principles. All these, in their innumerable combinations, which ages of labor and research can never exhaust, may be destined to furnish, in perpetual succession, new sources of our wealth and of our happiness. Science and knowledge are subject, in their extension and increase, to laws quite opposite to those which regulate the material world. Unlike the forces of molecular attraction, which cease at sensible distances, or that of gravity, which decreases rapidly with the increasing distance from the point of its origin, the farther we advance from the origin of our knowledge, the larger it becomes, and the greater power it bestows upon its cultivators, to add new fields to its dominions. Yet, does this continually and rapidly increasing power, instead of giving us any reason to anticipate the exhaustion of so fertile a field, place us at each advance on some higher eminence, from which the mind contemplates the past, and feels irresistibly convinced, that the whole, already gained, bears a constantly diminishing ratio to that which is contained within the still more rapidly expanding horizon of our knowledge.

But, if the knowledge of the chemical and physical properties of the bodies which surround us, as well as our acquaintance with the less tangible elements, light, electricity, and heat, which mysteriously modify or change their combinations, all concur to convince us of the same fact; we must remember that another and a higher science, itself still more boundless, is also advancing with a giant's stride, and having grasped the mightier masses of the universe, and reduced their wanderings to laws, has given to us, in its own condensed language, expressions, which are to the past as history, to the future as prophecy. It is the same science which is now preparing its fetters for the minutest atoms that nature has created: already it has nearly chained the ethereal fluid, and bound it in one harmonious system all the intricate and splendid phenomena of light. It is the science of *calculation*,—which becomes continually more necessary at each step of our progress, and which must ultimately govern the whole of the applications of science to the arts of life.

But perhaps a doubt may arise in the mind, whilst contemplating the continually increasing field of human knowledge, that the weak arm of man may want the physical force requisite to render that knowledge available. The experience of the past has stamped, with the indelible character of truth, the maxim, that "*Knowledge is power.*" It not merely gives to its votaries control over the mental faculties of their species, but is itself the generator of physical force. The discovery of the expansive power of steam, its condensation, and the doctrine of latent heat, has already added to the population of this small island, millions of hands. But the source of this power is not without limit, and the coal-mines of the world may ultimately be exhausted. Without adverting to the theory, that new formations of that mineral are now depositing under the sea, at the estuaries of some of our larger rivers; without anticipating the application of other fluids requiring a less supply of caloric than water: we may remark that the sea itself offers a perennial source of power hitherto almost unapplied. The tides, twice in each day, raise a vast mass of water, which might be made available for driving machinery. But supposing heat still to remain necessary when the exhausted state of our coal-fields renders it expensive: long before that period arrives, other methods will probably have been invented for producing it. In some districts, there are springs of hot water, which have flowed for centuries unchanged in temperature. In many parts of the island of Ischia, by deepening the sources of the hot springs but a few feet, the water boils: and there can be little doubt that, by boring a short distance, steam of high pressure would issue from the orifice.*

In Iceland, the sources of heat are still more plentiful; and their proximity to large masses of ice seems almost to point out the future destiny of that island. The ice of its glaciers may enable its inhabitants to liquify the gases with the least expenditure of mechanical force: and the heat of its volcanoes may supply the power necessary for their condensation. Thus, in a future age, *power* may become the staple commodity of the Icelanders, and of the inhabitants of other volcanic districts; and possibly the very process by which they will procure this article of exchange for the luxuries of happier climates may, in some measure, tame the tremendous element which occasionally devastates this province.

344. Perhaps to the sober eye of inductive philosophy, these anticipations of the future may appear too faintly connected with the history of the past. When time shall have revealed the future progress of our race, those laws which are now obscurely indicated will then become distinctly apparent; and it may possibly be found that the dominion of mind over the material world advances with an ever-accelerating force.

Even now, the imprisoned winds which the earliest poet made the Grecian warrior bear for the protection of his fragile bark; or those which, in more modern times, the Lapland wizards sold to the deluded sailors; these, the unreal creations of fancy or of fraud, called, at the command of science, from their shadowy existence, obey a holier spell: and the unruly masters of the poet and the seer become the obedient slaves of civilized man.

Nor has the wild imagination of the satirist been quite unrivalled by the realities of after years: as if in mockery of the College of Laputa, light almost solar has been extracted from the refuse of fish; fire has been sifted by the lamp of Davy; and machinery has been taught arithmetic instead of poetry.

345. In whatever light we examine the triumphs and achievements of our species over the creation submitted to its power, we explore new sources of wonder. But if science has called into real existence the visions of the poet —if the accumulating knowledge of ages has blunted the sharpest, and distanced the loftiest of the shafts of the satirist, the philosopher has conferred on the moralist an obligation of surpassing weight.

In unveiling to him the living miracles which teem in rich exuberance around the minutest atom, as well as throughout the largest masses of ever-active matter, he has placed before him resistless evidence of immeasurable design. Surrounded by every form of animate and inanimate existence, the sun of science has yet penetrated but through the outer fold of Nature's majestic robe; but if the philosopher were required to separate, from amongst those countless evidences of creative power, one being, the masterpiece of its skill; and from that being to select one gift, the choicest of all the attributes of life; turning within his own breast, and conscious of those powers which have subjugated to his race the external world, and of those higher powers by which he has subjugated to himself that creative faculty which aids his faltering conceptions of a deity, —the humble worshipper at the altar of truth would pronounce that being,—man: that endowment,—human reason.

But however large the interval that separates the lowest from the highest of those sentient beings which inhabit our planet, all the results of observation, enlightened by all the reasonings of the philosopher, combine to render it probable that, in the vast extent of creation, the proudest attribute of our race is but, perchance, the lowest step in the gradation of intellectual existence. For, since every portion of our own material globe, and every animated being it supports, afford, on more scrutinizing inquiry, more perfect evidence of design, it would indeed be most unphilosophical to believe that those sister spheres, glowing with light and heat, radiant from the same central source— and that the members of those kindred systems, almost lost in the remoteness of space, and perceptible only from the countless multi-

* In 1828, the author of these pages visited Ischia, with a Committee of the Royal Academy of Naples, deputed to examine the temperature and chemical constitution of the springs in that island. During the first few days, several springs, which had been represented in the instructions as under the boiling temperature, were found, on deepening the excavations, to rise to the boiling point.

tude of their congregated globes—should each be no more than a floating chaos of unformed matter; or, being all the work of the same Almighty Architect, that no living eye should be gladdened by their forms of beauty, that no intellectual being should expand its faculties in deciphering their laws.

The following curious account of a new and important invention by Capt. Ericsson, is taken from the London Times of the 9th November. The subject is appears to have attracted considerable attention in England, and it will probably, if it should succeed according to the expectations of the inventor, produce important changes in the propelling power for machinery, travelling, &c.

We shall look for further accounts upon the subject with much interest, and lay them, when they are received, promptly before the public.

Ericsson's Caloric Engine.—Various attempts have been made to construct engines founded on the principle of the expansion of atmospheric air by heat, but these attempts have still remained without practical success. The caloric engine invented by Capt. Ericsson, a large working model of which we have seen in vigorous operation, seems to promise results of a very different kind. Air and steam must now engage in a desperate and probably a deadly struggle for the mastery. If the sanguine, and we think not unreasonable, hopes of the inventor be realized, steam has seen its best days.

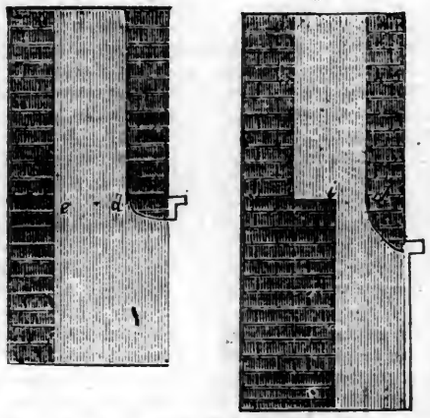
The principle of the engine is founded on the well known property of fluids, that they transmit their pressure equally in all directions. It consists of two cylinders of unequal diameters, the area of the pistons of the one being double that of the other. These cylinders are connected together by means of a series of pipes, called a regenerator. If air be condensed in these cylinders, it is obvious that the superior pressure exerted on the piston of the large cylinder will vanquish the pressure on the small one, and motion will take place till the larger piston has reached the top of the cylinder, whilst the small one has been pushed to the bottom. Here all motion would cease, if heated condensed air were not allowed to enter above the large piston, and below the small one, so as to depress the large one to the bottom of the cylinder, and raise the smaller one to the top. But this being done by sliding valves, exactly as in the steam engine, the motion is constantly kept up. On this principle, then, we could obviously have an air engine, which would perform its operations by the sudden heating and cooling of condensed atmospheric air. But this is not the principle which distinguishes the caloric engine from others of the same class. The marked difference lies in this—that the same heat is made to circulate through the engine and perform the same duty over and over again, instead of being thrown into a cold condenser or into the atmosphere as so much waste fuel.

The regenerator consists of a number of pipes, having numerous discs of metal placed within them, to make the air circulate in eddies, and either deposite its heat in the pipes, or receive it from them, according to the difference of temperature. These pipes are inclosed in a long cylinder of sheet iron, which has also discs of metal so arranged that the air, passing along the outside of the pipes, may also travel in a circuitous route, and deposit its heat, or receive it, according to circumstances.

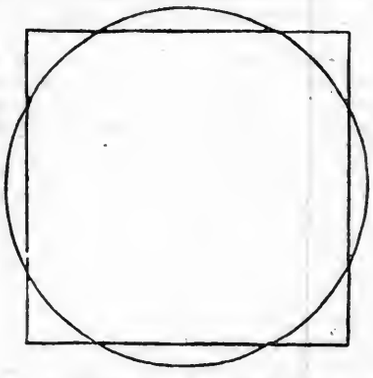
The heated air, after having done its duty in the large cylinder, is made to circulate through the regenerator, and deposit a very large quantity of its caloric before it reaches the cold cylinder. The cold air from the small cylinder is at the same time passing along the interior of the pipes to the tubes above the furnace, and is thus carrying back the *same* caloric to do the same work over again. But though we have only mentioned atmospheric air as the fluid actually employed, it is obvious that any other fluid, whether aeriform or liquid, may be used in the same manner. But a simple statement of numerical facts, furnished us by the engineer himself, will be of more value in turning the attention of the public to this invention than any general observations which we can possibly make. The engine actually constructed has two cylinders of 18 inches stroke each, the one being 14 inches in diameter, the other 10 1-4 inches. The working pressure is 35 lbs. above that of the atmosphere. The fly-wheel performs 56 revolutions in a minute. The break-wheel is two feet in diameter, and loaded with a weight of 5,200 lbs. The power of the engine is calculated to be equal to five horses. The regenerator has seven tubes about seven feet long and two inches diameter. The engine requires only 2 lbs. of coal per hour for the power of one horse, and the whole heat which is actually lost out of this quantity, or not returned by the regenerator, is only 3 lbs. per hour; so that the other parts are lost by radiation, &c., which may be much diminished in an engine on a larger scale, and by surrounding certain parts by imperfect conductors.

Smoky Chimneys.—Among the many sufferings arising from the limited diffusion of science, that from smoky fire-places is by no means the least. Independent of the direct inconvenience of smoke in the room, dangerous colds are often taken from hoisted windows or opened doors. What a beautiful picture of comfort is presented on entering, in cold December day an apartment, the inmates of which have red and tearful eyes, and stand or sit shivering in currents of cold air! Count Rumford observes that the general fault of common chimneys is the greatness of the opening at the throat. The following is a condensed view of some of his rules:

Fig. 1. Fig. 2.



"1. The *throat* of the chimney should be perpendicularly over *the fire*, as the smoke and hot vapor which rise from a fire naturally tend *upwards*. By the *throat* of a chimney is meant the lower extremity of its canal, where it unites with the upper part of its open fireplace. 2. The nearer the throat of a chimney is to the fire the stronger will be its *draught*, and the less danger of its smoking; since smoke rises in consequence of its rarefaction by heat, and the heat is greater nearer the fire than at a greater distance from it. But the draught of a chimney may be too strong, so as to consume the fuel too rapidly; and, therefore, a due medium must be fixed upon, according to circumstances. 3. That *four inches* is the proper width to be given to the throat, reckoning across from the top of the breast of the chimney, or the inside of the mantle to the back of the chimney; and even in large halls, where great fires are kept up, this width should never be increased beyond 4½ or 5 inches. 4. The width given to the back of the chimney should be about *one-third* of the width of the opening of the fireplace in front. In a room of middling size, *thirteen inches* is a good size for the width of the back, and 3 times 13 or 39 inches for the width of the opening of the fireplace in front. 5. The angle made by the back of the fireplace and the sides of it, or covings, should be 135°, which is the best position they can have for throwing heat into the room. 6. The back of the chimney should always be built *perfectly upright*. 7. Where the throat of the chimney has an end, that is to say, where it enters into the lower part of the open canal of the chimney, *there* the three walls which form the two covings and the back of the fireplace should *all end abruptly*, without any slope, which will render it more difficult for any wind from above to force its way through the narrow passage of the throat of the chimney. The back and covings should rise 5 or 6 inches higher than the breast of the chimney. 8. The current of air, which, passing under the mantle, gets into the chimney, should be made *gradually to bend its way upwards*; by which means it will unite *quietly* with the ascending current of smoke. This is effected with the greatest ease and certainty, merely by *rounding off* the breast of the chimney, or back part of the mantle, instead of leaving it flat or full of holes and corners. Fig. 1 shows the section of a chimney on the common construction, in which *d e* is the throat. Fig. 2 shows a section of the same chimney altered and improved, in which *d i* is the reduced throat, four inches in the direction *d i*, and thirteen inches in a line parallel to the mantle."



Mechanical Quadrature of the Circle. By William Baddeley. [From the London Mechanics' Magazine.]

Sir,—The accompanying diagram exhibits a mechanical quadrature of the circle effected by Mr. Heaton, which I believe to be quite original; the rule thereby obtained is sufficiently accurate for all practical purposes. From a piece of carefully rolled sheet brass was cut out a circle 1·9 inches diameter, and a square of 1·7 inches. On weighing them they were found to be of exactly the same weight, which proves that as each are of the same thickness, the surfaces must also be precisely similar. The rule, therefore, is that the square is to the circle as 17 is to 19. Mr. Heaton made a number of experiments before he hit upon the right measurement, which he has at length determined with as much accuracy as the case will admit of.

I am, sir, yours, very respectfully,
William Baddeley.

London, Aug. 19, 1833.

Mechanics in China.—It is said there are in China, 25,000 shoemakers; 15,000 weavers; 16,000 carpenters and cabinet-makers; and 7,000 lapidaries, or cutters of precious stones.

SUMMARY.

Naval Lyceum.—This new association is exciting the interest of our citizens, and we have to day seen a most beautiful volume of colored engravings representing the naval battles of Great Britain from 1793 to 1817, which, with other books, was presented by one of our public spirited merchants to the Library of the Lyceum.

United States Naval Lyceum.—At an adjourned meeting of the U. S. Naval Lyceum held on Wednesday the 18th December 1833,

It was unanimously resolved that all Passed Midshipmen of the U. S. Navy be invited to become members of the Society, and that all Midshipmen not passed, be invited to avail themselves of the benefits of the Institution, by having free access to the Library, papers, &c.

The Lyceum also return their thanks for valuable donations to General Fleming, Professor Anthon, N. Prime Esq. Messrs. N. and T. White, Charles De Behr, T. and W. White and P. S. Channcey.

At a special meeting of the United States Naval Lyceum, held on Monday, the 23d inst., it was unanimously Resolved, That the thanks of this Society be presented to the following distinguished gentlemen of the city of New York, New Jersey, and the Navy, for their liberal donations, and valued patronage extended towards the Institution:

Messrs. Goodhue & Co.	Peter Harmony, Esq.
Charles King, Esq.	James G. King, Esq.
Capt. Wm. Bolton, U. S. N.	Charles A. Davis, Esq.
Messrs. G. G. & S. Howland	George Dearborn, Esq.
Messrs. D. Appleton & Son	Wm. Wood, Esq.
Samuel Swartwout, Esq.,	John Travers, Esq.
and the officers and clerks of the Custom House.	John Lang, Esq.
	Rev. Wm. Patten,

The Editors of the New York Standard, Courier & Enquirer, Gazette, Evening Star, American, and Constellation.

Brooklyn Naval Lyceum.—This institute of the brave is receiving many tributes, and bids fair to become one of the first literary *bazaars* in the United States. Among the number of donors we observe the names of General Fleming, Doctor Hosack, Washington Irving, John Pintard, and Doctor Milnor.

This office continues to receive any donations for the Lyceum.—[Courier and Enquirer.]

Danby's sublime picture of the Opening of the Sixth Seal will be removed almost immediately after New Year. We therefore advise those who have not seen it, to profit by the intermediate time. To those strangers whom the Christmas festivities may assemble in the city, we particularly recommend this painting.

Com. Elliot has presented to the Mariner's Church of Charleston, a baptismal vase, formed out of the timber of the Frigate Constitution so celebrated in our history.

Very Exemplary Damages.—Mr. James Currin and Miss Smith, who were sometime since thrown from a gig and seriously injured, brought their suits against the town of Lowell in which the road was situated. The case has been tried within a few days before the Supreme Court of Massachusetts now sitting at Cambridge, and Mr. Currin recovered a verdict of $4000, and Miss Smith one of $3000.

A Temperance Match.—*Col. Haskett challenged for* 3000 *miles.*—A match for this distance has been entered into between a gentleman of Georgia and Col. Haskett. The match will come off on the first of June, over the road between Taunton and Boston. The challenger is to eat per day, as a *minimum* allowance, 1 lb. beef, 1 lb. bread, and to drink 3 glasses of 4th proof brandy and a half pint Madeira. The parties are to be on the road at the day, or half forfeit. The challenger set forth the bet at $5000 to $20,000, but the money matters are to be adjusted in Carolina. The Col. is to eat per day his old allowance of bread and water. We shall have an opportunity of seeing the relative virtue of the bread and water and beef and rum. The agent of the challenged arrived a few days ago, and leaves to examine the road next week, and have it measured.—[Boston Centinel.]

Lotteries.—"Who will not rejoice (says the Gazette of this morning) to learn, that after the end of this month, no Lottery Tickets can be sold in this State? and that yesterday afternoon the last Lottery was Drawn.

The Packet ship Ontario, Capt. Sebor, from London, arrived yesterday afternoon, and ran into Quarantine, where she was detained by the boarding physician. She has on board three cabin, and one hundred steerage passengers.—[Standard.]

According to the Gazette, more than 50 cases of small pox exist on board.

A steamboat arrived last evening from Poughkeepsie, with the mail and passengers from Albany, who came down to that place the greater part of the way in sleighs, there being plenty of snow above Rhinebeck.—[Ibid.]

Five lighters came up from Rockaway beach yesterday morning, loaded with four thousand bars of iron, about two hundred sacks of salt, and a few other articles, being part of the cargo of the British barque Atlantic, from Liverpool, that was cast away at that place on the 9th inst. The wreck went to pieces on Tuesday, during the storm. The fragments were sold for $73.—[Ibid.]

We are pleased to learn that the Government have finally purchased and received a title for the ten feet of ground adjoining their property in Pine street, preparatory to the immediate commencement of the work of building the Custom House, on the site so long since, and so judiciously selected by the Secretary of the Treasury.

We congratulate the merchants on the removal of this last obstacle, in doing which they have had an opportunity of again manifesting the liberality and public spirit which have actuated them in this business throughout. We learn that the price which the Government paid for this ten feet of ground, was what the Commissioners under the peculiar circumstances of the case, with great liberality, estimated it to be worth, viz. 17,500 dollars. The owner however, declined to sell it at that price, demanded and received 20,500. The difference of $3000 was paid to the owner by a gentleman in behalf of the merchants—who, we understand, have promptly and with their accustomed liberality agreed to refund this sum.—[Evening Post.]

[*From the Cherokee Phœnix, Nov. 23d.*]

The National Council convened at Red Clay, on the 14th Oct., and after the meeting of the two houses, and a full attendance of the members from all the Districts of the Nation, the Principal Chief delivered his speech to the General Council, which will be found on our first page. Among the various acts of this Council and of general interest to the Cherokees, is the appointment of a delegation, to proceed to the Congress of the United States, pursuant to the Report of the Select Committee which follows the speech of the Chief. The Council then proceeded to the consideration of various matters which came before them, and after the appointment of the following delegates, Messrs. John Ross, Richard Taylor, Daniel McCoy, Hare Conrad, and John Timson; the Council adjourned on the 1st Nov. to meet again on the second Monday of Oct. 1834.

Earthquake.—By advice from the Pacific, we learn that the towns of Arica and Tacua, in Peru, were almost destroyed by an Earthquake on the 18th of September. We have received no particulars.—[Jour. of Com.]

The Gale of last week.—The Georgetown (Delaware) Luminary, thus speaks of this gale, which was most severe on Monday night. The case of the black man forced to choose between his own destruction with that of all his family, or safety to himself at their expense, was a very hard one.

The tide rose several feet above the Delaware Breakwater, sweeping off several houses that had been erected thereon and carrying them completely over the beach, by which several lives were lost, beside five or six dead bodies that have come ashore on the beach since the storm. There are said to be *eleven* vessels on the beach, among which is a ship and two brigs, all of which lay under the Breakwater in supposed security, but the tide rising above it, they were entirely at the mercy of the tempest. What extent of damage they sustained, or number of lives lost, we have not been able to ascertain. Two vessels, we understand, were lost in Indian River, one belonging to Mr. Miers Burton, commanded by Haslet Streets, a colored man, who was drowned, together with all on board. The vessel sunk with 600 bushels of Corn on board. The other vessel belonged to a Mr. Vent, Captain Morris—whether the crew were lost or not, we have not ascertained. Among the distress which has come to our knowledge from those residing adjacent to the shore, is that of a black family residing in Slaughter neck, consisting of a man, his wife, grandmother and five children, all of whom were drowned but the man. His statement is truly distressing; he could not peak for several hours after his arrival at the nearest house, about a mile and a quarter distant from his residence. Upon the water breaking into the house, he and his family became alarmed, got out of their beds and left the house without even dressing themselves. He said he first took up his grandmother and proceeded some distance through the water, which was nearly breast high, when he found his wife was about to give out, he left his grandmother and four children to die, and took up his wife and one child, but had proceeded only a short distance, when he felt himself sinking, and shook them off to die, (oh inhuman!) when he succeeded with great difficulty in reaching the upland, having only strength left to crawl to the nearest house. Considerable loss has been sustained in Cattle and Sheep, several farmers losing their entire stock. The furnace at Millsborough was put out on Saturday night, this being the third time that the fire has been thus put out.

We understand that the Delaware Breakwater will have to be raised six feet higher than was anticipated, and before they will again venture to erect buildings on it.

NEW-YORK AMERICAN.

DECEMBER 21, 23, 24, 25, 26, 28—1833.

LITERARY NOTICES.

We commence our Review to-day, as we propose to do hereafter, with one of the excellent letters of our travelling correspondent H. His last, described *Braddock's field;* the present one spreads tangibly before the eye, Pittsburg, and all its prosperous industry.

No. VIII.

Pittsburg, Nov. 8.

There is no place in the Western country, as Judge Baldwin observed, in his address before the Mechanics' Institution of Pittsburgh, "which can more justly boast of its small beginnings, its rapid but solid growth, and its future greatness," than this. It is about seventy years since General Washington, then a young fellow of two and twenty, was despatched by Governor Dinwiddie of Virginia, to the French commander on Le Bœuf, (near Erie,) to demand that he should desist from aggression upon the British frontier. The young officer, upon his return down the Alleghany upon a raft made with tomahawks, was wrecked with a single Indian attendant, upon an island near the present city of Pittsburgh. The situation of the point of land, formed by "the forks of the Ohio," at once caught his military eye; and crossing on the ice in the morning, he examined the position with sufficient minuteness to impress his commander with its importance. The spot was soon after taken possession of by a small colonial force, which in 1754 was easily dispersed by the formidable descent of the French under Contrecœur. He came with a thousand men at his back, and floated various munitions of war, among which were eighteen pieces of cannon, in three hundred and sixty canoes, down the Alleghany. The blow was struck which commenced the old French war, that lost France all her possessions east of the Mississippi. Contrecœur, entrenched himself upon the spot, and the bloody annals of Fort *Du Quesne* received their first notoriety from this bold invader.

Thirty years afterwards, the place now become known as fort Pitt, began to assume commercial importance, from the Indian fur trade then carried on with vigor from this point. An increase of population ensued, the extensive coal beds in the vicinity began to be appreciated; they indicated the prodigious manufacturing resources of the rising town of Pittsburgh. The adjacent country became rapidly populated and it was soon the agricultural depot for the rich region on this side of the Alleganies. The genius of Fulton matured at once the rising fortunes of Pittsburgh and gave her a market for her overflowing productions.

Situated two thousand miles from New Orleans, by the aid of steam she supplies the whole of the intermediate region with hardware, machinery, and cutlery.* But it is not for this manufacture alone, that Pittsburgh, though often called the "Birmingham of America," is celebrated. Her extensive Glassworks are well known even beyond the Alleganies, and this fragile production of her workshops, finds its way alike to the borders of Lake Erie and of the Atlantic and may be met in the elegant mansions of Baltimore and the remote shantees of the Arkansaw.

*Bloom iron, I am told, is brought hither for manufacture, from the forges on the Juniata, from Tennessee, Kentucky, and Missouri, and contracts are frequently made for $38 per Ton to take the blooms at St. Louis and return them rolled iron.

The timber trade, is another great feature in the business relations of Pittsburgh; the boards and scantling measured within the city in 1830 amounted to more than five millions of feet; of this a great deal was floated down the branches of the Allegany river from the south western counties of New York. The romantic hills of Chatauque county, supply not a few of the stately trunks which, after being hewn into shape at Pittsburgh subsequently float the varied products of Northern industry, through many a stranger climate to the rich markets of Louisiana. You will not wonder, therefore, that the freight exported from Pittsburgh in 1830 amounted to upwards of 18,000 tons, its imports for the same year being more than 14,000 tons. The city is now, with the adjaceat village of Allegany town, and Lawrenceville on the Allegany, and Birmingham and Manchester on the Monongahela, the third town in population, wealth, and importance, in the Mississippi valley. Next to its admirable situation, the flourishing condition of the place, is no doubt to be mainly attributed to the inexhaustible quantities of fine bituminous coal, wnich may be had for the digging in all the adjacent hills. Pittsburgh is however, indebted to the character of her early settlers for her present eminence; they were chiefly mechanics, enterprising, industrious, practical minded men; the improvements they commenced, were based upon utility, and every path of trade they struck out, led to some immediate, and tangible good. The result shows itself, in one of the most substantial, and flourishing, but least elegant cities on the continent. The site of the town, I have already described to you as one of the most beautiful, that can be imagined! The fault is to be attributed entirely to the manner in which it is laid out, for the streets though by no means wide, are well and substantially built upon with brick; and a species of yellow free-stone found in the vicinity is coming into use, which, for elegance as a building material, is not surpassed by marble itself. The great defect in the town, is the total want of public squares, and indeed of an agreeable promenade of any kind; this is the more remarkable, I might almost say provoking, as Pittsburgh boasts of one spot, which, if converted into a public place, would, from the view it commands, be unrivalled by any thing of the kind in the Union, unless it be the Battery of New York. I allude to a triangular piece of ground, at the confluence of the two rivers, at the end of the town. It is the site of the old Forts, and commands the first view of the Ohio, and the finest of its waters I have yet seen; the prospect I have described to you in a former letter. Had but the ancient fortifications been preserved, this would have been one of the most interesting spots upon the Continent; of Fort Du Quesne there remains now but a small mound, containing perhaps a couple of loads of earth; Fort Pitt may be more easily traced, part of three bastions about breast high, stand within different private enclosures, and a piece of the curtain which, within a few years, was in complete preservation, may still be discovered among the piles of lumber in a steam sawmill yard. The commandant's quarters, a steep roofed brick dwelling, in the form of a pentagon, is, however, the only perfect remnant of these old military structures. I expected to have seen the magazine of the Fort, which I was told was an admirable piece of masonry, and still endured in the shape of a Porter cellar, but upon arriving at the spot where it had stood but a few weeks before, a pile of rough stones was all that we could discover. In a country like ours where so few antiquities meet the eye, it is melancholy to see these interesting remnants, thus destroyed, and the very landmarks where they stood effaced for ever. Occasionally too, the works of which every vestige is thus painfully obliterated, were, especially when erected by the French, of a peculiarly striking character. The French engineers who first introduced the art of fortification into this country, were of the school of Vauban, and the enduring monuments they raised were not less noble proofs of their skill, than were the sites selected, of their high military discernment.

There is yet another place in Pittsburgh which at some future day should be appropriated as a public square; a triangular bluff about one hundred feet high stretches like a huge promontory far into the town, and overlooks the whole place. The Pittsburgers, however, I fear are more bent upon increasing their "father's store," than on beautifying the favored spot in which they dwell, and it requires all the cordial hospitality of the place, to reconcile a stranger to the few city improvements he sees going forward, in a community so preeminent for its individual enterprize. I wish we could lend them our 'inproving' corporation for a few weeks, they would be really of service here, and could easily be spared at home; they might too, learn more than one thing of the Pittsburghers, and especially how to supply the city with pure water; we have it here in the greatest abundance. The water is pumped up from the Alleghany, by a steam-engine, into a large open basin, situated on an eminence known as Grant's Hill, from the signal defeat of that rash but gallant officer at its base, during the old French war. From this ample reservoir, pipes conduct the fluid to every part of the city. A large Gothic Cathedral is now about to be erected near the water-works.

You remember Grant's fight, as described by Hall, in his beautiful Western Sketches. Grant bivouacked beneath the hill now called after him, and ordering his reveille to beat at dawn; the French and Indians charged upon him to the sound of his own trumpets, and cut his troops to pieces. His force, I believe, consisted chiefly of Highlanders. The skeleton of a young officer with gold in his pocket, and marks of rank about his person, was turned up in a field not far distant, a few years since. A Western poet, of whose existence I first became aware through a file of the Pittsburg Gazette, (for which, with many interesting facts relating to the adjacent country, I am indebted to Mr. Craig, the Editor,) has commemorated the incident in some verses, among which are the following simple lines:

"One Highland officer that bloody day
Retreated up the Alleghany side,
Wounded, and faint, he missed his tangled way,
And near its waters laid him down and died.

'Twas in a furrow of a sandy swell
Which overlooks the clear and pebbled wave,
Shrouded in leaves, none found him where he fell,
And mouldering nature gave the youth a grave.

"Last year a plough passed o'er the quiet spot,
And brought to light frail vestiges of him,
Whose unknown fate perhaps is not forgot,
And fills with horror yet a sister's dream.

On the side of the hill is a place, still pointed out as 'Grant's grave.' I know not why it should be thus designated, however; for I believe that the worthy Colonel, who afterwards served in the British army during the Revolution, never returned to lay his bones in a spot, where the spirits of his rashly sacrificed soldiers might have made him uneasy in his grave. There is a more authentic tomb on the western bank of the Alleghany: it is the last resting-place of an Indian, who, as tradition avers, seeing 'Helen's beauty in a brow of Egypt,' shot himself for love! Poor fellow! he must have been serious! for, as Hudibras saith,

"He that hangs and beats out brains,
The devil's in him if he feigns."

The walks and rides in the environs of Pittsburgh, are rendered interesting by a variety of objects, besides the fine scenery through which they lead. A description of the Pennsylvania Canal, which flows on an acqueduct over the Alleghany, and passing through a tunnel of a few yards in length, locks into the Monongahela, on the opposite side of the city, would furnish you with no newer ideas than a description of any other Canal. The Nunnery which is also one of the Lions of the neighhood, I have not hitherto had an opportunity to visit, and "Braddock's field" you have already in a letter by itself; so having now a tolerable idea of the town, with its compact brick dwellings, dingy with coal-smoke; its natural wharves, where the Ohio rises 25 feet; its gravelly banks, lined with steamboats and river-craft, and bustling with business operations upon the most extensive scale, you must follow me in my ride of this morning along the Monongahela.

The fog and coal-smoke together, rendered the atmosphere so thick, even after crossing the bridge over the river to a straggling village opposite, that I verily believe it was only the dazzling sparkle of a pair of queen-like eyes, marshalling me through the gloom, that enabled me to ascend the opposite height with safety. Leaving the rest of the party far behind, I followed their beautiful and high-spirited owner up a winding path, where our horses, after sinking to their fetlocks in the sand, would slip half a pace backward at every step, and gained at last an elevation nearly five hundred feet above the level of the river, where, to my surprise, instead of a sudden descent upon the opposite side, the eminence continued rising in a succession of fertile fields, until the last green slope was terminated by a distant wood. We rode along the edge of the precipice for a mile or two, and from the state of the atmosphere on the side towards the town, you can conceive nothing more singular than the effect of the scene below. Imagine yourself standing on Weehawk height, with your own city brought immediately beneath your feet, the whole landscape bright and clear above, and a cloud so impervious below, that not an object can be discerned at five yards' distance. The gulf seems unfathomable. The hoarse jar of machinery comes upon the ear like the groans of a nether world; and the lurid flame, which ever and anon shoots from some furnace athwart the gloom, shows like the penal element itself. But now the noon-day sun has pierced into that murky glen,—the fog begins to rise—a gilded spire glances here and there in the broad sunshine. and some tall headland stands greenly out from the silver veil that wraps its base; the banner from yonder arsenal floats gaily forth in the warm air; and as the flaky mist rolls more rapidly up the river, begins to stream upon the freshening breeze. The rivers themselves can now be traced far away, with many a dewy island stealing out, one by one, upon their bosom. Beneath, a bustling city seems as if it had sprung at once to life, while the quiet farm-houses slowly appear upon the sleeping fields beyond.

This single view is worth a journey to Pittsburg.

I took an opportunity, while a lady of the party stopped to visit a pensioner in a cottage by the road-side, to examine a coal-pit just beneath the brow of the hill. Dismounting on a small platform some two hundred feet above the river, from which a railway empties the coal into the *coke* kilns upon its bank, and the freight boats upon the shore, I entered an aperture in the rock about six feet in height, and four in breadth. A guide preceded me with a candle and after penetrating under his escort a few hundred yards, I turned aside to explore some of the adjacent shafts; they lie like the streets of one main avenue; the veins of a grand artery, which, after winding through the body of the hill finds its way again to the light, a half a mile distant. In one of these cavernous passages, in a ledge of the rock lay a sleeping man, the water trickling from the black walls around, was the only sound to disturb his slumbers; a long wicked candle stuck in a crevice above his head, shining over thickly matted locks, and features begrimmed with coal-dust, revealed a figure of gigantic mould. The mattock on which his ponderous arm reposed told that it was only a miner at his noonday nap, but he might have been mistaken by one coming suddenly upon his singular place of repose, for a slumbering Titan, who, though pent within

such narrow confines, might yet shake the mountain piled upon him to its base.

Our route now, after leading still farther along the height, commanding at every step some new view of the town, and the adjacent country, with the three rivers seaming its bosom, struck at last into a fine wood, and then descending suddenly into a romantic dell, we followed a small stream which soon led us back to the Ohio.—Here again might be traced a display of French taste which when the fabric was entire must have been exceedingly beautiful. It was the remains of a mill dam constructed by the officers of Fort Du Quesne, according to the most approved rules of the time, like a perfect fortification; a part of the curtain, with traces of some of the bastions, yet reward the eye of the curious. At the mouth of the glen we paused to look at a salt factory, and then crossing a bridge over the brook, we passed by a steel factory, and several coke kilns, along the base of the cliff from the summit of which I had so much admired the scene below an hour ago.

The embouchure of the Monongahela was at hand, and stepping aboard of a small horse boat at the point where it loses itself in the Ohio, I soon terminated on the opposite side one of the most delightful rides I can recollect ever to have taken. H.

THE SPIRIT OF LIFE; a Poem, pronounced before the Franklin Society of Brown University: by WILLIS GAYLORD CLARK. Philadelphia: KEY & BIDDLE.—Mr. Clark has written some pretty poetry; and among the fugitive pieces bound up with the main poem in this handsome little volume, there are some, and particularly the Prayer of Mary Queen of Scots, superior in merit and inspiration to that which gives its name to the book. The "spirit of life," universal as the writer insists it is, and vivifying as is its influence, is not very perceptible in the poem which aims to describe its operations and powers. There is manifestly too much haste, and too little of the *vivida vis* in this attempt.

LECTURES ON GENERAL LITERATURE, POETRY, &c. By JAMES MONTGOMERY. Author of 'The World Before the Flood:' constituting Vol. LXIV of HARPERS' FAMILY LIBRARY: New York.—It is not more than a week or two ago since we made a beautiful extract from these Lectures, in which the eloquent and enthusiastic poet asserted the superiority of his art over the sister art of Sculpture; and proved it by comparing the statue of "the Dying Gladiator" with Byron's admirable description of it in Childe Harold. The favorable impression made by that extract will, we think, be realized by the whole book, which is full of burning thoughts and fine and generous views of the ennobling influence of poetry. These Lectures were originally delivered at the *Royal Institution* in London, and are now published enlarged and carefully revised. To these are added, "A Retrospect of Literature," and a "View of Modern English Literature." From the Retrospect, we make an extract that strikes us as quite original:

The Permanence of Words.—An eloquent, but extravagant, writer has hazarded the assertion, that "words are the only things that last for ever."*—Nor is this merely a splendid saying, or a startling paradox, that may be qualified by explanation into commonplace; but with respect to man, and his works on earth, it is literally true. Temples and palaces, amphitheatres and catacombs—monuments of power, and magnificence, and skill, to perpetuate the memory, and preserve even the ashes, of those who lived in past ages—must, in the revolutions of mundane events, not only perish themselves by violence or decay, but the very dust in which they perished be so scattered as to leave no trace of their material existence behind. There is no security beyond the passing moment for the most permanent, or the most precious of these; they are as much in jeopardy as ever, after having escaped the changes and chances of thousands of years. An earthquake may suddenly ingulf the pyramids of Egypt, and leave the sand of the desert as blank as the tide would have left it on the seashore. A hammer in the hand of an idiot may break to pieces the Apollo Belvidere, or the Venus de'Medici, which are scarcely less worshipped as miracles of art in our day than they were by idolaters of old as representatives of deities.

Looking abroad over the whole world, after the lapse of nearly six thousand years, what have we of the past but the words in which its history is recorded? What besides a few mouldering and brittle ruins, which time is imperceptibly touching down into dust,—what, besides these, remains of the glory, the grandeur, the intelligence, the supremacy of the Grecian republics, or the empire of Rome? Nothing but the words of poets, historians, philosophers, and orators, who being dead yet speak, and in their immortal works still maintain their dominion over inferior minds through all posterity. And these intellectual sovereigns not only govern our spirits from the tomb by the power of their thoughts, but their very voices are heard by our living ears in the accents of their mother tongues. The beauty, the eloquence, and art of these collocations of sounds and syllables, the learned alone can appreciate, and that only (in some cases) after long, intense, and laborious investigation; but as thought can be made to transmigrate from one body of words into another, even through all the languages of the earth, without losing what may be called its personal identity,—the great minds of antiquity continue to hold their ascendency over the opinions, manners, characters, institutions, and events of all ages and nations through which their posthumous compositions have found way, and been made the earliest subjects of study, the highest standards of morals, and the most perfect examples of taste, to the master-minds in every state of civilized society. In this respect, the "words" of inspired prophets and apostles among the Jews, and those of gifted writers among the ancient gentiles, may truly be said to "last for ever."

Words are the vehicles by which thought is made visible to the eye, audible to the ear, and intelligible to the mind of another; they are the palpable forms of ideas, without which these would be intangible as the spirit that conceives or the breath that would utter them. And of such influence is speech or writing, as the conductor of thought, that, though all words do not "last for ever," and it is well for the peace of the world, and the happiness of individuals, that they do not,—yet even here every word has its date and its effect; so that with the tongue or the pen we are continually doing good or evil to ourselves or our neighbors. On a single phrase expressed in anger or affection, in levity or seriousness, the whole progress of a human spirit through life—perhaps even to eternity—may be changed from the direction which it was pursuing, whether right or wrong. For in nothing is the power and indestructibility of words more signally exemplified than in small compositions, such as stories, essays, parables, songs, proverbs, and all the minor and more exquisite forms of composition. It is a fact, not obvious perhaps, but capable of perfect proof, that knowledge, in all eras which have been distinguished as enlightened, has been propagated more by tracts than by volumes.—We need but appeal, in evidence of this, to the state of learning in our own land at the present day, when all classes of people are more or less instructed.—On this point I shall have a future opportunity of expatiating, and will therefore, at present, offer only two examples of the permanence of words, involving sacred or important truth, of equal value and application, in all periods and countries, and among all people to whom they may be delivered.

In the youth of the Roman commonwealth, during a quarrel between the patricians and plebeians, when the latter had separated themselves from the former, on the plea that they would no longer labour to maintain the unproductive class in indolent luxury, Menenius Agrippa, by the wall-known fable of a schism in the human body, in which the limbs mutinied against the stomach, brought the seceders to a sense of their duty and interest, and reconciled a feud which, had it been further inflamed, might have destroyed the state, and turned the history of the world itself thenceforwaid into an entirely new channel, by interrupting the tide of events which were carrying Rome to the sumit of dominion. The lesson which that sagacious patriot tanght to his countrymen and contemporaries, he taught to all generations to come. His fable has already, by more than a thousand years, survived the empire which it rescued from premature destruction.

The other instance of a small form of words, in which dwells not an immortal only, but a divine spirit, is that prayer which our Saviour taught his disciples. How many millions and millions of times has that prayer been preferred by Christians of all denominations! So wide, indeed, is the sound thereof gone forth, that daily, and almost without intermission, from the ends of the earth, and afar off upon the sea, it is ascending to Heaven like incense and a pure offering; nor needs it the gift of prophecy to foretell, that though "heaven and earth shall pass away," these words of our blessed Lord "shall not pass away," till every petition in it has been answered—till the kingdom of God shall come, and his will be done in earth as it is in heaven.

EXPERIMENTS AND OBSERVATIONS ON THE GASTRIC JUICE, AND THE PHYSIOLOGY OF DIGESTION. By WM. BEAUMONT, M. D. Surgeon of the United States Army. New York: G. & C. & H. CARVILL.—This is a very remarkable publication; being nothing more nor less than the record of the observations made during a series of years, by a skilful medical man, upon the *visible* action of the stomach of a living man. The case was that of a Canadian *voyageur*, who, at the age of eighteen, received accidentally the charge of a musket loaded with duckshot, in his side, he being within a yard of the muzzle. The wound perforated the stomach. Dr. B. was called to the wounded man—succeeded in saving his life, restoring his health; and yet the orifice in the stomach remained for years unclosed. Here, then, an opportunity was presented of watching Nature in her most secret operations, of surprising her in her own laboratory, and of ascertaining, in the living man, the processes by which life is maintained; for, when we cease to digest, we cease to live. The result is highly curious and instructive, and cannot fail, we should think, of producing important changes and improvements in the art of medicine. *Spallanzani*, and others, had made experiments upon the powers of the gastric juice, by administering to animals food of different kinds, in perforated metal balls; but all of these fail of certainty and interest, in comparison with those instituted and so faithfully followed up by Dr. Beaumont, and ultimately by the Surgeon General of the Army, Dr. Lovell.

THE LAW GLOSSARY: by THOMAS TAYLOR. Albany: W. A. GOULD. New York: GOULD, BANKS & Co.—This cannot be otherwise than a useful work in our country, where the dead languages are not as familiar as, for the improvement and purification of both taste and language, we wish they were, but where lawyers do much abound. It is a selection and translation of the various and numerous sentences, phrases, and maxims, spread through the old law books, and many of which are still preserved and in use at this day, in Greek, Latin, French, Saxon, &c. The author has, in our judgment, well fulfilled his task. His translations are easy and accurate, so far as we have looked through his pages; and the historical notes in the Appendix are some of them alike curious and interesting. The volume is dedicated, by permission, to Chief Justice Savage; and must, we think, be well received by the profession, and still more by those not of it, but who yet in the conflicting claims of a busy world, are often brought into contact with it.

(Concluded from page 821.)

But it is not at all necessary for the usefulness of the suspension railway, that it should be in every respect as capable of enduring heavy loads as the railway now most usually constructed. The important question is, whether, taking into consideration the expense of its construction, the cost of transportation upon it will be less than upon an ordinary road. If this point is established as it has been, beyond all doubt, its importance is manifest. There are many parts of the United States where the increase of population and of business calls for greater facilities of communication; yet the travel is not sufficient to support the enormous expense of the double iron railway. There are other sections so rugged and uneven, that whatever might be the amount of travel, it could not pay the expense of embankments, excavations, and other works necessary for attaining the level required for the road. In all such cases the suspension road, on account of its comparatively trifling expense, can be used to great advantage. The average cost of a suspension railroad, built with prudence and economy, extending over a country, the surface of which presents no peculiar advantages or disadvantages, is about one quarter of that of the double track iron road now in use, and this difference is increased in proportion as the country, over which the road is to be constructed, is more rugged and uneven than usual. Now suppose that the suspension road is only capable of bearing one third of the momentum which the other road can bear, (and this is certainly a greater allowance than it would be necessary to make in practice,) yet the cost being one fourth that of the other, and its power one third, it follows, of course, that the suspension road would be much the most economical.

In a new country, therefore, where means are limited, it must be of immense advantage. Its merits have not hitherto been generally known. It has been but very little used in England, probably on account of the high price of timber, and on this side of the Atlantic we have been slow to adopt suggestions that have not been proved and tested by experiment. But it is now getting into more extensive favor in those parts of the country where timber is abundant. It will, no doubt, in a short time, prove a most important method of inland transportation.

☞ We owe an apology to our friends, for not issuing these numbers on Saturday, as promised. They have been delayed two days longer, in order that the Index and Title Page might accompany them, to make the work complete for the year.

December 30, 1833.

LOCOMOTIVE ENGINES.

☞ THE AMERICAN STEAM CARRIAGECOMPANY, OF PHILADELPHIA, respectfully inform the public, and especially Railroad and Transportation Companies, that they have become sole proprietors of certain improvements in the construction of Locomotive Engines, and other railway carriages, secured to Col. Stephen H. Long, of the United States Engineers, by letters patent from the United States, and that they are prepared to execute any orders for the construction of Locomotive Engines, Tenders, &c. with which they may be favored, and pledge themselves to a punctual compliance with any engagements they may make in reference to this line of business.

They have already in their possession the requisite apparatus for the construction of three classes of engines, viz. engines weighing four, five, and six tons.

The engines made by them will be warranted to travel at the following rates of speed, viz. a six ton engine at a speed of 15 miles per hour; a five ton engine at a speed of 18 miles per hour; a four ton engine at a speed of 22 1-2 miles per hour. Their performance in other respects will be warranted to equal that of the best English engines of the same class, with respect not only to their efficiency in the conveyance of burthens, but to their durability, and the cheapness and facility of their repairs.

The engines will be adapted to the use of anthracite coal, pine wood, coke, or any other fuel hitherto used in locomotive engines.

The terms shall be quite as favorable, and even more moderate, than those on which engines of the same class can be procured from abroad.

All orders for engines, &c. and other communications in reference to the subject, will be addressed to the subscriber, in the city of Philadelphia, and shall receive prompt attention.

By order of the Company,
WILLIAM NORRIS, Secretary.

December 2d, 1833.

For further information on this subject see No. 49, page 791 of this Journal. d 6t

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